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Words and their meanings: Principles of variation and stabilization

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Abstract :

This chapter, entrenched in cognitive linguistics, proposes a multidimensional approach to the layering of the lexicon and its semantic organization, explicating the principles of variation and stabilization of lexical networks. Semantic variation is considered as inherent to language structure and driven by common universal cognitive mechanisms which are accounted for by a dynamic conception of meaning construal. Intra-linguistic plasticity of meaning echoes inter-linguistic variation. The discourse level is the seat of meaning construal mechanisms which contribute to the general polysemy of lexical units and to the stabilization of their meaning within a particular utterance. Units appear to be the seat of most variations, within and across languages, because meaning is construed in extremely varied ways according to common mechanisms.

Keywords : meaning, polysemy, discourse, comprehension

Introduction¹

For both structural and cognitive reasons, natural languages are characterized by their plasticity, by the ease with which the representations borne by the units composing them are subject to change. Polysemy and polyreference are the general rule among languages. A single unit can thus have several different meanings and point to several different referents. In English for example the word *greens* can refer to village commons, leafy vegetables or members of a political party. Inversely, different units can refer to the same thing, such as *roe* and *caviar*, or *hepatitis* and *jaundice*. One could even state that local synonymy (limited to a certain context) is what makes it possible to paraphrase a term or phrase using another. Thus *reflect* can be paraphrased by either “think” or “throw back light”. The ability to build equivalences is in fact a fundamental property of language: equivalences between terms (synonymy) or between phrases (paraphrasing),

¹ Our deep thanks go to Margaret Dunham for her precious help in translating and accomodating this paper to English.

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but also between languages (translation). There is no one-to-one relation between form and meaning, either within a language or across languages. From this view point, variation within languages (polysemy, synonymy), echoes variation from language to language and raises the question of how it is possible to say “the same thing” differently.

Whereas this plasticity in meaning ensures both the referential power of a language and a form of optimization for the system, it also entails another of language’s defining characteristics - ambiguity and its communicative corollary: misunderstandings. That communication remains nonetheless possible is because the factors of variation in language are submitted to processes of regulation and meaning stabilization. I will begin by attempting to highlight a certain number of variation factors at the level of the isolated units, then I will try to show that in language activity, virtual units undergo certain operations whereby they are incorporated into utterances, and to highlight this different operations of the sentence level, which permit a certain stabilization in meaning but also occasion communicative failures. We will take this opportunity to also question the causes of these language characteristics and possible consequences from a cognitive viewpoint. For language is the seat of tensions between opposing forces which can all be functionally justified.

1. Language malleability and variation at the unit level

There is no one-to-one correspondence between form and meaning in language: a form almost always has several meanings which vary according to context, and several forms can refer to a same item. This plasticity constitutes one of language’s fundamental principals. It is made manifest in different ways but follows consistent procedures. Units appear to be the seat of the most variation, within and across languages, not only because meaning is construed in extremely varied ways (categorizing and segmenting the world, selecting properties and reference pathways, *cf.* 1.1.), and because linguistic units are subjected to regular meaning changes (*cf.* 1.2.), but also because words contain what I have called a “depth dimension” (see below 1.3.), also extremely variable. Units thus show variable specificities depending on the language and on the culture, which most probably plays an important role in cognition’s access to reference. We will limit ourselves here to lexical units, but grammatical units also undergo regulated variation.

1.1. Different means of reference accessing (on synonymy)

Linguistic reference is always mediated. Firstly because words are not things, they are substitutes for the reality they designate (independently of

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the nature of the reality), or more precisely they are the representatives of representations (Culioli, 1990: 22). However, this reality does not constitute a pre-segmented, stable, given, for which words would be but the labels. Indeed, reality is presented to perception as a continuum, whereas language is composed of discrete units. Therefore it must segment the perceived or conceived reality, in order to build the referential values of its units, and this segmentation varies from language to language. Although traces of iconicity in language exist (i.e. resemblances between form and meaning), generally speaking, the relation between a form and its referent is arbitrary, which also contributes to inter-linguistic variation. This arbitrary character is moreover what makes languages so powerful: if words necessarily resembled the objects they designated, languages, which make sparing use of phonetic means, would be extremely limited. Thus the signifier (the form), is variable, and applies to meanings which vary from language to language.

1.1.1. Variable categorization, segmentation and construals

To illustrate the variable segmentation carried out by languages, I will take examples from two domains which could *a priori* appear as the most constrained by physical and perceptive data, and thus the most stable: body parts and spatial reference. Despite the fact that the data is shared, the body is “segmented” into different referential units depending on the language. The word *leg* in English designates, following the referential scale², either the whole of the lower member, or the part below the knee, whereas in Wolof, *tànk*, in its wider sense, refers to the part below the knee, and in its narrower sense, to the foot. Thus the segmentation differs between the two languages. Some languages contain terms which refer to body parts that do not exist in other languages, so the body cannot be considered a specific language unit. Contrary to French and English, Ibo (a Kwa language spoken in Nigeria) and Langi (a Bantu language spoken in Tanzania) do not lexically differentiate arm from hand. Moreover, language can view body parts in relation to each other or in relation to outside elements in various ways. Mandarin Chinese establishes a link between the terms *leg*, *thigh* and *foot*, as there is a common term for the three: *tuǐ*. But Chinese can also specify whether the “leg” is a “small *tuǐ*”, *xiǎo tuǐ*, or to refer to the thigh as “big *tuǐ*”, *dà tuǐ*. Contrary to English, French establishes a link between the “fingers of the foot” *doigts de pied*, and the “fingers of the hand” *doigts de la main* (on body parts, see Maria Koptjevskaja-Tamm’s article, in this volume and Brown 2005a and 2005b). Sanskrit uses the same term, *pradeśinī*, to refer to the forefinger or the corresponding toe. Thus our body, which is the same for everyone physically speaking, is not conceived of in the same way by all languages. Furthermore, these differences in

² On scale of predication, see Langacker (1991b: 283).

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segmentation affect the grammar. Certain African languages for example classify objects according to whether they occur in pairs (hands, eyes, feet...), and these objects are grouped into one category ("class"), with a specific grammatical agreement. In many languages, the fact that body parts are inalienable possessions triggers specific syntactic constructions. Thus in French one says *je lave ma voiture* (lit. « I am washing my car”) but *je me lave les mains* (lit. “I am washing me/myself the hands”). Spanish includes clothing in constructions for inalienable objects, contrary to French.

Concerning spatial orientation, languages show three major reference systems: an absolute reference system, like the cardinal points; an anthropomorphic reference system such as right and left which are defined with respect to the observer, and a relative (or intrinsic) reference system which takes one object as a reference point for locating another (“on the roof”, “near the house”...). Languages generally use all three systems but apply them along varying scales. Thus in French, to situate a building, one tends to use the relative/intrinsic referential system (“the post office is on the corner” or “beside the town hall”) whereas in the US one tends more to use absolute references (“it is north of the campus”), which French usually reserves for a larger scale, to locate one city in reference to another (“Amiens is north of Paris”). One could be tempted to think that these reference systems are universal, but such is not the case. Some languages, such as Malagasy and most Austronesian languages, use only one system, namely absolute reference, independently of scale. In these languages, one never says “the book is on your right”, but “the book is to the north (or south) of the table” (cf. Ozanne-Rivierre 1999). Lastly, the cardinal point system is also variable: some American Indian languages have not four cardinal points but six, as they also include the zenith and the nadir as spatial references. Thus, even though the physical properties of the world allow one to make certain predictions as to linguistic categories, one sees that these are not absolutes, because in language, everything is constructed, and therefore variable.

Let us add one last example of the variable categorization in languages. Even a tool which may seem as fundamental as “yes/no” is not universal: certain languages (such as French and German) have a third term (*si* in French, *doch* in German), which serves to contradict a negative sentence; others, such as Latin and Chinese, have no words for “yes” or “no”. However, let us make it immediately clear that the fact that a concept has no corresponding linguistic category in a given language does not imply that its speakers cannot conceive of it or perceive it. Berlin and Kay (1969) show that speakers’ color perception does not depend on the (very variable) number of color names in their language. Just as languages which have no word for “yes” or “no” still have means for signifying agreement or

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contradiction, but using other processes, for example by repeating just the verb with or without negation (“eat”/“not eat”), or yet by using the verb “to be” (“that be yours?” answer: “be”). Let us mention in passing that in this way Chinese has several negation possibilities: the notional negation marker *bu* and the event negation marker *mei* (see also the Greek *mè* and *ouk*). Thus these languages use different linguistic categories for expressing these shared notions.

Languages therefore show equivalency relations, although construals and reference constructions are extremely variable. Firstly because of the previously mentioned segmentation and linguistic categorization, but also because of a second fundamental mechanism. To gain access to a same referent, languages construct variable reference pathways.

1.1.2. Property selections and referential paths

The meaning of a word is not limited to its referential value, i.e. the referent it designates. Languages usually choose one of the referent’s properties to designate it, for example a physical or functional characteristic. So, to come back to body parts, the *index* in French, or German, is the finger used for pointing (*Zeigefinger*), whereas in Greek it is the one which is used to lick (*likhanós*). In both cases, a different functional property is selected to designate the same referent. Access to reference therefore follows a different path in each language, a variable “referential path” (Corbin and Temple 1994)³. These examples show that the referential path chosen by a given language is both motivated (here linked to the functional properties of the referent) and therefore non-random, but since only one property is chosen, the choice is also arbitrary, or at least not strictly deterministic. Thus English designates a “used car” not by the fact that it is something one buys under favorable financial conditions, as in French (*une voiture d’occasion*), but rather by the fact that it was previously owned (or previously owned by only one other person as in *a second-hand car*). Therefore the property retained varies from language to language and probably refers to the trait considered the most salient for a given culture at a given point in time. But this does not imply that the meaning of the term is reduced to this one property: the referential path is just one means of reference accessing. The variability of referential paths across languages, as well as inside a given language, is due to a more general property of language, as claimed by cognitive linguistics, namely its ability to “construe” a particular situation in different ways (Langacker 1991a).

The construction of different construals and variable referential paths to designate a referent explains the existence of synonyms within languages,

³ See also Langacker (1991b: 284) on compositional path.

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such as *voiture* and *automobile* (“car”) in French. In the case of *voiture* (from the Latin *vehere*) the trait retained is that of being useful for “transporting” people or objects, whereas the trait retained for *automobile* is that of “being able to move on its own”. Just as *record player* and *turn-table* refer to the same thing, but after having followed different referential paths - the first term referring to the function and the second to the instrument’s mechanical apparatus (cf. Corbin & Temple, 1994: 10 on *électrophone* and *tourne-disque* in French).

The fact that only one of a referent’s diverse properties is retained also explains the polyreference of certain terms. This is because very different objects can present a common property and thus be designated by a same term referring to that property. That *greens* can refer at once to expanses of grass, members of a political party and vegetables is due to the fact that English has chosen to designate these referents by a common property (the color green) which is considered salient and typical for each of the referents. In the same way, in French, the expression *un bleu* (“a blue one”) can designate a beginner, a new recruit, a work suit, a cheese, or a bruise, all of which have, in different ways, the common property of ‘being blue’ (Corbin & Temple, *ibid.*). This economy in designation contributes to the referential power of words and makes it productive. One can easily imagine the language using the same term *green* to designate new referents presenting the same salient characteristic, as indeed it already does in compound nouns such as *green-card*. This process of constructing reference by selecting properties considered common to different referents is therefore the source of internal meaning variation phenomena. But the semantics of a term cannot be reduced to its referential value, it also encompasses dimensions other than the referential path, dimensions which are part of its meaning and also constitute variation factors.

