# Language as a Sign System: Redefining the Linguistic Sign

*Eric Papazian*

## ABSTRACT

The article discusses the linguistic sign and proposes a redefinition of the sign concept in both structuralism and cognitive linguistics. It is based on a usage-based view of language and is general, including all communication systems, also written and gestural languages as well as minor systems like the traffic lights. Content, expression and signs as wholes are discussed separately and the linguistic sign is compared to "semiotic" signs. The central claims are: 1) Reference is primarily mental and linguistic, and the basis of meaning. 2) A mentalistic definition of signs is incompatible with a usage-based view. The expression is physical, in language as in usage. 3) Neither arbitrariness nor linearity and duality are necessary qualities of signs in general. Signs may be motivated, simultaneous and lack duality. 4) Spoken, written and gestural languages are sign systems of their own, not manifestations of an abstract language with no particular expression. 5) Only minimal signs (morphemes) consist of expression and content. Complex signs consist of (smaller) signs. 6) The linguistic sign is a category of its own, not a subtype of "semiotic" signs. Only the linguistic sign expresses ideas and is relevant for communication.

*Keywords:* sign, content, expression, arbitrariness, linearity, duality, semiotics, icon, index, symbol.

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## I. INTRODUCTION

### 1.1 A Unilateral or a Bilateral Sign?

The subject here is the *linguistic* sign as introduced by Saussure: a *bilateral* unit consisting of an *expression* and a *content.* However, there are also other concepts called «sign», such as the senses of the word in everyday speech, e.g. in expressions like *a sign of weakness or disease.* Here *sign* denotes a *non-linguistic* phenomenon (e.g. stumbling) which is an *index* of or *indicates* something else (such as weakness or disease). *This* sign is *unilateral* and corresponds to the *expression* in the bilateral sign.

A wide, unilateral sign concept which comprises such indices as well as icons (representations of something) and symbols like the cross or the flag is also used in *semiotics* (semiology), e.g. by the American philosopher Peirce (see e.g. Deledalle 1978, 121 or Johansen 1993, part II) and in the book *The Meaning of Meaning* by Ogden & Richards from 1923 (here cited from the 8th edition, Ogden et al. 1946). For "…those signs which men use to communicate one with another and as instruments of thought" (Ogden et al. 1946, 23), i.e. *linguistic* signs, the word *symbol* is used, by both Peirce and Ogden et al. But symbols – also called *words*, the prototype of a linguistic sign – do not *include* meaning, as we can see from the well-known triangle in Ogden et al. (1946, 11) of the three factors *symbol*, *thought/reference* and *referent.* Thus it does not correspond to Saussure's linguistic sign. Also Saussure suggests such a broader sign concept in the subsection about semiology (1967, 32 f) without defining it, with examples like rituals, dress fashions and writing, and regards the linguistic sign as a subtype of «semiological» signs.

My own view is that it's misleading to equate dress fashions and writing (as in this article). Writing consists of linguistic signs, e.g. words and sentences with a precise meaning, and a unilateral sign cannot explain communication. How can we understand *words* if they are nothing more than expressions, e.g. sounds or letters? We must also know their *meaning*, which presupposes that they have a meaning, described in *dictionaries.* Sørensen (1963, 13) thinks that «in practice the

two views are completely identical», because also the unilateral sign accepts that the sign must be «meaning-bearing». But they are not. The «meaning» of a unilateral sign can be *anything*, including physical objects, whereas the expression of the bilateral sign is connected to *ideas* – meaning proper – making certain ideas *part of language*, not something external. Therefore, bilateral signs are used for *communication*, exchange of ideas, while the unilateral signs normally are not. To communicate precisely, we need ideas, not objects.

According to Ogden et al. (1946, 9–10), words have meaning only in *usage*: "Words, as every one now knows, 'mean' nothing by themselves […]. It is only when a thinker makes use of them that they stand for anything or, in a sense, have 'meaning'." Words are just *instruments*. Croft (2000, 111) makes the same point: «…linguistic expressions do not contain meanings. Meaning is something that occurs in the interlocutors' heads at the point of language use (speaker's meaning)…». This could be called «usage fundamentalism»: One sees only the *use* of language, where words are just *expressions* produced by the sender (like the letters on this page). Still, the receivers *understand* them if they *know* the words from before. Not only must words have a meaning; the meaning must be *known* by both parties in communication. Using an instrument presupposes that the instrument *exists*, independently of use. The point of a word or a language is to exist, ready for use when needed, words with meanings, and in usage we choose words with the meaning that we want to express. If we want to talk about cats in English, we have to use the word *cat*. People usually agree about what expressions mean – which is why they usually understand each other – and even when they disagree, they agree that they mean *something*. «Meanings are what makes sounds or sound sequences *linguistic…*» (Sørensen 1963, 15).

According to Croft (2000, 111) «…thoughts or feelings cannot 'go' anywhere outside the minds of humans», e.g. into words, so words cannot *contain* meanings. Well, words cannot contain meanings in any *literal* sense, because ideas are not a substance one can contain. But certain ideas can be *connected* to certain expressions by *convention* or *custom* (see Lewis 1974 or Croft 2000, 95 f), a usually tacit *agreement* in practice in a group of people that communicate regularly – a *speech community* – that such expression has such meaning, e.g. that the letter sequence CAT in English-speaking communities is connected to the idea of cats. Where does meaning *come from* when a sign is used? The answer must be that it comes from the *expression* plus knowledge of what the expression means in the actual language. In *this* text meaning comes from *written characters* – primarily letters – and the conventions of English writing that connect them to certain meanings and hopefully are known by the readers.

So expressions do have meanings by themselves, and we have to do with a *complex* unit. As every dictionary takes for granted, words have constant conventional meanings – usually several – and they are used rightly when they are used with these meanings. Croft (2000, 105) himself mentions «signal meaning», the meaning that is *generally and conventionally* connected to the expression, independently of individual speakers, which is *part* of the word, described in dictionaries. Otherwise linguistic communication would be inexplicable. So let's turn to the bilateral or linguistic sign.

## 1.2 Historical Background

The bilateral sign has roots in antiquity, especially the stoics, and was also known in Middle Ages linguistics (see Jakobson 1971, 345; Malmberg 1973, 42: Eco 1984, 29 f; Gullichsen 1990, 65 f). The greek terms *semeion, semainon* og *semainómenon* were translated into latin as *signum, signans* and *signatum* or *significatum*, which Saussure translated into French as *signe, signifiant* and *signifié*, i.e. sign, expression and content (meaning). Another embarrassing ambiguity of *sign* is that it is used not only of both non-linguistic (unilateral) and linguistic (bilateral) signs, but also more specifically of the signs of «sign languages», i.e. a specific *kind* of linguistic signs. Compare the title of Stokoe & Marschark (1999): «Signs, gestures and signs».

