

Meaning and language comparison

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If structuralism is right in assuming that every individual language is a system of its own, we should expect that languages can be very different, that they have terms for different things or different ways of naming the same things and that similar situations are expressed in different ways and from different perspectives. But how big are the differences between languages? Are all languages essentially alike, allowing the expression of the same thoughts, the communication of the same things, only differing in their respective ways of formulation? Or are languages different to an extent that it may be altogether impossible to express in one language what can be expressed in another? Are the semantic systems completely arbitrary, or are they constrained by universal principles?

We will start with simple examples that illustrate problems of translation. A closer look at different ways of expressing that someone has a headache will take us a bit deeper into the matter of semantic comparison. The second part will be devoted to studies of colour term systems across languages. These studies played an important role not only for the understanding of the relationship between languages but also for the development of semantics in general.

8.1 Translation problems

Everybody who seriously tries to learn a foreign language will sooner or later realize how different languages are, not only with respect to grammar and pronunciation but also with respect to their vocabulary and how it is organized. When we naïvely begin to learn a new language, we will probably start with the unconscious working hypothesis that for each word in our native tongue there is a corresponding word in the target language. But the more we get into the new language, the more this hypothesis will crumble. People who have managed to master a foreign language to a

degree close to native-speaker competence would probably say that semantic equivalence of two lexemes is the exception rather than the rule.

There are different types of mismatch. One language may have two or more words where another language has only one:

(1) English	<i>mouse</i>	<i>rat</i>	<i>finger</i>	<i>toe</i>	<i>water</i>
Japanese	<i>nezumi</i>		<i>yubi</i>		<i>mizu</i> <i>yu</i>
					>cold w.< >warm w.<

But the relations can be more complicated. Consider the following lexical field in English and Japanese, and German for comparison:

(2) German	<i>Wald</i>	<i>Holz</i>	<i>Baum</i>
English	<i>wood</i> ₁	<i>wood</i> ₂	<i>tree</i>
Japanese	<i>mori</i>	<i>ki</i> ₁	<i>ki</i> ₂

English has a count noun *wood*₁ and a mass noun *wood*₂. A *wood*₁ consists of trees, while *wood*₂ is the substance trees largely consist of. Hence, the two meanings can be clearly distinguished on linguistic grounds. Likewise, the Japanese meanings of *ki*₁ and *ki*₂ are clearly different.¹ It follows that neither of the two English expressions matches either of the two Japanese words. They only match in one meaning variant, respectively.² In general, the ubiquitous polysemy of the vast majority of words suggests that (with the exception of number terms) there are almost no two expressions from different languages that have the same over-all meaning (cf. 3.3 for the parallel problem of total vs. partial synonymy).

In (2), the meanings of the English, German and Japanese terms at least (roughly) match in some of their possible readings. But in many cases, correspondences turn out to be more complicated. Even apparently basic and universal concepts such as >eat< and >drink< are differently lexicalized. A first glance at dictionaries will give us the following correspondences:

(3) German	<i>essen</i>	<i>trinken</i>
English	<i>eat</i>	<i>drink</i>
Japanese	<i>taberu</i>	<i>nomu</i>

But as was mentioned in 7.2.2, the German terms *essen* and *trinken* are reserved for people, unlike their English and Japanese counterparts. Even if we restrict the verbs to human agents, they do not match perfectly. In English and German, a (thin) soup can be either 'eaten' (*essen*) or 'drunk' (*trinken*), depending on whether a spoon is used or the soup is directly taken into the mouth. Japanese use the verb *nomu* regardless if the soup is drunk (which is the traditional technique) or consumed with a spoon. One might now think that the crucial criterion for using *nomu* is that the object be liquid. But this is not the case. The verb is also used for oral medicine,

including pills. The crucial point appears to be that the object is directly swallowed without chewing. This is a different criterion from the one that regulates the use of English *drink* or German *trinken*. We cannot 'drink' a pill and we can eat a soup even if we do not chew it.

Still, these are cases where for every context appropriate translations are possible. But often a certain term in one language does not correspond to any term at all in the other language. This may be due to the fact that the things the term refers to simply do not exist where the other language is spoken, e.g. plants or animals or meals or artefacts or social institutions. But it also happens in semantic areas that are shared. Consider the area of working. English has a verb *to work* which, like German *arbeiten*, covers a broad range of activities, paid work as well as unpaid work (e.g. in one's own kitchen or garden). The work may be physical or intellectual work such as reading this book, learning German or studying linguistics. Japanese has no term that covers all these activities. The closest equivalent to the verb *work* is *hataraku*, but it does not cover intellectual work. On the other hand, Japanese has a verb *asobu* that can be used for any kind of activity that is *not* work: playing, any kind of entertainment or leisure including doing nothing at all. No simple verb with this meaning exists in English or German.