1.1.3. The internal architecture of meaning and the referential background

The manner in which the referent is designated also brings a complex semantic architecture into play. Designating an element generally entails the construction of a referential “background”. Thus the term *hypotenuse* usually designates the longest side of a right-triangle, which is opposite the right angle. The term refers to the side, designates it, but this designation only makes sense within the global representation implied by the right-triangle in the background (Langacker 1991 a and b); the word *tip* refers to the extremity of an entity, but the meaning of the term takes into account the presence of the entity in the background (*ibid.*). In the same way, concerning body-part terms, “essential to the characterization of expressions like *head*, *arm*, and *leg* is the position of the profiled entity relative to the body as a whole” (Langacker 1991b: 283). The same is true for the term *uncle* for example, which refers to a particular element within family relationships.

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The meaning of *uncle* encompasses both the designated element and the structure of parental relations that it is part of. It should be noted that the categorization of these parental relations varies from language to language: some languages, such as Wolof, distinguish between the maternal uncle and the other uncles and aunts; others, such as German and English, have a category which groups brothers and sisters together, independently of their gender (*Geschwister* “siblings”).

The point which we find important here is that the meaning of a term is part of a hierarchical architecture, a sort of landscape which includes both a background, “ground” (in Talmy 1978), “fond” (in Vandeloise 1986) or “base” (in Langacker 1991b), and a salient sub-structure within the background, the “figure”, “cible” (“goal”) or “profile” (*ibid*). The “figure” represents the designated element and the “ground” the background into which the figure is inserted.

The base and profile constitute two components of meaning, they do not have the same status but are linked in forming a term’s meaning. According to Langacker (*ibid*), the construal of a term’s meaning is an operation through which one profiles a sub-structure upon a base. The profiled element constitutes the referential value, it is part of the meaning, along with the base. Therefore there is an architecture of meaning, marked by a grounded structure. To gain access to a same referential value, languages may carry out profilings on different grounds.

1.2. Meaning’s malleability (polysemy and meaning shifts)

Depending on the context, the meaning of a term varies. This variation is regulated by different mechanisms. There is always interaction between the terms present in the utterance (and between their respective properties). The association between one term and another, or even between a term and a given context, contributes in effect to the specification of its referential value. Thus a *setting* will not refer to the same thing depending on whether one is talking about a play or a ring. A *tender steak* is definitely not the same thing as a *tender man*. In both cases, the term’s application domain is different, which not only produces additional specifications but also “works” on the meaning of *setting* or *tender* which therefore are subject to deformation. We will come back to the modes of interaction a term has with its usage context (cf. 3.). However, through these different values, the term presents a certain stability of meaning, manifested by the fact that the language considers it a single unit. Between a *square foot* and a *square person* there is both a shift in the adjective’s meaning, and semantic properties which are kept. The question then becomes to arrive at a description of the term’s unity, the nature of the relations between its

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different meanings as well as the mechanisms which produce the regulated variation.

1.2.1 Metaphor

There are two well known major mechanisms which pilot these meaning shifts: metonymy and metaphor. These are not simply elements of rhetoric, but fundamental linguistic mechanisms which regulate the variation in the meaning of units⁴.

Metaphor is the transfer of properties from one domain to another to create a new referential value: some of a term's semantic properties are selected (abstracted) and applied to another domain to designate a new entity in virtue of the properties considered shared by the two referents. For example, between a *merchandise train* and a *train of thought*, the word *train* does not have the same meaning, but the two meanings are linked together by a common semantic schema. Of the notion "train", what is retained is the organization in successive units with identical function, linked to each other to form a complex unit. The shared properties are very abstract. They constitute a semantic schema that is present throughout all of the uses and which founds the semantic unity of the term. This is what Langacker (1991b) calls the 'image schema', Michaelis (1996) a 'semantic super-structure' and Culioli a 'schematic form' (Culioli 1990: 115-135). This schematic form can be applied to different domains that it will inform. In the case of *train*, for example, it is applied both to a vehicle (an element in space) and to a series of thoughts (elements in time): by switching application domains, the term switches referential values. The schematic form (or image-schema) is thus defined as a form which generates other forms, a sort of meaning-producing matrix.

Similarly, the adjective *square* presents in its different uses an identical schema where an object takes on the shape of a square, where all sides are of equal length. When applied not to an object but to a person, having a certain shape but not being a geometrical shape, the meaning of the term shifts to the mental properties of the individual, conceived of as encompassing certain angles, certain boundaries, a certain rigidity.

In general, one speaks of "metaphor" when the shift takes between one particular use (generally a concrete one), considered the primary meaning, and another (generally more abstract), through a process of selecting properties which are transferred from the primary domain to the other, which is probably the case for the two meanings of the adjective *square*, or

⁴ I am speaking from the internal viewpoint of the meaning of units and not on the discourse level; the rhetoric of discourse distinguishes numerous figures of style for which an abundant literature exists, and which goes well beyond the scope of my paper here.

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yet for the temporal meaning of the verb *to go*, probably derived from its meaning as a verb of movement. However, it is not always possible to reconstruct the history of a word, nor to say exactly what the primary meaning was from which a schematic form was abstracted and then applied to another domain. It is probable that in certain cases the terms represent an abstract semantic schema from the start which, during a same period in the history of the language, is applied to different domains: there is no shift from a primary meaning to a metaphorical meaning, but from the beginning the word functions in various domains. This is the case of the word *nú* for example in Gbaya (Central African Republic) which designates the active part of an element, and can therefore refer to the tip of a pin, the edge of a field, the opening of a basket, embers of a fire, and language, conceived of as humans' activity par excellence (Roulon-Doko 2003). Furthermore, metaphors can be dynamic (creative and perceived as transfers, as in *the wings of desire*) or fixed and lexicalized (*waiting in the wings of a stage*).

In the variation mechanism we are attempting to describe, the different meanings of a term are linked together through a common semantic schema (schematic form or image-schema) which represents a set of shared abstract properties. The schematic form which serves as the foundation of the semantic unity of the term (*train* for example) is never bare, but is always instantiated in a particular domain and with a usage context which gives it its specific meaning (“train” in *merchandise train* or *train of thought*):

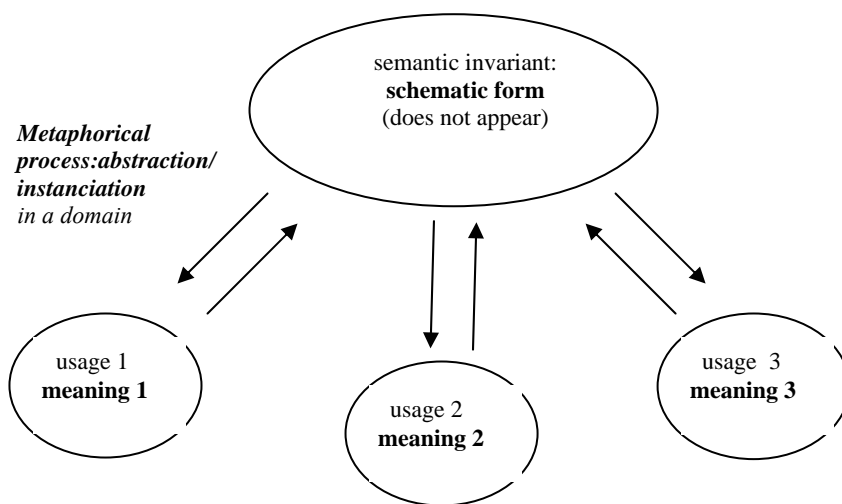


Figure 1: Schematic form and polysemic network (vertical relation)

Thus we would say that the semantic invariant (schematic form) represents the “signification” of the term and that its different usage values constitute

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its various “meanings”. Linguists present different models for organizing these meanings among themselves and in relation to the schematic form (see Kleiber 1999, Lakoff 1987). According to Langacker (1991b), the different meanings themselves are organized in a radial manner, with a more or less high degree of schematicity. Moreover, one of the meanings is often considered prototypical, i.e. it often appears as the best representative of the term’s values (for example the meaning “means of transportation” for the word *train*).

One is thus faced with what I would call a “vertical” type of relation between the term’s different meanings. The relation in effect passes through a common relation to a schematic form which transcends all the meanings but never appears directly: to explain the shift from one meaning to another, one must go back to the schematic form which is at the base of the term’s semantic unity. From one usage to another, one does not find all of a term’s semantic properties⁵, the properties specific to each use are linked to the term’s variable application domain (cf. 1.3. below) and to its particular properties (see the two meanings for *pit* in 3.1. below). Thus one sees that they are an important variation factor for a word’s meaning.

Whether one calls it a metaphor or a schematic abstraction, the linguistic mechanism described here stems from a much more general and fundamental cognitive mechanism, that of analogy. Analogy rests on a homology between sometimes very different domains and on the perception of (abstract) properties seen as shared. From one meaning to the next, one finds both a common schema linked to these shared properties, and semantic properties specific to each usage, linked to the application domain.

In metaphorical transfer, as shown by Lakoff and Johnson (1980), one transports a “form” but also inferences linked to the properties of the form⁶. This is an important point in the case of scientific vocabularies which, far from escaping the metaphorical process, on the contrary have frequent recourse to it, notably because it makes it possible to take something known as a basis for describing and naming something unknown.

The “milky way”, “electric current”, the “earth’s crust”, the “hammer” in the middle ear, “noise” in information theory are coded metaphors whose inferences are probably conscious and controlled because they are part of precise scientific models which strongly constrain their referential values

⁵ In certain cases the organization of the different meanings is more complex and combines metaphorical (vertical) relations and metonymical (horizontal) relations. See below 1.2.3.

⁶ “Metaphor is a cross-domain mapping with preserved inferences”. Besides, for Lakoff, metaphors do not reside in words but in systems, as he showed in particular for mathematics (Lakoff 1993, Lakoff & Núñez, 2000).

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and limit the transfer of inferences. Moreover one notes that it is the knowledge of the theoretical background (and therefore the term's application domain) that stabilizes the meaning effects of these metaphors. When the context is unknown, as in pedagogical situations, inference transfers are probably very powerful and may lead to an important gap between the conventional meaning and the meaning construed by the public who very normally proceed by analogy.

Thus, for example, the term *black hole* also rests on metaphor. It designates “cosmic objects so massive that they attract light rays, bend them in on themselves, prevent them from escaping, whence their absence of color, their ‘blackness’ which makes them invisible”⁷ (Allègre 1995: 282, translation by Margaret Dunham). The astronomical metaphor rests on several shared properties between “holes” and these cosmic objects: both are containers, into which one falls, which are difficult to get out of and which trap you, furthermore they are black. But a “hole” supposes an emptiness which *a priori* risks being transferred (though inference) to the cosmic objects. Whereas for the latter, it is not their emptiness but rather their considerable mass which attracts objects and prevents them from escaping. The idea of mass and its physical effects are not part of the habitual meaning of “hole” where, on the contrary, emptiness plays the role of container-trap. To block this inference transfer, it is necessary to first set up the theoretical background of physics.

