CHAPTER I

The cognitive basis of language: Language and thought

1.0. Overview

This first chapter introduces the reader to some fundamental aspects of language and linguistics. First it will look at language as a system of communication. Like all communication systems, language makes use of signs. The systematic study of signs is included in the field of semiotics, which analyzes verbal and non-verbal systems of human communication as well as animal communication.

Semiotics distinguishes between three types of signs: indices, icons and symbols. These three types of signs represent three different structural principles relating form and content. Human language stands out among sign systems in using all three structuring principles, but especially symbolic signs.

Secondly, this chapter will look at how language not only enables communication, but also reflects mankind's conceptual world. The conceptual world consists, amongst others, of conceptual categories, which are far richer than the system of linguistic signs. A great many, but by no means all, of the conceptual categories give rise to linguistic categories. Linguistic categories not only enable us to communicate, but also impose a certain way of understanding the world.

1.1. Introduction: Sign systems

As humans, we are social beings and want to share information with others about what goes on in our minds: what we see, believe, know, feel, want to do or are doing now. We can achieve this in many ways. We express our surprise by raising our eyebrows, we can draw the outline of a woman by using our hands, and we can express our thoughts by speaking. All these methods of expression are meaningful to us as "signs" of something. In its widest sense, a **sign** may be defined as a form which

stands for something else, which we understand as its meaning. For example, raising one's eyebrows is understood as a sign of surprise, whereas blowing one's nose is usually not taken to be a meaningful sign, but it may become one if it is intended as an expression of protest. The three examples given above are illustrations of three possible different types of signs, i.e. indexical, iconic and symbolic signs.

An **indexical sign**, or **index**, points to something in its immediate vicinity, as is suggested by the etymology of the Latin word *index* 'pointing finger.' The clearest case of an indexical sign is a signpost for traffic pointing in the direction of the next town such as Bath. The signpost has the meaning: "Go in this direction to get to Bath." But facial expressions such as raising one's eyebrows or furrowing one's brows are also indexical signs: they "point" to a person's internal emotional states of surprise or anger.

An **iconic sign**, or **icon**, (from Greek *eikon* 'replica') provides a visual, auditory or any other perceptual image of the thing it stands for. An iconic sign is similar to the thing it represents. The road sign that warns drivers to look out for children near a school pictures two or three children crossing the road on a zebra crossing. The image is of course only vaguely similar to reality since, at a particular moment, only one or any number of children may be running across the street, but its general meaning is very clear nevertheless. The idea of danger caused by animals on roads is also pictured by iconic signs such as images of cows, deer, geese, horses, toads, etc. Pictures of lorries, cars, tractors, cycles, cycling paths, rivers, bridges, falling rocks, bends in the road, hairpin bends, etc. are usually represented iconically. The above-mentioned gestural drawing of a woman's shape with one's hands or the tracing of a spiral staircase with one's finger are, of course, also iconic signs.

Unlike indexical and iconic signs, a **symbolic sign**, or **symbol**, does not have a natural link between the form and the thing represented, but only has a conventional link. The traffic sign of an inverted triangle is one such symbol: it does not have a natural link between its form and its meaning "give right of way." The link between its form and meaning is purely conventional. The same applies to military emblems, the pound sign £, almost all flags and, of course, most of language. Thus, there is no natural link at all between the word form *surprise* and its meaning. The term *symbolic* as used in linguistics is understood in the sense that, by general consent, people have "agreed" upon the pairing of a particular form with a particular meaning. This sense of *symbolic* goes back to the original meaning of the Greek word *symbolon* 'a token of recognition' used between two guests or friends, e.g. a ring broken into two halves, which allowed them to identify each other after a long time by matching the two parts and checking whether they fit together. The two halves of the ring are inseparable, just like the form of a word and its meaning.

The scholarly discipline that studies systems of signs in all their manifestations is **semiotics** (from Greek *semeîon* 'sign'). Human language is, of course, the most elaborate system of signs to be studied, but semiotics also looks at other forms of human and non-human communicative behaviour such as gestures, clothing, keeping distances, baring one's teeth, etc. Animals have very sophisticated sign systems, too. For example, bees communicate by complex patterns of dances signalling to other bees the direction, the distance and the quantity of a source of honey; monkeys make use of a system of nine different cries to express how far and how big a possible danger is; whales use a system of songs, although biologists have not yet been able to decode their signs. These systems of communication are almost exclusively indexical. For example, a honey bee can communicate to another bee about honey that is in its proximity, but it cannot express that more honey is to be expected in the future. Even their indexical range of signs is limited to the horizontal dimension. An experiment in Pisa has shown that bees were not able to inform other bees at the bottom of the tower of Pisa about the honey source that had been put at the top.

There is a hierarchy of abstraction amongst the three types of signs. Indexical signs are the most "primitive" and the most limited signs in that they are restricted to the "here" and "now." Yet, indexical signs are very wide-spread in human communication, for example in body language, traffic and other signs and areas such as advertizing. Most commercial products are too prosaic to be attractive in themselves; they need to be associated with more attractive surroundings. For example, Marlboro cigarettes are indexically related to the adventurous life of the American cowboy.

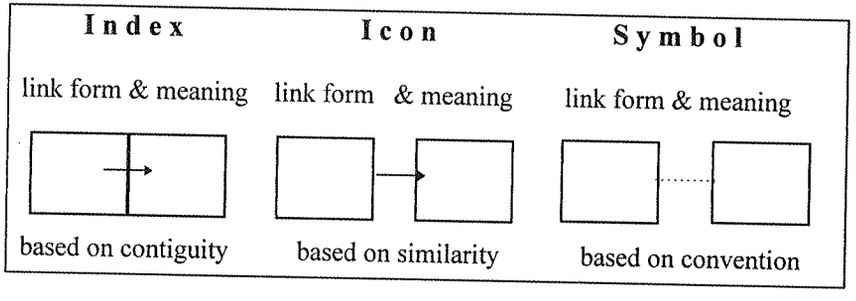
Iconic signs are more complex in that their understanding requires the recognition of similarity. The iconic link of similarity needs to be consciously established by the observer. The image may be fairly similar as with ikons, which are pictures of a holy person venerated in the Russian or Greek Orthodox Church, or they may be fairly abstract as in stylized pictures of men and women on toilet doors, or of cars or planes in road signs. Icons are probably not found in the animal kingdom.

Symbolic signs are the exclusive prerogative of humans. People have more communicative needs than pointing to things and replicating things;

we also want to talk about things which are more abstract in nature such as events in the past or future, objects which are distant from us, hopes about peace, etc. This can only be achieved by means of symbols, which humans all over the world have created for the purpose of communicating all possible thoughts. The most elaborate system of symbolic signs is natural language in all its forms: the most universal form is spoken language; at a certain phase of civilization and intellectual development a written form of language develops; and people who are deaf have developed a sign language, which is largely based on conventionalized links between gestures and meanings.

The three types of signs may be represented as in Table 1 and reflect general principles of coping with forms and meanings.

Table 1. Links in the three types of signs



Indexical signs reflect a more general principle, whereby things that are contiguous can stand for each other. For example, we strongly associate a piece of art with the artist and, hence, can say things like *I am curious to see the Turners.* Iconic signs reflect the more general principle of using an image for the real thing. Farmers have applied this strategy for centuries by putting up scarecrows in their fields, which the birds take for real enemies. Symbolic signs allow the human mind to go beyond the limitations of contiguity and similarity and establish symbolic links between any form and any meaning. Thus, a rose can stand for love and the owl for wisdom. These three principles of indexicality, iconicity and symbolicity underlie the structuring of language, which will be the subject of the next section.

1.2. Structuring principles in language

As we saw in the previous section there are three types of signs: indexical, iconic, and symbolic. Almost all language is symbolic as the relationship between words and their meanings is not based on contiguity or similarity (except perhaps in words for animal sounds), but on convention. However, within this complex system of symbols, called language, we can also recognize indexal, iconic and symbolic principles. For example, we can recognize words whose sole function it is "to point." Some sentence patterns iconically show "similarity" with the order of things in reality. And finally, once arbitrarily chosen word forms (symbols) may be put together to form new words whose meaning is transparent.

1.2.1. The principle of indexicality in language

The **principle of indexicality** means that we can "point" to things in our scope of attention. We consider ourselves to be at the centre of the universe, and everything around us is seen from our point of view. This **egocentric** view of the world also shows in our use of language. When we speak, our position in space and time serves as the reference point for the location of other entities in space and time. The place where we are is referred to as *here*, and the time when we speak is *now*. If I said, *My neighbour is here now,* my listener would know that "here" is the place where I am, and "now" is the time when I am speaking. This would even hold true for a transatlantic telephone conversation, in which the speaker's, and not the hearer's, place and time are meant. Spaces other than ours are described as *there* or, when they are even further from us, as *over there*. Similarly, times other than our present time are referred to as *then*, which may be either past time as in *Then they got married* or future time as in *Then they will have children.*

Words such as *here, there, now, then, today, tomorrow, this, that, come* and *go* as well as the personal pronouns *I, you* and *we* are described as deictic expressions. **Deictic expressions** (from Greek *deiktos* to *deiknumi* 'show') relate to the speaking EGO, who imposes his perspective on the world. Deictic expressions depend for their interpretation on the situation in which they are used. Without knowing the situational context, the request for joining a demonstration printed on a leaflet found on a train *Massive demonstration tomorrow at ten; meet here!* is rather meaningless.

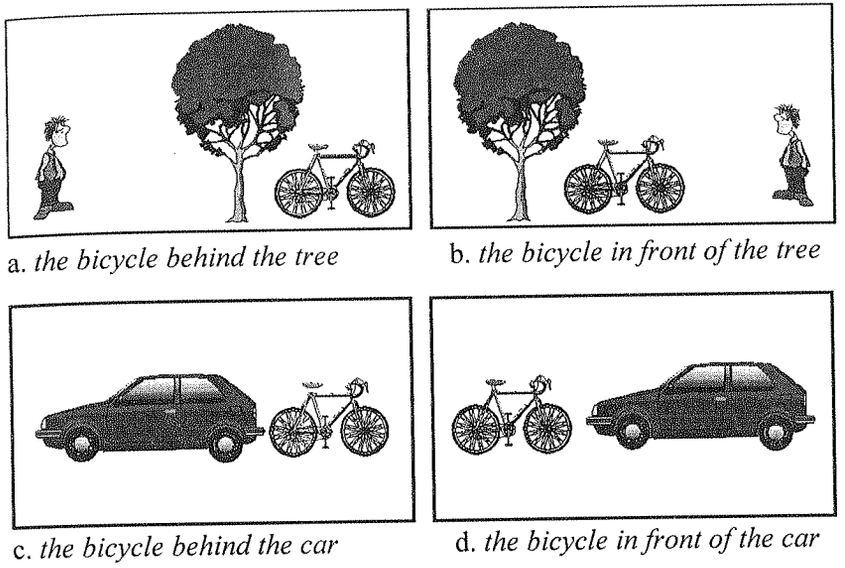
The EGO also serves as the "deictic centre" for locating things in space as in *The house is in front of me.* Far bigger things than oneself may be located with respect to the speaking ego. In saying *The Empire State Building is right in front of me*, we pretend that the person speaking, rather than the skyscraper, is the stable reference point of this world. It is also possible to take the hearer's perspective while looking at things. This is what guides on sight-seeing buses do all the time when they say for example *As we approach St. Paul's now, the Tower is to your left.*

The ego furthermore serves as the deictic centre for locating things with respect to other things. Thus, when the speaker says, *The bicycle is behind the tree*, he draws an imaginary line from himself to the tree and locates the bicycle behind the tree, as shown in Figure 1a. When the speaker moves to the other side of the street, his **deictic orientation** changes too and the bicycle is now in front of the tree, as shown in Figure 1b. Trees are different from artefacts such as buildings and cars, whose fronts and backs are easily identifiable due to their inherent nature. Therefore, the position of the bicycle with respect to the car does not change with the speaker's perspective, as shown in Figures 1c and 1d on the next page. Whatever the speaker does in Figure 1c, the bicycle remains behind the car, because we associate that area of the car as 'the back.'

The **inherent orientation** that we give artifacts such as the car in Figures 1c and 1d is an extension of our human body: the front of the car coincides with the driver's front side as does the back, the left and right hand side. Just as we speak of our bodily front and back, top and bottom, left and right side we conceive of shirts, chairs, cars, houses and other artifacts as having intrinsic fronts and backs, tops and bottoms and left and right sides.

At a more general level, we transpose our egocentric orientation onto the human being as such. Our psychological proximity to fellow humans leads to an anthropocentric perspective (from Greek *anthropos* 'man'). Our **anthropocentric** perspective of the world follows from the fact that we are foremost interested in humans like ourselves: their actions, their thoughts, their experiences, their possessions, their movements, etc. We, as human beings, always occupy a privileged position in the description of events. If a human being is involved in an event, he or she tends to be named first, as the subject of the sentence. The following examples with a human subject illustrate the normal way of expressing events or states:

Figure 1. Deictic orientation (a, b) and inherent orientation (c, d)



a. *the bicycle behind the tree* b. *the bicycle in front of the tree*

c. *the bicycle behind the car* d. *the bicycle in front of the car*

(1) a. *She* knows the poem by heart.
b. *He* would like some more milk in his coffee.
c. *I* lost my contact lenses.

It is only with special focus on an object that a non-human entity is preferred over a human entity and becomes the subject of the sentence. Thus, when a teacher takes a mental distance from her students, she might say *By tomorrow this poem must be known by heart by everybody*, but since it is not likely that we take distance from ourselves, we are unlikely to say **This poem is known by heart by me* (note: an asterisk before a linguistic expression means that it is not correct).

The human being is given special prominence in other areas of grammar, too. English has special personal pronouns for males and females (*he* and *she* as opposed to *it*), special interrogative and relative pronouns that refer to humans as opposed to things (*who, whose,* and *whom,* as opposed to *which*) and a special possessive form for humans (*the man's coat* but not **the house's roof*).

The following sentences illustrate a less conspicuous instance of anthropocentricity:

(2) a. His house got broken into.
b. ?The house got broken into.
c. ??The house got burnt down.

These sentences with the *get*-passive display a scale of acceptability: the *get*-passive is fully acceptable in (2a) but, as the question marks in front of a sentence suggest, less acceptable in (2b) and hardly acceptable in (2c). What determines our judgement of acceptability of the *get*-passive is the degree of human involvement in the event.

1.2.2. The principle of iconicity in language

The **principle of iconicity** in language means that we conceive a similarity between a form of language and the thing it stands for. Iconicity may manifest itself in three sub-principles, i.e. those of linguistic expressions related to sequential order, distance and quantity.

The **principle of sequential order** is a phenomenon of both temporal events and the linear arrangement of elements in a linguistic construction. In its simplest manifestation, the principle of iconicity determines the order of two or more clauses as in Julius Caesar's historic words, *Veni, vidi, vici* 'I came, I saw, I conquered' or in modern-day advertizing slogans *Eye it, try it, buy it*. Here revizing the order would produce nonsense. But in other contexts this is perfectly possible. By changing the linear arrangement of the co-ordinated clauses of (3a), we automatically get a different sequence of events (3b):

(3) a. Virginia got married and had a baby.
b. Virginia had a baby and got married.

The conjunction *and* itself does not tell us anything about the sequence of events; it is only due to the arrangement of the two clauses that the natural order of the events is mirrored. But if, instead of *and,* we used the temporal conjunction *before* or *after,* we may describe the event either in an iconic way (4), where the linear order is related to the order of events or in a non-iconic way (5), where the linear order is unrelated to the order of events:

(4) a. Virginia got married *before* she had a baby.
b. *After* she had the baby, Virginia got married.

(5) a. *Before* she had a baby, Virginia got married.
b. Virginia had a baby *after* she got married.

Sequential-order iconicity is also found within the structure of a sentence. Thus, the sentences below have the same words but convey different meanings because of the different order of the adjective *green*:

(6) a. Bill painted the *green* door.
b. Bill painted the door *green.*

In (6a), the door was already green and then painted over again, but we do not know what colour it was painted. In (6b), we do not know the original colour of the door but we know that it came out green. The normal position of adjectives in English is in front of the noun they modify as in (6a); the position after the noun in (6b) iconically reflects a resulting and, hence, later state in the door's colour.

The iconic principle also determines the sequential order of the elements in "binary" expressions which reflect temporal succession:

(7) a. now and then, now or never, sooner or later, day and night
b. cause and effect, hit and run, trial and error, give and take, wait and see, pick and mix, cash and carry, park and ride

All these binary expressions are irreversible. As a rule, we do not speak of **then and now* or **effect and cause* and such reversals would only occur for special communicative effects, e.g. drawing attention to the expression. The first group of these binary expressions refers to purely temporal sequences; the second group describes events which routinely occur in the order in which they are expressed.