This is obviously not a good terminology. *All* types of language consist of signs. Therefore I call such signs «gestures» or «gestural signs» and the languages «gestural languages», and reserve *sign* for the general concept.[1]

According to Koerner (1972, 11) the linguistic sign is the most debated of all of Saussure's concepts. The reason must be that it provides a basis for a general definition of languages as *sign systems*, explaining both what language *is* and how it is *used* in linguistic communication, i.e. communication by bilateral signs. If so, the sign ought to be the fundamental concept in any linguistic theory. However, that is not the case: "Most post-Saussurian linguists have not adopted the sign as their theoretical and methodological unit of analysis…" (Tobin 1990, 15). This is primarily the case in *American* linguistics – neither structuralists nor generativists have used the concept. Garvin (1954, 76) calls the linguistic sign «a fundamentally different conception from that of a number of American linguists», and Martinet (1976, 66) says that Saussure's sign «…has mostly never been understood by, and is explicitly rejected by, certain Americans». An example is Chomsky (1986, 19), who describes Saussure's «langue» as «…a system of sounds and an associated system of concepts» instead of a system of signs. And he rejects the whole concept as a «platonic» conception, belonging to the world of ideas only. However, today Saussure's sign has at last been accepted also in USA, with cognitive grammar where the sign is a basic concept, under the term *symbol*, however. Langacker (1991a, 537) calls "the reduction of grammar to symbolic relationships between semantic and phonological structures" for "the central feature of cognitive grammar", and says that "Such a model directly and straightforwardly manifests the basic semiological function of language".

Also Ogden et al. (1946, 5, note 2) reject Saussure's sign because «…the process of interpretation is included by definition in the

sign» (by regarding the content as part of the sign) and because it does not consider «…the things for which signs stand», i.e. the *referent* (1946, 6). The last statement is true, and this could be considered as a serious flaw in Saussure's sign theory. Therefore, I will include a discussion of reference and its relation to content and meaning.

### 1.3 Plan of the Article

I take Saussure's and Langacker's definition of the sign/symbol as a point of departure (Section 2.1), discuss some problematic aspects and propose several revisions, treating content (2.2), expression (2.3) and signs as wholes (2.4) separately.

In the section about the content, both reference and meaning are discussed. As to the expression, one major problem is that both Saussure's and Langacker's sign concepts are *mentalistic*, supposing the expression – and the sign as a whole – to be mental. I propose a *non-mentalistic* sign that is compatible with a functionalistic, usage-based view of language. I will show that this view implies that signs and languages include *physical* entities and therefore cannot be entirely mental. Instead, they but must be *social* – *institutions* or systems of *conventions* (2.3.1), as especially Saussure has underlined. Another major problem with Saussure's definition of the expression is that it is *too narrow*, limited to *spoken* language. We have linguistic signs with expression and content in *all* communication systems, also *written* and *gestural* languages, and even in minor or delimited communication systems like the traffic lights. Therefore, I propose a *general* linguistic sign that can explain *all* communication by signs, with whatever expression (2.3.2). Arbitrariness, linearity and double articulation have been proposed as defining qualities of signs and language. They all concern the expression and are discussed under that heading (2.3.3-2.3.5). I will show that none of them are valid for *all* signs.

As to signs as wholes, I distinguish between *open* and *closed* signs systems (2.4.1) and discuss if signs with different expression, e.g. speech and

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[1] Gestures should be distinguished from *gesticulation*, which may accompany speech (and perhaps also gestures). Gesticulation has neither a definite expression nor a definite content and does not constitute signs, but is something speakers may do for expressivity, especially in some cultures.

writing, can be seen as different realisations of the *same* sign system with no *specific* expression (2.4.2), if signs exist *between* expression and content (2.4.3), and *complex* signs, i.e. grammar (2.4.4). Finally, I take up the relation between *linguistic* and *semiotic* signs (2.4.5)**.**

## II.    THE LINGUISTIC SIGN

### 2.1 Saussure and Langacker

Saussure (1967, 97 f) defines a sign («signe») as a connection of an *expression* («signifiant») and a *content* («signifié»), namely a *sound image* (*image acoustique*) and a *concept* (also called *sens* and *idée*). Both are *mental* and «connected in our brain through association» (my translation, here and in other citations in other languages than English). The sign is the basic unit of language, and language is a *sign system* (1967, 33). Compare Saussure (2002, 20): «A language exists if an idea is attached to *m + e + r*» (meaning the sounds). And for one who knows French an idea *is* attached to the sound or letter sequence *mer*, namely 'ocean' (in speech also 'mother' and 'mayor'). As Hjelmslev (1973, 126) points out: "For purely logical reasons it seems obvious that any conceivable language involves two things: an expression and something expressed. […] These two things taken together are fundamental to all languages". So we have three entities: the *sign*, usually marked by italics for written signs, e.g. the word and morpheme *cat* in English writing, the *expression*, here marked by capitals for writing (CAT) and the *content*, marked by single quotes ('cat').

Making meaning part of the sign makes certain meanings or ideas *part of language*: As Saussure (1967, 97) points out, languages comprise *concepts*, and learning a language includes learning the concepts of the language. Some languages include ideas like the devil and werewolves, others do not. That's why also the concepts of languages may differ and exact translation becomes difficult. But Saussure underlines (1967, 32, 98, 99) that also the *expression* is mental: The sound image is not the sound itself, but «the mental imprint of it» (p.

98).[2] Consequently, Saussure's sign is *mentalistic*: Expression and content are connected through *association*, not by *convention*, and the sign is mental as a whole (in other contexts, Saussure underlines conventions). Secondly it exists only in *spoken* language, which Saussure (1967, 45) like many other structuralists considers as the only form of language: The expression is images of *sounds*.

Also for Langacker the expression is mental and phonic, i.e. sound images. Signs (usually called *symbols*) are said (1987, 11) to consist of a semantic and a phonological «representation". And Langacker states (1987, 78–79) that "…sounds (at least for many linguistic purposes) are really concepts", so that "phonological space should […] be regarded as a subregion of semantic space". But in Langacker (2013, 15) the «phonological representation» is said to include *gestures* and *written characters*. Langacker's sign is therefore broader than Saussure's, and includes also written and gestural signs.

Why do we have signs? Neither Saussure nor Langacker says explicitly what signs are *for* or what is the *function* of a sign (system). Maybe because the answer is obvious: to *express* ideas to others, i.e. *communicate* one's thoughts. Signs and languages are *instruments* or *means*, something one may *use* for a certain *purpose*, which must be what we normally use them for, namely communication.[3] As thoughts cannot be communicated directly because they are unobservable, they must be connected to something that *is* observable, e.g written characters (as in this text). That's why signs must have both a content and an expression. And when we know the sign, i.e. which content is connected to which expression, e.g. what CAT means in English, we can use this knowledge to use the sign

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[2] But he often forgets himself and describes (e.g. 1967, 110, 111) the expression simply as *sounds* (*sons, matière phonique*).