It is not certain that the theoretician who created the neologism by metaphor to designate a new scientific object was aware of all the inferences transported by the metaphor. These can be very powerful and do actually play a structuring role in the scientific domain. For example, the computational theory of the mind which is prevalent in cognitive sciences rests on an initial metaphor, that of the mind seen as a computer (Bruner 1992). This metaphor has generated an entire theoretical apparatus (the brain's “hardware” and “software”, “computation”, cognitive “pre-wiring”, “input”, “output”...). However the analogical process was erased: in the initial approach, it was a question of *simulating* mental processes using computers, it then became a case of describing them using computers, then it was a question of describing them using the computer as a model (metaphor), lastly, in a third stage, some began considering the brain as *being* a computer, a thinking machine (whence identification between the two domains, disappearance of the analogy). This founding metaphor whose heuristic process was erased, had considerable and often unwitting consequences, linked to the transfer of inferences. Thus, notably, because of

⁷ “Des objets cosmiques si massifs qu'ils attirent les rayons lumineux, les courbent sur eux-mêmes, les empêchent de sortir, d'où leur absence de couleur, leur 'noirceur' qui les rend invisibles”

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the computer model, human thought has been seen as an autonomous system based on the manipulation of formal symbols which could be described in terms of logic and algebra, and everything that did not belong to the rational domain (emotions, perception) was removed from its workings. Because of the transfer of computer properties to thought, another shift took place, surreptitious but crucial, from the notion of signification to that of information (Bruner *ibid*). The problem of meaning in cognitive science has thus unconsciously been reduced to the domain of information processing. Information theory deals with the modalities of the transfer of information but not with those of constructing information, which was thereby removed from the field of cognitive science. Signification was then treated as a stable product (information to be transmitted), already a given in the input and thus not submitted to construction. The initial metaphor here had considerable impact on the definition of the object to be described and the model produced.

When metaphorical denominations are new, their scientific impact is therefore not always quantifiable. Thus physicists trying to explain nuclear forces using properties associated with nuclear particles (one of which was even baptized *gluon*, meaning “that which sticks”), attributed qualities to them which represent inferences based on metaphorical transfers (quarks have “colors”, “flavors”, “charm”) for which the corresponding physical properties are not very clear (Allègre 1995: 230). It is therefore a question of thinking of a domain in terms of another by virtue of analogy and shared properties. But what the impact of the transfer of inferences in the construction of a model in particle physics will be, is difficult to say at the start.

So metaphors, in both the scientific domain and in general, are based on a fundamental cognitive mechanism which makes it possible to think of one domain in terms of another, through analogy. This process surely has heuristic and/or pedagogical virtues, and a certain cognitive efficiency. From a linguistic point of view, it allows a remarkable systemic economy and adaptability: a single unit gives access to several referents, an old term can be adapted to new realities or new concepts (on this last point, see the detailed studies carried out by Vidalenc 1997).

But words are not concepts, they are “representation triggers” which present specific structural and functional properties and carry, along with their referential values, a whole fabric of structured relations (see 1.3. below on depth). Whence the “danger” which menaces language communication, that of the surreptitious import of representations and properties through inference. This danger is partly controlled, generally speaking, by the specification of a term’s meaning within the utterance (cf. 3.), and in science

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through linking the term to a model which is most often explicit and constrained (through definitions, explicit descriptions of the properties and insertion in a specific model). The model constructs the value of the term in the background, and constitutes the term's application domain. It is when the application domain is entirely specified that the term becomes a technical one, linked to a true scientific concept. It is therefore, in science as in ordinary language, first and foremost the articulation within a specific context which stabilizes the ambiguities in the meanings of a term.

1.2.2. Metonymy

The second well known major mechanism for regulating meaning is metonymy. Traditionally speaking, metonymy is described as a shift in the referential value based on a relation of contiguity: the meaning of a term is transferred from one referent to another, by virtue of the contiguity relations between the two referents. Thus through metonymy, the *blue helmets* refer to the soldiers of the U.N. instead of referring to the helmets themselves; in *to have a glass*, the term *glass* can either designate the object or, through metonymical shift, its contents. These meaning shifts are based on the widespread mechanism of metonymy. Let us note that the term contiguity here is used in a very abstract sense; it can refer to relations of a variable nature such as the container for the contents (*a glass*), a part for the whole⁸ (*a roof for a house*), but also a cause for an effect (*I like Schubert* = I like Schubert's works), the place of origin for the product (*a Bourgogne*), a place for the institution which resides there (*the decisions of the White House*), a body part for the moral properties associated with it (*have guts*)... One can also consider as metonymical transfer the use of a brand name (or of an element of a category) to designate any element of that category, as in the case of *fridge* (*Frigidaire* in French) for *refrigerator*. Metonymy can take place through syntagmatic reduction: it is possible that the use of *Schubert* to refer to his works is based on the reduction of the phrase *I like (the works of) Schubert*, the same for *a (wine from) Bourgogne*. Certain syntagmatic reductions are historically attested: thus the French term *foie* ("liver") comes from the Latin expression *iecur ficatum*, a culinary term which originally designated the "liver (of a duck), *iecur*, fattened on figs, *ficatum*" of which only the beginning remained, *ficatum* ("enfigged") > *foie* "liver" (Traugott and Hopper 1993: 81). Through metonymy, the term ended up designating not only this particular type of liver, but any liver. From the viewpoint of linguistic processes, the *foie* is therefore a variant of the *refrigerator*! The contiguity which links these different referential values is therefore always conceptual but is sometimes also accompanied by contiguity between the syntactic constituents.

⁸ In this case it is called a synecdoche, but at this level of analysis, the distinction does not seem important as they both make use of the same mechanism.

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Beside these well known cases, Traugott and Hopper (1993: 80-93) mention a particularly interesting type of metonymy, where two meanings of a term are linked by a relation of inference. They give the example of the Germanic *hwile* (>*wile*) “time” which is the origin of the English *while* and the German *weil* (“because”). The adverbial phrase “at the time when” which uses this term (along with a distal demonstrative in the accusative and an invariable subordinator equivalent to “that” which were later morphologically reduced), first expressed the simultaneity of two events then, through inference, a causal link between the two events. Thus in Old English, in the sentence corresponding to “that disaster lasted the nineteen winters while (*wile*) Stephen was king”, the subordinate took on the meaning of “because Stephen was king”. From concomitant links one infers a link of causality. It is this value that was lexicalized in the German *weil*, which comes from the same *hwile* with a temporal meaning (as in *Weile* “moment, time”, *verweilen* “stay”) but which lost its temporal origins and no longer has any meaning but the causal one of “because”. In Tswana (Bantu), the verb “to get up (in the morning)” also functions as an auxiliary meaning “do (something) the next day”. D. Creissels (2001) analyzes the emergence of this second meaning through a process of semanticization (or lexicalization) of pragmatic inferences, linked to the fact that humans tend to make the alternation sleep/wake coincide with the alternation day/night. So if a human says “when I get up” one can, in the absence of contrary indications, infer that the person is referring to “tomorrow morning” because the prototypical getting up is the getting up which follows the night’s sleep. From the meaning “to get up doing something” one passed, through the lexicalization of the pragmatic inference, to the meaning “do something the next morning”. The semantic shift was accompanied by a syntactic reanalysis (auxiliarization process), but also belongs to the domain of metonymy from a semantic view point: the contiguity link is not simply a physical contiguity between the two referents but a contiguity of events.

Which is why I will follow here the more general definition given by Kövecses and Radden (1998: 39), following Lakoff: “Metonymy is a cognitive process in which one conceptual entity, the vehicle, provides mental access to another conceptual entity, the target, within the same domain”. The first important point in this definition of metonymy is that this linguistic mechanism is defined as a cognitive process and that it is described in terms of “access” to a conceptual entity. As for metaphors, it is not just a question of relations between words and things, but a question of the relations between the conceptual representations carried by words, as is shown by the diverse contiguity relations described here (part/whole, cause/effect...). Words are representation triggers and metonymy is a cognitive process which makes it possible for one word to trigger access to a new representation. It is noteworthy that in the case of metonymy, there is a

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dissymmetry: one of the representations is the vector for the other, it is the entrance point through which the target is accessed; therefore it functions as a salient feature of the second representation⁹ and the contiguity link between the two representations constitutes the referential path which gives access to the second one.

The second important point is that, contrary to metaphors which are based on the transfer of properties from one domain to another, metonymy operates within the same domain: it allows the transfer of referential values within a single semantic domain. Which is why I propose to describe the metonymical links between a term's two meanings as relations of a "horizontal" type; one must note however that, there too, the relation between the two meanings is mediated by an abstraction process that here is not based on analogy (as for metaphors) but rather on a link between properties of a single referent:

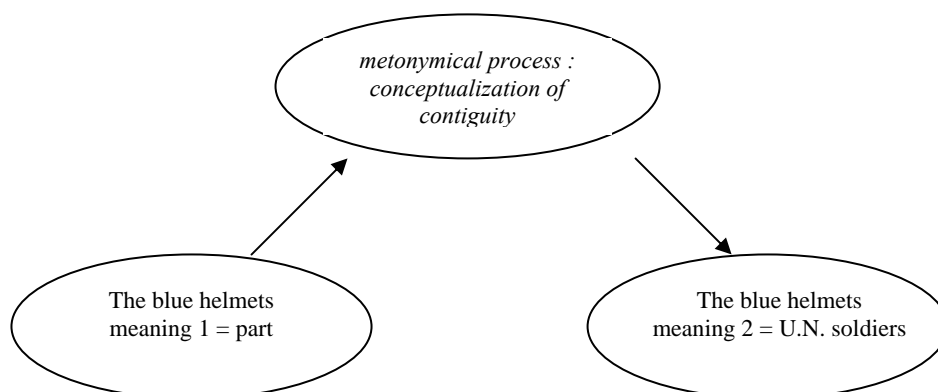


Figure 2: The metonymical link (horizontal relation)

Metonymical shifts can happen repeatedly in the history of a word. Thus the French term *bureau* initially designated a piece of rough cloth (*bure*) placed on the table where one worked. Then, through metonymy, it designated the table itself ("desk"), before, through a second metonymy, coming to designate the room where the table is found ("office"). It is probably undergoing further metonymy in designating the activities carried out in the room, as in *des horaires de bureau* "office hours". Similarly, the term *pen*, from the Late Latin *penna* "feather" first served to designate a feather object for writing ("quill"), then the pointed metal object which replaced the feather, then the stylistic qualities of those using the instrument (*a witty pen*). One can see through this example that the referential value of a term can survive its demotivation (loss of the link between the object "feather"

⁹ For a more detailed analysis of the different types of metonymy as well as the cognitive processes at work, see the article by Kövecses and Radden (1998).

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and the value “writer”). We will see in the following section, with the example of *fox* (and also in 2.1. for the example of *souris*), that metaphor and metonymy can also be combined.

1.2.3. *Combining metaphor and metonymy*

Interestingly, metaphor and metonymy can combine in the polysemic network. For instance a fox can refer to the wild animal, but also to its fur (metonymy), a coat made of its fur (second metonymy) as well as to an attractive woman (metaphor). As mentioned by Balbachan (2006), Lipka (1990 a and b) “identifies two typical processes where metaphors and metonymy take place, showing a general schema as a lexical rule for semantic shift or transfer: radial shift and chaining shift”. To illustrate these two types of networks, he gives the example of two polysemic words: English head which shows a radial shift and English volume which manifests a chaining shift, as illustrated in the following figures.