Further evidence of this iconic principle is also found in the **word order** of subject, verb and object in a sentence. In almost all the languages of the world, the subject precedes the object. The subject (S), the verb (V) and the object (O) of a sentence can theoretically be ordered in six different ways: SVO, SOV, VSO, OSV, OVS, VOS. The first three patterns establish the most widely used orders (note: the English sentences are word-for-word translations of the non-English sentences):

(8) a. SVO: The lawyer wrote the letter.
b. SOV: *(Er weiß, daß) der Anwalt den Brief schrieb.*
He knows that the lawyer the letter wrote.
c. VSO: *(Endlich) schrieb der Anwalt den Brief.*
Finally wrote the lawyer the letter.

English and the Romance languages have fixed word order and only allow SVO. German, Dutch and the Scandinavian languages also have the two other word order possibilities: they have SVO in main clauses (8a), SOV in subordinate clauses (8b), and VSO after adverbs or adverbial clauses (8c). The overwhelming occurrence of the subject before the object in the world's languages is motivated by the way humans perceive the internal structure of events: events typically describe actions in which one entity acts upon another. The acting entity is expressed as the subject of the sentence; its action occurs before its effect, the object, is realized.

The **principle of distance** accounts for the fact that things which belong together conceptually tend to be put together linguistically, and things that do not belong together are put at a distance. This principle explains the grammatical contrast in the following pair of sentences:

(9) a. A noisy group *was* hanging around the bar.
b. A group of noisy youngsters *were* hanging around the bar.

In sentence (9a), the singular noun *group* agrees with the singular verb immediately following it. In sentence (9b), the noun *group* is put at some distance from the verb, which now agrees with the plural noun *youngsters* adjacent to it. With certain quantifying expressions as in *a number of students* and *a lot of people,* plural agreement has become the grammatical norm.

The principle of distance also accounts for the various types of subordinate clauses following the verb of a main clause. English has, amongst others, three types of clauses after a main verb: a clause without *to* (10a), a clause with *to* (10b), and a clause with *that* (10c):

(10) a. I made *her* leave.
b. I wanted *her to* leave.
c. I hoped *that she would* leave.

In (10a), the subject *I* has direct influence on the other person and, therefore, there is minimal distance between the two verbs. In (10b), the subject's desire may have some indirect impact on the other person and, therefore, the distance between the verbs is greater. In (10c), there is no impact whatsoever on the other person and, hence, the distance between the verbs is greatest.

As a final example of iconic distance let us consider the choice between the indirect object construction and the *to*-phrase in English as in:

(11) a. Romeo sent *his girlfriend* a valentine card.
b. Romeo sent a valentine card *to his girlfriend.*

The smaller linguistic distance between *sent* and *his girlfriend* in (11a) means that she actually received the Valentine's Day card, while the greater distance between the verb and the *to*-phrase in (11b) leaves the meaning unclear as to whether she ever received the card.

The **iconic principle of quantity** accounts for our tendency to associate more form with more meaning and, conversely, less form with less meaning. By stretching the o-sound of *long* as in *That's a looooong story* we iconically express the idea of an "extremely long" story. The same principle is applied by young children, who express the notion of plurality as in *trees* by repeating the word *tree* several times: *Look, daddy, a tree and another tree and another tree.*

This repetition strategy is systematically exploited in many languages: thus *cow-cow* in Zulu means 'cows,' *wilwil* (wheel-wheel) in Tok Pisin means 'bicycle,' and *plek-plek* (place-place) in Afrikaans means 'in various places.' This iconic device of repetition is known as **reduplication**. Reduplication is, of course, not a very economical way of expressing the idea of "more quantity." Most languages have developed more efficient symbolic ways of expressing plurality.

The quantity principle also shows up in politeness strategies, according to the motto "being polite is saying a bit more." Thus, the increasing quantities of language forms in the following examples are meant to convey increasing respect for the hearer:

(12) a. No smoking.
b. Don't smoke, will you?
c. Would you mind not smoking here, please.
d. Customers are requested to refrain from smoking if they can. (notice at Harrods)

e. We would appreciate if you could refrain from smoking cigars and pipes as it can be disturbing to other diners. Thank you. (notice at Clos du Roi, Bath)

The use of wordy phrases also illustrates the way in which people try to attach more importance to a subject matter:

(13) a. I obtained the privilege of his acquaintance.
b. In my opinion it is a not unjustified assumption that ...

Pretentious diction and "meaningless wordings" such as these have repeatedly been criticized by literary critics and purists of language. Orwell, who in his essay on "Politics and the English language" cites sentence (13b) as an illustration of language abuse, says that it is easier to say such sentences than to say *I think.*

The quantity principle also implies that less meaning requires less form. This is precisely what happens with information that is felt to be redundant. Thus, we use the less explicit form (14a) rather than more explicit version (14b):

(14) a. Charles said that he was short of money and *so did* his girl-friend.
b. Charles said that he was short of money and his girl-friend *said that she was short of money, too.*

The form *so did* in (14a) replaces the whole verbal expression following the subject *girl-friend.* A number of syntactic phenomena such as the use of pronouns and the reduction of full sentences are due to the operation of the quantity principle. Conversely, if such redundant sentences are used as in (14b), they express the same idea as the shorter form, but on top of that they tend to express emphasis, irony or a negative attitude.

1.2.3. The principle of symbolicity in language

The **principle of symbolicity** refers to the conventional pairing of form and meaning, as is typically found in the word stock of a language. The concept of "house" is rendered as *house* in English, *Haus* in German, *huis* in Dutch, *casa* in Italian and Spanish, *maison* in French, *talo* in Finnish, *dom* in Russian, etc. There is, of course, nothing in the forms of these words that makes them suitable to express the concept of "house."

They might even express something quite different in another language: for example, the form *kaas* in Dutch, which sounds like Italian *casa,* means "cheese," and the German word *Dom* does not mean "Haus," but "church of a bishop." This is one of the reasons why the link between the form and the meaning of symbolic signs was called **arbitrary** by the founding father of modern linguistics, Ferdinand de Saussure. Often signs which originally made sense have become arbitrary in the course of time: telephones no longer have dials for selecting telephone numbers but key-pads in which we "punch" a number, and receivers are no longer hung up but put down, but without giving these changes any thought we still speak of *dialling a phone number* and *hanging up the phone.*

However, while the notion of arbitrariness certainly holds true for most of the simple words of a language, it is at odds with our general human disposition of seeing meaning in forms. If we look at the whole range of new words or new senses of existing words, we find that almost all of them are **motivated**. New words are, as a rule, built on existing linguistic material and, as such, are meaningful to us. For example, the newly coined word *software* was formed by analogy to the existing word *hardware.* The compound sign *hardware* consists of two simple words, *hard* and *ware,* which are both arbitrary. But the compound is no longer arbitrary because the combination of the two parts leads to a more or less transparent meaning. The original meaning of *hardware* is 'equipment and tools for the home and the garden.' This meaning was extended to refer to the machinery and equipment of a computer, and by analogy, the programmes running the computer were called *software.* The word *software* is still a symbolic sign in that there is only a conventionalized connection between the form and its meaning, but it is not arbitrary, since the pairing of its form and meaning is motivated. As a linguistic term, **motivation** refers to non-arbitrary links between a form and the meaning of linguistic expressions. The factor of motivation is at work both in the hearer and the speaker. The hearer wants to make sense of linguistic expressions, particularly the new ones. In some cases, he will even overuse his search for meaning and create "**folk etymologies**." Thus the English word *crayfish* is a folk-etymological interpretation of the French word *écrevisse,* which in its turn goes back to Germanic *krebiz* (German *Krebs*). Similarly, the opaque Spanish-Caribbean word *hamaca* 'hanging bed' was borrowed and assimilated in English as *hammock*, but in Dutch it was made transparent by folk etymology as *hangmat* 'hanging carpet,' and from there it was borrowed into German as *Hängematte.*

1.3. Linguistic and conceptual categories

1.3.1. Conceptual categories

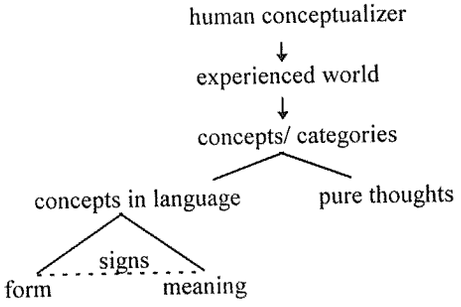
The semiotic framework developed so far has concentrated on the link between the form and meaning of signs as they are realized in words. Language resides, not in dictionaries, but in the minds of the speakers of that language. Therefore, in order to understand the nature of language, we will also have to look at our conceptual world and how it has shaped the signs. Language only covers part of the world of concepts which humans have or may have.

The notion of **concept** may be understood as "a person's idea of what something in the world is like." More specifically, concepts can relate to single entities such as the concept I have of my mother or they can relate to a whole set of entities, such as the concept "vegetable." This type of concept has structure, in that it includes certain entities such as carrots, cabbages, lettuce, etc and excludes others such as apples and pears. Such concepts which slice reality into relevant units are called categories. **Conceptual categories** are concepts of a set as a whole. Whenever we perceive something, we automatically tend to categorize it. For example, when we hear a piece of music, we automatically categorize it as rock or as classical music or as something else. Thus, the world is not some kind of objective reality existing in and for itself but is always shaped by our categorizing activity, i.e., by our human perception, knowledge, attitude, in short, by our human experience. This does not mean that we create a subjective reality, but as a community we agree about our intersubjective experiences.

Conceptual categories which are laid down in a language are **linguistic categories**, or, linguistic signs. A more comprehensive view of language as a system of signs must, therefore, also include the human "conceptualizer" and the world as it is experienced by him. The human conceptualizer, conceptual categories and linguistic signs are interlinked as shown in Table 2.

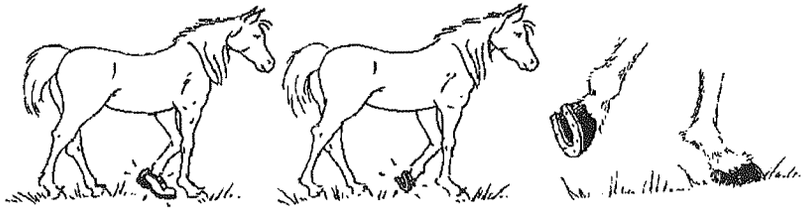
As illustrated in Table 2, signs reflect conceptual categories, which are ultimately based on a human conceptualizer and his experience of the world. This model of the conceptual and linguistic worlds also accounts for the possibility that different people may categorize the same thing in the world differently and even the same person may do so at different times. One person may describe a half-filled glass of wine as *half full* and

Table 2. Model of the conceptual world



another person may describe the same thing as *half empty*. Each person's choice between various alternatives is called **construal**. The notion of construal becomes even more evident, if we compare the names for the same object in various languages. Thus what English construes as *horseshoe* (i.e. 'shoe for horse') is construed in French as *fer à cheval* 'iron for horse,' and as *Hufeisen* 'hoof iron' in German. All these signs are motivated: English and French see a relationship between the animal as a whole and the protecting device, while German relates the protecting device to the relevant body part of the horse. Moreover, French and German highlight the material the protecting device is made of, whereas English by using *shoe* takes an anthropocentric view of the scene. These various ways of construing the same thing are reflected in Figure 2.

Figure 2. Different construals of the concept "horseshoe"



horseshoe fer à cheval Hufeisen/ hoefijzer

Some other examples of the ubiquitous difference in construal are *grand piano* and *pavement.* English *grand piano* focusses on the size, while in French *piano à queue* 'tail piano' and German *Flügel* 'wing (piano)' a metaphorical similarity with animal parts is construed. In English *pavement* the focus is on the material, whereas its French equivalent *trottoir* 'pavement,' derived from *trotter* 'to rush, to trot' focuses on the function and German *Bürgersteig* 'part of the road for civilians' stresses the people who use it.

So far we have looked at conceptual categories as they are laid down in words, or technically, as lexical categories. Conceptual categories may also show up as grammatical categories. The different ways of saying more or less the same thing in the following sentences result from using different grammatical categories:

(15) a. Look at that rain!
b. It's raining again.
c. And the rain, it raineth every day.

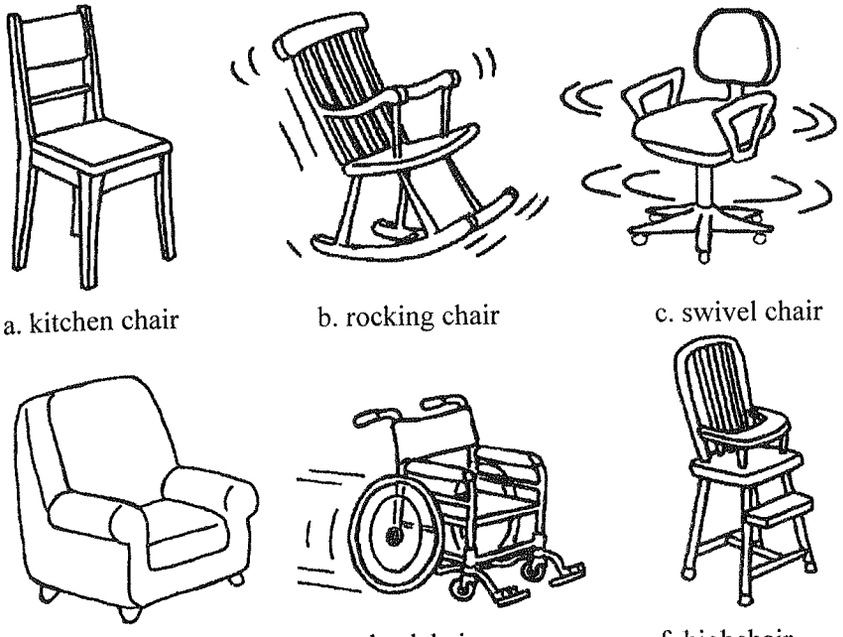
In all three sentences we have chosen the same lexical category *rain,* but it is construed as two different word classes, as a noun in (15a), as a verb in (15b) and both as a noun and a verb according to Shakespeare in (15c). Word classes are grammatical categories. These examples show another important fact of language: in the structure of a sentence, each lexical category is at the same time a grammatical category. Lexical categories are defined by their specific content, while grammatical categories provide the structural framework for the lexical material. Thus, the lexical category *rain* can either be framed into the grammatical category of a noun or a verb. For clarity's sake, lexical and grammatical categories will be discussed separately.

1.3.2. Lexical categories

The conceptual content of a **lexical category** tends to cover a wide range of instances. Think of the many different types and functions of vases. They may vary greatly in height or in width, but as long as we can put flowers in them, we are willing to categorize them as vases. Chairs also come in a variety of types as illustrated in Figure 3.

The best member, called the **prototypical member** or most prominent member of a category, is the subtype that first comes to mind when

Figure 3. Some members of the lexical category *"chair"*



a. kitchen chair b. rocking chair c. swivel chair

d. armchair e. wheelchair f. highchair

we think of that category. When asked to draw a picture of a chair, we are most likely to draw a picture of a kitchen chair and not an armchair. The choice of a prototypical chair also relates to its functions: it is a type of chair which we sit on, not one we lie on. Also the shape and the material plays a part. Therefore a prototypical chair has four legs, a seat and a back so as to be able to sit on it firmly and comfortably. A rocking chair or a swivel chair is somewhat less prototypical than a kitchen chair. However, all the items in Figure 3 are chairs, so that alongside prototypical members of a category and less prototypical ones, we also have more **peripheral** or **marginal members** such as the armchair or wheelchair, and even dubious cases such as the highchair. A stool is definitely not a member of the category of chairs: it lacks most of the properties of a kitchen chair: it has no back, it does not have four legs, it is higher than a usual chair and it is usually not made of wood. But the boundaries between a chair and a stool are far from absolute, and what some people

call a stool is a chair for others. In general we find that the center of a lexical category is firmly established and clear, while its boundaries are **fuzzy** and tend to overlap with the boundaries of other lexical categories.

If lexical categories were not firmly established but ad hoc or haphazard, they might look like the category of "animals" as jokingly put together in the following quotation from an imaginary Chinese encyclopaedia:

(16) On those remote pages it is written that animals are divided into (a) those that belong to the Emperor, (b) embalmed ones, (c) those that are trained, (d) sucking pigs, (e) mermaids, (f) fabulous ones, (g) stray dogs, (h) those that are included in this classification, (i) those that tremble as if they were mad, (j) innumerable ones, (k) those drawn with a very fine camel's hair brush, (l) others, (m) those that have just broken a flower vase, (n) those that resemble flies from the distance.