An insurmountable problem for adequate translations can be posed by differences in social meaning. Imagine an American movie of the type 'boy meets girl'. John, a yuppie real estate agent, meets Mary, a tough customer, and falls in love with her. If the dialogues are translated into German, the translators have to decide whether John and Mary address each other with *Sie* or *du* (2.4). They will have to start with *Sie*, because that would be adequate, to a German audience, for the business relationship between them, and will end up addressing each other with *du* once they have become intimate. The problem for the translator will be: when do they switch from *Sie* to *du*?

With Japanese, things are much more complex. First, there are several expressions available to render English *I* and *you*, respectively. Each one has a different social meaning, i.e. indicates different social relations. Second, in very many cases the use of pronoun-like expressions for self-reference and address is altogether inadequate in Japanese. For example, in a dialogue between mother and son, the son would normally address his mother with 'Mrs Mother' (*okâsan*), not with any variant of 'you'. Referring to himself he would either use a variant of 'I' or his own name(!), but not 'Mr Son'. His mother would refer to herself preferably as 'Mrs Mother' and address her son with a variant of 'you' or his name. For example, little Taro could ask his mother something of the form (4a) and his mother could answer (4b):

- (4)a. 'Will Mrs Mother buy Taro an ice-cream?'
 b. 'Mrs Mother will buy Taro an ice-cream.'

have, this entity B-S is said to 'belong' to E. The verb *have* can be used for a wide range of abstract relations, not only for possession. Somebody 'has' a peculiar name, a word 'has' an unknown origin or the bath water 'has' a certain temperature. What is expressed by *have* in (6a) is that the headache is in some way associated with E. Note that the relation would be much more specific if one said *I feel a headache* instead. The English construction is paralleled in German, with the slight difference that the sensations are in the plural, but there is also the synonymous *ich habe Kopfweh* (singular). The standard French phrase is also similar:

- (6)b. German 1: *ich habe Kopfschmerzen*
lit. 'I have headaches'
c. French: *j'ai mal à la tête*
lit. 'I've bad at the head'

French has a possessive construction with three argument terms, E in the subject position, S in the object position and B in a locative PP.

There is an alternative German construction that is similar to the standard Russian way of expressing the situation:

- (6)d. German 2: *mir tut der Kopf weh*
lit. '[to] me aches the head'⁴
e. Russian: *u menya bolit golova*
lit. 'at me aches head'

The main predicate, i.e. the verb, directly expresses the sensation itself, not some abstract association of E with S (the German verb *wehtun* 'ache/hurt' splits in two parts in this sentence type). The subject specifies the aching part B, while the experiencer term is put into an indirect object or PP position. Thus the head is what the statement focuses on, not the experiencer. A similar variant is used in Hungarian:

- (6)f. Hungarian: *fáj a fej-em*
aches the head-POSS1SG, SG⁵
lit. 'aches the head-of-mine'

Here the verb is used as a one-place predicate with B as its only argument. B, in turn, is specified with the possessive suffix as the B of E. B and E are tied into one.

The usual Japanese equivalent of the sentences in (6a-f) is (7a):

- (7)a. Japanese⁶ *atama ga ita-i*
head NOM feel aching-PRESENT TENSE
lit. 'head feels aching'

Itai is a so-called verbal adjective (VA). Verbal adjectives carry a tense ending and can form the VP in predicative use. They function like a copula plus predicative adjective in English. Interestingly, the VA *itai* has only one argument, B, specified by the subject of the sentence. But what about the experiencer E? How do I know from a sentence like (7a) whose head it is that aches? The really interesting thing about Japanese is that one *does* know from the sentence, and this is a point where Japanese differs radically from English, German, French, Russian, Hungarian and many other languages.

The answer is simple: the experiencer in the case of (7a) is the speaker. There are only two exceptions. (i) The sentence could, with appropriate intonation, also be used as a question; it would then mean ›Do you have a headache?‹. (ii) In a literary text with a central protagonist, whose eyes and mind the narration is told through, it could relate to that person. The crucial point is that *itai* means a subjective sensation, not an objective phenomenon. Subjective sensations, like the feeling of pain, itch, appetite, grief or longing, only exist for the experiencer. (7a) says something like ‘the head feels aching’. E is the only one who can state this or answer the corresponding question. A specification of E can be explicitly added to the sentence, as in (7b, c), but it has to be semantically redundant. (7d) is unacceptable, except for the special literary reading mentioned. (TOP is the Japanese topic marker, which is hard to translate. It means something like ‘as for . . .’, but is less heavy.)