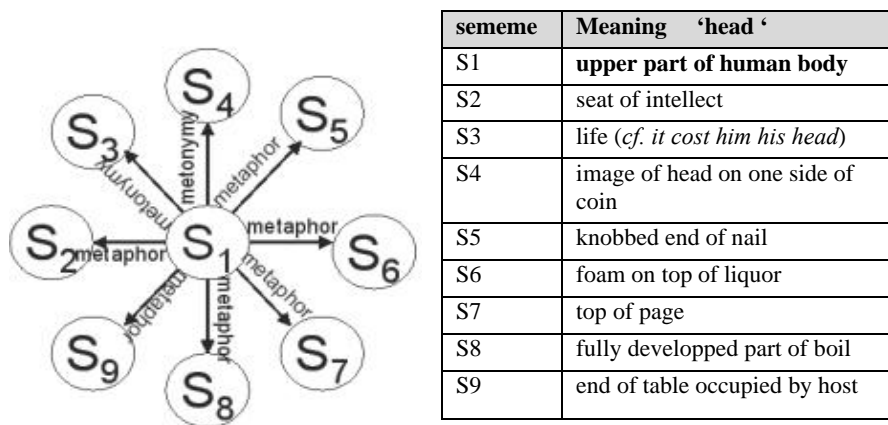
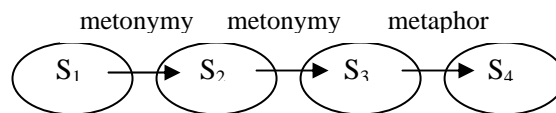


Figure 3 : Radial shift (from Balbachan 2006)



sememe	Meaning ‘volume ‘
S1	roll of parchment (<i>disappeared</i>)
S2	book tome
S3	size, bulk of a book
S4	size, bulk of other things

Figure 4 : Chaining shift (from Balbachan 2006)

1.2.4. Active zones and contextual interactions

Let us further mention an important factor in the semantic variation of terms: interaction with the context. Plasticity in terms is also largely conditioned by their interaction with the verbal and situational contexts, which produce a veritable “work” on the meaning of lexical units, defining landmarks, attractors and “active zones”, producing coercion, semantic shifts or semantic layerings. These processes will be presented in section 3. because they contribute to the stabilization of the word’s meaning in language use.

1.3. The depth dimension of language

1.3.1. Semantic universes: frames and scenarios

So far, we have described semantic structures and mechanisms allowing meaning shifts, but the meaning of linguistic units is not limited to these meaning matrices. Linguistic units, in effect, are linked to semantic universes, to representational backdrops which contribute to the value of a term’s meanings and which themselves can be highly structured. The terms *buy* and *sell* for example, designate a particular action between two participants which implies a history of variable but codified mercantile relations depending on the language and culture, which Fillmore has called “frames” or “scenes” (Fillmore 1977, 1982)¹⁰. However, these extra-linguistic factors have an impact, either direct or indirect, on the semantics of the terms and on their use; the notion of “frames” is intended to capture useful chunks of encyclopedic knowledge relevant to the usage of linguistic units (Goldberg 1995: 26). Thus the term *bachelor* is often defined as a man who is not married. But this definition is not sufficient for rendering either its values or its usage; the term implies a precise cultural background which explains why one would not easily say that the Pope or a hermit is a bachelor. The term *weekend* of course profiles a certain part of the seven-day cycle, but a full understanding of its meaning implies to know a larger semantic (and cultural) frame by which Saturday and Sunday are non-working days therefore associated with leisure, sport, camping... (Fillmore 1982). Furthermore, the notion of frame often explains the difference between two synonyms: for instance the words *roe* and *caviar* refer to the same entity but are associated with different frames, anatomical or gastronomical (Langacker 1987: 164-65).

¹⁰ See Martin (2001) for an elaboration on the notion of “frame” and its role in polysemy.

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In Ibo (a Kwa language of Nigeria), one thus finds eighteen terms for “to buy” depending on the nature and conditioning of the object, but also on the circumstances of the sale, the particular gesture associated with it, the quantity or fractioning of the object, whether the seller is obliged to travel, if the person one asks to buy will pay or not, etc... (Chukwe 1997). The different customs in the background directly intervene in the semantics of the verb as they are categorized in the language. And one sees that the scenarios underlying the signification of a meaning are culture-dependant. But these scenarios can also be indirectly linked to the term’s meaning. Thus in English, *white* is associated with marriage because of particular customs, namely the marriage ceremony and the color of the bride’s dress. The presence of this scenario in the background has the effect of generating connotations associated with this color; it induces diverse “resonances”: it is a positive color, it evokes purity, virginity, the intact nature of an entity, its innocence (*white as snow* for “innocent”). Again, the associated scenarios and the connotations stemming from them vary from culture to culture: in China, red is the color of weddings and white that of mourning; white therefore will not have the same connotations as in English, and will certainly not evoke virginity. These connotations linked to background scenarios are indeed part of the term’s meaning, and play an important role in a term’s stylistic effects and meaning variations within utterances.

We have seen that linguistic units often function through the selection of one of the referent’s properties to designate it, which leads to a property being used to designate several different referents (cf. *greens* or *bleu*). Linguistic units thereby constitute access paths to a complex representation fabric or network. Through its different values, a single term refers to different scenarios: that *greens* can refer to vegetables reflects the fact that the tops, the leaves, of vegetables are of that color; that *greens* can refer to members of a political party is due to the fact that they tend to use green banners; in British and American history, *greens* were pieces of land reserved for common use in each village, first for grazing purposes, then for recreational uses. Thus one sees that these scenarios are historically and culturally grounded. In certain cases, when a scenario no longer has historical validity, it becomes demotivated, and can even disappear. This is the case for the French *bleu*, which, among many other meanings, referred to young army recruits who usually showed up wearing their blue work clothes. With the end of obligatory military service, this term may eventually fall into disuse. However, history has given us new oppositions, as with the *greens* (ecologists) and the *reds* (communists), which are probably metonymic designations (“who bear green banners”, “who bear red banners”). There are also new background scenarios which lead to the emergence of new referential values, such as *un blanc* which formerly in French referred to a royalist soldier (whose uniform was white), but now

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belongs to a different paradigm linked to completely new reference values referring to wine.

1.3.2. *Connotations*

As we saw above, languages create network relations within the semantics of words (metonymic or metaphorical relations between meanings, relations between a schematic form and its different instantiations, relations between different referential values, different scenarios or semantic universes), but they also associate various connotations with a term's meaning. As we saw with the example of *white*, a term's connotations vary from culture to culture, and also according to its different uses. These connotations explain certain synonymic variations: *car*, *automobile* and *jalopy* are synonyms but are distinguished by their different registers and connotations, as is also true for *jaundice* and *hepatitis*. These connotations serve to signal a social role (which can be momentary) played by the speaker, or the speaker's belonging to a specific social group. Similarly, using the expression *father* to designate a priest signifies that the speaker is a practicing catholic, contrary to using *priest* or *clergyman*. In the same way, using *the heat* for "policeman" signals belonging to a certain age group and general ideology. In fact, choosing a term for its connotations allows speakers both to situate themselves intersubjectively (as regards the group) and to express one's position, one's judgment on what is being talked about. On the discourse level, connotative choices permit argumentative strategies based at least partly on identification phenomena, largely exploited by publicists (see Honeste 1997, Grunig 1990).

Certain connotative values can be more generally associated with words, so that they carry uncontrolled resonances in a given culture. Such is the case for the term *North* for example. For many French people, the term calls up thoughts of cold, grey, wet weather, and for Parisians, the daily grind, which are all negative values; moreover it is opposed to diverse positive representations of the South: sun, joy, feeling good, vacation, because of seasonal habits which are quite specifically French. Therefore avoidance strategies are developed for example by the departments and institutions in the North of France. The Artois University Press has thus been prettily renamed "Septentrion Press". The term *septentrion* is a synonym for *North*, but has neither the same distribution (usage contexts) nor the same semantic resonances; it is an old term, associated with a poetic and literary universe which calls up all sorts of other associations. These two terms then have the same referential value but not at all the same meaning. And if the department *Côtes du Nord* successfully changed its name to *Côtes d'Armor*, it was both to avoid the negative associations with the North and to endow itself with a more fitting denomination, both geographically and culturally: the *Côtes d'Armor* are in the north of Brittany rather than in the north of

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France, moreover they have a specific history which the term *Armor* positively evokes. This new name, in effect, is wound up in a very different network of associations and connotations: it not only brings to mind the Celtic legends, but also the formal echoes between *Armor* and *Amor*.

1.3.3. *The depth dimension of language: fabric of networks*

To the fabric of diverse semantic relations which units enter into (*Armor* and Celtic legends), one may also add a network of formal relations, either etymological or not (*Armor* and *amor*), between units. These relations vary greatly from language to language, and probably even from one individual to another because they are built on both social and individual experiences, and each one generates diverse association representations. For the present writer, the term *uncle* of course calls up the domain and structure of kinship relations, but also the book *Uncle Tom's Cabin*, and her own uncle who had a house in the Alps and hence the memory of winter sports, and so forth. The cognitive reality of these formal relations between non related terms is also visible both in slips of the tongue and in puns. I will not go into the details of the diverse morphological relations that are set up in the paradigms here (cf. Robert 2003). These morphological relations (etymological or not) thereby produce echo phenomena between the terms of a language (*Amo - Armor*): the formal relationship induces semantic relationships between the different notions, connotations or values associated with each of the terms.

Depending on the language, words resonate in an extremely variable way, depending both on the physical and cultural contexts and on the rest of the language's lexicon. The linguistic units trigger representations which are caught up in a complex network of relations, at once language internal and external, semantic and formal. This web of relations and associations that links linguistic to extra-linguistic matter, constitutes what I call "the depth dimension of language" ("l'épaisseur du langage", Robert 1999, 2003). Depth constitutes a third dimension in language, as opposed to the syntagmatic dimension (relations between the utterance's terms) and the paradigmatic dimension (relations between the terms that may potentially occupy the same spot in the utterance); it is what makes the meaning "subjective and open-ended" (Lichtenberk 1991)¹¹. This depth dimension constitutes the semantics of a term, and in a way represents the extremely variable harmonics that the semantic-structure-as-fundamental-frequency gives rise to. The depth of language is a complex area where linguistics

¹¹ "A term may have a primary meaning, but its total meaning subsumes not only this primary meaning, central designation, but also all the other more or less peripheral aspects of the situations in which the term is used." (Lichtenberk 1991: 480)

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associates both with linguistic and extra-linguistic matter and which plays an important role in the construal of an utterance's meaning (Robert 1999).

The following table, which is certainly far from being exhaustive, lists the different components of the meaning of linguistic units that we have highlighted here. They gather together variation factors that are at once internal (within languages) and external (from language to language):

- world segmentation and categorization
- referential paths
- profiling: internal architecture (figure and ground)
- plasticity and meaning shifts (metaphor, metonymy)
- referential scales
- variable application domains (instantiation)
- depth:
 - scenarios and semantic universes
 - networks of formal and semantic relations between terms
 - connotations
 - associations between linguistic and extralinguistic representations

Table 1: Processes involved in the words' meaning

2. The problem of transparency and referential accessibility

2.1. Motivation

Thus far, we have examined the different mechanisms for constructing the meaning of terms, such as property selection and referential paths, transfer processes through metaphor or metonymy. In these different cases, meaning is construed through a referential process which is indirect but also transparent and motivated. This motivation most probably plays a role in how these terms are stored in the memory (by linking different meanings together or by linking a meaning with the physical and cultural properties of the referent) as well as in the cognitive accessibility of the referent.