(J.L. Borges. 1966. *Other Inquisitions*. New York: Washington Square Press, p. 108).

This category of "animals" with its imaginary members makes no sense because it lacks systematicity. We can still imagine that there is some cultural reason for putting together the members (a), (b) and (c), but we would certainly not expect to find (d) as a specific member and even less so the remaining imaginary members.

1.3.3. Grammatical categories

The structural frameworks provided by **grammatical categories** include abstract distinctions which are made by means of word classes, number (singular and plural), tense, etc. Here we will only look at the grammatical category of word classes. Each **word class** is a category in itself. Depending on definitions used for each word class, English can be said to have eight or ten different word classes, as shown in the following list:

(17) WORD CLASSES

a. *noun*	mother, bird, pleasure
b. *pronoun*	I, you, she, someone, which
c. *determiner*	the, a, this, two
d. *verb*	say, cry, consider

e. *adjective*	big, rich, happy
f. *adverb*	happily, merely, very
g. *preposition*	at, on, during, amongst
h. *particle*	(hang) up, (hand) in
i. *conjunction*	and, because, after, before
j. *interjection*	alas!, oops!, wow!

Most of the word classes were first introduced and defined by Greek and Roman grammarians. They gave them the name *partes orationis,* which was literally translated into English as *parts of speech* and also gave rise to the verb *to parse* 'to analyze a sentence into its parts.' The grammatical category of word classes is still used today, but the notional definitions given to them by traditional grammars are often at odds with linguistic evidence. Even modern dictionaries still rely on traditional definitions and would define a noun as "a word or group of words that refers to a person, place or thing," a pronoun as "one of a class of words that serves to replace a noun or noun phrase," etc. (*Collins Dictionary*). It is easy to find counterexamples which disprove these definitions: for example, in the sentence *Someone has stolen my wallet,* the pronouns *someone* and *my* cannot be said to "replace" a noun or a noun phrase.

Traditional definitions of word classes were based on the erroneous assumption that the word classes are clearly definable in the first place and that all the words of a language can be neatly grouped into one of them. In the same way that prototypical and peripheral types of chairs are subsumed under the lexical category "chair," different types of words are subsumed under a grammatical category. Thus, the category "noun" subsumes, amongst others, the following disparate types of nouns:

(18) a. We needed a new *telephone*.
b. We called the telephone *company*.
c. They installed it in the *afternoon*.
d. But they did a lousy *job*.
e. I am still amazed at their *stupidity*.

A word such as *telephone* is a prototypical noun: it denotes a concrete, physical, three-dimensional thing. The noun *company* is less prototypical: it denotes a non-concrete entity, i.e. an institution which, however, has some kind of concrete existence. The temporal noun *afternoon* has no concrete existence and is an even less prototypical member of nouns. The noun *job* refers to an action and, hence, is more verb-like in its meaning,

while the noun *stupidity* refers to a property and is more adjective-like in meaning.

The meanings traditionally associated with word classes only apply to prototypical members; the meanings of peripheral members run over into each other. Yet, there is, after all, a good reason for having word classes in language. Protoypical nouns denote time-stable phenomena, while verbs, adjectives and adverbs denote more temporary phenomena. In using *job* and *stupidity* in (18d,e) as nouns rather than verbs or adjectives, the speaker "construes" actions and properties as time-stable, thing-like phenomena and, in saying the sentences (18d) and (18e), lends greater weight to his expression of discontent.

A lot of confusion about Latin-inspired word classes arose because the single word classes may have a different status as a grammatical category in a particular language. All languages have nouns and verbs, most languages also have adjectives, but the remaining word classes may not be represented overtly. For example, English and the Romance languages mark the difference between adjectives and adverbs, but the other Germanic languages do not:

(19) a. *adjective*: She is *beautiful*. - Sie ist *schön*.
b. *adverb*: She sings *beautifully*. - Sie singt *schön*.

The word class of particles plays an important role in English, but is not found in the Romance languages. For example, whereas French has a one-word verb to express the action of "taking" and the resulting place of this taking, English expresses these two concepts with two words, a verb and a particle.

(20) a. He picked up the paper.
b. Il ramassait le journal.

The English particles are very similar to prepositions, but they behave differently: particles (21a) may be moved after a noun, but prepositions (21b) may not.

(21) a. He picked up the paper.
a'. He picked the paper up.
b. He climbed up the tree.
b'. *He climbed the tree up.

What this brief discussion has shown is that grammatical categories are not as clear-cut as traditionally has been assumed. Also, grammatical categories may be very language specific.

1.4. Summary

Any communication, whether it is between animals or humans, takes place by means of signs and is studied in **semiotics**. **Signs** always stand for something else, which we call their meaning. The relation between a sign and its meaning can be of three different kinds. **Indexical signs** or **indices** "point" to what they stand for; **iconic signs** or **icons** provide images of what they stand for; and **symbolic signs** or **symbols** involve a purely conventional relationship between the form of the sign and its meaning. This set of signs results from cognitive principles which help humans to organize their worlds and experiences in it.

Within the symbolic system called language, we may recognize principles that are similar to the different types of signs: the **principle of indexicality** occurs when we use "pointing" words, which often reflect our **egocentric** and **anthropocentric** view of the world. The EGO is the centre for **deictic expressions** and for the **deictic orientation** of objects. But some objects like chairs or cars have **inherent orientation**. The **principle of iconicity** shows up in similarities between the order of events and the **word order** in the sentences we use to describe them; it is reflected in various sub-principles: the **principle of sequential order**, the **principle of distance**, and the **principle of quantity**. The **principle of symbolicity** accounts for the purely conventional relation between the form and the meaning of signs. This is known as the **arbitrary** nature of symbolic signs or the arbitrariness of language. The large number of arbitrary lexical signs should not underestimate the value in language of non-symbolic signs, i.e. indexical or iconic. In particular, most of the complex forms of a language, such as complex words or sentences are - as we shall see later - not arbitrary, but transparent or **motivated**.

Linguistic signs are part of the conceptual world of the human mind. We have many more **concepts** and thoughts than linguistic expressions. But those concepts that we have "fixed" in language constitute the meaning of language. Concepts which structure our world of thought are **conceptual categories**, i.e., concepts of a set as a whole. Conceptual categories may also be expressed as **linguistic categories**. Most linguistic signs denote specific conceptual content and show how we **construe** this

content. These appear as **lexical categories**, while the smaller number of **grammatical categories** provides the structural framework of language. The members of a category tend to have a different status: some are **prototypical members**, others are more **peripheral members**. The further one gets away from the centre of a category to its periphery, the more the category tends to become **fuzzy**.

1.5. Further reading

The work by the founding father of modern linguistics is Saussure (1966[1916]). Recent introductions to linguistics are Pinker (1994), Taylor (1995) and Ungerer and Schmid (1996). Theoretical foundations of the cognitive basis of language are explored in Lakoff (1987), Langacker (1987, 1993) and Rudzka-Ostyn, ed. (1988). The relation of language to human cognition is analyzed by Talmy (1988). A good introduction to the various types of signs in animal and human communication is Nöth (1990).

Studies of the iconic principle in language are Haiman (1985), Posner (1986) and Ungerer and Schmid (1996). Word order phenomena in many of the world's languages are studied in Greenberg, ed. (1963, 1966[2]). The psychological basis of categories and prototypicality is experimentally explored in Rosch (1977).

1.6. Assignments

1. What types of sign are involved in the following cases?

   (a) inverted triangle as a road sign
   (b) sign depicting falling rocks
   (c) morse signs
   (d) frozen window panes of a car
   (e) speedometer in car
   (f) burglar alarm going off
   (g) baby crying
   (h) dog wagging its tail
   (i) animal drawings in cave dwellings
   (j) a wedding ring

   (k) a clenched fist in the air
   (l) a ring in the nose (human)

2. In what way are the following expressions iconic?

   (a) The Krio word for 'earthquake' is *shaky-shaky.*
   (b) Department store ad: We have rails and rails and rails of famous fashion.
   (c) Police warning: Don't drink and drive!
   (d) Japanese *ie* 'house,' *ieie* 'houses'
   (e) See Naples and die
   (f) I swear by Almighty God that what I am about to say is the truth, the whole truth, and nothing but the truth.

3. In what way do the indexical principles, egocentricity and anthropocentricity, play a role in the ordering of the following irreversible pairs of words?

   (a) come and go, this and that, here and there
   (b) women and wine, king and country, people and places
   (c) man and beast, man and dog
   (d) friend or foe, win or lose, do or die

4. Sentence (a) is more likely to occur than (b), which does not make much sense at first sight. Which iconic principle is not respected in (b)? If (b) were to occur, what would it mean?

   (a) The results of the study depart from our expectation.
   (b) ??Our expectation departs from the results of the study.

5. The expressions in italics are peripheral members of their particular grammatical category. Why?

   (a) The approach has to be simple and *low cost.*
   (b) This is the *very* man.
   (c) the *then* president

6. In English, the same form may sometimes be a member of up to five different word classes. Specify the word class of *round* in each of the following examples.

   (a) My friend is coming *round* the corner.
   (b) That was the first *round* table I saw.
   (c) She came *round* when the got something to drink.
   (d) Let's *round* off with an exercise.
   (e) After school we can play a *round* of golf.

CHAPTER 2

What's in a word: Lexicology

2.0. Overview

In this chapter the meanings and the structure of words are studied. This is what we call lexicology, or the systematic study of how the meanings (or senses) of words are related to one another and to entities in our conceptual world. In this approach we can go from the form of a word to the various senses. But we can also adopt the opposite approach: take a given concept and then see what different words are available as synonyms to refer to the entities in our conceptual world.

In both approaches the same general route will be followed. First of all, we will look at the central members of a category and at prototype effects ; then we will look at the links between the different members of a category; and finally, we will look at the marginal members at the periphery and their "fuzzy" character. Categories are clear-cut at the centre but tend to be more fuzzy towards the periphery.

2.1. Introduction: Words, meanings and concepts

In Chapter 1 we saw that language helps us categorize our experiences of the world. Therefore, the answer to the question in the title "What is in a word" is relatively simple: "the whole world," or at least all the experiences we have of our world that have somehow been categorized linguistically. These are probably the experiences that have more prominence in a given cultural community.

In one very naïve way, one might be tempted to expect that for each conceptual category we have just one linguistic category, or word, and, conversely that each word stands for one conceptual category or one meaning. But this is not the way that language works. On average, a word form has three to four senses. A word with different, related senses is a **polysemous** word (from Greek *poly* 'many' and *sema* 'sign, meaning').

A good dictionary usually lists several senses for one lexical item. Here is part of a slightly adapted example of the item *fruit* from the DCE:

(1) fruit /fru:t/ n plural *fruit* or *fruits*

a. something such as an apple, banana, or strawberry that grows on a tree or other plant and tastes sweet: *fresh fruit and vegetables, a bowl of fruit*
b. *technical* the part of a plant, bush, or tree that contains the seeds
c. *The fruit/ fruits of sth* the good results that you have from something after you have worked very hard
d. *The fruits of the earth/ nature* all the natural things that the earth produces such as fruit, vegetables, or minerals
e. *old-fashioned slang* an insulting way of talking to or about a man who is a homosexual
f. (not in DCE) *fruit of the womb* offspring

As the example shows, a dictionary starts from a word form and lists the various senses and therefore follows a semasiological approach. **Semasiology** (from Greek *sêma* 'sign') is thus an approach to the lexicon which describes the polysemy of a word form and the relationship between these various senses. The literal senses in (1a,b) come before the figurative ones in (1c,d). The most common senses in (1a-d) are in contrast to the less common ones as in (1e,f), and so on. Sometimes the same form may in reality stand for two entirely different words, as in *Pole,* used for inhabitants of Poland and for the North and South Pole. This is called **homonymy**, which means that two different words have the same form.

But we can also follow the opposite approach. This second approach is the onomasiological approach (from Greek *ónoma* 'name'). In **onomasiology** we start from a concept such as "fruit/ fruits" and see which other words or expressions we can use as synonyms to denote the same or similar concepts. This is what a **thesaurus** does. A thesaurus is "a book in which words are put into groups with other words that are related in meaning." (DCE) *The Cambridge Thesaurus of American English* gives the following synonyms and other related words for the literal meanings (2a) and figurative meanings (2b) of *fruit*:

(2) fruit, n.

a. berry, vegetable, grain, nut, root, tuber, crop, harvest, produce, product, yield
b. result, outcome, consequences, aftermath, effect, profits, pay, benefit, return, yield, harvest

An onomasiological approach in a thesaurus goes from a concept or meaning to the various synonyms which can be used to denote that concept. Onomasiology thus deals with the fact that different words may express similar meanings like *rich* and *wealthy*, called **synonymy**; with the fact that words have opposite meanings like *rich* versus *poor*, called **antonymy**; and with the fact that the meanings of groups of words are related, like *richness, affluence, wealth, poverty*, called a **lexical field**. This is summarized in Table 1.

Table 1. Word forms and meanings or concepts

Semasiology	**Onomasiology**
Word form (e.g. *fruit*)	Concept (e.g. "fruit")
senses a, b, c, d, etc. in (1)	words a, b in (2)
polysemy; homonymy	synonymy, antonymy

For the sake of clarity, the four terms used in Table 1 are defined here again.

polysemy:
the fact that a word may have two or more related senses as illustrated in (1); sometimes even more than twenty senses are possible, as in the case of the preposition *over*.

homonymy:
the fact that two words of different origin have the same form, e.g. *pole* in the sense of 'a long stick' and *Pole* in 'North Pole.'

synonymy:
the fact that two words have the same or nearly the same meaning, e.g. *happy, joyful, pleased.*

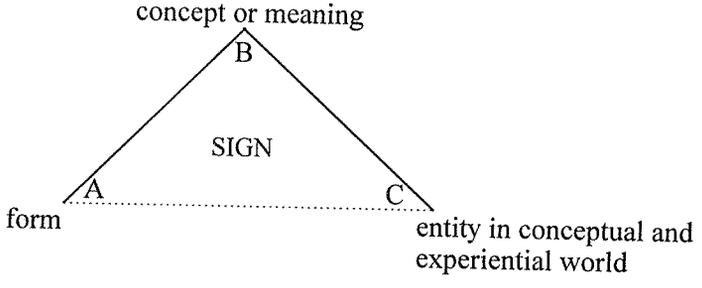
antonymy:
the fact that two words have the opposite or nearly the opposite meanings, e.g. *large* and *small*, *thick* and *thin*, to *buy* and to *sell*.

Thus, given the nature of the lexicon, we can use a semasiological approach, concentrating on the many different senses of words, or an onomasiological approach, concentrating on what is common or different between the various words in capturing the essence of our experiences. These two paths will now be systematically explored in Sections 2.2. and 2.3. In Section 2.4., however, we will see that these approaches interact and overlap.

2.2. From words to meanings: Semasiology

Let us suppose you want to communicate to someone else that you can see an apple. As already discussed in Chapter 1, you can make this clear in three different semiotic ways. You can point to it (indexical sign), you can draw a picture that resembles the thing (iconic sign), or you can say the word *apple*, which is a symbolic sign. In the last case, how does the word that I pronounce [æpəl] relate to the thing I see? The word itself is of course not the thing itself, but only a symbol for the thing. A symbolic sign is a given form which symbolizes or stands for a concept (or a meaning) and this concept is related to a whole category of entities in the conceptual and experiential world. The relationship between these three elements (form, concepts or meaning, and entities in the conceptual and experiential world) was presented in a triangle in Chapter 1, Table 2 and is reproduced here as Table 2 for the sake of clarity.

Table 2. The semiotic triangle

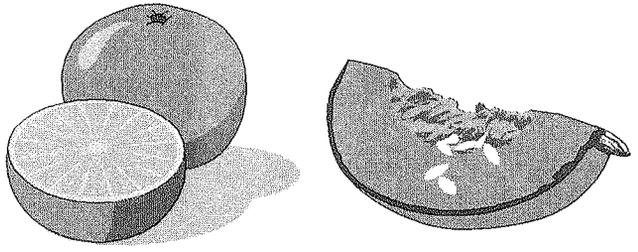


Although many different interpretations have been proposed for this semiotic triangle since devised by its inventors Ogden and Richards (1923), the interpretation proposed here is generally acceptable. There is a direct, though conventional link between A (form) and B (concept, meaning) and between B (concept) and C (entity in conceptual and experiential world), too. But there is only an indirect link between A (form) and C (entity in world), indicated by the interrupted line AC. This semiotic triangle is a further elaboration of the views of the French linguist Ferdinand de Saussure, who introduced two essential terms: the word form is the *signifiant* (that which signifies), and the meaning of the word is the *signifié* (that which is signified). We will refer to the former simply as **word form** or **word** and put it in italics, and to the latter as **meaning** - or if a word form is polysemous, as its **senses** - and put it in single quotation marks. For example, the word (form) *apple* stands for the meaning 'a kind of fruit.'