- (7)b. *Watashi wa atama ga itai.* ‘As for me, head feels aching’
 I TOP . . .
- c. *Anata wa atama ga itai?* ‘As for you, head feels aching?’
 you TOP . . .
- d. *Mary wa atama ga itai.* ‘As for Mary, head feels aching.’⁷

Sentence (7a) is syntactically complete. Words such as *itai* have an implicit argument for the direct experiencer. Thus Japanese represents the third logical possibility of tying together two of the three ingredients, this time S and E. It is worth noting that, wherever two ingredients are tied together, the combination is asymmetric in that it denotes primarily one of the two. In the B-S combination *headache/Kopfschmerzen* the component S is dominant (technically: the ‘head’ of the compound, 5.1.2), because a headache is an ache in the head rather than a head full of ache. The dominant element in the Hungarian B-E combination is the noun for B, in the Japanese S-E component the sensation S dominates, since the expression *itai* denotes a sensation.

The five patterns are compared in Figure 8.1. A rectangle indicates the central predicate expressed by the verb, circles represent its arguments; the subject is shaded. Where two ingredients are tied together, the dominating one is indicated by larger type.

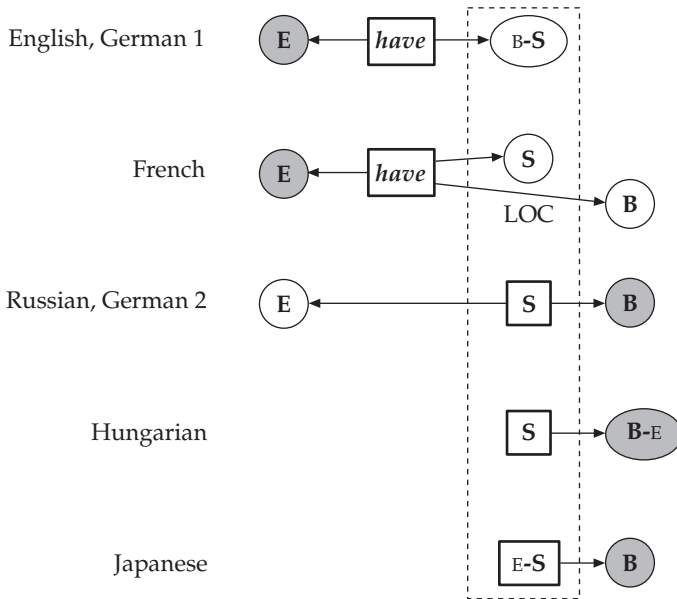


Figure 8.1 Headache constructions

These are not all the types that are logically possible. For example, our sample contains no constructions with B or E in predicate position. These, however, are unlikely. Given the typical function of verbs as denoting events and states of a temporary nature as opposed to nouns that tend to denote the more permanent objects of experience, we will expect that neither E nor B will figure as the verb of the construction. But there remain further plausible possibilities. Instead of a verb of the type *have* there might be constructions using *be* ('a pain is in my head') that put the sensation into the subject position. Also there may be languages where the pain is expressed by a two-place predicate with E in subject position ('I ache-feel my head'). And certainly there are languages that tie all three ingredients together into one complex predication of type S-B-E.

As we have seen, the Japanese construction does not provide a syntactic position for the specification of the experiencer. How, then, is it possible to express that someone else has a headache? In the other languages considered, we can simply replace the experiencer 'I' by an appropriate NP and change the verb form if necessary. The resulting expressions are perfectly analogous to the first person variants (with the exception that the Hungarian construction needs an additional dative position for the possessor NP if it is not pronominal; the result is a construction very similar to German 2):

- (8)a. English: *John has a headache.*
 b. German 2: *John tut der Kopf weh.*
 John-DAT aches the head
 c. Hungarian: *John-nak fáj a fej-e.*
 John-DAT aches the head-POSS3SG,SG

Strictly speaking, Japanese has no way of saying this. But of course it has means of talking about third persons' headaches. The ways in which it can be done are interesting because they reflect a point that usually goes unnoticed to native speakers of languages such as English, Russian or Hungarian. Since all persons have their own body and their own sensations, we can never really *know* that someone else has a headache, not in the sense of knowing which experiencers themselves know. Knowledge about someone else's sensations is necessarily second-hand, and this is the way statements about such situations *must* be put in Japanese. (9) shows the three most common possibilities:

- (9)a. *John wa atama ga itai-sô da.* 'John says he has a headache'
 b. *John wa atama ga ita-sô da.* 'John seems to have a headache'
 c. *John wa atama ga ita-gat-te iru.* 'John is displaying symptoms of having a headache'

In each case, the NP *John* is added to the basic construction as a topic and/or subject marked with the topic particle *wa*. In (9a) the nominal suffix *-sô* plus the copula verb *da* is added to the full form of the adjective *itai*, including the tense ending *-i*, to render the sense of John saying he has a headache. In (9b) the nominal suffix *-sô* plus copula is added to the bare stem *ita-* of the adjective, meaning something like the English *seem to* construction. The third pattern puts the experiencer into a more active role of displaying symptoms of, or behaving like, having a headache. The construction involves a verbal suffix *-garu* that turns a verbal adjective into a verb. It is here used in its progressive present tense form *-gatte iru*.

The grammar of Japanese strictly distinguishes between statements that we are entitled to make on the basis of first-hand knowledge and statements for which we rely on second-hand evidence. The so-called **evidential** constructions in (9) are widely used. There are about 70 adjectives for emotions, feelings, sensations and mental states that are used in the same way as *itai*, e.g. for feeling happy (*ureshii*), sad (*kanashii*), lonesome (*sabishii*), cold (*samui*) or hot (*atsui*), for liking (*suki*) and hating (*iya, kirai*), for being afraid (*kowai*), finding something cute (*kawaii*) or delicious (*oishii*).⁸ One can only say of something that it is *oishii* if one has actually tasted it. Something that appears delicious would be said to be *oishi-sô* (cf. (9b)). This type of adjectives includes the volitional forms of verbs that are formed with the suffix *-tai* that turns verbs into verbal adjectives rendering the meaning

›want to V‹. One can say ‘I want to go’ (*iki-tai*, from *iku* ›go‹), but not with the same construction ‘John wants to go’ (**John wa iki-tai*). Again, one would have to use an evidential construction meaning ›John seems to want to go‹ (*John wa iki-ta-sô da*, etc.)

The comparison of the way in which bodily sensations, feelings and wishes are expressed offers an insight into the nature of knowledge. Languages such as Japanese force upon the language user the distinction between first-hand and second-hand evidence. This insight could not be obtained from the analysis of languages such as English that treat feelings of oneself and the feelings of other persons alike and in the same way as any kind of objective observations, e.g. *John has red hair*.

8.3 Relativism and universalism

How different are languages? The possible positions regarding this question range between two extremes. One is called **universalism**. According to the universalist position, all languages obey the same principles. The structure of every language is some variant of universal grammar, and universal grammar is part of the human genetic equipment. Likewise, the cognitive system is genetically determined. For biological reasons, all human beings perceive themselves and their environments essentially in the same way, they form the same kinds of concepts and organize them into the same kind of complex model of the world. Consequently, languages can only differ within a limited range of variation. There do exist considerable differences between languages. The environment in which a linguistic society lives and the culture it has developed will be reflected in the language. For example, each language community will have a particularly elaborate vocabulary in those areas of life that are of central importance. But ultimately, the universalist would argue, all languages make use of the same mental resources. They differ only in the way in which these resources are used.

The opposite position is known as linguistic **relativism**. To an extreme relativist, each language is radically different. Due to its unique grammar and its uniquely structured lexicon, it represents a unique way of talking about the world and corresponds to a particular way of thinking. Each language represents, and causes, a world view of its own. The relativist position is connected with the names of two American linguists who worked on indigenous North American languages in the first half of the twentieth century, Edward Sapir (1884–1939) and Benjamin Whorf (1897–1941). The following passage from Whorf is often quoted as a formulation of the so-called **Sapir-Whorf hypothesis** (Whorf, 1956: 212–14, the original date of publication is 1940):

Formulation of ideas is not an independent process, strictly rational in the old sense, but is part of a particular grammar, and differs, from slightly to greatly, between different grammars. We dissect nature along lines laid down by our native languages. The categories and types that we isolate from the world of phenomena we do not find there because they stare every observer in the face; on the contrary, the world is presented in a kaleidoscopic flux of impressions which has to be organized by our minds – and this means largely by the linguistic systems in our minds. 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 the agreement decrees.