[3] This does not preclude *secondary* uses. When we speak to ourselves or swear, we don't communicate, but concentrate or give vent to feelings. We can also *think* in language, e.g. in «imaginary conversations», and also have to think linguistically when we *plan utterances*. Written language is indispensable as a *memory support*, as when preparing a speech, taking notes from lectures or making shopping lists.

both as a *sender* to express our thoughts about cats by producing the expression, and as a *receiver* to understand what other people mean when they produce the expression.

## 2.2 The Content

### 2.2.1 Content, Meaning and Reference

● *Content consists of reference and meaning*

The content is described by Saussure as a *concept*, i.e. a *general* conception of a specific *type* (class) of objects, actions etc., like 'horse', 'city' or 'planet'. Langacker uses the term «semantic representation», which is broader than «concept». In most words, like *horse, city* or *planet*, the content can be said to be a concept, and this is what is usually called *meaning* and described in dictionaries. But there are words like *Sleipner* (Odin's horse), *Oslo* and *Venus*, which denote an *individual* horse, city and planet. Also such words *denote* or *refer to* something and are signs with a content, although a highly specific one – the conception of specific individuals – and also these ideas belong to the language and may lack in languages that lack these words. It is first and foremost *proper* nouns that denote individuals. But also noun phrases like *my horse* or *that horse*, which are complex signs, denote individuals and not general concepts. So the content should be described as a *conception*, a *mental representation* or simply an *idea*, whether of individuals or a class.

Since proper nouns denote individuals, they need not have, and usually don't have, any *descriptive* or *classifying* meaning (like the examples above), and usually don't figure in dictionaries (but in encyclopaedias). Nor can they be *translated* to other languages. As Teleman et al. (1999, 116) point out, typical proper names don't have any meaning.[4] Both *planet* and *Venus* can be used to refer to Venus, but *planet* in addition *describes* or *classifies* Venus as a planet, with the *qualities* that define the class (such as circling a star). So it has both a classifying *meaning* ('planet') and a

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[4] Some proper names consist of common nouns or NPs and thereby have meaning. Venus is also called *The evening star*, which describes the planet as a star, and names like *Oxford* are transparent to a speaker of English.

*reference* (Venus and 'Venus', the idea of Venus), and can be *translated* to synonymous words in other languages. *Venus* just *refers* to the planet without classifying it, and therefore is not translatable. Reference is *the only content* of such words, while most words have meaning in addition. So we must distinguish between *reference* and *meaning* as two parts of the content. Let's take a closer look at these two content factors.

### 2.2.2 Reference

● *Reference is primarily mental and linguistic, and the basis of meaning*

Most signs *refer* to something, mainly phenomena in the world, e.g. objects – the *referents*, including languages or parts of them, from sounds to sentences. So a word can refer to itself, so-called «meta-language». This is a basic function of signs, which enables us to talk of the world we live in, and the reason why reference is usually regarded as non-linguistic. Reference can be both *possible* or *potential* (in the language) and *actual* (in usage). Kleiber (1981, 13) says that referring presupposes that the signs used have an immanent or possible reference, and distinguishes (1981, 19) between «virtual» and «actual» reference, often called respectively *denotation* and *reference* or *extension* (see Lyons 1977, 177 f). *Venus* can refer to a *Roman godess* as well as a *planet* and thus has two possible referents, but in usage one of them is intended. The possible reference of *I* is the class of senders, the actual reference is the sender of the actual text. Words like *teacher* or *student* can denote persons of both sexes, but in usage they will refer to either a man or a woman (if one is not speaking generally), and one has to use different pronouns.

However, not *all* words refer. Content can also be purely *relational or functional*, especially in *grammatical* words like *and, or, if* or formal subjects. Sørensen (1963, 14) points out that words like *the, a, this, very* do not denote independently of other words  because there are no such things. They still have meaning. In *It's raining*, *it* has neither reference nor meaning, but just a *grammatical function* – to fill the subject position, which must be filled in English

sentences. Also *syntactic functions* like modifier and head or subject and object, e.g. the semantic difference between *I* and *me*, must be regarded as functional meanings. They are definitely part of sentence meanings.

According to Lyons (1977, 209), both potential and actual reference depend on "the axiom of existence: whatever is denoted by a lexeme must exist". Also Sørensen (1963, 14) says that words like *centaur* do not denote. But e.g. Peter does not have to exist for us to refer to him – he might be imaginary as well. Words like *Tarzan* or *werewolf* don't have any *physical* referent, but still can be used for referring to these fictional objects and making statements about them. When Tarzan speaks, *I* refers to Tarzan, who is just an idea. Kleiber (1981, 138) underlines that reference is not limited to the physical world. As Algeo (1973, 44) puts it: «For the linguist, *Xanadu* has as good a referent as *Canada*». The names refer to two places, and whether both, one or none of them exist in the physical world, is irrelevant (and unknown to many). They both exist in our *minds* – if we know these words. We disagree on whether *God* refers to something «real» or non-linguistic or not, but that is not a *linguistic* problem. The word can be used by anyone who knows its *content*, whether a believer or not. All you need is an *idea* you can refer to, whether it corresponds to a non-linguistic entity or not.

In cases like *Tarzan* or *werewolf*, the referent is obviously *mental and linguistic*, a part of language. But what about *Venus or cat*, which refer to things in the world? Well, there is a mental referent for these words too, namely the *idea* of Venus and cats. According to Kleiber (1981, 15), referring presupposes a mental referent («un référent conceptuel»). Hudson & Langendonck (1991, 331) underline that "The referent of a word is a concept, and *not* an object in the world, contrary to the standard use of this term", and Langendonck (2007, 21) points out that "…extensions and referents are in the first place of a mental nature. For linguistic purposes it is of secondary importance whether any real world entities are designated or not". Also Dik (1997, 129) says that the «entities» we refer to,

«…are not 'things in reality', but 'things in the mind'.»

Referring to or talking about things in the physical, so-called «real» world – the mental world is just as real – is a central use of language, perhaps the most central. But we have to do so *indirectly*, through of our *conceptions* of those things. Fitch (2010: 122) points out that «…concepts occupy an irreducible intervening role between language and external meaning in the real world», and Dik (1997, 129) that «…we can refer to 'real' things only to the extent that we have some mental representation of them». That's why we can't speak of things we don't know; e.g., we couldn't refer to black holes before we discovered them. So some linguistic concepts correspond to something in the non-linguistic world and some do not. The difference is essential in the natural sciences, but not in linguistics. Fortunately, we can also conceive of and refer to things that *don't* exist in the non-linguistic world, as in superstition, fairy-tales, novels and science fiction. Which is a prerequisite for *changing* the world by imagining and creating novel things.