However, this referential transparency varies within a language as well as from language to language. Within languages, the semantics of terms is not always motivated and the modalities of reference accessing may be opaque for different reasons (see below). Furthermore, referential efficiency among terms may vary within languages, as well as from language to language, for the "same" term. Thus languages present varied strategies for reference accessing which are partially linked to their morphological, and therefore formal, properties.

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The specific problems raised by technical term translation and terminological creation are particularly interesting on this head, as they bring to light the necessity for efficient designations, whether it be a question of procedures to follow in case of emergency, translating traffic regulations, instruction manuals, or even school books and teaching materials. It is most probably necessary to introduce as much motivation in the designations as possible. This entails either transparency in the referential paths, or retaining the most salient properties within the culture to designate the referent.

Thus to indicate the blinking cursor which shows its position on a computer screen, French used, in succession, first *curseur* then *souris* (“mouse”). The term *curseur* has fallen into disuse because visibly connected to an era when screens had a different presentation, and rested on a metaphor linked to a slide rule and to the movement of a mobile element along the ruler. The term *souris* (“mouse”) is based on a metaphor then on a metonymical extension. It began by designating the element which serves to transmit the hand’s movements to the screen: the metaphor was based on the shape of this element (small and oval) and on the (rapid) movements it made possible; then, through metonymy, the term *souris* (“mouse”) came to signify not the element moved by hand, but the element it affected on the screen. The salient properties that made this metaphorical shift of the term *souris* (“mouse”) possible were the size and movements of the object. While trying to create terminology in Banda (Central African Republic), as described by M. Diki-Kidiri, for the same element it was the term for *firefly* that was retained; the salient properties which seemed the most suggestive being size and luminosity on a dark background (as were the screens at that time). These privileged paths are certainly linked to the cultural world.

In fact, the cognitive efficiency of metaphors is often based on the existence of a world of wider cultural references which are not always transposable from one language to another. As J. L. Vidalenc showed (1997: 143), the metaphorical expression *scientific frontier*, used in American scientific presentations, refers more to Westerns and to the American “frontier” culture associated with them than to the sources usually called upon in scientific communications. Such an expression would certainly not have the same meaning for a French public.

Certain general metaphors do not exist in all languages. In English, *up* and *down* are associated with turning a machine on and off, as in the expression *to shut down the computer*. This analogy between movement and turning something on or off is not the same in French, where downward movement is rather associated with something falling, and probably breaking. This association is so strong that it prevented me for a long time from using the

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entry *shut down* in the scroll menu on my computer, for fear of breaking something...

In other words, we are faced with an apparent paradox: it is probably by taking what is most typical culturally in a language that one is able to construct the best “equivalences” between languages and not by taking universal invariants conceived of as having a minimum of common contents.

It would certainly be interesting to carry out experiments on the possible existence, in different cultures, of privileged access paths to reference: spatial trajectories, functional property selection (cf. *index* above) or tactile properties (linked for example to manipulability which probably plays a role for certain classifiers in Chinese), visual properties (it is because of their long and thin shape that the terms “fish”, “stick”, “street” and “necklace” in Mandarin have the same classifier *tiao*). The olfactive properties of referents seem to be more rarely selected as salient. Corbin and Temple (1994) note however the French term *fenouillette* which designates a variety of apple whose smell evokes that of fennel (French *fenouil*).

But the degree of transparency in terms also depends on language specific morphological factors. German presents a remarkable degree of transparency in compound words, transparency which is linked to the clarity of its compositional rules and the flexibility of its particles (Pérennec 1997). Furthermore, specialist vocabularies in German, much more than in French, with English somewhere in the middle, make widespread use of so-called folk roots. One can compare the German *Unterhaut* (lit. “under-skin”) to its English equivalent *derm*, or *Einbaumboot* (lit. “one-tree-boat”) to its English equivalent *monoxyl canoe* (also known as a *dugout* in everyday speech). The German terms thus show a remarkable referential transparency as compared to English. Although the semantic interpretation still necessitates recourse to encyclopedic knowledge, the mode for accessing the referent is transparent.

Concerning this last example, one notes that the precision of the reference path or its explicit character do not necessarily imply that the reference is accessed more quickly. The English *monoxyl* is a constructed term which is explicit in its referential path (“made of a single piece of wood”) but it makes use of (Greek) roots which are opaque for most speakers. Similarly, most chemistry terms, such as *cupritetramine* and *desoxyribonucleic* are analytical terms, explicit and free of ambiguity, but opaque for non specialists. Because referential accessibility implies not only an explicit (analytic) reference path but also knowledge of the theoretical background, i.e. the term’s application domain. Depending on the speaker’s knowledge,

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the referential path may be transparent even though the reference is opaque. Inversely, a vague term may be referentially efficient, because of its usage conditions.

2.2. *Opacity and accessibility*

All terms in a language are not always “constructed words” or “defined descriptions” which furnish the speakers with (always partial) descriptions of the referent. In effect, there are, within languages, different strategies for accessing references, especially through analytical processes (as with the preceding examples) or “direct” processes. Of course referenciation is always mediated as it is transmitted via units which refer to representations constructed by the language, but access to the reference can be carried out either through constructions (analytic processes), or through encoded units as such, which are unanalyzable (as with proper names for example, or more generally, mono-elementary units such as *table* or *glass*), which form meaning blocks. Let us quote the famous distinction proposed by Frege between the different denominations for a single planet: *Venus*, which is a proper name and constitutes a mono-elementary unit, *the evening star*, or *the morning star* (to which one could add the *shepherd’s star*), which constitute definite descriptions, i.e. analytical ones. The same is true for the *Castafiore* and the *Milanese Nightingale*.

In strategies of reference construction, the referential path may be opaque, either because the coded unit is not analyzable (*table*) or because demotivation has taken place, and the compound meanings have been lost. This is the case for example for *turkey*, a term which originally designated a fowl from Turkey, but with the fowl becoming widespread, the metonymical path was lost. The American states of *Louisiana*, *Virginia*, *Georgia* and the *Carolinas* all bear testimony to the monarchs ruling at the time of their conquest. The name *Alsatia* (“Alsace”), literally “other seat”, designated a foreign settlement, referring to the Germans who had settled west of the Rhine. The fact that this area was considered a sort of enclave led to the term being used derogatively in London to refer to the White Friars precinct which had become a sanctuary for debtors and law breakers, and thus an asylum for criminals.

This complicated path followed by the semantic shift is totally opaque nowadays (Shipley, 1984: 344).

The case of *grève* in French is another nice example of demotivation. This name has two meanings: (1) it designates a “beach strand or river bank” and (2) it refers to one of France’s national specialties, namely “strikes” (to be on strike). Originally, these two meanings were linked by a double metonymy: the “place de Grève” (lit. The Strand place) was the name of a

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place in Paris, close to the Seine's bank; at a certain time in history, the workers would meet in this place to protest against their working conditions. Hence, the phrase "être en (place) de grève" took on the meaning "to stop working and go to this place for protesting". Later, this expression became autonomous (as in *une grève importante* "an important strike") and the link with the particular geographical place was lost: the metonymic shift was demotivated and the two meanings appeared to belong to two homophonic terms, corresponding to what Lichtenberk (1991) calls a case of „heterosemy“¹². Today, the referential path of *grève* is opaque. But its meaning is not.

In fact, opacity of the referential path does not necessarily imply opacity of the term's referential value, nor its inaccessibility, just as the path's transparency does not guarantee transparency of reference. In effect, most acronyms such as LASER, AIDS or DNA represent opaque referential paths for most speakers. However, their referents remain accessible (at least to a certain degree), especially as these objects are part of a familiar universe; the term then functions as a sort of coded unit within the language.

Similarly, the referential value of a term generally survives its demotivation, as is the case for example for the *plumber* (from the French *plomb* "lead") which still designates the same category of workers even though they no longer repair lead piping. Another interesting example is also given by Lee (2001: 10) which is the case of the English *bug* (1. 'insect', 2. 'fault in a computer program'). This term was first used when a problem with one of the early computers was found to be due to the presence of a dead insect in its innards and therefore used in its original sense concerning a problem with the computer. However, this situation involved the activation of a new frame (computer programming), which was the source of new semantics for the term that came to refer to any fault in a computer program, even when unrelated to the presence of an insect in the machine. The rate of the (formal) evolution in words does not necessarily follow that of their referents. This discrepancy does not hinder speakers because the relationship between form and meaning is fundamentally arbitrary and coded, even if occasionally motivated. What is crucial is that the term have meaning for the speakers, namely that it permit access to a common representation; if the relationship between the linguistic form and the representation attached to it is most often arbitrary as concerns the system of the language, from the speaker's viewpoint, it no longer is from the moment the representation is acquired: a *table* is a table. It is therefore most probably

¹² "In heterosemy, the semantic (as well as the formal) properties of the elements are too different to form a single conceptual category. Rather, the category has only a historical basis: what unites its members is their common ultimate source" (Lichtenberk, 1991: 480).

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when it is a question of gaining access to a new representation, as in the case of terminology creation, that motivation and transparency in the referential path are the most important. But path transparency and referential accessibility do not necessarily go together.

This discrepancy between path opacity and referential transparency can be explained, in my view, by a more general linguistic mechanism. I think that on the discourse level, namely when units are used in an utterance, there are two modes for forming meaning: by quotation or by construction. In fact, from a structural point of view, discourse makes use of different types of units: either simple units (*table*), constructed units (be they derived: *dancer*, compounded: *pillowcase* or phrases: *head of hair*). These different structures probably give rise to different modes of constructing meaning and reference access, in the production or comprehension of the utterance: on one hand certain junctures are formed at the time of speaking (construction formation mode); on the other hand, certain structures function as fully fledged units (“coded units”), stored in the memory as wholes and used more or less as such in the sentence (quotation formation mode). These two utterance modes are most probably both necessary for speech. The first ensures the creativity and plasticity necessary for language, the second ensures economy in individuals’ efforts and interpersonal comprehension.

However, it seems to me that these two meaning production modes do not necessarily follow the linguistic structure of the units being used: some complex units may, from the point of view of production and reference access, function as simple units, produced through citation and not construction. The expression *head of hair* probably usually functions as a simple unit and the speaker (and listener) probably do not construct its meaning by analytically following the term’s referential path. Just as in *toothbrush* one does not necessarily hear *tooth*, and in an instrument’s *mouthpiece* one does not necessarily activate the term *mouth*. This is why transparency of reference paths does not necessarily go hand in hand with the accessibility of the referent: it all depends on the reference construction mode during discourse. These two construction modes also apply to structures larger than the word, and even entire sentences. Proverbs (*April showers bring May flowers*) and certain set expressions (*hard as Job*, *to smoke like a chimney*, *to keep a stiff upper lip*) generally belong, on one count or another, to the quotation mode: when speakers use them, they do not usually build them up from their individual components, but quote them as fully formed units. However, the latent referential path of set expressions can be reactivated. This is often what happens in puns or advertisements which frequently consist in bringing to the surface opaque referential paths. The varying activation of component meanings then depends on the specific dynamics of the sentence.

3. Construing meaning in discourse: stabilization mechanisms

Linguistic units present ambivalences and potential semantic overloads due to their polysemy and their representational depth, the complex fabric of relations they enter into. However, in language activity, units never appear on their own, but always in a verbal and situational context, inserted in utterances where all of their values are not present. Following the tenets of cognitive semantics (Langacker 1987 and 1991, Talmy 2000), we consider that “instead of thinking in terms of words as expressing ‘concepts’, we should think of them as tools that cause listeners to activate certain areas of their knowledge base, with different areas activated to different degrees in different contexts of use” (Lee 2001: 10). Being used in discourse, the context “acts on” the meaning of the units and constrains their interpretation. More generally, discourse, through different relating mechanisms, makes it possible to progressively build the reference frame and “verbal scene” (Victorri 1997) which will specify both the meaning of each unit and that of the sentence. Thus reference is always construed contextually through a dynamic process, for which we will mention a few of the mechanisms here. These meaning construal mechanisms in discourse contribute both to the general polysemy of the term and to the stabilization of its meaning within a particular utterance.