Applied to the Japanese evidentials, this view would mean that the members of the Japanese speech community implicitly agree that second-hand evidence of emotions and perceptions is to be distinguished from first-hand knowledge. This claim is plausible, and there are many other phenomena where linguistic structures can be linked to the culture of a speech community. Take, for example, the Japanese terms for siblings which, in usual colloquial Japanese, force the language user to distinguish between younger and elder siblings. This trait of Japanese is not accidental. Japanese society is extremely hierarchical. No two persons that are in some social relation to each other are of the same rank. For example, those who are older rank higher than those who are younger and men rank higher than women. The ranking rules are deeply rooted in social behaviour *and* in language use and structure. For example, while siblings in Western societies address each other mutually by their first names, the mode of address between Japanese siblings of different ages is asymmetric. Elder siblings are addressed by their title, as it were, namely the polite versions of *ane* and *ani* (*onê-san* and *onî-san*, respectively, the latter literally meaning ›Mr elder brother‹), but younger siblings are just called by their names.

The domain of sexuality provides another case of correspondence between culture and language. Due to a long history of sexual taboo enforced by the Christian Church, European languages exhibit remarkable lexical peculiarities. The taboo is reflected in the massive use of circumscriptioins, i.e. indirect ways of expression. The words for ›bra‹ mentioned in 4.6.1 may illustrate the point. The French expression *soutien-gorge*, literally meaning ›throat support‹, avoids mentioning what is really 'supported' by referring instead to a neighbouring part of the body that is not taboo. The English term *bra* is even more indirect. It is an abbreviation of *brassiere* (a French loan word deriving from *bras* ›arm‹) and originally

means a short vest or top. The Spanish term *sujetador* (lit. ›subjugator‹) reflects the sexual taboo in not mentioning the object of subjugation and in a negative attitude towards it as something to be subjugated. By contrast, the Tok Pisin notion ›prison of the breasts‹ (*kalabus bilong susu*) mentions the breasts directly and reflects the loss of freedom that came with this particular item of Western culture and the foreign taboo that made it necessary.

Such phenomena, however, do not directly support the strong relativist position. Is it really language that forces Japanese into their hierarchical social thinking, or Westerners into observing sexual taboos? Rather, it appears, that language *reflects* social structure and cultural standards. It is true that it is not possible to talk directly about sexuality if the language does not provide the appropriate words. But the so-called sexual revolution in Western culture in the last decades has shown that speech communities rapidly develop socially acceptable expressions when the taboo loses force.

It must also be observed that particular grammatical traits of a language need not influence the world view of its users. For example, many European languages have grammatical gender. In French and Spanish each noun is either masculine or feminine, in German and Russian nouns are either masculine, feminine, or neuter. Gender determines, among other things, the form of the definite article (*le/la* in French, *der/die/das* in German). It would, however, be absurd to conclude that the gender classification imposes any kind of different world views upon the user. The fact that the German nouns for ›government‹, ›street‹ and ›banana‹ (*Regierung, Straße, Banane*) are of feminine gender does not make speakers think of these things as having anything in common, in particular not female sex.

Although these observations point towards a differentiated position somewhere between universalism and relativism, the central questions remain. How different are languages? How deep are these differences? What do the observable differences indicate? Do they correspond to different ways of thinking? The questions are far from being settled. We will now turn to one field where extensive comparative research has been done: the field of colour term systems.

8.4 Berlin and Kay's investigation of colour terms

The spectrum of colours, the same for all human beings with normal vision, forms a continuum with no natural boundaries between the colours: red shades into orange, pink, purple, brown; orange into yellow and red, and so on. Thus it is to be expected that languages cut the colours up in different ways, into a different number of colour terms that denote different parts of the colour space. In fact it was held that languages lexicalize colours arbitrarily.⁹ It was the investigation reported in Berlin and Kay (1969) which changed the scene dramatically.

The study covered approximately 100 languages from all over the world.

For 20 languages native speakers were interviewed. For the rest, Berlin and Kay drew on previous studies, grammars and dictionaries. They investigated how many colour terms these languages possess and to which range of colours each term refers. Such an investigation is only possible if it is restricted to what Berlin and Kay called **basic colour terms** (BCT, for short). English, for example, has hundreds of lexicalized colour terms (think of the vocabulary for the colours of lipsticks, eye-shadows, fashion accessories, cars, etc.). Only a few of them are basic. The main criterion for a basic colour term is:

BCTs are not subordinates of other colour terms.

This excludes terms like *olive* (a shade of green), *crimson* (red) or *chocolate* (brown). In addition, Berlin and Kay used the following criteria: BCTs are simple words, not compounds or derivations (like *greenish*, *dark green*, *mint-green*, *blue-green*); BCTs are not restricted to a narrow class of objects (cf. *blond* for hair); BCTs (not the colours they denote) are 'psychologically salient', i.e. they '[tend] to occur at the beginning of elicited lists of color terms', are stable across informants and across occasions and used by all informants.¹⁰ Berlin and Kay also ruled out recent loan words (such as *aubergine*) and colour terms that are derived from the name of an object characteristically having that colour, such as *gold*, *silver*, *olive*, etc. *Orange* originally belonged to this class, but it qualifies as a genuine BCT since it fulfils the main criterion of being a term on a par with *red* and *yellow* rather than a subordinate of either.