So reference is primarily a *semantic* concept, which is why it usually is treated in semantics. And we must distinguish between *mental* referents – the *ideas* connected to a sign, e.g. the idea of Venus or Tarzan, and *physical* referents, the non-linguistic *objects* of the ideas, e.g. the planet Venus, which words like *Tarzan* lack. And these mental referents or ideas are *collective* and belong to the language: All Norwegians have heard of trolls, Peer Gynt and Terje Vigen, objects that exist only in the mental and linguistic worlds, in fairy-tales, dramas and poems. And such ideas, e.g. in religions or political ideologies, can have profound effects in society, so they are definitely a part of «reality».

The possible reference of *planet* is the class of celestial bodies that it can be used rightly of, the actual reference when used is particular bodies of the class (or the whole class). But *planet* also has a *meaning* which *describes* the referent and *delimits* the potential reference: If we know the meaning, we know which bodies belong to the class and can be called planets. In other words,

meaning *determines* the potential reference (Sørensen 1958, 50), and synonymous words (like *bull* and *ox*) have the same reference (Sørensen 1963, 16). For *Venus* there is no description and no class and we have to *know* which individual(s) the word refers to or is the name of. On the other hand, the potential reference is the *basis of meaning* (Haiman 1980, 336). Words that have two potential classes of referents, like *man* in English, also have two potential meanings: 'human' and 'male human', one of which is actualised in usage. Therefore, we can use a physical referent to illustrate the meaning of a word, e.g. point to a cat and say «That is (called) a cat». And dictionaries can describe the meaning of words by delimiting the potential reference, sometimes by technical terms unknown to most speakers, e.g. *chimpanzee* explained as *Pan troglodytes* – a kind of shortcut to save space.

### 2.2.3 Meaning

- *Meaning is common knowledge of the referent*

The meaning of a word is an abstraction from the potential referents – a simplified mental image of the actual class where only *essential common qualities* are relevant, for *man* sex and age, for *planet* circling a star (and a certain mass), but not size or composition. So meaning must be our *knowledge* of the referent, whether it exists in the world (like horses) or just in our imagination (like centaurs). And these meanings are *collective* and known by (almost) everybody because they are connected to an expression which is *used in the same way* and with *the same meaning* by the members of the actual community. This means that they exist in *society*, not in the users' heads – like the rest of language. In English, *beech* and *elm* have different meanings (and potential referents), although many people don't know the difference. But *some* people do and therefore society and language distinguish them.

So we have to express our individual thoughts through collective linguistic categories, including thought categories or meanings. As Linell (1982, 222) points out, we must distinguish between the *general* or *conventional* meaning in *language* (Croft's *signal meaning*), which is independent of

situation and context and the *actual* or *communicated* meaning in *usage* (Croft's *speaker's meaning*), what the speaker *intends to express*, which is not (we also have *receiver's* meaning, how the receiver *understands* the sign). This is the basis for the distinction semantics/pragmatics. When signs are used, the speaker's thoughts, often more *specific* than the general meaning(s) of the sign, are conveyed by the fixed linguistic meaning, with a little help from (especially the previous) context and situation (e.g. who's speaking). In language, as a *type*, the pronoun *I* denotes the sender *in general*, as a *class*; in usage, as a *token*, it denotes a *particular* sender, the one who utters it. The general concept 'sender' (speaker, writer, signer) is part of English because it has an expression (normally *I*), the conception of particular senders is not. Here, *meaning* usually refers to the *general* meaning.

This meaning cannot be *individual* knowledge of the referents, which *varies* while the meaning has to be *constant* to function in communication: Some people (e.g. astronomers) know a lot about planets while others know next to nothing, but *planet* means the same to both, if they know the word. So experts and laymen can talk about planets, e.g. as teacher and student. Nor can (general) meaning be identical to *collective* («encyclopaedic») knowledge or science: Encyclopaedias describe what is known of *the referents*, not the collective *conception* of the referents in the actual language and community. That's why they usually come in several volumes. Fortunately, we don't have to know the chemical composition (and even less the formula) of salt to understand the word *salt*, just what it *looks like, tastes* and is *used for* and it did not change meaning when the chemical composition was discovered. If meaning were encyclopaedic, so that the meaning of *planet* were all that is collectively known of planets, dictionaries would be impossible.

Besides, linguistic knowledge (competence) must be based on individual knowledge, not science. Even if individual knowledge varies, some of it is *common knowledge* – what everybody or at least most people know of the referent, especially the things that surround us and we experience every

day. Even that planets orbit a star and that the earth is a planet, is probably common knowledge in most societies today. If you know this, you know the meaning of *planet*, what the possible referents have in common.

## 2.3 The Expression

### 2.3.1 Is the Expression Mental or Physical ?

- *The expression must be physical to function in communication*

According to both Saussure and Langacker the expression is *mental*, respectively a «sound image» and a «phonological representation», which must be the same thing. This means that signs and languages are mental *as a whole* and exist only in the *minds of the users* as individual *knowledge* or *competence*, and that languages are reduced to *idiolects* or *individual* systems: «The only scientifically genuine entities are individual grammars situated in the heads of individual speakers» (Pinker and Bloom 1990, 721). This «mentalistic» view of language is the usual view in both generative and cognitive grammar, but is also found in Saussure's description of the sign.

But how can a mental expression, e.g. a sound image, *express* something and be used to communicate? A sound image cannot explain *communication*, because nobody can *hear* it. An expression must be *physical and observable* to communicate and be learned. Atkinson et al. (1991, 59) rightly point out that "...if language is to have public status it must be encoded in a medium accessible to the senses". If so, signs cannot be entirely mental objects, even if a part of them – the content – is, but must be *social* or *conventional*. Saussure is better known for this alternative view: that signs are «social by nature» (1967, p. 34) and that language («langue») is conventional and collective (p. 34, 108), «outside the individual» (p. 31), «exists fully only in the collectivity» (p. 30), and presupposes «a speaking group» (p. 112). Namely a system of *conventions* (p. 25) or an *institution* (p. 33). Also cognitive grammar accepts that language is conventional – «a structured inventory of conventional linguistic units" (Langacker 2013, 222).

Of course one also needs a mental representation of these units in order to use them. Like other conventions, signs must be *known* and *learned*: To follow a convention one has to know it and be *competent* in using it, which may require *practice*, e.g. in producing the sound types of the language. But a mental representation is *individual*, not conventional. What exists in the mind must be individual ideas, since there are only individual minds. Conventional implies *collective* – one cannot make an agreement with oneself. Harder (2010, 294) points out that «...social entities depend on individual minds without being reducible to them». For something to be collective, it must also exist *outside the mind*, as an *agreement in practice* between a group of people, realized by *the same behaviour*, e.g. calling a cat a CAT: «...there must, of course, be agreement between producers and receivers if people are to understand each other» (Corballis 2002, 112). So Saussure contradicts himself by saying that signs are wholly mental.