As the dictionary item of the word *fruit* in Section 2.1. shows, this word has more than one meaning. Next to the basic, every-day sense 'sweet and soft edible part of a plant' as in (1a), illustrated in Figure 1a, it has various other uses. In its technical sense (1b) 'the seed-bearing part of a plant or tree,' the word refers to things that are not usually included in its every-day use, as shown in Figure 1b. It also has a more general use in an expression like *the fruits of nature* (1d), which refers to 'all the natural things that the earth produces' (including, for instance, grains and vegetables). In addition to these literal senses, there is a range of figurative senses, including the abstract sense in (1c) 'the result or outcome of an action' as in *the fruits of his labour* or *his work bore fruit*, or the somewhat archaic senses in (1e) 'homosexual' or in (1f) 'offspring, progeny' as in the biblical expressions *the fruit of the womb, the fruit of his loins*.

Each of these different uses represents a separate sense of *fruit*. In turn, each sense may be thought of as referring to a different set of things in the outside world, a set of **referents**. For example, when we use the word *fruit* with the basic sense 'sweet and soft edible part of a plant,' we refer to a set of referents that includes apples, oranges, bananas, and many other sweet and soft edible objects as in Figure 1a. If we use *fruit* in its second sense 'seed-bearing part of plant,' we think of the fruit's function as a seed for future plants, typically shown by the seeds or the referents in the middle of the melon in Figure 1b.

Figure 1. a. Cut oranges *b.* melon seeds



But the seed-bearing part may be the whole fruit as is the case with a walnut, which is "technically speaking" a fruit (in the second sense), but it is probably not a fruit in the every-day sense. Thus in the case of a walnut, the referent is the whole seed-bearing part. In the case of the melon (in the second, technical sense), the referent is rather the core with the seeds. However, in the every-day sense, it is rather the edible part. A referent can be defined in a simplified way as an entity or part of an entity evoked by words. Each word sense evokes a member of a different conceptual category. In the *fruit* example, the category members happen to be material objects, but in the case of verbs, they could be actions and in the case of adjectives, they could be properties.

There is no precondition that the "things" in the category need exist in the real world. The category "fruit" contains all real and imaginary apples and oranges that *fruit* could possibly be applied to, in the same way in which *goblin* will have a set of members associated with it, regardless of whether goblins are real or not.

In the next sections we will look more closely at the relationships among members of a category. We will look at which member is considered the most central or salient one (2.2.1), how the members are linked to each other in meaning (2.2.2), and how meanings are fuzzy, i.e. cannot always be distinguished clearly (2.2.3).

2.2.1. Salience: Prototypical word senses and referents

In Chapter 1.3.1., it was shown that categories, e.g. the category "chair," have **prototypical** or central members and more marginal or peripheral members. This principle does not only apply to the members of a category, but also to the various senses of a word form. The question then is:

how can we tell which sense of a word form like *fruit* is the most central? There are three interrelated ways that help us determine which sense of a word is the most central. In order to establish the **salience** of a sense, we can look at what particular sense comes to mind first, we can make a statistical count as to which use is the most frequent, or we can look at which sense is the more basic in its capacity to clarify the other senses.

When you hear someone say "I like fruit," probably the first thing that comes to everybody's mind, not only to the dictionary maker's, is the 'sweet and soft edible part' sense and not the archaic 'offspring' sense. The technical sense of 'seed-bearing part of a plant or tree' would not occur to us as immediately, unless we were talking about *fruit* in that sort of context. If you were to count the types of senses where a word like *fruit* is used in every-day language, you would probably discover that the 'edible part' sense is used far more frequently than the other senses. From this we may infer that the sense 'edible part' is much more central or salient in our conception of *fruit* than the 'seed-bearing part' sense and certainly more salient than the archaic 'offspring' sense. Another reason for regarding both the 'edible part' and also the 'seed-bearing part' sense as more central than the other senses is the fact that these senses are a good starting-point for describing the other senses of *fruit*. For example, suppose you don't know the expression *fruit of the womb*. This sense can be understood more easily through the central 'seed-bearing part' sense of *fruit* rather than the other way round. In other words, the most salient, basic senses are the centre of semantic cohesion in the category: they hold the category together by making the other senses accessible to our understanding.

Thus **centrality effects** or **prototypicality effects** mean that some elements in a category are far more conspicuous or salient, or more frequently used than others. Such prototypicality effects occur not only at the level of senses but also at the level of referents. As we saw earlier, *fruit* has many different referents. When Northern Europeans are asked to name fruits, they are more likely to name apples and oranges than avocados or pomegranates whereas Southern Europeans would name figs. Also, if we were to count the actual uses of words in a Northern European context, references to apples or oranges are likely to be more frequent than references to mangoes.

2.2.2. *Links between word senses: Radial networks*

The fact that some word senses are more salient and others more peripheral is not the only effect under consideration here. Word senses are also linked to one another in a systematic way through several cognitive processes so that they show an internally structured set of links. In order to analyze these links and the processes that bring them about, let us consider the senses of *school* in (3).

(3) *school*

a. 'learning institution or building'	Is there a school nearby?
b. 'lessons'	School begins at 9 a.m.
c. 'pupils and/ or staff of teachers'	The school is going to the British Museum tomorrow.
	We must hand in the geography project to the school in May.
d. 'university faculty'	At 18 she went to law school.
e. 'holiday course'	Where is the summer school on linguistics to be held?
f. 'group of artists with similar style'	Van Gogh belongs to the Impressionist school.
g. 'views shared by a group of people'	There are two schools of thought on drinking red wine with fish.
h. 'a group of big fish swimming together'	A school of whales followed the boat.

The first sense of *school* in (3a) is in fact not just 'learning institution,' but it can also be the place or building where the learning institution is housed. Thus in the sentence *She left school at the age of 14*, the word *school* can only mean 'learning institution,' but in *She left the school after 4 p.m., school* can mean both, and in *The school was burned down* only the building is meant.

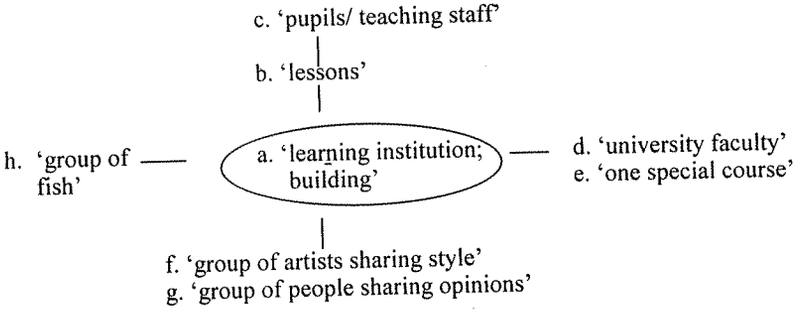
The last case in (3h) is a problem. As stated before (see definition of *homonymy*) there are, historically speaking, two words *school.* The senses in (3a-g) of *school* go back to a Latin word *schola;* the last meaning (3h) is not an extension of the other senses but it stems from a different word form, i.e. Old English *scolu* 'troup' and has its own development. Still, in the present use of the meaning of *school* as 'group of big fish,' the language user appeals to folk etymology and may rather see this

meaning as a metaphorical extension of the other senses. Accordingly we will treat the 'group of big fish' sense of *school* as a process of folk etymology, taking all the senses of this word to be related to each other.

So, these eight senses appear to form a cluster that is structured in the shape of a **radial network**, i.e. a centre with radii going in various directions. For the radial network representing the senses of *school* we find four main directions as represented in Table 3.

What are now the processes that constitute the links within this radial network? It is clear that the central meaning of *school* has to do with 'learning by a group of (young) people.' There are four different processes that allow us to focus on one or more components in this general category. The first is metonymy. In **metonymy** (from Greek *meta* 'change' and *onoma* 'name') the basic meaning of a word can be used for a part or the part for the whole. For instance, *school* as a 'learning institution for a group of people' allows us to focus upon each subset (the pupils, the staff) of this complex category and we can take the subset (e.g. the head of the school) for the whole category. In metonymy the semantic link between two or more senses of a word is based on a relationship of contiguity, i.e. between the whole of something, i.e. *school* as an "institution for learning in group" and a part of it, e.g., the lessons. In fact, the expression *the school* can metonymically stand for each of its components, i.e. the building itself, the lessons, the pupils, the staff, the headmaster etc. More generally, **contiguity** is the state of being in some sort of contact such as that between a part and a whole, a container and the contents, a place and its inhabitants, etc. For example, in English and most languages we may say something like *He drank the whole bottle.*

Table 3. Radial network of the senses of *school*



With such an expression we mean of course the contents in the bottle and not the bottle itself. Because the bottle and its contents are literally in contact with each other, this is considered a metonymic link. As we will see in Chapter 3.3., however, the concept of contiguity does not apply only to real physical or spatial contact, but also to more abstract associations such as time or cause.

The link which language users as folk etymologists make between the central sense of *school* as an 'institution for learning in groups' and its most peripheral sense as 'a group of fish swimming together' is based on the process of metaphor. **Metaphor** (from Greek *metapherein* 'carry over') is based on perceived **similarity**. Referring to the bottom part of a mountain as *the foot of the mountain* is based on a conceived similarity between the structure of the human body and a mountain and hence a transfer is made from the set-up of the human body to that of the environment. Even the interpretation of a homonym such as *school* in the sense of 'group of fish' can be related to the senses of *school* as 'group of learners' and may thus be motivated by the relation of similarity which language users perceive between a group of learners following a master and a group of fish swimming together and following a leader. But the similarity is completely in the eyes of the beholder: if he wants to see the similarity, it is there. But the link is never objectively given as in the case of metonymy, where the relation of contiguity always involves some objective link between the various senses of a word. In a metaphor one of the basic senses of a form, the **source domain**, e.g. elements of the human body, is used to grasp or explain a sense in a different domain, e.g. the elements of a mountain, called the **target domain.**

The other senses of *school* are based on the processes of specialization and generalization. The process of specialization is found with the senses of *school* as in (3d) 'a university faculty' and (3e) 'one special course.' In a process of **specialization** the word's original meaning is always narrowed down to a smaller set of special referents. Thus from the general meaning of *school* as 'an institution for learning,' English has narrowed the sense down to that of an 'academic unit for learning' (3d) and even further down to 'any specialized institution for learning one specific subject' as is usually the case in a summer school (3e), or a dance school, a language school, etc.

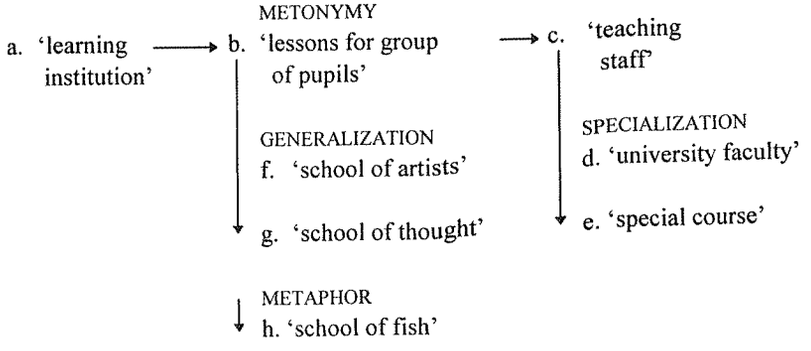
Another example of specialization is the English word *corn*, which was originally a cover-term for 'all kinds of grain.' Later it specialized to the most typical referent in various English-speaking countries such as 'wheat' in England, 'oats' in Scotland, and 'maize' in the USA. The word

queen also went through a specialization process. Originally, it meant any 'wife or woman,' but now it is highly restricted to only one type of wife as in 'king's wife' or 'female sovereign.' Each language abounds with cases of specialization. Thus *hound* now denotes 'a dog used in hunting,' but it used to denote 'any kind of dog,' like the German or Dutch words *Hund*, *hond* 'dog.' Similarly *deer* originally meant 'any animal' like German or Dutch *Tier*, *dier* 'animal,' *fowl* meant 'any kind of bird' like German or Dutch *Vogel* 'bird,' *to starve* meant 'any form or way of dying' like Dutch *sterven*, German *sterben* 'to die.'

The opposite of specialization is **generalization**, which we find in the senses of *school* as in (3f) 'group of artists' or (3g) 'group of people sharing opinions.' Here the meaning component of 'an institution for learning' has been broadened to that of 'any group of people mentally engaged upon shared activities or sharing views of style or opinions.' Some other examples of generalization are *moon* and *to arrive*. The word *moon* originally referred to the earth's satellite, but it is now applied to any planet's satellite. The verb *to arrive* used to mean 'to reach the river's shore' or 'to come to the river bank,' but now it means 'to reach any destination.'

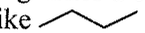
In summary (see Table 4), the different senses of a polysemous word like *school* form a cluster of senses which are interrelated through different links: metonymy, metaphor, specialization and generalization. The various senses of a word are thus systematically linked to one another by means of different paths. Together, the relations between these senses form a radial set as shown in Table 3, starting from a central (set of)

Table 4. Processes of meaning extension of *school*



sense(s) and developing into the different directions. In addition, Table 4 offers a survey of the possible processes that have led to the meaning extensions of *school.*

2.2.3. Fuzziness in conceptual categories and word senses

So far we have talked about the senses of a word as if they are clearly separate from each other. But we saw in Chapter 1 that meanings reflect conceptual categories. Categories may have clear centres, but their boundaries may not be clear-cut, and categories may overlap. As already discussed in Chapter 1.3.1., this phenomenon is called **fuzziness**, i.e. the boundaries of any category may be unclear or **fuzzy**. Since senses symbolize conceptual categories, it is no surprise that they cannot be defined in such a way that they include all the referents that should be included and exclude those that do not belong to the category. As an illustration, let us consider the question whether the central sense of *fruit* can be delimited in a straightforward fashion. Such a delimitation would take the form of a **classical definition,** a definition that lists all the necessary and sufficient conditions for something to be a member of a category. Such a classical definition is possible for any mathematical category, e.g. the category of "triangle," which is defined as 'a flat shape with three straight sides and three angles' (DCE). A condition is necessary in the sense of naming characteristics that are common to all triangles, and it is sufficient in the sense that it distinguishes a category, e.g. a triangle from any other category, e.g. a shape like  . This shape has three lines, but only two angles. So both elements "three lines" and "three angles" are necessary conditions, but at the same time also sufficient conditions: a flat shape with three lines and three angles can only be a triangle. But things are different with most natural categories.

If we try to give the necessary conditions or characteristics for *fruit*, characteristics such as *sweet, soft, and having seeds* may come to mind as good candidates. But these are not always necessary since lemons are not sweet, bananas do not contain parts that are immediately recognizable as seeds, and avocados are not necessarily soft. There are of course a number of characteristics that are necessary. All fruits "grow above the ground on plants or trees" rather than in the ground. They have "to ripen" before you can eat them, and if you want to prepare them rather than eat them raw, you would primarily use sugar, or at least use them in dishes that have a predominantly "sweet taste." Taken together, however, these obligatory features are not sufficient since they do not exclude almonds and other nuts or a vegetable like rhubarb, which is usually cooked with sugar.

We must conclude, then, that the central sense of *fruit* cannot be defined in a classical sense, satisfying both necessary and sufficient conditions and covering all the eventualities of what speakers understand by *fruit*. However, this does not mean that our conceptualization of fruit, our mental picture of fruit, what we call to mind when we think of fruit, is necessarily fuzzy or ill-defined. It could very well be that the image that spontaneously comes to mind when we think of fruit is very clear-cut. Indeed, when we ask people to name a few examples of fruit, they will come up with very much the same list. But all the same, we also have to accept that such a mental image does not fit all fruits equally well.

2.3. From concepts to words: Onomasiology

Whereas semasiological analysis starts with a word and tries to discover the various senses it may have, onomasiological analysis starts from a given concept and investigates the words that are used to name that particular concept. What is the purpose of onomasiological analysis? First of all, it can help us find out where (new) lexical items come from and which mechanisms are used to introduce different words for the same concept into the vocabulary of a language. The main purpose of onomasiological analysis is to discover patterns in a group of conceptually related words, called a lexical field. A **lexical field** is a collection of words that all name things in the same conceptual domain. Thus words such as *breakfast, lunch* and *brunch* are related and belong to the same lexical field because they all name things in the domain of "meals." A **conceptual domain**, in its turn, can be defined as any coherent area of conceptualization, such as meals, space, smell, colour, articles of dress, the human body, the rules of football, etc., etc.