Berlin and Kay let their subjects perform two tests. First, they elicited the set of BCTs. Then the informants were shown a chart of 329 colour chips (from the Munsell Color Company), 9 for black and white and different shades of grey, and 320 others, arranged in a field of 8 by 40 chips, that horizontally range from red via orange, yellow, green, blue, purple to red and vertically from near-white to near-black (see Figure 8.2, the original colour chart is depicted in Berlin and Kay, 1969 and in Palmer, 1996). They asked the subjects for each BCT (i) to point out the focal colour chip, i.e. the chip that was considered the best example for this BCT; and (ii) to indicate the outer boundary of the range of colours denoted by the BCT.

It turned out that informants of the same language narrowly agreed on the focal colours, but indicated the boundaries differently. The main result, however, was this: the languages vary in the number of BCTs from two to eleven.¹¹ But there are only eleven focal colours for the BCTs in all the different languages. These are focal (i.e. pure) white, grey, black, red, orange, yellow, green, blue, purple, pink and brown (indicated by the dots in Figure 8.2). These are the foci of the English BCTs *white*, *grey*, *black*, *red*, *orange*, etc. and of the corresponding words in all other languages with eleven BCTs. If a language has fewer BCTs, their foci are nonetheless among these eleven focal colours.

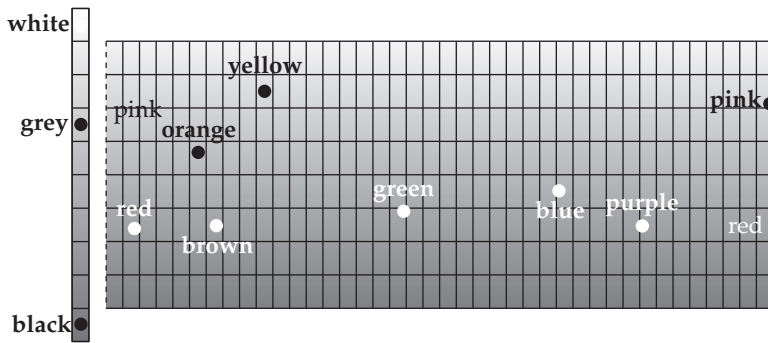


Figure 8.2 Munsell colour chart used by Berlin and Kay

For the BCTs in languages with less than the maximum number of terms, the range of colours a BCT denotes is wider, the smaller the number of BCTs. For example, in a language with five BCTs, focusing on focal black, white, red, yellow and blue or green, the red-term also applies to the greater part of orange and pink as well as to reddish purple and brown because there are no BCTs for orange, pink, purple and brown. If a language has no separate terms for blue and green, then one term covers both. In order to keep the different denotations of BCTs with identical focus apart, BCTs are denoted in the form BLACK/3, GREEN/5 etc. For example, BLACK/3 is a BCT in a three-BCT system with focus black. The findings of Berlin and Kay can then be represented as in Table 8.1. They distinguish seven stages of BCT

Stage	BCTs									
I	BLK/2	WHI/2								
II	BLK/3	WHI/3	RED/3							
IIIa	BLK/4	WHI/4	RED/4	YEL/4						
IIIb	BLK/4	WHI/4	RED/4		GRN/4					
IV	BLK/5	WHI/5	RED/5	YEL/5	GRN/5					
V	BLK/6	WHI/6	RED/6	YEL/6	GRN/6	BLU/6				
VI	BLK/7	WHI/7	RED/7	YEL/7	GRN/7	BLU/7	BRN/7			
VII	BLK/8	WHI/8	RED/8	YEL/8	GRN/8	BLU/8	BRN/8	GREY/8 or ORANGE/8 or PINK/8 or PURPLE/8		
Focus	black	white	red	yellow	green	blue	brown	grey etc.		

Table 8.1 The seven stages of colour term systems in Berlin and Kay (1969)

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systems, depending on the number of BCTs. Languages with eight to eleven BCTs are all assigned to stage VII.