Knowledge of signs must be *common knowledge*, known by all or at least many in the community to function in communication. Individual signs, i.e. signs that are known by only one, would be useless, because nobody else would understand them. But in large communities no individual knowledge equals the whole language, especially the words. A dictionary lists all words that are in regular use in a language community and can contain hundreds of thousands of words, but each person knows and uses only a part of these words. So *conventional* or *collective* does not mean that all signs are known by *every member* of the collective, only by most of them. Children start life without any linguistic knowledge, and many words, e.g. technical words like *modifier* or *fricative*, are known by only a section of society. Each user's knowledge usually *differs* somewhat from others', but not more than that they can communicate. Even *collective* knowledge, i.e. science, like a dictionary, is partial: We don't know all about language, not even all words that are used in a speech community.

As agreements between people who communicate regularly, signs are cultural *products* – probably one of our very first – in language *communities*

(Armstrong et al. 1995, 147) that may consist of millions of individuals. That's why there are only about 6 000 «languages» on Earth, not 8 billion. This makes linguistics a *cultural* science, usually placed in the Humanities faculty – not a cognitive or psychological one, and still less a natural science, as Generative Grammar claims (Åfarli 2000, 138–139). And that's why signs usually *differ* between language communities, a matter of historical accident. For the meaning 'ox' the English happened to agree on the expression *ox* (or *bull*), the French on *bœuf*, and both function equally well as long as there is agreement on the matter in each community. And the convention is an *objective* fact which is independent of what individuals *think*: You may dislike it, but you can't do anything about it. You may even be *wrong* about it and think that *ox* means 'cow', but that does not change the meaning of the word. Signs are *common* property, not private. Nobody decides over language, because everybody depends on the cooperation of others – unless you are a dictator and can force people to comply.

- *A mental expression is incompatible with a usage-based view of language*

Cognitive grammar is *usage-based*, which means that it regards usage, the regular or conventional use of language, as basic and of *the same kind* as language: «...structure [...] is not independent of usage or radically different in nature. Rather, structure emerges from usage, is immanent in usage, and is influenced by usage on an ongoing basis" (Langacker 2010, 109). Language and usage are closely connected and *influence* one another: «Usage feeds into the creation of grammar just as much as grammar determines the shape of usage» (Bybee 2006, 730). Saussure (1967, 37) says the same thing when he says that language («langue») and usage («parole») *presuppose* each other and calls language both the *instrument* in and the *product* of usage.

According to Bybee (2006, 711), «A usage-based view takes grammar to be *the cognitive organization* of one's experience with language», and according to Croft (2000, 109) grammar is «...an individual's *knowledge* of the conventions of the speech community» (my emphasis in both quotes). But individual knowledge *varies* and can

be both *incomplete* and *wrong* (e.g. in children), resulting in faulty usage, and there is no «perfect competence». If we don't all have the same knowledge of language, whose is the right one? A usage-based view of grammar should take grammar to be the (grammatical) *conventions* themselves, i.e. *the linguistic categories that are used* in the actual speech community: the *units* (e.g. the words) and the (e.g. syntactic) *rules* that occur in usage as general *types* (classes) instead of individual *tokens*. E.g. that the many occurrences of the word *the* in English usage count as one in the English language, including its two expressions in speech.

Kemmer & Barlow (2000, VIII) think that a usage-based theory is compatible with a view of language both as «...structures derived by the analyst from observation of linguistic data...» (the «external» linguistic system) and as «...structures posited by the analyst as a claim about mental structure and operation» (the «internal» linguistic system). But what occurs in usage, is *physical* units or actions like sounds, written characters or gestures. This is what we hear or see and recognise as expressions of signs (e.g. words) that we know, associated with a content. And if the expression is physical (sounds, letters etc.) in usage, but mental (sound images etc.) in language, language and usage would be «radically different in nature», and language could not be «the product of usage» – which it clearly is, as we can see from language *change*: «Nothing comes into language without having been tried in usage» (Saussure 1967, 231). So if we take the usage-based claim seriously, these physical entities should also be recognised in the *language* that is used, as general types that can be used by various speakers on various occasions. Usage consists of individual tokens or uses of the types in the language, else it is ungrammatical.

Therefore, it is natural that cognitive linguists now lay more stress on the social aspect of language, which Harder (2009, 15) regards as «...one of the most promising developments in current cognitive linguistics». Croft (2009, 395) criticises cognitive grammar for being too «solipsistic» and «inside the head» and argues for «a social cognitive linguistics» (p. 412). Geeraerts

(2016, 527) calls language «an intersubjective […] tool» and thinks that «the social turn» in cognitive linguistics follows naturally from other features of the theory. Rather, it follows necessarily from the feature «usage-based», for if language is «immanent in usage» and «…not independent of usage or radically different in nature», a consistent usage-based view cannot escape the conclusion that language is something external, namely conventions manifested in usage as grammatical utterances – utterances that follow the conventions.

Usage thus shows what the actual language *consists* of, the *units* of the language, from sound types to sentence types. Speech, for example, shows that a spoken language includes a *sound system* consisting of certain *sound types*, as it is usually described in phonology. And they are certainly not mental objects. It is not the *representation* of the famous «thick /l/» in Norwegian and Swedish that is part of these languages, but the *sound type* (an apico-postalveolar flap) itself. That's why phonetics is usually not regarded as part of linguistics. The speakers of course need a mental «image» of the sound – how it sounds and is made – before they can pronounce it, built from previous encounters with the sound. But a sound image and what it is an image of, i.e. a sound type or the sign expressions that include it (words with «thick /l/»), are quite different things, respectively *knowledge* and the *object* of knowledge: parts of language. As Jackendoff (2002, 298, note 4) points out, the expression *knowledge of language* implies «an external entity, 'language', that is known». A representation presupposes *something represented* and knowledge presupposes *something known*. The mentalist view of language confuses these two objects, one social and collective (language) and one mental and individual (knowledge of language).

A language consists of the linguistic units that are used *regularly* by various persons – once or twice does not make a convention. That's why we can *learn* language from usage and *reconstruct* a language from texts.[5] As Kemmer og Barlow (2000, IX) point out, units that don't occur in usage, simply don't exist. Compare Langacker's

(1987, 53–54) «content requirement»: that the only linguistic units are «phonological, semantic, and symbolic structures that actually occur in linguistic expressions». As Langacker (1991 b, 289–290) points out, this excludes «arbitrary descriptive devices» that lack expression and content. It also means that grammatical utterances, i.e. those that follow the conventions of the language and are accepted by the users as «right», are the decisive *data* of linguistics: «Any sound linguistic theory must be based on concrete utterances of speech» (Vachek 1989, 2). This makes linguistics an *empirical* science with an observable basis that can falsify any theory.