3.1. Application domains, meaning attractors and semantic isotopics

3.1.1. Application domains

In their different uses, words are always invested, instantiated in “application domains” which define their semantic incidence and contribute to creating their referential value and contextual meaning. Incidence domains are important for terms because they contribute both to the variation (plasticity) of their potential meanings and to their stabilization in the utterance. A change in the application domain and semantic universe of a term can produce a meaning shift and a radical change in its referential value. As mentioned by Sinclair (1998: 7), the meaning of *white* when followed by *wine* (as in *white wine*), refers to a different color range (from almost colorless to yellow, light orange or light green), than when it is not so followed. Furthermore, depending on the context, a term can be linked to a different semantic universe, while keeping its profile. This is the case for example of the word *pit*, which refers both to a hole or cavity in the ground and a certain seating area in a theatre or auditorium. In both cases, it represents an element of the same general shape as well as certain shared functional properties (it is usually hollowed out with the intention of containing people or objects, and is usually below ground or below the level of surrounding people) but its application to different semantic universes entails a completely different referential value in either case, as well as wholly divergent associated properties (negative as in the saying “it’s the

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pits!” and positive as being some of the best seats for seeing the scene in the theatre). The different semantic universes the terms are linked to are therefore the source of the variation in the units’ meanings, but also play the inverse functional role in disambiguating the construal of a term’s meaning in discourse.

How are these application domains and semantic universes specified? By the verbal context (the relationships between the sentence constituents and the relationship between the sentence and what precedes it) and by the situational context (extra-linguistic factors pertaining to the discourse situation): these together construe different reference points which steer the term’s meaning.

3.1.2. Primitive meaning attractors (prototypes, personal attractors and discourse situations)

The terms we use are caught up in the representation depth that we mentioned earlier where extremely diverse relational networks are woven and which vary according to the cultures and individuals, as they are bearers of an individual’s experiences, both material and psychological. However, this representation depth affecting words is crossed by different reference-concentrating areas, landmarks or anchoring points, which serve as “interpretative attractors” or “meaning attractors”, i.e. elements which attract/steer a term’s interpretation in a particular direction. The prototype is one such element.

Individuals also have their own meaning attractors: out of context, a linguist will tend to interpret the word *instrumental* in its grammatical meaning (that of a morpheme serving to indicate that the complement corresponds to the instrument of the process) whereas for musicians, the first thing to spring to mind will be their violins or pianos.

The discourse situation also functions as a factor specifying a term’s application domain and as a meaning attractor: depending on whether one is at a concert, in a bakery or at a Chinese restaurant, the French term *baguette* will be connected to the semantic domain construed by one’s location and will refer either to a conductor’s baton, to a loaf of bread or to chopsticks. The discourse situation therefore functions as the default “meaning attractor”: it calls up a reference domain that the terms used will naturally be connected to. The reference domain acts as the backdrop or ground against which the figure defined by the term’s signification will be profiled, the figure and ground together constituting the contextual meaning of the unit. The pragmatic context (i.e. the situation where the utterance is produced) can also lead to a variety of meanings on the grammatical level which overthrow the meaning of the whole sentence: in the French sentence *je*

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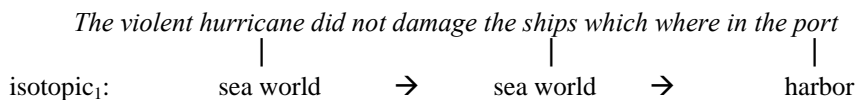
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vous coupez la tête (lit. “I am going to cut you the head”), depending on the situation, the personal pronoun *vous* (“you, for you”) has two different possible values (benefactive or applicative), so that the sentence as a whole takes on a completely different meaning: if you are at a fishmonger’s, it would mean “I’m going to cut the (fish’s) head for you” (benefactive), whereas if you are under threat from a mad man, it would mean “I’m going to cut off your head” (applicative).

A term’s meaning is construed through interpretative mechanisms which are conditioned by different factors. Communication is only possible because the reference points of the verbal context take precedence over the rest. But interference between the different “meaning attractors” is always possible, as is shown for example by misunderstandings and puns (see e.g., Arnaud 1997).

3.1.3. Contextual meaning attractors: semantic isotopics

The most important reference points for communication are those which are created by the verbal context, e.g. by the creation of relationships between a given term and the rest of the utterance, and between the utterance and those preceding it. The relationships between the terms of a sentence is notably governed by a fundamental mechanism of “semantic isotopic”¹³ which consists in linking a term’s meaning to the semantic universe of the preceding term to create interpretative continuity in the line of thought. Thus, in the absence of particular contextual indications, in the sentence *the pilot pulled back on the stick to fly higher*, the terms *pilot* and *fly* lead to interpreting *stick* as an “airplane control handler” and not as a “tree branch”. Through this isotopic process, concatenation draws a guiding thread through the depth dimension of language, which orientates the meaning of a term towards an interpretation congruent with the semantic field established by what precedes it. It thereby contributes to removing the potential ambiguities inherent to linguistic units due to their polysemy. I consider that the same principle of semantic isotopic comes into play in the disambiguation process evoked by Paprotté (1998: 248) concerning the two meanings of *port* in English: “safe harbor” or “red wine”. Thus two different isotopics are created in the following two examples (Figure 5):



¹³ The concept is from Greimas (1966: 96). It was further elaborated by diverse linguists. For a detailed analysis of the different types of isotopics, see Rastier (1987: 87-141) for example.

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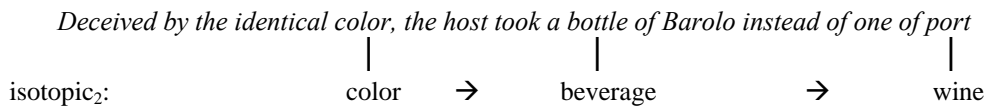


Figure 5: Two different isotopics for *port*

This disambiguation process which draws a guiding thread through the depth dimension of language can be schematized as in Figure 6:

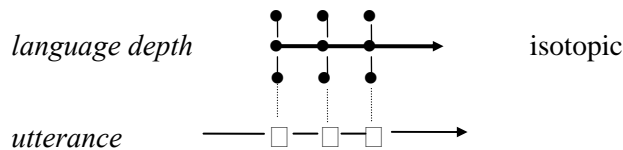


Figure 6: Semantic isotopic and language depth

Setting up contextual relations creates interpretative landmarks and semantic fields which, apart from specific psychological situations which lead to the interference of personal attractors (preoccupation, fatigue, obsession), prevail over the other meaning landmarks and attractors.

3.2. Contextual linkage and multiple landmarks

The meaning of a word in context is the result of a multifactor *process*. In effect, all of the factors, contextual, lexical and grammatical, constantly intervene in the progressive construal of an utterance's meaning and in the specification of the values of its terms. When it appears in a sentence, a unit is linked, concomitantly, to elements at different levels: in relation to the verbal context and preceding situation, in relation to the other lexical elements, in relation to the syntactic structures. Everything is linked in language and the relational mechanisms produce meaning through constant interaction between the elements involved. Putting words into sentences thereby activates one or another of its latent meanings and produces a contextual linkage (it clears a pathway through the forest of meanings). In the following sections we will first present the different linguistic components interacting at the utterance level in order to specify the meaning of a word (3.2.1., 3.2.2. and 3.2.3.), we will then mention some of the main mechanisms characterizing these interactions (3.2.4.).

3.2.1. Lexical interactions

Linking a term to various elements (the context, linguistic units and structures) does not constitute a simple filter among a unit's possible values (as in the example cited for *pit*), it produces a veritable working over of the term's meaning, which is construed by interactions. Thus in a *floury hand* and a *floury pear*, the adjective always refers to the fact that the object in

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question at a certain point in time presents certain qualities linked to flour (which is its meaning), but its meaning varies considerably as it designates in one case an object covered with flour and in the other, the texture of flour (Corbin and Temple, 1994). However, this specification of the value *floury* is not foreseeable outside of the connection of the adjective to the particular nouns it determines. Similarly, it is the specific values of *steak* and *man* that will inform the variable values of the adjective *tender* in *a tender steak* or *a tender man*, while at the same time *tender* will specify the *steak* or *man* in question. We also saw that the shift in the meaning of *square* in *a square person* or *a square foot* is brought about by the interaction between the nominal referent's properties and those of the determinant. Moreover, in some cases the precise meaning of a word or phrase is determined more by the verbal environment than by the parameters of the lexical entry, as in the case of *white* in *white wine* (cf. supra 3.1.), which is what Sinclair (1998: 6) calls a "semantic reversal". From a linguistic point of view, these semantic shifts can be at least partly predicted by a corpus-based analysis of the word's collocations (cf. Sinclair 1998, Deignan 2006).

3.2.2. *The framing role of the verbal context*

Thus the simple linking together of two notions produces an effect on their semantic values, due to their respective properties. In the examples we have looked at, the term which triggered the variation and meaning specification of the adjective was identifiable and located in the immediate vicinity since it involved a noun determined by the adjective. But there is not always a one-to-one correspondence between the elements which interact and it is not always one unit which acts upon another unit. In effect, a preceding utterance (no longer simply a preceding unit) can orient the value of a following term or utterance: the meaning of *setting* in *I'm going to change the setting* will vary according to whether it follows the sentence *your ring looks very old-fashioned* or *this scenery doesn't seem quite right for Shakespeare*. Similarly, the verbal context can largely constrain the value of a unit or a whole phrase. Thus the whole meaning of *he laid the table* will vary according to whether one is talking about a child or a woodworker. Even if the terms "child" or "woodworker" were not explicitly mentioned in the context, the context nonetheless functions as a thematic landmark.

3.2.3. *Interactions between syntax and semantics*

Grammatical factors also affect terms' values. To mention only a few examples, in French word order plays a role in specifying the meanings of units, as can be seen in the opposition between *un homme grand* "a tall man" (physical value of the adjective) and *un grand homme* "a great man" (appreciative value of the adjective), the place of the adjective thus plays a semantic role in French which constrains its behavior (shown by the fact that **la verte herbe* lit. "the grass green" is impossible, the adjective can

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only follow the noun as in *l'herbe verte* whereas English shows the exact reverse) and produces meaning shifts: because of the adjective's location, in *un bel imbécile* ("a great fool"), *bel* does not designate a physical quality but serves as an intensifier for *imbécile* (as in English, where to obtain a positive reading for *great*, it would have to follow the noun: *this fool is great*). Similarly, the plural can also produce semantic linkage. Thus in English the word *term* has numerous possible meanings: it can designate a "word" (as in the expression *a technical term*) or an "end" (as in *to put a term to one's life*), it can also refer to an expected end, a qualitative meaning (*to be born at term*) (cf. Robert 1999). The simple use of the plural, *terms*, produces semantic effects as it implies fragmentation which renders the word countable, and thus leads to its taking on the meaning "relations" as in *to be on good terms with someone*, or "conditions": *the terms of the contract*. As terms referring to a quality are not fragmentable (cf. **whitishes*), the plural thus eliminates the qualitative interpretation of *term*.