The findings show that the existing BCT systems are far from arbitrary. With the minor exception of stage III, languages with the same number of BCTs have BCTs for essentially the same colour categories. All stage-II languages have BCTs with the foci white, black and red. There are no white–black–green or yellow–red–blue languages. Furthermore, each system of a higher stage includes the system of all lower stages: if a language at a certain stage has a BCT with focus *x*, all languages of higher stages also have a BCT with that focus. Conversely, the presence of the BCTs of later stages implies the presence of all BCTs of earlier stages. For example, each language with a term for blue has BCTs for black, white, red, yellow and green.

From the distribution of BCT systems, Berlin and Kay drew the conclusion that the possible systems form evolutionary stages. The two BCTs of stage-I systems, *WHITE/2* and *BLACK/2*, are terms for light/warm colours (white, yellow, red) and dark/cool colours (black, blue, green), respectively. In the transition to stage II, *WHITE/2* splits into *WHITE/3* for light colours (white) and *RED/3* for warm colours (red, yellow), while *BLACK/3* continues to denote dark/cool colours. When we proceed to stage III, in one variant yellow splits from *RED/3* to form a category of its own, resulting in a system with *WHITE/4* for light (white), *RED/4* for red, *YELLOW/4* for yellow and *BLACK/4* still covering all dark/cool colours. Alternatively, green and blue together split from *BLACK/3*, forming a new colour category often called ‘grue’ that focuses on either focal green or focal blue (but never on turquoise). In the resulting system, yellow is still mostly denoted by *RED/4*. In the transitions to later stages up to V, the denotations of multicolour BCTs split further, e.g. grue into blue and green. The higher BCTs with foci on brown, grey, orange, pink and purple are not the result of splittings but of establishing terms for hues that lie between the foci of the six terms of stage V.

The findings of Berlin and Kay triggered a great number of follow-up studies. As a result, their findings were slightly revised. The larger categories of the early stages may have more than one focus, e.g. white, yellow, and red for *WHITE/2* or green and blue for *GREEN/4*. It turned out that there are certain types that do not fit into the sequential chain, e.g. languages of stage III with a BCT for grue but yellow still going with white, while in stage-II systems yellow is already separated from white. Also the order of appearance of the ‘higher’ colours is less strict, and some languages have twelve BCTs.¹² But these are minor modifications. The main results were confirmed:

- The denotations of BCTs are best described in terms of focal colours.
- There is a limited universal set of eleven (or twelve) focal colours. The best representatives of BCTs are invariably among these focal colours.

- The possible types of systems form a sequence – starting with a contrast between WHITE/WARM and BLACK/COOL – in which the higher systems are extensions of the lower systems.

8.5 Consequences

What follows from the findings on colour terms for the structuralist view of language? The results certainly prove that the arbitrariness of lexicalization can be constrained. Still, languages differ largely in their colour terminology. Also, another doctrine of structuralism has been confirmed: the denotations of terms within the same field are interdependent and define each other: the range of a BCT with a given focus depends on how many other BCTs compete with it.

And what do the findings mean for the debate between relativism and universalism? Originally, the results were considered evidence against the Sapir-Whorf hypothesis. But are they really? It was claimed (Kay and McDaniel, 1978) that the universal constraints on the colour vocabularies are directly rooted in the nature of human colour perception. Even if this is right, this cannot be generalized to most other semantic domains. Most of the things languages have words for are not like colours. For example, we can see animals, but we do not have specialized dog cells and cat cells. Animal concepts, e.g. the meaning of the English word *pig*, are not based on sense data alone such as the visual appearance – although visual shape is probably part of the concept. In addition, animal concepts are based on cultural aspects. For example, the English ›pig‹ concept will reflect that pigs are domesticated and eaten (witness the meaning relation between the words *pig* and *pork*). Thus, languages will associate culturally determined concepts with animal terms even if the terms refer to the same biological species. For other semantic domains, the findings on colour terms and colour perception have no significance at all. Many expressions do not refer to anything objective that can be perceived with our senses. Consider a word like *mistake*. The notion ›mistake‹ appears quite natural and basic to us. But it presupposes complex cultural systems of rules that determine what is right and what is wrong and in which regard.

Relativism is certainly right in emphasizing the differences between languages. They do exist, they are the rule rather than the exception, they are deep – and they are fascinating. A relativist attitude is absolutely necessary for all who seriously try to understand other languages. It provides the only chance to escape the natural tendency of applying one's old views and categories to new things. Only when we expect other languages to be different from our native language, will we be able to recognize and understand the differences. Thus, relativism is the better working hypothesis. Once we are aware of the differences between languages, we may set out to satisfy the universalist by trying to determine

the common denominator that makes a comparison possible. After all, it must exist, because otherwise we would not have been able to grasp the differences with our one and only mind.