A usage-based linguistics, then, must define expression as *physical*, which makes the sign as a whole a *psycho-physical* entity. A general definition of a sign must be a conventional combination of *ideas* and *physical objects* – sounds, letters, lights etc. – or *actions*, e.g. gestures, which are known and used in communication by a group of people. According to Shaumyan (1987, XI), language has «a unique ontological status». It is neither mental nor physical, but belongs to «a special world, […] the world of signs systems». But the world of signs is not a world of its own, just a *combination* of two well-known worlds, the mental and the physical, so it is *both* mental *and* physical. The whole point of a sign must be to connect something mental (ideas), which cannot be observed, to something physical, which *can* be observed. Then we get a combination of an expression and a content, which presuppose each other and always occur together, so that the speakers associate them and one of them calls forth the idea of the other. This allows us to «hear» or «see» an idea, a statement and even a whole story or (in writing) a linguistic treatise. *That* is the wonder of language, a cultural

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[5] We must distinguish not only between *language* and *usage*, the conventional use of language, but also between usage, the *actions* of the communicators, and the *product* of the sender's action, *texts* and *utterances* – sounds in speech, letters and other characters in writing. Usage is transient, texts can be lasting, especially if they are carved in stone or recorded.

edifice far greater than the pyramids, refined by countless persons over millions of years.

### 2.3.2 A Phonic Expression or any Expression?

- *Signs can have any expression, and there are many types of sign systems*

Saussure's definition of the expression as a *sound* image implies that signs exist only in *spoken* language. This Saussure elaborates in the chapter «The representation of language in writing»: Writing is not language, but just *represents* or *renders* (spoken) language like a photograph renders a person. The same view is expressed by Bloomfield (1933, 21) and other American structuralists: One of Hockett's (1960, 90) «design features» of language is «vocal-auditory channel». And in generative grammar the «mental grammar» comprises a *phonological* component (Nordgård and Åfarli 1990, 17), so it has accepted the structuralist view. But cognitive grammar accepts that the «phonological representation» includes written characters and gestures. One may comment that if so, *phonological* is misleading – a survival of the structuralist view of language as exclusively spoken.

As Vachek (1989, 106) points out, Saussure's definition of the sign expression as *phonic* – a «sound image» – does not agree with his statement that language is «form» (1967, 157), where «there are only differences without positive terms» (1967, 166) and where the expression is «not constituted by its material substance, but only by the difference between it and other sound images» (1967, 164). Sound is a material substance and a sound image is the corresponding mental substance. Nor does it accord with his statement (1967, 26) that Whitney is right to say that the nature of the sign is inessential and that what is specific to man is «…the ability to create a language, i.e. a system of distinct signs corresponding to distinct concepts».

And Whitney *is* right. It is evident that at least written and gestural language consist of signs with expression and content just like spoken language, only with other types of expression, and that Saussure's limitation to phonic expression is too

narrow. Even if speech is our oldest and most important sign system and the basis for our language centers and linguistic faculty, we have later developed also other sign systems with other expressions. We can now choose sign system depending on the situation: If people can't hear, are far away or we want to reach a large number of people or «speak to the future», we can use gestures or writing instead of speech if we have the competence to do so.

Thus we have several sign systems that differ with respect to «modality», «medium» or expression. That gestural languages are sign systems of their own, is perhaps obvious, but the same goes for written language: Unlike *transcriptions*, ordinary, *orthographic* writing does not render speech, but *expresses* a message, follows its own rules and may use words that we can't pronounce (e.g. exotic names) and characters that have no correspondence in speech (e.g. quotes or parentheses). Therefore we need a *general* sign concept which is neutral as to type of expression and can use *any* expression that can be perceived – also drawings on toilet doors, traffic signs, light signals or whatever. As long as there is a *definite expression* with a *definite content*, both conventional, i.e. known and used in a group of people, we can use the expression to communicate within that group. And therefore we should not describe expression in general as *phonological*, even if it is usual to speak of «phonology» also in gestural language. A sign in general just has an *expression*, which must be specified in each type of sign system.

And each type of expression has different potentials for the structuring of usage and texts. In speech we can use *prosody*, in writing we can use *capitals* or *italics*, or *logograms* like *5* or @, and gestural language can use *mimicry* and *the space in front of the sender*, and *point* to intended referents in different places. Written language has developed conventions for text structuring that we now cannot do without: *spaces* to delimit words, *capitals* on the first word and *punctuation marks* to delimit and specify utterances, and the division of large texts in parts like *chapters* or *sections* with *headings*, *paragraphs* etc., thus making a written text far more *structured* than a spoken

one. Writing is normally *edited*, speech is normally *improvised*. Even if one tries to plan a speech, it is next to impossible to plan it in detail without the use of writing.

However, written and especially spoken language have a special status: Spoken language is our *first* language, both phylo- and ontogenetically, and is the only truly *universal* language, used by all normal members of all societies. Also written language is rapidly becoming more or less universal, at least passively, as receiver (reader). Moreover, they are *parallel* systems, especially in alphabetic writing, where also the *expression* (the pronunciation and the spelling) and the *expression systems* (the sound system and the alphabet) are more or less parallel. Lexico-grammatically, *standard* speech and writing can be practically identical, with mainly *quantitative* differences: Certain words and constructions are more common in one or the other and may be «literary» or «colloquial», but all of them can be used in both systems. Almost anything that can be said, can also be written (with exceptions like tonemes in Scandinavian), and vice versa (with exceptions such as parentheses, quotes and capital letters). The reason is that speech has been the *model* for writing, i.e. that writing has been heavily influenced by speech. Pizzuto et al. (2007, 1) use *verbal (language)* as a common term for both. Since most people – including myself and my honoured readers – are competent in both, «verbal» signs, mainly written ones, are used as examples here.

### 2.3.3 Arbitrariness and Iconicity

- *Motivation is unnecessary, but advantageous*

Saussure underlines (1967, 100) that the connection between expression and content is *arbitrary* or *unmotivated*: The expression is not «iconic» or motivated by the content, and any expression can have any content and vice versa. Whitney states the same: The link between expression and content is «a mental association as artificial as connects, for example, the sign 5 with the number it stands for" (Silverstein 1971, 115).