The question is: what is the position and status of single words in a lexical field delimited by a more general word like *meal*? Other typical examples of lexical fields are found in conceptual domains such as disease, travel, speed, games, knowledge, etc. As we will show in the next sections, the conceptual relations that occur between words in a lexical field are very analogous to those between the senses of a word identified in the section on semasiology: salience effects, links and fuzziness.

2.3.1. *Salience in conceptual domains: Basic level terms*

Just as there are **salience effects** in semasiology, which tell us which one of all the senses of a word or which one of the referents is thought of first and used most often, there are salience effects in onomasiology. For example, in a group of words like *animal*, *canine*, and *dog,* the hierarchical order goes from more general to more specific. If faced with something that barks at you, probably a word like *dog* would come to mind first. This would be one type of salience effect. Another type of salience effect may occur in a group of words that are at the same level of a hierarchy, such as *labrador, Alsatian, German shepherd*, and so on. Some names for dog breeds may occur more often than others. Both types of salience effects are discussed below.

According to anthropologist Brent Berlin, popular classifications of biological domains usually conform to a general organizational principle. Such classifications consist of at least three - for Berlin's investigation even five - levels, which go from very broad and general to very narrow and specific. Thus in conceptual domains (see Table 5) with several levels, the most general category is at the highest level, and the most specific one is at the lowest level. A **basic level term** is a word which, amongst several other possibilities, is used most readily to refer to a given phenomenon. There are many indications that basic level terms are more salient than others. For example, while learning a language, young children tend to acquire basic level terms such as *tree, cow, horse, fish, skirt* before more general names like *plant, animal, garment, vehicle, fruit* or specific names such as *oak tree, labrador, jeans, sports car* and *Granny Smith.* From a linguistic point of view, basic level terms are usually short and morphologically simple. From a conceptual point of view, the basic level constitutes the level where salience effects are most outspoken. At the basic level category, individual members have the most in common with each other, and have the least in common with members

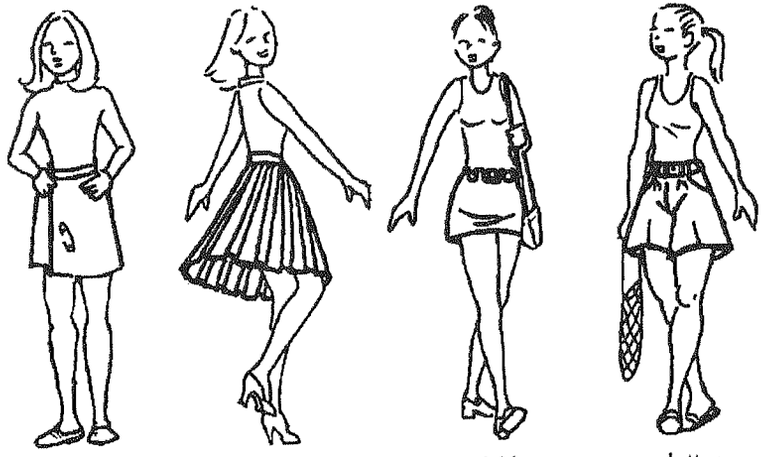
Table 5. Folk classifications of conceptual domains

Levels	Conceptual domains				
general level	plant	animal	garment	vehicle	fruit
basic level	tree	dog	trousers	car	apple
specific level	oak tree	labrador	jeans	sports car	Granny Smith

of a related basic level category. In the domain of garment, items such as trousers, skirts, and coats may be considered basic level members. All members of the category "skirt" have in common that (1) they do not cover the legs separately, (2) they are normally restricted to female wearers, (3) they cover the body from the waist down, and (4) they usually are no shorter than the upper thighs. Features that "skirt" has in common with "trousers" or "sweater" are much more difficult to find. On the other hand, members of categories at a higher level such as *undergarment* and *garment* have only one rather general characteristic in common: they all represent "a layer of clothing."

This basic level model is useful in that it predicts to a certain extent which level is the most salient in a folk classification. However, it cannot predict which term among the terms at the same level is preferred and used most often. Imagine you are looking at a magazine and you see a very short skirt with two loose front panels that are wrapped. Is it both a *wrap-over skirt* and a *miniskirt*? What are we most likely to call it? A detailed analysis of such terms has shown that fashion journalists prefer the term *miniskirt* in such a case. If there are several equally descriptive terms at one level, what criteria are applied in the choice of one term over another?

Figure 2. Some women's garments



wrap-over skirt pleated skirt miniskirt culottes

We can explain this fact with the notion of **entrenchment**. This concept was first introduced by Ronald Langacker to explain how new expressions may be formed and then remain deeply rooted in the language. For example, in the past the two words *by* and *cause* formed the new compound *because*. This newly formed compound was used so often that people were no longer aware of its origin. In other words, a word group may develop into a regular expression, until it is so firmly **entrenched** in the lexicon that it has become a regular, well-established word in the linguistic system. A similar process may apply to the choice of one particular member of a category rather than the other. The name *miniskirt* is highly entrenched since it is used much more often than the name *wrap-over skirt* or another more general or more specific name.

2.3.2. *Links in conceptual domains: Taxonomies*

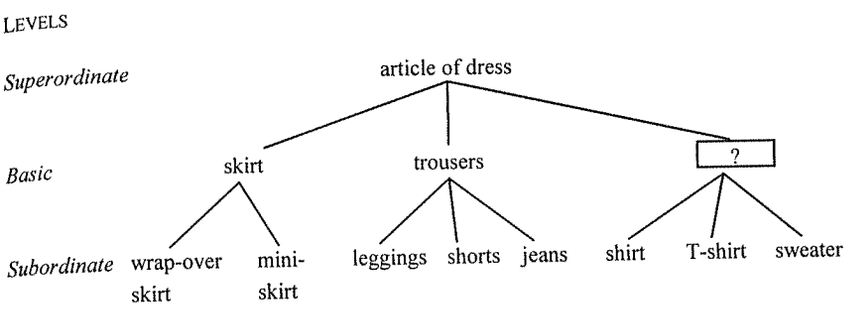
In Section 2.2.2. on the links between the senses of a word (semasiology), we saw that words may develop new senses through the processes of metonymy, metaphor, specialization, and generalization. These processes may also be applied in onomasiology. As we saw earlier, onomasiology deals with the relations among the names we give to categories. These categories, in turn, are not just there in isolation, but they belong together according to a given conceptual domain.

Within a conceptual domain, we not only find a distinction between a more general level, a basic level and a more specific level, as illustrated in Table 5, but these levels also form a **hierarchical taxonomy**. In a hierarchical taxonomy the higher or **superordinate level** is the more general level and subsumes all the concepts below it at the basic level. This basic level subsumes specific concepts at the **subordinate level**, as illustrated in Table 6.

A hierarchical taxonomy is a special instance of a lexical field in that the lexical items are now hierarchically ordered. Thus in all cases of a lexical field, e.g. "article of dress" we can always distinguish between three hierarchical levels: going up in the taxonomy is generalization, go ing down in the taxonomy is specialization. As the third group of words like *shirt*, *T-shirt*, *sweater*, etc. shows, in a number of cases there may be a **lexical gap**, i.e. there is no basic level term available where we might expect one.

In the development of human thought and culture we do not only create lexical fields or taxonomies, but we also make other types of links,

Table 6. Hierarchical taxonomy



especially by means of metaphor and metonymy. We often use a whole conceptual domain to structure our understanding of some other domain. Thus, in our anthropocentric drive, we have used the domains of the human body to structure our view of the parts of a mountain. The lower part of the mountain is the foot of the mountain, the higher curving part is its shoulder and the top of the mountain is, in many languages, seen as its "head" or "crown." Here the process of metaphorization does not just apply to a given sense of a word as was shown for *school* in the sense of 'a group of fish' in Table 3. In the case of mountain a whole conceptual domain such as the human body is used to structure another conceptual domain such as the shape of a mountain. George Lakoff, who recognized this thought process, calls this use of metaphor a **conceptual metaphor**. Our understanding of abstract, conceptual domains such as reasoning and emotions is particularly affected by many conceptual metaphors. Thus Lakoff proposes an underlying conceptual metaphor ARGUMENT IS WAR for all the concrete metaphors found in English to denote arguing, such as *to win or lose an argument*, *to give up an indefensible position*, *to attack someone's views*, and many more. Likewise, emotions are conceptualized as HEAT OF A FLUID IN A CONTAINER, so that we can *boil with anger*, or *make someone's blood boil*, *reach a boiling point,* or *explode*.

Just as a conceptual metaphor restructures a conceptual domain like mountains in terms of another conceptual domain such as the human body, a **conceptual metonymy** names one aspect or element in a conceptual domain while referring to some other element which is in a contiguity relation with it. The following instances are typical of conceptual metonymy.

(4) Instances of conceptual metonymy

a. PERSON FOR HIS NAME: *I'm* not in the telephone book.
b. POSSESSOR FOR POSSESSED: *My* tyre is flat.
c. AUTHOR FOR BOOK: This year we read *Shakespeare*.
d. PLACE FOR PEOPLE: *My village* votes Labour.
e. PRODUCER FOR PRODUCT: My new *Macintosh* is superb.
f. CONTAINER FOR CONTAINED: This is an excellent *dish*.

In each of these instances, the thing itself could be named. Thus in (4a) we could also say *My name is not in the telephone book*, in (4b) *The tyre of my car is flat*, in (4c) *This year we read a play by Shakespeare*, etc. By the use of the metonymical alternative, the speaker emphasizes the more general rather than the specific factors in the things named.

Table 7 summarizes the conceptual relations we find in semasiological and onomasiological analyses. In both we discern hierarchical relations (from more general to more specific), relations based on contiguity and relations based on similarity.

Table 7. Conceptual relations in semasiological and onomasiological analysis.

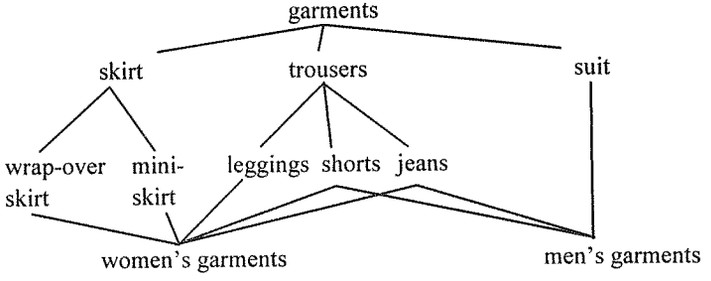
Conceptual relations	In semasiology (how senses of one word relate to each other)	In onomasiology (how concepts and words relate to each other)
1. hierarchy (top/ bottom)	generalizing and specializing e.g. *school of artists* vs. *school of economics*	conceptual domain: taxonomies (e.g. *animal, dog, labrador*) and lexical fields: e.g. *meals*
2. contiguity (close to sth.)	metonymical extensions of senses (*school* as *institution - lessons - teaching staff*)	conceptual metonymy, e.g. CONTAINER FOR CONTAINED
3. similarity (like sth.)	metaphorical extensions of senses (*win an argument*)	conceptual metaphor, e.g. ARGUMENT IS WAR

2.3.3. *Fuzziness in conceptual domains: Problematical taxonomies*

In Section 2.2.3. we saw that whenever categorization of natural categories is involved, there is by definition some **fuzziness** at the category edges. Tomatoes, for example, can be categorized as either vegetables or fruit, depending on who is doing the categorizing. The same goes for the onomasiological domain.

For example, when we look at the basic level model introduced in 2.3.1., we might feel that if we "puzzle" long enough we will discover a clear, mosaic-like organization of the lexicon where each item has a clear "place" in a given taxonomy. However, there are several reasons to question this apparent neatness. For one thing, it is not always possible to decide exactly at which level one should place a lexical item in the hierarchy. As Table 8 shows, such problems are easy to find in actual language data: since shorts, jeans, and trousers are generally worn by both men and women, the taxonomy in Table 8 shows overlapping areas if women's and men's garment criteria are taken into account.

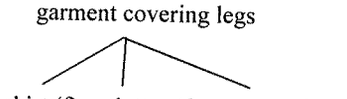
Table 8. Taxonomy with fuzzy areas



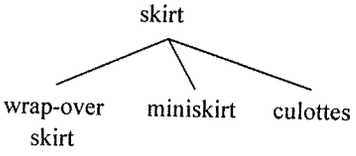
A detailed analysis of clothing terms provided the following problem: at which level of the taxonomy in Table 8 would the item *culottes* (see Figure 2 on page 39) have to be placed? Is it a word at the more generalized, higher end of the taxonomy, alongside "trousers" and "skirt," that is, as a basic level term (Table 9a), or do *culottes* belong one level below these terms as a subordinate category, at the more specific level (Table 9b)?

Table 9. Culottes

a. as a basic level term



b. as a subordinate term



The fact that we cannot determine exactly at which level an item should be put relates to semasiological salience effects. As we saw earlier, those category members that are preferred and occur the most are the most salient. For example, words like *trousers* and *skirt* occur much more often than *culottes.* By nature, such salient category members are better category members than non-salient members. We may conclude that if it is unclear whether *culottes* are a pair of "trousers" or a "skirt," it is also unclear where to put it in the taxonomy. Different languages may even tend to classify the items differently. For example, the Dutch equivalent for culottes, i.e. *broekrok* (literally 'trouser skirt'), emphasizes the "skirt" aspect. The definition in the DCE for *culottes*, i.e. "women's trousers which stop at the knee and are shaped to look like a skirt," emphasizes the "trouser" part even more. From this viewpoint it would be at the same level as *leggings*, *shorts,* and *jeans* as represented in Table 8.

Also, contrary to what the basic level model might suggest, the lexicon cannot be represented as one single taxonomical tree with ever more detailed branchings of nodes. Instead, it is characterized by multiple, overlapping hierarchies. One could ask oneself, for instance, how an item like *woman's garment*, clothing typically or exclusively worn by women, would have to be included in a taxonomical model of the lexicon. As Table 8 shows, such a classification on the basis of sex does not work because some items may be worn by both men and women. Consequently, the taxonomical position of *woman's garment* itself is unclear because it cross-classifies with *skirt/ trousers/ suit.*

2.4. Conclusion: Interplay between semasiology and onomasiology

Up to now we have looked at semasiological and onomasiological matters from a theoretical point of view. To round off this chapter on lexicology, let us concentrate on meaning and naming with a more practical purpose, and ask ourselves the question "which factors determine our choice of a lexical item" or, in other words, "why does a speaker in a particular situation choose a particular name for a particular meaning." The basic principles of this "pragmatic" form of onomasiology are the following: the selection of a name for a referent is simultaneously determined by both semasiological and onomasiological salience. As we argued earlier, semasiological salience is determined by the degree to which a sense or a referent is considered prototypical for the category, and onomasiological salience is determined by the degree to which the name for a category is entrenched.

Semasiological salience implies that something is more readily named by a lexical item if it is a good example of the category represented by that item. Let's take motor vehicles as an example. Why do we in Europe call the recently issued type of motor vehicle like the Renault's *Espace,* which is somewhere between a van and a car, a *car* rather than a *van*. The preference for *car* as a name for these vehicles probably follows from the fact that - although they have characteristics of both vans and cars - they are still considered better examples of the category *car* because they are owned by individuals to transport persons. Typical European vans, on the other hand, transport goods. In other words, these vehicles are called cars because they are considered more similar to prototypical cars than vans. (Note that in the US, though, where these types of vehicles have been around longer and vans have been used as family vehicles, the name *mini-van* has become entrenched.)

Onomasiological salience may now be formulated as follows: a referent is preferably named by a lexical item *a* instead of *b* when *a* represents a more highly entrenched lexical category than *b*. So in the situation where our "mini-wrap-over skirt" is as much like a "wrap-over skirt" as a "miniskirt" - and there is no semasiological motivation for preferring one or the other category - the name *miniskirt* will still be chosen as a name for the hybrid skirt if *miniskirt* is a more highly entrenched word than *wrap-over skirt*.

In short, the choice for a lexical item as a name for a particular referent is determined both by semasiological and onomasiological salience.

This recognition points the way towards a fully integrated conception of lexicology, in which both semasiological and onomasiological approaches are systematically combined.

2.5. Summary

We can see two almost opposite phenomena when studying words and their meanings. On the one hand, words are **polysemous** or have a number of different related senses. On the other hand, we use many different words, sometimes **synonyms**, but sometimes far more general or far more specific words, to refer to the same thing. Such words are collected in a **thesaurus.** Next to relations of **polysemy** and **synonymy,** there is also **antonymy** and **homonymy** The two basic approaches to the study of words and their senses or meanings are known as **semasiology**, and **onomasiology**, respectively. Although they are fundamentally different approaches to the study of the senses of words and the names of things, they are also highly comparable in that we find similar phenomena with respect to **prototypicality** or **centrality effects**, links between senses or words, and fuzziness.