Checklist

translation	basic colour terms (BCTs)
terms of address	Berlin and Kay
relativism vs. universalism	colour terms
Sapir-Whorf hypothesis	focal colour
world view	stages of BCT systems
evidentials	

Exercises

- When words are imported from other languages, their meaning is often changed more or less. For example, the German word *Arbeit* (>work<) was borrowed into Japanese, where it was shortened to *baito*. Japanese *baito* has a narrower meaning, denoting part-time students' jobs such as giving private lessons.
 - Try to find three words in your native language that are borrowed from other languages. Consult dictionaries to determine their meanings in both languages.
 - Try to find an explanation why the meanings of loanwords so often differ from their origins – despite the fact that they are apparently borrowed for their meaning.
- Try to determine the meaning relations that hold between the following pairs of words. First look up the translation of the English term in a bilingual dictionary, then cross-check with a reverse dictionary:
 - English *man* vs German *Mann*
 - English *blue* vs German *blau*
- Another area that is subject to cultural taboos is death. Try to find a couple of English expressions that illustrate the influence the taboo exerts on language.
- Ask three people to spontaneously list 20 or more colour terms in the order in which they come to their minds. Compare the results. Are the eleven BCTs among the words listed? Do they appear towards the beginning of the list? Which are the first five items?
- Given that a BLACK/3 BCT covers not only black but also blue, green and other colours, why is it considered a case of BLACK/3 rather than, say, BLUE/3?
- What are the essentials of the relativist and the universalist positions? Which position do you think is realistic? What is your own position in view of your own personal experience with foreign languages?

Further reading

Suzuki (1978, Chapter 5) for Japanese terms of address and self-reference, Kuroda (1973) for Japanese evidentials, Palmer (2001, Chapter 2.2) on evidentials in general. Whorf (1940) for a basic outline of the relativist position. Salzmann (1993, Chapter 8) for a discussion of the Sapir-Whorf Hypothesis and the relation between language and culture. Palmer (1996, Chapter 6) on language and world view. Berlin and Kay (1969) for the original report of their investigations of colour term systems; Kay and McDaniell (1978) for an explanation of the universals in terms of colour perception; Wierzbicka (1996) for an alternative account in the framework of NSM. Foley (1997, Chapter 7) for an up-to-date discussion of the research in colour terminology, Chapter 6 on kinship term systems in the context of the relativism vs. universalism debate. Lee (1996) offers a careful reconstruction of Whorf's original theory and its fate in the relativist–universalist debate. See also Lucy (1992) for a comprehensive discussion of the relationship between language(s) and thought including a critical evaluation of the colour term experiments.

Notes

- 1 It should, however, be noted that it is not justified to assume that a word in one language is polysemous *whenever* there is another language that has two or more expressions covering the same denotation. For example, one would not assume that the English word *brother* is ambiguous between >elder brother< and >younger brother< just because there are languages with two separate terms (cf. Table 7.1). Polysemy must be linguistically relevant within one language, and there is no evidence in English for the word *brother* behaving differently if it is used to refer to a younger brother than referring to an elder brother. In the case of English *wood* and Japanese *ki* the assumption of polysemy is linguistically justified.
- 2 Curiously, the title of the Beatles song *Norwegian wood* (on the LP *Rubber Soul*) was translated into Japanese as *Norway no mori* (>forest<), although in the song and its title *wood* is clearly meant in the sense of *wood*₂ (= *ki*₁).
- 3 This is the most common construction. Alternatively, headaches can also be expressed by the variants *my head is aching*, or *my head is hurting me*, which are similar to the Hungarian construction (6f) and German 2 (6d), respectively.
- 4 The two German constructions are not completely equivalent, the latter being more generally applicable to any kind of pain felt in or at the head, but that does not matter for the present discussion.
- 5 *-em/-am* is a noun suffix that indicates possession to the speaker and singular number of the noun.
- 6 In order to keep the grammatical structures of the sentences as transparent as possible, Japanese examples are given in the so-called plain style lacking all formality markers (cf. 2.3.2).

- ⁷ The sentence may, perhaps, be read as meaning something like ›when I think of Mary, I'm getting a headache‹, but it cannot mean ›Mary has a headache‹.
- ⁸ See Martin (1975, p. 361) for a survey.
- ⁹ See Berlin and Kay (1969, n.1, p. 159f) for quotations of this position.
- ¹⁰ See Berlin and Kay (1969, p. 6) for the details.
- ¹¹ The maximum number was later corrected to 12 (see below).
- ¹² For example, Russian has two BCTs for lighter and darker blue, Hungarian has two for red.