Langacker (1987, 12), however, says that the principle is «easily overstated», and that it is not

arbitrary that English *stapler* means what it means (being a combination of the stem *staple* and the agentive suffix *-er*). Saussure (1967, 181) makes the same point when he compares French *vingt* (20) and *dix-neuf* (19, literally *ten-nine*), og says that the first word is unmotivated while the last one is relationally motivated «because it evokes the thought of the words it consists of». But both examples concern the relationship between *parts* (constituents) and *the whole* in complex signs, respectively a derivation and a compound, not between expression and content. That the meaning of a complex sign is a product of the constituents – «the compositional principle» (Lyons 1995, 204) – is of course not arbitrary.[6] The examples are therefore not arguments against the claim that the expression is unmotivated in most *simple* signs in spoken (and written) language.

But that cannot be an essential quality of signs. In pictorial writing *all* signs are iconic – just as the pictorial signs we still use on toilet doors and traffic signs. In gestural language iconic signs are typical, according to Bergman (1978, 10–12) and Armstrong et al. (1995, 191–192), and gestures may also be motivated «indexically», by pointing to (something that is connected with) the referent. In Swedish gesture language 'red' is expressed by pointing to the lips (Bergman), and in American gesture language both 'chinese' and 'onion' is expressed by pointing to the eye (Jackendoff 1993, 87–88). Corballis (2002, 112) says there is a tendency for iconic signs in gesture languages to become arbitrary by *simplification*, and the same thing happened in pictorial writing.

Lyons (1977, 103) points out that motivation is «medium-dependent»: In English *cuckoo* is motivated in speech, but not in writing. The arbitrariness in spoken language is due to the fact that it is almost impossible to imitate concepts

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6 Nor is it entirely predictable from the constituents. A *stapler* might have denoted a *person* and not a machine, and *dix-neuf* might have meant '90' (10 *multiplied by* 9) or '1' (10 *minus* 9) instead of '10 *plus* 9'. The word just tells us that its meaning has to do with the numbers 10 and 9, not *how* the numbers are related. That is decided by usage, i.e. convention. In French '90' has the expression *quatre-vingt-dix*, four(times)twenty(plus)ten, where two semantic factors are implicit and have to be known.

with *sounds*. The only thing one can imitate by sounds, is *other sounds*, e.g. what animals «say». Here *visual* systems like writing or gestural language have a big advantage. However, emphatic stress (and italization in writing), which has a content and must be regarded as a sign, could be regarded as iconic: One emphasizes the content of a word by emphasizing the expression.

Corballis (2002, 112) underlines that what is decisive, is that the relation between expression and content is *conventional*, corresponding to Hockett's (1960, 90) design feature «traditional transmission». That goes for gestural language as well (Schröder 2006, 99). Meier (2002, 15) says that the language faculty "…does not demand that all words and signs be strictly arbitrary. Instead what is key in both speech and sign is that form-meaning pairs are conventionalized". Meier also points out that arbitrary expression is necessary for concepts that are not «imageable», such as abstract concepts, and Hockett (1960, 90) that arbitrariness has the advantage that «…there is no limit to what can be communicated about».

According to Corballis (2002, 112), «the switch from iconic to arbitrary signs» *is* conventionalization, but that is not the case. Also onomatopoetic words are conventional, as already Whitney pointed out (Koerner 1972, 15). English pigs say *oink*, but Norwegian ones say *nøff*. Both imitate grunting, but in different ways. Also gestures may be motivated in different ways in different gestural languages, e.g. the sign for 'tree' in American, Danish and Chinese gestural language (Meier et al. 2002, 172). Johansen (1993, 121) points out that the signs on toilet doors are conventional although they are iconic: One has to know that they denote *toilets*, not ladies and gentlemen. Lyons (1977, 100–101) at first uses *arbitrariness* and *conventionality* synonymously, but then adds that "…it has become clear that *arbitrary* and *conventional* are not equivalent".

The conclusion is that *all* linguistic signs are conventional, whether arbitrary or motivated. But motivation is an advantage. The Roman numbers *I, II, III* are motivated, while *IV* and *V* are not. Therefore the first are easier to learn than the last

– we can *see* what they mean. One *might* decide that *I* should mean '2' and *II* should mean '1', but that would obviously not be smart. However, motivation is neither necessary nor always possible. Writing everywhere has lost its original iconicity because people found they didn't need it and were better off simplifying the characters.

Guiraud (1975, 31) says that «…motivation frees the sign from convention, and […] purely representational signs can function without any preceding convention». But it's rather the other way round: Signs cannot be freed from convention, and as Saussure (1967, 108) points out, they can be arbitrary because they are founded on *tradition*, i.e. tradition or convention frees the sign from motivation: Linguistic conventions may be unmotivated because they connect a certain expression to a certain content by *agreement*, so that the users don't depend on a similarity between them to associate them with each other. But if it is possible to let the expression suggest the content, the sign is easier to learn and remember.

### 2.3.4 Linearity

- *Expression units and signs do not have to be linear*

Saussure (1967, 103) also underlines that the expression is *linear*, which means that the spoken expression units – speech sounds and syllables – and consequently the signs they express, form a *chain* in a specific *order* in time. Writing is also linear, but in *space* instead of time, and the direction of the chain may vary: The segments may be ordered in either *lines* or *columns* and go from *left to right* or vice versa. According to Henry (1970, 89), linearity only applies to *usage*: It is when we *utter* («actualisons») the units of spoken language that we enter into time. In *language* there is no chain, and everything exists *simultaneously*. Likewise Spang-Hanssen (1954, 100). However, there is linearity and order also in language, as there are *syntagmatic* rules that govern the order of e.g. sounds or letters in words or constituents in sentences. The order in usage is a reflection of these conventions.

Sounds and letters are necessarily linear. But some expressions may be *simultaneous*. In gestural language several signs may be expressed simultaneously (Armstrong et al. 1995, 90). With an example from Norwegian gestural language (from *Store norske leksikon*): 'Are you hungry?' can be expressed with three simultaneous signs, one for 'hungry', one for 'you' and one for 'question' (apparently none for 'are'). Also the expression units of gestures: motion, configuration and location, are produced simultaneously and not sequentially (Armstrong et al. 1995, 69). And if we regard *emphasis* as a sign (a suprasegmental morpheme) in speech, we have simultaneous signs also in speech and writing, e.g. the word form *you* and the italics in *Are you hungry?* Also expression units like word tones and distinctive stress, e.g. in English conduct and conduct, are simultaneous with the syllables they belong to. So *exclusively* linear expression is not a necessary quality of signs in general. Both expression units and signs may be simultaneous when made with *different articulators*.