In general, lexical and grammatical factors interact and mutually condition each other. For a construction <verb + to + complement>, the nature of the introductory verb constrains the choice and the grammatical category of the complement: *take to* sub-selects an activity, whereas *go to* sub-selects a place. The semantics of the verb thus limits the choice of complement by creating both syntactic constraints (for *take to* to be able to select an entity as complement, the preposition could not directly follow the verb, as that position would be occupied by the beneficiary; (*He took John to the zoo* vs. *He took to swimming in the morning*) as well as "semantic isotopics". However, as these examples show, the lexical semantics (the value of the introductory verb) also specifies the semantic value of the syntactic construction (value of the complement introduced by *to*). These interactions between semantics and grammar are also visible in the syntax of metaphors, as shown by Deignan (2006) through analysis of a large corpus. For instance in Spanish (Balbachan 2006), the metaphorical expression *matar el tiempo* (lit. "killing time") implies both a selectional constraint violation and a syntactic anomaly (the absence of the preposition 'a'). In French, depending on whether they are used metaphorically or not, the following movement verbs have different syntactic constructions, with different prepositions: one says *courir vers la maison* "run towards the house" but *à la victoire* "(run) to victory", *nager en piscine* "swim in a pool" mais *dans le bonheur*. lit. "(swim) in(to) happiness". As shown by Yaguello (1998: 98-106), figurative expressions have their own syntax: although in French one can say *elle a l'oreille fine* (lit. "she has a fine ear", meaning "she hears well") or *elle a le coeur gros* (lit. "she has a big heart", meaning "she is sad"), the constructions *son oreille est fine* (lit. "her ear is thin") or *son coeur est gros* (lit. "her heart is big") are impossible with a figurative reading, whereas they are acceptable if the terms are taken literally: *son oreille est fine* ("her

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ear is thin”) which is constructed, and interpreted, in the same way as *ses yeux sont bleus* (“her eyes are blue”). What is at play here is that in the figurative sense, it is not the body part which presents the predicated property, but rather the quality associated with it, hearing for ear or feelings for the heart. However, body parts, as we mentioned above, belong to the category of inalienable possessions having specific syntactic properties which are not found in the metaphorical or metonymical uses of body parts in French (cf. *je me suis lavé les mains / j’ai lavé ma voiture*). Similarly, whereas by metonymy one may say in French *il a la gâchette facile* (lit. “he has an easy trigger”, meaning “he is trigger-happy”), one cannot really say **sa gâchette est facile* (lit. “his trigger is easy”). Thus the figure leaves a trace in the syntactic constraints. More generally, the corpus-based analysis of Hunston & Francis (2000) and Deignan (2006) have shown an interesting point for the disambiguation of polysemy: the different meanings of polysemous words have a tendency to be realized in distinctive grammatical patterns.

Let us note that the interaction between syntax and semantics can happen retroactively. In French, *pied-de-biche rouillé* (lit. “foot-of-doe rusted” meaning “rusty crowbar”), the (postponed) adjective retroactively converts the preceding expression from a genitive construction into a compound noun referring to a tool.

Thus the factors that determine the meaning of a term vary in their nature. They can be either linguistic or pragmatic, and generally belong to an incidence domain which is also variable: their scope can cover a word, a group of words, or a whole sentence. The diversity of a term’s specifying factors (context, units, grammatical constructions, sentences) and their variable scope (incidence on the following unit or on the sentence as a whole) present a difficulty when one tries to model the processes of construing meaning in discourse. However, the different factors that specify a term’s meaning in discourse follow regular processes which are based upon a general mechanism that Culioli calls “repérage” (anchoring) (Culioli 1982). This anchoring is most probably a fundamental cognitive mechanism, also at work in construing the figure and ground, topic and focus in language, as well as in visual perception. The anchoring process sets up a relationship between two terms through which one of the terms is taken as an anchor point for localizing (in its abstract sense) the other term. Thus a term is located in reference to another term which serves as its reference point and this relative localization of one term in reference to another produces new determinations. These “terms” can be of varying natures and dimensions: notions (through the different elements in the lexicon, such as a name in relation with an adjective for example), temporal reference points (a moment in time), or subjective ones (a subject) but also

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topic and focus, propositions, sentences, or even a word's prototypical meanings (in relation to its contextual meaning). These reference relations between an utterance's terms produce contextual links, activate meaning attractors, create semantic isotopics and specify word meanings.

3.2.4. *Some semantic mechanisms at the utterance level*

One can characterize some of the different semantic mechanisms operating at the utterance level and producing semantic variations. The following list is, of course, not exhaustive.

Profiling active zones

As shown by Langacker (1991a: 189-201), different semantic components of a word can be activated, depending on the context. For instance, in the following two sentences, different parts of the window are activated:

- (1) *He cleaned the window*
- (2) *He opened the window*

Because of the semantics of the verb, (1) refers more specifically to the glass of the window, whereas (2) draws more attention to the frame of the window. Therefore, two different zones of the word's meaning are profiled in the different sentences, for which two different synonyms could be used.

Constructions and coercion

The grammatical context can at times cause the language-user to reinterpret all or parts of the semantic features of a lexeme that appears in it. This phenomenon has been referred to by computational and generative linguists as "coercion" and was mainly studied for aspectual shifts (Pustejovsky & Bouillon 1996, De Swart 1998). Consider a sentence like (3), taken from DeVelle (2003):

- (3) *The tourist photographed the sunset **until** nightfall.*

The verb *to photograph* normally refers to a punctual event, as well as the singular object (*the sunset*); however, the adverbial *until* implies duration. The conflict between the two different aspectual specifications causes the verb to be reinterpreted as referring to an iterative process. This repetitive effect is absent both from verbs referring to a durative activity such as in *The tourist watched the sunset until nightfall* and in the other uses (i.e. without the adverbial *until*) of the verb *to photograph*. The aspectual value of *to photograph* has been coerced by the durative adverbial.

In cognitive semantics, this phenomenon is considered an effect of a more general principle: (grammatical) constructions have meanings distinct from

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those of words and these meanings interact with the meaning of the words (see Goldberg 1995).

(4) *As they have waved us along the raised causeway and into the rocky cleft...*

In this sentence, the particular interpretation of the predicate as “to signal permission to move to a place by waving” is produced by the so-called “caused-motion” construction applied to the verb *to wave*.

Michaelis (2003) considers that there is a general override principle stating that “if lexical and structural meaning conflict, the semantic specifications of the lexical element conform to those of the grammatical structure with which that lexical item is combined”. This principle is illustrated by the interpretation of a sentence like *They have good soups there*. The nominal construction which licences the combination of a noun and a plural suffix *-s* requires that its nominal head denote a count entity. While soup, as a liquid, is prototypically viewed as a mass, the noun *soup*, when combined with the plural construction as here, receives the individual construal associated with count entities, and is thereby seen as denoting a portion or type (Michaelis, 2003: 172).

Semantic shift

More generally, Talmy (2000 vol.2: 324) indicates that “when the specifications of two forms in a sentence are in conflict, one kind of reconciliation is for the specification of one of the forms to change so as to come into accord with the other form. This change of accommodation is termed a shift.” Talmy (*ibid.* 324-336) distinguishes different types of shifts and also various other processes for resolving semantic conflicts (blends, juxtapositions, schema juggling). I would like to mention just one example of semantic shift which enabled me to represent the connections at work between the linear axis of the sentence and the depth dimension of language (Robert 2003).

When Balzac describes Eugenie Grandet as *a poor rich heiress (une riche et pauvre héritière)*, the reader reinterprets the two contradictory adjectives either by displacing the contradiction temporally (she is potentially rich as a future heiress but is currently poor), or by giving *poor* a subjective reading (“unhappy”) instead of an objective one (“who isn’t rich”), i.e. by displacing the adjective’s meaning onto the modal plane. The reader thus carries out a change in the reference point which shifts the meaning of the adjective from one plane onto another. This reference change makes it possible for the meaning to follow another path in the depth of language. This semantic process can be schematized as in Figure 7:

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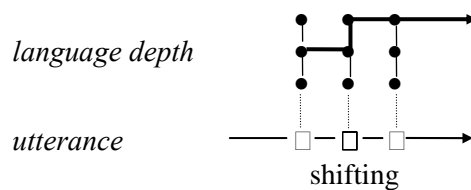


Figure 7: Shift in language depth

3.3. Semantic layering

Because of the polysemy of words and the “depth dimension” of language, in some utterances it is possible to activate several meanings of the same word. This sort of semantic layering is the mainspring of rhetoric, puns, and also of advertising, as Grunig (1990) has shown, from whom the following examples are taken. One example is the advertisement for a brand of *pochettes d’emballage* (wrapping bags): *Ces sacs qui nous emballent*, literally “Those bags that wrap us up”, which can also figuratively mean “Those bags which delight us”. The advertisement thus plays on the two meanings of the French verb *emballer*, which has a literal meaning, that of wrapping something up, and the figurative one of delighting someone, similar to the slightly different English figurative meaning of *wrap* as in *They’re completely wrapped up in each other*. A possible English rendering of the advertisement would be “Wrap yourself up in these bags”. A second example is an advertisement for an oven which runs *Mettez-lui une grosse tarte*, which means “Put a big pie in it” but also “Give it a big slap”.

These phenomena of semantic layering can cover several terms: this entails several isotopics being constructed within a single sentence. The following advertising slogan, which actually pertains to a type of car, thus plays on a double isotopic (see Figure 8): *Quand je vois du trafic, je sors mon automatique*, which can be almost directly translated into English by “When I see traffic, I take out my automatic”.

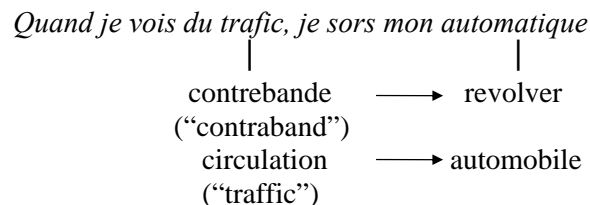


Figure 8: Semantic layering (activation of two isotopics)

Note that the two meanings are not actually activated at once: it takes time for the (French) reader to realize that the intended meaning (car) is not the

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first one that came to mind (gun) (as the word *traffic* is not usually applied to driving conditions, contrary to English). In advertisements, the illustration often triggers the activation of the second meaning as is the case in this example. The second isotopic is certainly the least probable as the meaning of *traffic* for “too many cars” remains marginal in French, just as the nominalization of the adjective *automatique* (again, contrary to English), but this isotopic is activated by the illustration that accompanies the advertisement: the association between the universes of the two isotopics is probably not without psychological effects. Thus the two paths activated in the depth of language interact (Figure 9):

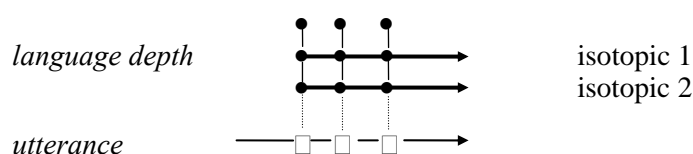


Figure 9: Activation of two paths in the language depth

Another kind of semantic layering is produced by replacing a word in a set expression such as a proverb, the title of a movie or a famous song. One example is the advertisement for a cigarette brand called Kool: *Some like it Kool* which is a play on the title of the film *Some like it hot*. Another example is the advertisement for “Dim” hosiery: *en avril ne te découvre pas d'un Dim*, based on an alliterative French proverb warning against the sudden return of cold weather in springtime, *en avril ne te découvre pas d'un fil* “in April, don't remove a stitch (of clothing)”. The insertion of a single term (*Kool* or *Dim*) in the utterance activates two utterances, the actual slogan and the backgrounded proverb, thereby creating layers of meaning with semantic interaction between the two utterances.