Amongst the various senses of words, some are always more central or **prototypical** and other senses range over a continuum from less central to peripheral. The sense with the greatest **saliency** is the one that comes to mind first when we think of the meanings of a word. All the senses of a word are linked to each other in a **radial network** and based on cognitive processes such as **metonymy**, **metaphor**, **generalization** and **specialization**. In metonymy the link between two senses of a word is based on **contiguity**, in metaphor the link is based on **similarity** between two elements or situations belonging to different domains, i.e. a **source domain**, e.g. the human body, and the **target domain**, e.g. the lay-out of a mountain. The borders between senses within a radial network and especially between the peripheral senses of two networks such as *fruit* and *vegetable* are extremely **fuzzy** or unclear so that **classical definitions** of word meanings are bound to fail, except in highly specialized or "technical" definitions, in dictionaries.

Amongst the various words that we can use to name the same thing, we always find a prototypical name in the form of a **basic level term** such as *tree*, *trousers*, *car*, *apple*, *fish*, etc. Instead of a basic level term such as *trousers* or *skirt* we can also use **superordinate terms** such as *garment* or **subordinate terms** such as *jeans* or *miniskirt*, but such non-

basic terms differ in that they are less "**entrenched**" in the speaker's mind. **Entrenchment** means that a form is deeply rooted in the language. If no word is available for a basic level category, we have a **lexical gap**. Words are linked together in **lexical fields**, which describe the important distinctions made in a given **conceptual domain** in a speech community. When a whole domain is mapped on to another domain, we have a **conceptual metaphor;** when part of a domain is taken for the whole domain or vice versa, we have a **conceptual metonymy.** Finally, it must be admitted that the **hierarchical taxonomies** in lexical items do not neatly add up to one great taxonomy of branching distinctions, but that **fuzziness** is never absent.

2.6. Further reading

The most accessible work on linguistic categorization and prototypes in semantics is Taylor (1995). The technical analysis of terms of clothing on which this chapter very strongly draws is Geeraerts, Grondelaers and Bakema (1994). Studies on basic level terms have been carried out by Berlin (1978), Berlin *et al.* (1974) for plants and Berlin and Kay (1969) for colour terms. Studies of metaphor and its impact on the extension of meanings are offered in Lakoff and Johnson (1980). A study of the change of meaning, especially via metonymy, is Stein (1931). A study of lexical relations, taxonomies, antonyms, etc. is Cruse (1986, 1991[4]). A critical appraisal of the classical definition of word meaning in terms of "necessary and sufficient conditions" is offered in Geeraerts (1987), of prototypicality in Geeraerts (1988), and of fuzziness in Geeraerts (1993). Lexical field studies are discussed in Lehrer (1974, 1990), Lehrer and Lehrer (1995). Generalization and specialization studies are found in Ullmann (1957).

2.7. Assignments

1. From the large number of senses and contexts for the word *head* DCE mentions over sixty. We offer a small selection here:

   (a) the top part of the body which has your eyes, mouth, brain, etc.
   (b) your mind: *My head was full of strange thoughts.*
   (c) understanding: *This book goes over my head.*

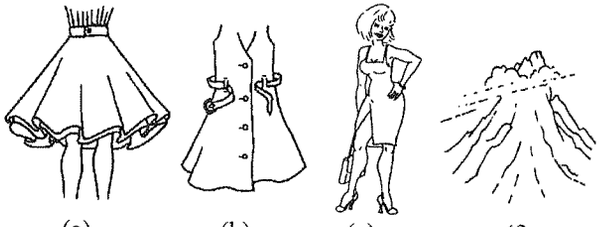
(d) the leader or person in charge of a group: *We asked the head for permission.*
(e) the top or front of something: *Write your name at the head of each page.*
(f) calm: *Keep one's head cool.*
(g) (for) each person: *We paid ten pounds a head for the meal.*

Using Table 4 in this chapter as an example, explain what the processes of meaning extensions are for "head" and point out which of these meanings are metaphors and which are metonymies.

2. The following are some of the different senses of *skirt(s)* as adapted from the DCE dictionary item quoted below in (a-d) and extended by further contexts (e-i):

(a) a piece of outer clothing worn by women and girls which hangs down from the waist
(b) the part of a dress or coat that hangs down from the waist
(c) the flaps on a saddle that protect a rider's legs
(d) a circular flap as around the base of a hovercraft
(e) a *bit of skirt*: an offensive expression meaning 'an attractive woman'
(f) s*kirts of a forest, hill or village* etc.: the outside edge of a forest etc.
(g) a *new road skirting the suburb*
(h) *They skirted round the bus.*
(i) *He was skirting the issue* (= avoid).

Figure 3. Some senses of *skirt*



(a) (b) (e) (f)

(i) What is likely to be the prototypical meaning and point out which process of meaning extension (generalization, metaphor, metonymy, specialization) you find in each of the other cases. Give reasons for your answers.
(ii) How are the meanings in (f, g, h, i.) related to the prototypical meaning? What is the difference between (f) versus (g, h, i)?
(iii) Which of these meanings would lend themselves for a a classical definition? Which of them would not? Give reasons for your answers.
(iv) Draw up a radial network for the senses of *skirt.*

3. Draw up a radial network for the different senses of *paper*.

(a) The letter was written on good quality *paper*.
(b) I need this quotation *on paper*.
(c) The police officer asked to see my car *papers*.
(d) The examination consisted of two 3 hour *papers.*
(e) The professor is due to give his *paper* at 4 o'clock.
(f) Seat sales are down, so we'll have to *paper* the house this afternoon. (Theatrical slang: 'To give away free tickets to fill the auditorium')

4. The equivalents of the two first senses of English *fruit* in German and Dutch are expressed as two different words:

fruit
(a) sweet, soft and edible part of plant = E. fruit G. *Obst,* D. *fruit*
(b) seed-bearing part of plant or tree = E. fruit G. *Frucht* D. *vrucht*

Which of these illustrates a semasiological solution, and which an onomasiological one for the same problem of categorization? Give reasons for your answer.

5. In the thesaurus entry for *fruit* quoted in example (2) in this chapter we find the items *harvest* and *yield* both under the literal meanings of (2a) and under the figurative ones of (2b). Which of these can be related to *fruit* by the process of metonymy, and which by the process of metaphor? Give reasons for your answer.

6. Below is a list of expressions with the word "red." In each case, try to find a plausible motivation for the use of the word and argue whether we have more to do with a "linguistic" metaphor or metonymy as with "school" (see table 4) or more with a conceptual metaphor or metonymy as with "foot of the mountain" (see Section 2.3.2.).

   (a) redhead (= someone with red hair)
   (b) red herring (= something that is not important, but distracts one from things that are important)
   (c) He was caught red-handed (= in the act of doing something wrong).
   (d) He was beginning to see red (= he was getting very angry).
   (e) This was a red-hot (= very exciting) project.
   (f) red politics (= extremely left-wing, communist ideas)

7. For the notion of *footwear* think of or find as many words as you can, including such terms as *boots, slippers, trainers, pumps, flip-flops, mountain boots, shoes, wellingtons* and add terms such as *indoor footwear*, *sportswear* etc.

   (a) Which of these words are superordinate terms, and which ones subordinate terms?
   (b) Which of these words could be considered "basic level terms?" Give reasons for your answer.
   (c) Which of these words are highly entrenched, and which ones aren't? Give reasons for your answer.
   (d) For this set of words, draw up a hierarchical taxonomy as in Table 6 or Table 8 in this chapter.

8. When young children first acquire language, they are known to call any male "dadda," any round object "apple," or any bigger animal "wau wau." Using the information given in Chapters 1 and 2, try to give an account for this phenomenon.

CHAPTER 3

Meaningful building blocks: Morphology

3.0. Overview

In Chapter 2, we saw that lexical items may have several, often related senses (semasiology) and that the same notion may be expressed by different lexical items (onomasiology). We also saw we could account for links between different senses of the same word or different meanings among words within a lexical field using the categories of specialization, generalization, metaphor, and metonymy.

In this chapter we will see that the same principles may apply to **morphology**, which is the study of building elements used to form composite words or grammatical units. In a narrow sense, morphology is defined as the study of the internal structure of words. Morphemes, the smallest meaningful elements in language, are like words in that they may have prototypical senses and peripheral senses, together forming a radial network of senses.

A morpheme can be either a word or an affix. Words can occur on their own and then are independent morphemes. For this reason they are called "free morphemes." In contrast, affixes cannot occur on their own and are therefore called "bound morphemes."

The most important processes of word formation are compounding, e.g. *apple tree*, and derivation, e.g. *breathless.* Other processes of word formation are conversion (*clean* → *to clean*), backderivation (*typewriter* → *to typewrite*), blending (*motor* + *hotel* → *motel*), clipping (*a miniskirt* → *a mini*) and acronyms (*European Union* → *EU*).

Grammatical morphemes are used to link words in a grammatical unit. They function as building elements for syntactic groups (e.g. *books*) or for sentence construction (e.g. *worked*).

CHAPTER 6

Language, culture and meaning: Cross-cultural semantics

6.0. Overview

The previous chapters have shown repeatedly that linguistic conceptualization may be radically different in various, even closely related languages. This applies to concepts expressed through all aspects of linguistic structure, i.e. the lexicon, morphology, syntax, and even in phonology, through tone and intonation.

This chapter will look into cross-linguistic semantic differences in a systematic way. We will present a method for pinpointing semantic distinctions and for exploring their cultural relevance. A key question is whether differences in linguistic conceptualization play a central role in language and thought or whether they are rather marginal. Both positions have been advocated. The first is known as linguistic relativity, in its extreme form as linguistic determinism. The second is known as universalism and holds that all people all over the world basically think in the same way. This chapter proposes a compromise between the extremes: most linguistic concepts are indeed language-specific, but there is also a small number of universal linguistic concepts which occur in all languages. These universal concepts can be used as a "neutral" basis for paraphrasing the huge variety of language-specific and culture-specific concepts in the languages of the world. This is illustrated firstly for lexical concepts, then for grammatical concepts, and finally for the cultural norms of behaviour which underlie people's behaviour in different cultures.

6.1. Introduction: Linguistic relativity and universalism

A key question is whether language influences thought or thought influences language. Both positions have been advocated. The first is known as **linguistic relativity**. The rival position is known as **universalism**. It

assumes that human thought is significantly similar across all cultures - that humankind shares a certain "psychic unity" - and that since language is a reflection of human thought, all languages are significantly similar as far as their conceptual categories are concerned. In its extreme version, this position asserts that linguistic conceptualization is essentially the same in all languages. Though incompatible in their extreme versions, this section will show that it is possible to see some truth in both linguistic relativity and universalism.

6.1.1. Linguistic and cultural relativity

How much does our language influence the way we think? How deeply do language and culture interpenetrate and influence one another? Few questions about language have fascinated thinkers more throughout the ages.

In 1690 the English philosopher John Locke observed that in any language there is a "great store of words ... which have not any that answer them in another [language]." Such language-specific words, he said, represent certain "complex ideas" which have grown out of "the customs and manner of life" of the people (1976: 226). This same insight recurred throughout the German Romantic tradition, especially in the writings of Johann Gottfried Herder and Wilhelm von Humboldt, who regarded language as a prisma or grid spread over things in the world so that each language reflects a different **worldview** (**Weltsicht**). It was eventually taken to America in the person of Franz Boas, the founder of cultural and linguistic anthropology in that country.

In America Boas and his students encountered languages and cultures which differed enormously from those of Europe. So great were differences in the area of vocabulary alone that, as Edward Sapir (1949: 27) observed: "distinctions which seem inevitable to us may be utterly ignored in languages which reflect an entirely different type of culture, while these in turn insist on distinctions which are all but unintelligible to us."

Similar observations were made in the thirties by Russian researchers such as Luria and Vygotsky (1992), who found that indigenous Sami (Lapp) societies in the north of Norway had huge vocabularies, but often lacked a more abstract general category or hyperonym:

> One of the Northern primitive peoples, for example, has a host of terms for the different species of reindeer. There is a special word for reindeer aged 1, 2, 3, 4, 5, 6 and 7 years, twenty words for ice, eleven for the cold; forty-one for snow in its various forms, and twenty-six verbs for freezing and thawing. It is for this reason that they oppose the attempt to make them change from their own language to Norwegian, which they find too poor in this regard. (1992: 63)

The grammatical systems of the languages of the New World also came as a shock to European sensibilities. There were languages lacking familiar categories like countable and uncountable, noun and verb, tense and case, but prolifically endowed with exotic distinctions, such as whether an event or action was reiterated in space or in time; whether it took place to the north, south, east or west; whether the speaker knew of it from personal observation, from deduction, or from hearsay; or whether a thing was visible or not.

Sapir (in Mandelbaum 1958: 157-159) gives the example of what in English is described in terms of a "happening" schema, i.e. "The stone falls." Kwakiutl (a native American language of British Columbia) specifies whether the stone is visible or invisible to the speaker at the moment of speaking and whether it is nearest the speaker, the hearer or a third person. But Kwakiutl does not specify whether it is one stone or several stones. Neither does it specify the time of the fall. In the immediately neighbouring language of the Nootka, the comparable expression does not contain any noun equivalent to "stone," but only a verb form consisting of two elements, one for the movement or position of a stone or stone-like object, and a second for the downward direction, so that the scene would be more faithfully expressed in English as "It stones down." In Nootka, according to Sapir, the English view of "a stone" as a time-stable entity is not present; rather, the "thing status" of "stone" is implied in the verbal element which designates the nature of the motion involved. In view of examples like this one, it is hard to avoid the conclusion that the different grammatical categories of different languages invite, or even compel, their speakers to see the world in distinctive ways. This view is referred to as the "**Sapir-Whorf hypothesis**." Benjamin Lee Whorf, who coined the term *linguistic relativity*, explained it as follows:

> We dissect nature along lines laid down by our native languages... We cut nature up, organize it into concepts, and ascribe significances as we do, largely because we are parties to an agreement to organize it in this way – an agreement that holds throughout our speech community and is codified in the patterns of our language. The agreement is, of course, an implicit and unstated one, BUT ITS TERMS ARE ABSOLUTELY OBLIGATORY; we cannot talk at all except by subscribing to the organization and classification of data which agreement decrees. (Whorf 1956: 213-214)

Admittedly, Whorf may have exaggerated the degree to which the agreement that holds throughout a speech community is "absolutely obligatory." We can always find a way around the canonical "terms of agreement" by using paraphrases and circumlocutions of one kind or another. But this can only be done at a cost - by using longer, more complex, more cumbersome expressions than those offered to us by the ordinary habitual patterns of our native language. We can only try to avoid linguistic conventions of which we are conscious. However, the grip of people's native language on their perceptual and thinking habits is usually so strong that they are no more aware of such linguistic conventions than they are of the air they breathe.

Whorf has been criticized and attacked as no linguist before or after him for claiming that language influences thought, but lately it has been argued quite convincingly that very few of his former critics have really read and understood what Whorf was trying to say.

One of the most potent objections was that no one has given independent evidence that linguistic patterns really do influence people's patterns of attention and categorization. Recently, however, evidence of this kind has come to light. For example, the child language researchers Choi and Bowerman (1991) and Bowerman (1996) have shown that English and Korean-speaking children at 20 months of age, which is the age when children begin to speak, respond quite differently in experiments which require them to compare and group together actions such as (a) placing pieces in a puzzle, (b) putting toys into a bag or (c) putting a cap on a pen, and (d) putting a hat on a doll's head. The English children classify the relations between the pieces of a puzzle and their "fixed" position in the puzzle as an *in* relation just like the "loose" relation of toys in a box. That is, they assign (a) and (b) to the *in* group.

Similarly, they make a different group for the "fixed" relation of a cap on a pen or the "loose" relation of a hat on a head, and consequently assign (c) and (d) to the *on* group. Note that this classification is entirely forced on these children by the contrast between the English prepositions *in* and *on*. But the Korean children have learned different words, i.e. *kkita* for something that has a "firmly fixed" or "tight fit" position, and different other verbs for things that are loosely put in or on other entities. Consequently, the Korean children group the equivalent of (a) "tight *in*" and (c) "tight *on*" together as a first group, and (b) "loose *in*" and (d) "loose *on*" as a second group. In other words, both groups of children construe the relations between objects in the world on the basis of their language-

Table 1. Cross-cutting classification of acts of " putting on/ joining" and "taking off/ separating" by young English-speaking and Korean-speaking children

ENGLISH-SPEAKING CHILDREN

KOREAN SPEAKING CHILDREN		IN *put in/ take out* 'containment'	ON *put on/ take off* 'surface contact, support'
	TIGHT FIT *kkita* 'tight fit and attachment' *ppayta* 'remove from tight fit'	a) piece/ puzzle picture/ wallet hand/ glove book/ fitted case	c) cap/ pen lid/ jar glove/ hand magnet/ surface tape/ surface Lego pieces together/ apart
	LOOSE FIT other verbs 'loose fit'	b) toys/ bag or box blocks/ pan getting in/ out of tub going in/ out of house, room	d) clothing on/ off (hat, shoe, coat, etc.) getting on/ off chair

specific categories, and not on the basis of some universal, conceptual categories, which extreme universalists claim to exist for all linguistic categories.

In other research, John Lucy (1992b) has found significant differences in the way in which adult speakers of English and Yucatec Maya process information about concrete objects. English speakers show greater attention to number than Yucatec speakers and tend to classify by

shape, while Yucatec speakers tend to classify by material composition. These differences correspond to what could be predicted on the basis of linguistic differences (English has number marking, Yucatec has classifiers, i.e. affixes of nouns marking them as members of certain categories).

6.1.2. Semantic primes as a key to cross-cultural comparisons

The traditional view of human thought is that of **universalism**, i.e. that all people all over the world basically think in the same way. But since languages are so different, how could linguistic concepts in various languages be the same?

Stating differences and similarities between two languages is one thing. Formulating these differences is another. In the past, research into the relationship between language, culture and thought lacked descriptively adequate methods for analyzing the similarities and differences between the meaning systems of different languages. The key to achieving the necessary rigour is basing our method of semantic analysis on universal concepts. Many thinkers through the centuries have believed that a set of universal concepts exists. Philosophers like Pascal, Descartes, Arnauld, and Leibniz called them "simple ideas." Modern linguists generally refer to them as **semantic primes** or semantic primitives.

So far about 60 semantic primes can be thought of as **universal concepts** or as the basic "atoms" of meaning, in terms of which the thousands upon thousands of complex meanings are composed.

However, there are a few complications which should be mentioned. Firstly, a single semantic prime can sometimes be expressed by different words in different contexts, called "**allolexes**" (in analogy to "allophones"). For example, in English *else* and *don't* are allolexes of *other* and *not*, respectively. Secondly, in some languages the equivalents of semantic primes may be affixes or fixed phrases rather than individual words. Thirdly, words usually have more than one meaning, which can confuse the situation. For example, the English word *move* has two different meanings in the sentences *I couldn't move* and *Her words moved me*, but only the first meaning is proposed as a semantic prime.

We can now present an approach for cross-linguistic and cross-cultural semantics. In Chapter 2 we saw that one way of describing the sense of a word is to "paraphrase" it by forming a string of other words which is supposed to "say the same thing." Paraphrasing works effective-

Table 2. Universal semantic primes

Substantives	I, YOU, SOMEONE, PEOPLE, SOMETHING, BODY, WORD
Determining elements	THIS, THE SAME, OTHER, ONE, TWO, SOME, MUCH, ALL
Experiencing verbs	KNOW, THINK, WANT, FEEL, SEE, HEAR
Actions and processes	SAY, DO, HAPPEN, MOVE
Existence and possession	THERE IS, HAVE
Life and death	LIVE, DIE
Evaluation and description	GOOD, BAD, BIG, SMALL
Spatial concepts	WHERE, HERE, ABOVE, BELOW, NEAR, FAR, INSIDE, SIDE
Temporal concepts	WHEN, NOW, BEFORE, AFTER, A LONG TIME, A SHORT TIME, FOR SOME TIME
Relational elements	KIND OF, PART OF, VERY, MORE, LIKE
Logical elements	IF, BECAUSE, NOT, MAYBE, CAN

ly only if simpler words are used in the paraphrase. Unfortunately, dictionary definitions often violate this principle, thus falling into the trap of **obscurity**. For example, one dictionary defines the word *remind* as: "make (person) have recollection of." If a person's knowledge of English does not include the word *remind*, is it likely that he or she would understand *recollection*? Presumably not. Obscure definitions do not serve to make a meaning clear and explicit. They merely replace the job of understanding one unknown term by the job of having to understand another.

Hand in hand with obscurity goes **circularity**. This describes a situation in which word A is defined in terms of word B, then word B is defined in terms of word A, as in the following example (again, from a dictionary): *fate* "a person's destiny;" *destiny* "that which happens to a person or thing thought of as determined by fate." Sometimes it takes several steps before the circle closes: for example, A is defined via B, B via C, then C via A. Obviously, we get nowhere by "defining" words in a circular fashion.

When we attempt to describe the meanings of words from a language different from our own, there is a third problem. Most words don't have precise equivalents across languages. This applies even to apparently simple and concrete words, for example, *hand* and *break*. Russian is a language which doesn't have an exact equivalent for English *hand*, be-

cause the Russian word which refers to a person's hand (*ruka*) applies to the entire arm. Malay is a language which doesn't have a precise equivalent for *break*, because there are distinct words, *putus* and *patah*, depending on whether the break is complete or partial.

Such meaning variation across languages brings with it the danger of **ethnocentrism** (culture-bias) in semantics. If we use concepts which are English-specific in describing another language, then our description will inevitably be a distorted one because we will impose our own conceptual categories onto the other language. For example, it would be ethnocentric to explain the meaning of *ruka* as "hand or arm," because the distinction between the hand and the arm is not important to the meaning of the Russian word.

How can these problems be overcome? To avoid obscurity and circularity we have to phrase any description of a word's meaning in simpler terms than the word being described. A description of a word meaning which follows this principle is called a **reductive paraphrase**, because it breaks down (or "reduces") the complex meaning into a combination of simpler meanings. The most complete reductive paraphrase is achieved when we have phrased the entire concept in terms of universal semantic primes.

Phrasing our definitions in terms of semantic primes offers a way of avoiding obscurity and circularity. But what about the third problem, that of ethnocentrism? In fact, there is good reason to think that ethnocentrism can be minimized by relying on semantic primes, because the evidence suggests that the primes are not the "private property" of English, but are found in every human language. The meanings listed in Table 2 could equally well have been presented as a list of words in Russian, or Japanese, or Yankunytjatjara, or any other language.

The semantic primes are the vocabulary of a kind of "mini-language" which is an excellent tool for semantic and conceptual analysis. **Explications** composed in semantic primes can be transposed between languages without altering the meaning. Unlike technical formulations, they can also be understood by ordinary people.

6.2. Culture-specific words

The fact that the universal core of semantic primes appears to be so small (almost certainly less than 100 words) highlights the great conceptual differences between languages. The vast majority of words in any language have complex and rather language-specific meanings, and this can often be seen as reflecting and embodying the distinctive historical and cultural experiences of the speech community. In this case, we speak of **culture-specific words**.

We can see some prosaic examples in the domain of food. It is clearly no accident that Polish has special words for cabbage stew (*bigos*), beetroot soup (*barszcz*) and plum jam (*powidla*), which English does not; or that Japanese has a word *sake* for a strong alcoholic drink made from rice, whereas English does not. Customs and social institutions also furnish abundant examples of culture-specific words. For example, it is no accident that English doesn't have a word corresponding to Japanese *miai*, referring to a formal occasion when the prospective bride and her family meet the prospective bridegroom and his family for the first time.

Apart from differing in their inventories of culture-specific words, languages often differ in the number of words they have for speaking about a particular domain of meaning. When a language has a relatively high number of words for a single domain, e.g. the Sami words for reindeer, forms of snow, freezing and thawing, this is known as **lexical elaboration**. Lexical elaboration can often be seen as reflecting cultural facts. It is understandable that many Asian languages have several words for rice; for example, Malay *padi* 'unhusked rice,' *beras* 'rice without the husk but uncooked,' *nasi* 'cooked rice.' On the other hand, compared with most indigenous cultures, European languages have a very large stock of expressions to do with measuring and reckoning time (words such as *clock*, *calendar*, *date*, *second*, *minute*, *hour*, *week*, *Monday*, *Tuesday*, etc., *January*, *February*, etc.).

Sometimes it is possible to nominate certain highly salient and deeply culture-laden words in a language as the **cultural key words** of that culture. For example, one could argue that *work*, *love* and *freedom* are among the key words of mainstream English-speaking culture (Anglo culture). Such words are usually very frequent, at least in their own domains. Often, they stand at the centre of a large cluster of fixed phrases, and occur frequently in proverbs, sayings, popular songs, book titles, and so on.

To illustrate how words in different languages can differ semantically in subtle but culture-related ways we will examine some emotion terms in various European languages. In general, the meanings of emotion terms can be described by linking a feeling (good, bad, or neutral) with a **prototypical scenario** involving action schemas ("do"), or experiencing

schemas ("think," "want"). For instance, English *sadness* is, roughly speaking, a bad feeling linked with the thought "something bad happened." Saying this does not imply that every time one feels *sadness*, one necessarily has this particular thought. Rather, it says that to feel *sadness* is to feel like someone would who is having that thought.

To see this approach in action, let us home in on a fairly subtle difference in meaning - between the English words *happy* and *joyful* (or *joy*). Two differences are the greater immediacy and intensity of *joy*, and the more personal or self-oriented character of *happy*. There is also a third difference, which is that *happy* (unlike *joy*) suggests a meaning component akin to "contentedness;" for example, in response to a question such as (1a) one can answer (1b):

(1) a. Are you thinking of applying for a transfer?
b. No, I am quite happy where I am.

(It would be impossible to substitute *joyful* in place of *happy* in this context). This idea is further supported by the contrast between the sentences in (2):

(2) a. The children were playing happily
b. The children were playing joyfully

Here, (2a) implies not only that the children were enjoying themselves, but also that they were fully satisfied with what they were doing. (2b) suggests a great deal more activity. These differences suggest the explications below.

(A) Explication of "X feels *happy*"
sometimes a person thinks something like this:
something good happened to me
I wanted this
I don't want anything else
because of this, this person feels something good
X feels like this

(B) Explication of "X feels *joy*"
sometimes a person thinks something like this:
something very good is happening now
I want this
because of this, this person feels something very good
X feels like this

The difference between the components "something good" (in *happy*) and "something very good" (in *joy*) helps account for the greater intensity of *joy*. The difference between "something is happening" (in *joy*) and "something happened TO ME" (in *happy*) reflects the more personal and self-oriented character of *happy*. The difference between the components "I want this" (in *joy*) and "I wantED this" (in *happy*) accounts for the greater immediacy of *joy*, as well as contributing to its greater intensity. The differences in the phrasing of the explications reflect particular differences in meaning, manifested in the overlapping but different ranges of use of the two words.

It is interesting to note that *happy* is a common and every-day word in modern English, belonging, according to the *Longman Dictionary of Contemporary English*, to the 1,000 most frequent words, whereas *joy* and its derivatives are more literary and stylistically marked. In many other European languages, words closer in meaning to *joy* are more common in every-day language. For example, in German the verb *sich freuen* and the corresponding noun *Freude* (roughly, "joy") are used very frequently, on a daily basis, unlike the adjective *glücklich* (roughly, "happy") and the noun *Glück*. But this difference in frequency aside, it is important to see that there is only a rough meaning correspondence between *glücklich* and *happy* (or between French *heureux* and *happy*).

Essentially, English *happy* conveys a "weaker," less intense emotion than *glücklich* and *heureux*. Speaking metaphorically, emotions such as *Glück* and *bonheur* fill a person to overflowing, leaving no room for any further desires or wishes. The more limited character of *happy* even shows itself in a syntactic contrast. For example, one can say in English *I am happy with his answer* (where the complement *with his answer* specifies the limited domain or focus of one's happiness). In German or French one could not use the words *glücklich* and *heureux* in this way: one would have to use semantically weaker, less intense words such as *zufrieden* or *satisfait/ content* (roughly, "pleased") instead.

The meaning of *glücklich* and *heureux* can be captured in the following explication:

(C) Explication of "X feels *glücklich* (*heureux*)"
sometimes a person thinks something like this:
something very good happened to me
I wanted this
everything is very good now
I can't want anything more
because of this, this person feels something very good
X feels like this

This explication contains the new component "everything is very good now" (implying a "total" experience). It includes the intensifier *very* (like *joy* but unlike *happy*). Furthermore, its final "thinking" component is phrased as "I can't want anything more" (rather than "I don't want anything else," as with *happy*). These differences imply an intense, but generalized and almost euphoric, view of one's current existence.

If we look across other languages of Europe, we can see that many of them have words which are similar (if not identical) in meaning to that of *glücklich/ heureux* stated above. For example, there is *felice* in Italian, *shtshastliv* in Russian, *szczesliwy* in Polish. The English language seems to be the "odd one out" with its relatively bland word *happy*. This fact is probably not unconnected with the traditional Anglo-Saxon distaste for extreme emotions. True, the English language does possess more exuberant words (such as *joy*, *bliss*, and *ecstasy*), but their comparative rarity only reinforces the point that emotional discourse in English has a distinctly muted quality when compared with many of the other languages of Europe.

6.3. Culture-specific grammar

In any language there will be aspects of grammar which are strongly linked with culture. Proponents of linguistic relativity such as Sapir and Whorf concentrated on pervasive grammatical patterns such as whether or not a language insists on marking the distinction between singular and plural referents, or the relative time reference (tense) of an event, or the source of one's evidence for making a statement, etc. A language continually forces its speakers to attend to such distinctions (or others like them), inescapably imposing a particular subjective experience of the world and ourselves. A celebrated example of this comes from Whorf (1956: 139), who contrasted the way in which "time" is conceptualized in

English and in Hopi (a native American language of north-eastern Arizona). In English and other European languages, time is very often spoken of in the same way as we speak of material, countable objects. Just as we say *one stone/ five stones,* we say *one day/ five days*, extending the use of cardinal numbers and plural marking from material entities to immaterial entities. This implies that we have conceptualized our experience of time in terms of our experience of material objects which may be present before our eyes. We are "objectifying" time. Units of time are, however, fundamentally different from objects. Five days are not "seen" simultaneously but can only be experienced sequentially. In the Hopi speaker's non-objectified view of time, the concept "five days" does not make sense. If the speaker wants to express this notion, he or she will make use of ordinal numbers, i.e. something like "the fifth day." According to Whorf, their primary conceptualization is in terms of the succession of cycles of day and night. The cycles are not lumped together as material objects.

We will now illustrate an aspect of **culture-specific grammar** from Italian. Although the constructions under analysis are not so all-pervasive and fundamental as the ones envisaged by Whorf, they are still very frequent and dominant in the Italian way of life and are certainly an important aspect of the Italian experience of things. Our focus will be on two grammatical constructions which serve an expressive function fully congruent with the general expressiveness of Italian culture: syntactic reduplication and absolute superlative. **Syntactic reduplication** refers to the repetition, without any intervening pause, of adjectives, adverbs, and even nouns, as in expressions like *bella bella, adagio adagio*, *subito subito,* (*bella* 'beautiful,' *adagio* 'slowly,' *subito* 'at once'). It is a distinct grammatical construction of Italian, different from the repetition of full utterances as in English *Come in, come in!* or *Quickly, quickly!*, but rather resembles expressions of the type *bye-bye*.

The Italian expressions just mentioned are usually described as indicating "intensity." Thus one could suggest equivalences such as *bella bella* 'very beautiful' or *adagio adagio* 'very slowly.' But there are two problems with this. Firstly, the range of the Italian construction is broader than that of *very*; for example, one could hardly translate *subito subito* as 'very at once.' Secondly, the true Italian equivalent to *very* is *molto*, and there is a twofold difference between *molto bella* 'very beautiful' and *bella bella*.

Syntactic reduplication in Italian expresses, firstly, an insistence that the word in question is well-chosen. In saying *bella bella* the speaker is

emphasizing that he or she regards the word *bella* as being used responsibly, strictly, or accurately (notice that repetition of the word draws attention to it). Thus, *bella bella* is more accurately rendered in English as 'truly beautiful' (and *caffè caffè* as 'true coffee').

There is, however, a second component also, an emotive one. A sentence like *Venga subito subito* 'Come at once at once' virtually demands a highly expressive, emotional tone. Even when a purely descriptive adjective such as *duro* 'hard' or *leggera* 'soft' is reduplicated, it is usually easy to detect clues to the emotional undertones in the context. For instance, in one novel the hero experiences a great spiritual crisis. As he tosses and turns at night, it seems to him that his bed has become *duro duro* 'hard hard.' Later in the same novel, the hero wants to cross a river in a fisherman's boat without being noticed by anyone because he is trying to escape from the police. He addresses the fisherman in a voice which is *leggera leggera* 'soft soft.'