Thus we can see that the end of the utterance is the privileged location for what I call “semantic bombs” whose effects are not additional as they induce phenomena of meaning restructuring, resonance, diffusion and layering: on the different non linear meaning factors, one may consult Robert (1999 and 2003).

Conclusion

Because of the absence of one-to-one relations between forms and meanings in language, linguistic units are by nature polysemous; furthermore they are caught up in a fabric of various associations (the language depth) and serve as representation triggers; lastly, linguistic units are semantically deformable: when they are inserted in an utterance, the verbal and situational contexts act upon their meaning. This plasticity of meaning in

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words makes for a functional optimality of linguistic systems by conferring upon them remarkable referential power and adaptability. It probably also plays a role of cognitive optimization through memory storing economy. This deformability of linguistic units comes nonetheless with an important drawback for communication as it generates ambiguities, sources of misunderstandings. It is then through the progressive construal of meaning over the whole utterance that the meanings of terms are stabilized, through relation processes which constantly intervene during discourse. But this meaning stabilization makes use of a construction dynamic and interpretative adjustments whose results are never guaranteed. Which shows that language is the seat of opposing forces which confer a particular power upon it, and where the speaker is at once the driver and the passenger.

Bibliographical references

- Allègre, Claude. 1995. *La défaite de Platon ou la science du XX^e siècle*. Paris: Fayard.
- Arnaud, Pierre J.L. 1997. Les Ratés de la dénomination individuelle : typologie des lapsus par substitution de mots. In Boisson Claude & Philippe Thoiron (sous la direction de): 307-332.
- Balbachan, Fernando. 2006. *Killing Time: Metaphors and their implications in lexicon and grammar*. *metaphorik.de* 10 (<http://www.metaphorik.de/10/index.htm>).
- Berlin, Brent & Paul Kay. 1969. *Basic Color Terms: Their Universality and Evolution*. Berkeley: University of California Press.
- Boisson, Claude & Philippe Thoiron (sous la direction de). 1997. *Autour de la dénomination*. Lyon: Presses Universitaires de Lyon (Travaux du C.R.T.T).
- Brown, Cecil. 2005a. Hand and arm. In Haspelmath et al. (eds.): 522–525.
——— 2005b. Finger and hand. In Haspelmath et al. (eds.): 526–529.
- Bruner, Jerome. 1992. *Acts of Meaning*. Harvard: Harvard University Press.
- Chukwu, Uzoma. 1997. Les verbes ibo pour [acheter]. In Boisson & Thoiron (sous la direction de): 71-106.
- Corbin, Danièle & Martine Temple. 1994. Le monde des mots et des sens construits: catégories sémantiques, catégories référentielles. *Cahiers de lexicologie* 65/2 : 5-28.
- Creissels, Denis, 2001, Auxiliarisation et expression de significations aspecto-temporelles en tswana, conference at the Rivaldi seminar, Paris, France (14 juin 2001).
- Culioli, Antoine. 1982. *Rôle des représentations métalinguistiques en syntaxe*. Paris: Université Paris 7 (Collection ERA 642).
——— 1990. *Pour une linguistique de l'énonciation. Opérations et représentations*, tome I. Paris: Ophrys.

To appear (2008), in Martine Vanhove (ed), *From polysemy to semantic change: towards a typology of lexical semantic associations*, Typological Studies in Language, Amsterdam: John Benjamins: 55-92.

VERSION NON CORRIGEE

- Deignan, Alice. 2006. The grammar of linguistic metaphors. In *Corpus-Based Approaches to Metaphor and Metonymy*, Stefanowitsch Anatol & Stefan Th. Gries (eds) : 106-122. Berlin, New York: Mouton de Gruyter.
- DeVelle, Sacha. 2003. On-line effects of semantic coercion: simple versus enriched compositional processing. Paper presented at the *14th Australian Language and Speech Conference*. The University of Queensland.
- De Swart, Henriette. 1998. Aspect shift and coercion. *Natural Language and Linguistic Theory* 16: 347-385.
- Fillmore, Charles. 1977. Scenes-and-Frames Semantics. In *Linguistics Structures Processing*, Antonio Zampolli (ed), 55-81. Amsterdam: North Holland
- Fillmore, Charles, 1982. Frame Semantics. In *Linguistics in the Morning Calm*. Linguistic Society of Korea (ed), 111-38. Seoul: Hanshin.
- Goldberg, Adele. 1995. *Constructions. A Construction Grammar Approach to Argument Structure*. Chicago: The University of Chicago Press.
- Greimas, Algirdas Julien. 1966. *Sémantique structurale*. Paris : Larousse.
- Grunig, Blanche-Noëlle. 1990. *Les mots de la publicité*. Paris: Presses du CNRS.
- Haspelmath, Martin, Matthew Dryer, David Gil & Bernard Comrie. 2005. *The World Atlas of Language Structures (WALS)*. Oxford: Oxford University Press.
- Honeste, Marie-Luce, 1997. De la Dénomination aux stratégies argumentatives. In Boisson & Thoiron (sous la direction de): 279-306.
- Hunston, Susan & Francis Gil. 2000. *Pattern Grammar: A corpus-driven approach to the lexical grammar of English*. Amsterdam: John Benjamins.
- Kleiber, Georges. 1999. *La sémantique du prototype. Catégories et sens lexical*. Paris: Presses Universitaires de France.
- Kövecses, Zoltan, & Günter Radden, 1998. Metonymy: developing a cognitive linguistic view. *Cognitive linguistics* 9/1: 37-77.
- Lakoff, Georges. 1987. *Women, Fire and Dangerous Things: What Categories Reveal About the Mind*. Chicago: University of Chicago Press.
- 1993. The Contemporary Theory of Metaphor. In *Metaphor and Thought*, Andrew Ortony (ed), 202-251. Cambridge: Cambridge University Press.
- Lakoff, George & Mark Johnson. 1980. *Metaphors we live by*. Chicago: The University of Chicago Press.
- Lakoff, George & Rafael E. Núñez. 2000. *Where Mathematics Comes From: How the Embodied Mind Brings Mathematics into Being*. New York: Basic Books.

To appear (2008), in Martine Vanhove (ed), *From polysemy to semantic change: towards a typology of lexical semantic associations*, Typological Studies in Language, Amsterdam: John Benjamins: 55-92.

VERSION NON CORRIGEE

- Langacker, Ronald W. 1987 and 1991a. *Foundations of cognitive grammar* (2 vol.). Stanford: Stanford University Press.
- 1991b. Cognitive Grammar. In *Linguistic theory and Grammatical Description*, Droste F. G. & J. E. Joseph (eds), 275-306. Amsterdam / Philadelphia: John Benjamins
- Lee, David. 2001 (reprinted 2004). *Cognitive Linguistics. An Introduction*. Oxford: Oxford University Press.
- Lichtenberk, Frantisek. 1991. Semantic change and heterosemy in grammaticalization. *Language* 67/3: 475–509.
- Lipka, Leonhard. 1990a. *An Outline of English Lexicology*. Tübingen: Niemeyer.
- 1990b. Metaphor and Metonymy as Productive Processes on the Level of the Lexicon. In *Proceedings of the XIVth International Congress of Linguistics*, W. Bahner, J. Schildt & D. Viehweger (eds.), 1207-1210. Berlin: Akademie-Verlag.
- Martin, Willy. 2001. A Frame-Based Approach to Polysemy. In *Polysemy in Cognitive Linguistics* (CILT 177), Hubert Cuyckens & Britta Zawada (eds), 57-82. Amsterdam, Philadelphia: John Benjamins..
- Michaelis, Laura. 2003. Word meaning, sentence meaning, and syntactic meaning. In *Cognitive Approaches to Lexical Semantics*, Hubert Cuyckens, René Dirven and John R. Taylor (eds), 163-210. Berlin / New York: Mouton de Guyter.
- Ozanne-Rivierre, Françoise. 1999. Spatial orientation in some Austronesian languages. In *Language Diversity and Cognitive Representations*, Fuchs Catherine & Stéphane Robert (eds), 73-84. Amsterdam/Philadelphia, John Benjamins.
- Paprotté, Wolf. 1998. Word Sense Disambiguation. In *Contrastive Lexical Semantics*, Weigand Edda (ed), 243-262. Amsterdam, Philadelphia, John Benjamins.
- Pérennec, Michel. 1997. Le Mot complexe en allemand. In Claude Boisson & Philippe Toiron (ed): 205-220.
- Pustejovsky, James & Pierrette Bouillon. 1996. Aspectual Coercion and Logical Polysemy. In *Lexical Semantics. The Problem of Polysemy*, Pustejovsky James & Branimir Boguraev (eds), 133-162. Oxford, Clarendon Paperbacks.
- Rastier, François. 1987. *Sémantique interprétative*. Paris: Presses Universitaires de France.
- Robert, Stéphane. 1999. Cognitive invariants and linguistic variability: from units to utterance. In *Language Diversity and Cognitive Representations*, Fuchs Catherine & Stéphane Robert (eds), : 21-35. Amsterdam/Philadelphia, John Benjamins/
- 2003. L'épaisseur du langage et la linéarité de l'énoncé: vers un modèle énonciatif de production. In *Parcours énonciatifs et parcours*

To appear (2008), in Martine Vanhove (ed), *From polysemy to semantic change: towards a typology of lexical semantic associations*, Typological Studies in Language, Amsterdam: John Benjamins: 55-92.

VERSION NON CORRIGEE

- interprétatifs -Théories et applications*, Aboubakar Ouattara (éd.), 255-274. Paris/Gap: Ophrys.
- Roulon-Doko, Paulette. 2003. Les parties du corps et l'expression de l'espace. In *Perspectives Synchroniques sur la Grammaticalisation. Polysémie, Transcatégorialité et Echelles Syntaxiques*, Robert Stéphane (éd.), 69-84. Leuven: Peeters.
- Shipley, Joseph T. 1984. *The Origins of English Words*. Baltimore MD: John Hopkins University Press.
- Sinclair, John. 1998. The lexical item. In *Constrative Lexical Semantics*, Weigand Edda (ed), 1-24. Amsterdam, John Benjamins.
- Talmy, Leonard. 1978. Figure and Ground in Complex Sentences. In *Universals of Human Languages*, vol.4., Greenberg John, Charles Ferguson & Edith Moravcsik (eds), 625-649. Stanford: Stanford University Press.
- 2000. *Toward a Cognitive Semantics* (I and II). Cambridge MA: MIT Press.
- Traugott, Elisabeth Closs & Paul Hopper. 1993. *Grammaticalization*. Cambridge: Cambridge University Press.
- Vandeloise, Claude. 1986. *L'Espace en français*. Paris: Le Seuil.
- Victorri, Bernard. 1997. La polysémie: un artefact de la linguistique? *Revue de sémantique et pragmatique* 2/2: 41-62.
- Vidalenc, Jean-Louis. 1997. Quelques remarques sur la métaphore comme outil de dénomination dans un corpus d'histoire des sciences. In Boisson, Claude & Philippe Toiron (eds): 133-156.
- Yaguello, Marina. 1998. *Petits faits de langue*. Paris: Le Seuil.