The meaning expressed by the reduplication construction can be stated as follows:

(D) Explication of Italian reduplication of adjectives/ adverbs:
when I say this word (e.g. *bella, duro, bianca*) two times
I want you to know that I want to say this word, not any other
when I think about this, I feel something

A second characteristically Italian grammatical device is the **absolute superlative**, formed from adjectives with *-issimo* (in the appropriate gender/ number variant). For instance, *bellissimo* 'most beautiful,' *velocissimo* 'most fast,' *bianchissimo* 'very white.' This construction is conceptually related to expressions with *molto* 'very' (*molto bella* 'very beautiful,' and so on). Both are restricted to qualities, and more specifically to qualities which can be "graded" and compared. One cannot say **subitissimo*, for example. There are affinities between the absolute superlative and the ordinary superlative formed with *più* (for instance, *più bello* 'the most beautiful').

There is also a certain similarity with syntactic reduplication - some Italian grammars even describe the two constructions as equivalents. But unlike syntactic reduplication, the absolute superlative is not meant to convey accuracy. On the contrary, it normally involves an obvious exaggeration. The function of this exaggeration, however, does share something with syntactic reduplication, it serves to express the speaker's emotional attitude. We can capture these ideas in the explication below:

(E) Explication of Italian absolute superlative "it is *X-issimo*"
it is very X
I want to say more than this
because of this, I say: it could not be more X
when I think about this, I feel something

The similarity with expressions with *molto* 'very' is made obvious by the presence of *very* in the first line. The similarity with the ordinary superlative is in the third component: implicitly there is a comparison of sorts being made with the highest degree ("it could not be more X"). The similarity with syntactic reduplication is shown in the final component ("when I think about this, I feel something"). All in all, the absolute superlative enables speakers of Italian to perform a kind of "expressive overstatement."

Constructions like syntactic reduplication and the absolute superlative are surely linked with what has been called the "theatrical quality" of Italian life (Barzini 1964: 73), the "importance of spectacle," "the extraordinary animation, ... the expressive faces, the revealing gesticulation ... which are among everybody's first impressions in Italy, anywhere in Italy." This animation and this love of loudness and display go a long way to explaining the relevance of expressive grammatical devices like syntactic reduplication and the absolute superlative in Italian culture.

6.4. Cultural scripts

In different societies people not only speak different languages, they also use them in different ways, following different cultural norms. Cultural norms of communication are usually described using vague and impressionistic labels such as "directness," "formality," and "politeness." Though useful up to a point, such labels are really quite vague, and are used with different meanings by different authors. They can also lead to ethnocentrism because they are usually not translatable into the language of the people whose culture is being described. These problems can be largely overcome if we use semantic primes to formulate our descriptions of cultural norms of communication. When cultural norms are described in this way, they are referred to as **cultural scripts**.

In this section we will focus on cultural scripts for saying "what you want." To begin with, let's take a brief look at a culture far removed from Europe. Japanese culture is well-known for its verbal reticence. This

applies in particular to the expression of personal desires, a fact linked with the Japanese ideal of *enryo* 'restraint, reserve.' One finds that Japanese people are reluctant to express their preferences directly. When asked what arrangements would suit them, they will often decline to say, using expressions like 'Any time will do' or 'Any place will be all right with me.' Direct questioning about a person's wishes is far from normal. With the exception of family and close friends it is impolite in Japanese to say such things as 'What do you want to eat?' and 'What do you like?' Nor is a guest in Japan constantly offered choices by an attentive host. Rather, it is the responsibility of the host to anticipate what will please the guest and simply to present items of food and drink, urging that they be consumed, in the standard phrase, 'without *enryo*.'

Overall, one may say that Japanese culture strongly discourages people from saying clearly what they want. The culturally approved strategy is to send an "implicit message" of some kind, in the expectation that the addressee will respond. These cultural attitudes can be captured in a script like this:

(F) Japanese script for "saying what you want"
when I want something
it is not good to say to other people: 'I want this'
I can say something else
if I say something else, other people can know what I want

Anglo-American attitudes are of course quite different in this respect. In line with Anglo ideals of individual freedom and personal autonomy, it is considered desirable if people "feel free" to express their preferences:

(G) Anglo-American script for "saying what you want"
everyone can say things like this to other people:
'I want this,' 'I don't want this'

On the other hand, the same ideal of personal autonomy inhibits speakers of mainstream English from using the bare imperative and saying *Do this!*, and encourages them instead to apply polite strategies (as later discussed in Chapter 7). Therefore they will use more elaborate locutions such as *Could you do this?*, *Would you mind doing this?* and the like. The message that "I want you to do something" is embedded into a more complex configuration which acknowledges the addressee's autonomy by

inviting them to say whether or not they will comply. These norms can be captured in the following pair of scripts:

(H) Anglo-American script blocking "imperative directives"
if I want someone to do something, I can't say to this person something like this:
'I want you to do this; because of this, you have to do it'

(I) Anglo-American script for "interrogative directives"
if I want to say to someone something like this:
'I want you to do this'
it is good to say something like this at the same time:
'I don't know if you will do it'

It would be wrong, however, to think that the cultural scripts of mainstream English are "typically European." There is considerable diversity among the languages and cultures of Europe in this regard (as in many others). In most of them, bare imperatives are used more often than in English, and the use of interrogative structures in directives is more limited.

According to Béal (1994), French people expect that routine instructions given in a workplace situation will take a more forthright form than would be appropriate in English. As one French executive explained (Béal 1994: 51), his English-speaking (Australian) employees used *précaution oratoire* 'oratory precautions,' which French people would not normally use:

> *A la limite, le Français s'il l'emploie, il le fera, il prendra cette précaution oratoire si c'est justement en dehors des tâches normales et régulières de la personne à qui il s'adresse. Mais autrement, non, ça sera, bon, 'Faites-moi ci,' 'Allez me chercher ça, s'il vous plaît,' mais 'Would you mind?' euh...non. A la limite si on fait ça en France, on remet en cause son autorité.*
>
> [Actually, if a French person does use such precaution, it will be because he is requesting a favour outside the normal job definition of the person he is asking. Otherwise, he will simply say 'Do this, fetch that, please,' but 'Would you mind?' ... certainly not. Actually, to do that in France is like undermining one's own authority].

It is also well-known that there are considerable differences in the norms governing requests in German and in English. John Phillips (1989: 88-

89), a lecturer in English as a Foreign Language at Bayreuth University, comments as follows:

> A bank clerk may say "Sie müssen hier unterschreiben" (You have to (must) sign here) and not "Würden Sie bitte hier unterschreiben?" (Would you please sign here?). At best he will say "Unterschreiben Sie bitte" (Sign here please). Although the imperative is used it is not meant as a command. The word *müssen* (must) is very much part of the language and keeps cropping up in situations where it would not do so in English.

Of course the remarks just quoted belong to the genre of "folk comments," and do not represent precise generalizations. But "folk comments" provide evidence of the perceptions of people living in multiethnic communities, and of the problems involved in cross-cultural communication. They cannot be ignored, but must be interpreted within a coherent and independently justified framework, such as that provided by cultural scripts written in semantic primes. The method enables us to state hypotheses about cultural norms without resorting to technical or language-specific terms, and in a way which is clear and accessible. Finally, it should be noted that cultural scripts can be used for describing variation and change, as well as continuity in cultural norms, for cultures are, of course, heterogeneous and changeable. However, to study diversity and change we also need a rigorous and illuminating analytical framework.

6.5. Conclusion: Language, culture and thought

In a well-known passage, Whorf (1956: 212) explained his view of the relation of language to thinking as follows:

> the background linguistic system (in other words, the grammar) of each language is not merely a reproducing instrument for voicing ideas but rather is itself the shaper of ideas, the program and the guide for the individual's mental activity, for his analysis of impressions

Whorf's views on linguistic relativity have often been misunderstood. He did not claim that all thinking is dependent on language. In fact, he believed there are various mental processes, such as attention and visual perception, which are independent of language and which therefore escape the "shaping" influence of language. But as far as "linguistic thinking" is concerned, Whorf insisted that the patterns of our native language

inevitably impose patterns of habitual thinking. As mentioned earlier, recent research indicates that the conceptual categories of one's native language guide categorization at a very young age. As early as 20 months of age, Korean and English children make use of the conceptual patterns of their native languages.

The culture-specific words and grammatical constructions of a language are conceptual tools which reflect a society's past experience of doing and thinking about things in certain ways. As a society changes, these tools may be gradually modified and discarded. In that sense the outlook of a society is never wholly "determined" by its stock of conceptual tools, but it is clearly influenced by them. Similarly, the outlook of an individual is never fully "determined" by his or her native language, because there are always alternative ways of expressing oneself, but one's conceptual perspective on life is clearly influenced by his or her native language.

Much the same can be said about communicative style. An individual's communicative style is not rigidly determined by the cultural scripts which he or she internalizes while growing up in that culture. There is always room for individual and social variation, and for innovation. But the communicative style of both society and individual cannot escape the influence of the "cultural rules" of communication.

In the end, the existence of a common stock of semantic primes in all the world's languages means that all human cognition rests on the same conceptual bedrock. Theoretically, any culture-specific concept can be made accessible to cultural outsiders by being decomposed into a translatable configuration of universal semantic primes, and indeed, this technique can be an important practical aide to inter-cultural communication. Even so, since every language functions as an integrated whole (of enormous complexity), there will never be a better way to understand the inner workings of a culture than to learn, to speak, and to live life through the language of its people.

6.6. Summary

The relation between language and culture has fascinated philosophers, poets and linguists for centuries. In German Romanticism, this led to the idea of each language containing its own **worldview (Weltsicht)**. In America, exposure to the radically different conceptual categories of native American languages further elaborated this idea into the hypothesis

of **linguistic relativity**, also known, after its originators as the **Sapir-Whorf hypothesis**.

An opposing philosophical view is that of **universalism**, which holds that human thought is essentially the same all over the world and that this is reflected in language. But in a more modest approach, universalism only claims that there are certain fundamental elements of linguistic meaning which are common to all languages. In recent times, a set of about 60 fundamental meaning elements, known as **semantic primes**, has been identified. It is hypothesized that these represent **universal concepts** and this hypothesis is currently being empirically checked in a wide variety of languages. Semantic primes can be used in semantic description, enabling us to overcome two failings of the traditional paraphrase approach to definition: **obscurity** and **circularity**. We can apply the technique of **reductive paraphrase** until all the conceptual components of a linguistic expression are analyzed by means of semantic primes. In this way we can also avoid the danger of **ethnocentrism**, i.e. imposing the categories of our own language upon the description of another language. The method of reductive paraphrase into semantic primes can be used for **culture-specific words**, for **culture-specific grammar** and for **cultural scripts**. As for words, they tend to reflect the historical and environmental experience of a people and in the most relevant domains we tend to find **lexical elaboration**, i.e. a great many specific words for certain phenomena. Instances of culture-specific grammatical constructions are the Italian **syntactic reduplication** and **absolute superlative**. Often a reductive paraphrase will incorporate a **prototypical scenario** consisting of several event schemas, which together lead to a full **explication** of any concept. The conceptual content of grammatical categories, and cultural norms for communication behaviour (cultural scripts), can also be made explicit by paraphrase into universal semantic primes. In Japanese culture one does not say explicitly what one wants but relies instead on implicit messages. In Anglo-American culture one can "feel free" to say what one wants, though preferably without "imposing" (hence the frequent use of "indirect requests" in English). Both contrast with the "forthright instruction" style of the French. Cultures tend to express their main norms and values in a number of **cultural key words**.

In conclusion, while few would now defend the **strong version** of linguistic relativity or **linguistic determinism**, i.e. the idea that our forms of thought are strictly determined by linguistic categories, many scholars now accept a more moderate **weaker version** of linguistic relativity, i.e. the idea that language influences thinking.

6.7. Further reading

Early works on linguistic relativity include Sapir (1949; in Mandelbaum ed. 1958), Luria and Vygotsky (1992), and the writings of Whorf collected in Carroll (ed. 1956). Recent re-evaluations of linguistic relativity can be found in Gumperz and Levinson (eds. 1996), Lucy (1992a, 1992b), Lee (1996), Choi and Bowerman (1991), and Bowerman (1996). An explicit step-by-step introduction to cross-cultural semantics is Goddard (1998). A set of field studies on semantic primes in a large number of languages can be found in Goddard and Wierzbicka (eds. 1994). Older philosophical approaches to the question of culture-specific concepts and universal concepts can be found in Locke (1976[1690]) and Leibniz (1981[1765]), respectively; see also Ishiguro (1972). There are cultural trait analyses of various European cultures, e.g. Bally (1920), Barzini (1964) for Italian and Béal (1994) for French. Wierzbicka (1991) analyzes Italian constructions reflecting the Italian way of life; Wierzbicka (1992) deals with grammatical constructions reflecting Russian "fatalism." Linguistic analyses of Japanese cultural behaviour are offered in Mizutani and Mizutani (1987) and Smith (1983). The notion of key words as a reflection of a culture's main norms and values is first taken up in Williams (1976) and systematically explored in Wierzbicka (1997).

6.8. Assignments

1. The following statement by Whorf (1956: 263) is a rather strong version of the linguistic relativity theory and contains some overgeneralizations:

   > Hopi can have verbs without subjects, and this gives to that language power as a logical system for understanding certain aspects of the cosmos. Scientific language, being founded on Western Indo-European and not on Hopi, does as we do, sees sometimes actions and forces where there may be only states.

   (a) Can you think of European languages that just like Hopi have verbs without subjects?
   (b) For English *It flashed* or *A light flashed,* Hopi just says *rehpi* 'flashes' or 'flashed.' Do you agree with Whorf that the English conceptualization includes a force, starting from the sub-

ject? (Have a look at Chapter 4.2.2. on the "happening" schema).

(c) From a cognitive point of view there are no 'empty' words in the language. That is, *it* in *It flashed* does have a meaning. What could this meaning possibly be?

(d) For English scientific terms such as *electricity,* Hopi uses a verb, not a noun. This would support Whorf's opinion that English sees a state where there may only be a force. Do you agree with this analysis?.

2. Translate the examples of Table 1 (repeated below) into your mother tongue or a language different from English. If you compare your translations with the English expressions, try to tell whether your language classifies locational relationships according to the English pattern, according to the Korean pattern, or according to a distinctive pattern of its own. If your language tends to follow the English pattern, is the classification exactly the same as in English, or are there also things that remind you of the Korean way of classifying things? If your language system is more like Korean, do you find things that go in the English direction?

(a) a piece in a puzzle, a picture in a wallet, a hand in a glove
(b) toys in a bag or a box
(c) a cap on a pen, a lid on a jar, a glove on a hand, a magnet on a surface, a tape on a surface
(d) a hat on a head, a glove on the hand, a shoe on the foot

3. Here are the definitions for *anger*, *love* and *hate* from the *Longman Dictionary of Contemporary English*. Are these common words defined in an obscure and/ or circular fashion? Can you suggest how the definitions can be re-phrased more clearly ?

anger: a strong feeling of wanting to harm, hurt or criticize someone because they have done something unfair, cruel, offensive etc.

love: 1. strong feeling of caring about someone, especially a member of your family or a close friend; 2. A strong feeling of liking and caring about someone, especially combined with sexual attraction.

hate: an angry unpleasant feeling that someone has when they hate someone and want to harm them.

4. Investigate the English words *job* and *privacy* from the point of view of their frequency (use the *Longman Dictionary of Contemporary English* for this purpose), their role in fixed phrases, and in common sayings and proverbs. Would you agree that *job* and *privacy* deserve to be regarded as examples of cultural key words of English?

5. Do you think the English word *anxiety* corresponds exactly to the Danish word *angest* used by the Danish philosopher Søren Kierkegaard in the passage whose published English translation is given below? Discuss.

As far as I know, natural scientists agree that animals do not have anxiety simply because by nature they are not qualified as spirit. They fear the present, tremble, etc., but are not anxious. They have no more anxiety than they can be said to have presentiment.

Note that Danish *angest* may be similar, but not identical, in meaning to German *Angst*. Also note that the word *angst* has been borrowed into English from German, but the English loan word does not have the same meaning as the German original.

6. In English-speaking countries, one often hears people talking about the importance of *freedom of speech*. There can be little doubt that this expression refers to an important Anglo cultural norm. But when people say *freedom of speech* they don't mean freedom to say absolutely anything, to anybody. Discuss when it is - and isn't - acceptable to say what one thinks, according to conventional Anglo cultural norms. Try to pin down precisely the notion behind *freedom of speech*, writing an explication as used in the cultural scripts approach discussed in Section 6.4. of this chapter.