### 2.3.5 Expression Systems: the «Double Articulation»

- *Double articulation is advantageous, but not necessary*

Double articulation (Martinet 1965, 2) or duality of patterning (Hockett 1960, 90) means that the expression normally is «articulated» or *complex*, consisting of meaningless *expression units* (occasionally one, as in the English article allomorph *a*) selected from an *expression system*, in spoken language *syllables* and *speech sounds* forming a *sound system*. An example of duality from Langacker (1987, 298) is the spoken word form written *picnics*, consisting *phonologically* of the *syllables* /pik/ and /niks/, which can be further analysed in *phonemes*, but *grammatically* of the *stem* /piknik-/ and the *inflectional suffix* /-s/, which are *signs* with a meaning. Syllables and sounds have no meaning by themselves, but can combine according to certain rules to form *expressions* (pronunciations) with meanings, e.g. /pik-nik/ or /p-i-t/. Thereby, they also distinguish (the expression of) different signs from each other, e.g. /pit/ from /bit/ or /pin/ (distinctive function). With a small number of sounds plus rules for combinations of these into syllables, allowing /p-i-t/ but not */p-t-i/, the expression system makes a large number of expressions possible, of which only some – such as /p-i-t/ or /t-i-p/, but not /p-i-m/ or /d-i-t/ – are assigned meaning and are actual expressions.

And the expression system is independent of the sign system and can thus consist of far fewer units than there are signs. As Lyons (1981, 61) puts it, «… the phonological structure of a language is not determined by its syntactic structure and its syntactic structure is not determined by its phonological structure». Hence, there can be a *conflict* between phonological and grammatical rules. A well-known example in Norwegian is the imperative form of verb stems ending in a consonant + /r, l, n/: What is the imperative of verbs like *ofre* (sacrifice), *sykle* (cycle) and *åpne* (open)? Here, speakers usually are at a loss. According to the grammatical rule that imperatives consist of the stem, the imperative of *ofre* should be *ofr* but is usually pronounced as *ofre*, i.e. the infinitive is used instead. It seems easier to break a grammatical rule than a phonological one: that syllables may not end in a consonant + /r, l, n/.

A parallel expression system is the *alphabet*, so alphabetical writing, both phonemic and syllabic, has double articulation as well. The letters correspond to expression units in speech, either phonemes or syllables. Also sign languages are assumed to have expression units, which according to Stokoe (1960, 40) are *position, configuration* (i.e. the shape of the active hand), and *motion*. Like speech sounds or letters, these features have no meaning by themselves, only in certain combinations. Stokoe (1960, 33, 43) uses the term *cheremes* for these gestural expression units, and Hjelmslev (1966, 43) calls expression units in general *figures*. Here, I simply use *expression units* as a common term for speech sounds, letters and the features that gestures are composed of.

Double articulation is usually considered as a necessary quality of signs systems or languages.

According to Armstrong et al. (1995, 37) duality has been put forth as «the very essence of language». But there are writing systems without expression units, where the characters are *meaningful* (logograms) and thus constitute signs – words or morphemes – by themselves, like chinese characters or our own logograms, e.g. *?,+, =, §, %, &, $, @* and the number symbols *0–9*, which may be combined to form complex signs for larger numbers, such as *90*. Each character is a complete sign expression and normally corresponds to a *word* or *morpheme* in speech. In English, the number '9' may be written either alphabetically as *nine*, with an English spelling consisting of 4 letters which correspond to sounds and may be pronounced as /nain/, or logogrammatically as *9*, which has the same meaning but is international and may be pronounced in any language that has a word for '9'. Also closed signs systems like traffic lights or gestures like nodding (see next section) lack expression units.

This shows that an expression system and double articulation is not a *necessary* quality of signs systems, not even open ones like writing. They can do without, but at a price: Without an expression system one needs as many sign expressions, i.e. characters, as there are signs, which is a big load on memory. According to Wikipedia the largest chinese dictionaries have 85 000 characters, but to read a newspaper about 3 000 is enough. In spoken language something corresponding is impossible, as we can only produce a finite number of sounds. There we need a complex sign expression, normally composed of different combinations of a small number of expression units (sounds). In writing we can do without.

## 2.4 Signs

### 2.4.1 Open and Closed Sign Systems

If the expression may be anything observable, also traffic signs and lights must be sign systems (see the analysis of traffic lights in Hjelmslev 1973, 123 f or Johansen 1993, part III). They communicate a message, either *information* (e.g. 'a sharp turn in front') or a *command* (e.g. 'Stop here'): «the traffic lights speak to the road users in words or in sentences, or even in imperatives...» (Hjelmslev

1973, 124). Red light *tells* us to stop, and there is punishment for ignoring the command.

The difference between the traffic lights and spoken, written or gestural language – in addition to type of expression – is that the traffic lights are an extremely *small and simple* sign system or language with neither double articulation nor grammar: a *closed* or *limited* system with a special purpose – to express a few messages to drivers at a crossing. It is limited because it consists of four signs that can't be combined, making four messages possible: red light = 'stop', red and yellow light = 'prepare to go', green light = 'go' and yellow light = 'prepare to stop'. Ordinary languages are *open* or *unlimited* sign systems for communication *in general*, where minimal signs (morphemes) can be *combined* into *complex* signs that can express any message. Hjelmslev (1973, 122) distinguishes between «...*restricted languages*, which can only serve definite purposes» and «...*unrestricted* or *pass-key languages*, which can serve any linguistic purpose». Also Hockett (1960, 90) distinguishes between closed and open systems, under the heading of «productivity». Such closed sign systems are used by some animals, which «...typically have a small, closed set of signals for conveying particular, biologically critical meanings» (Fitch 2010, 173). An example is a set of warning alarms for various kinds of predators among vervet monkeys (Seyfarth et al. 1980).

Also the few gestures that we all use instead of or together with speech – pointing, waving, nodding, shaking the head, 'thumbs up', 'give the finger' etc. – can be said to constitute a limited system of signs without double articulation and grammar, while gestural languages are open systems with double articulation and grammar. According to Tomasello (2008, 62–63) these everyday gestures are either «attention-directing» or iconic. An attention-directing or perhaps *demonstrative* gesture is pointing, meaning 'Look at *that*' (i.e. what I am pointing at) or '*There* (i.e. where I am pointing) it is'. Iconic gestures might be waving towards yourself to make someone come closer or holding a raised hand in front of you (like an obstacle) to make someone stop. Iconic gestures can also be *improvised* – pantomime. An example

from Tomasello (pp. 67–68) is a security guard at an airport making a circular movement with his hand to make you turn around. But gestures like nodding (usually for 'yes') or shaking one's head (usually for 'no') are neither demonstrative nor iconic.

### 2.4.2 Signs without a Specific Expression?

- *Spoken, written and gestural languages are sign systems of their own*

Unlike Saussure himself, Hjelmslev and some other linguists have taken the consequence of Saussure's claim that language is «form», i.e. *relations* or *functions*, not «substance» or *qualities* and consists of only differences (Saussure 1967, 166–169). Namely by saying that the expression is neither phonic nor graphic (nor has any other material substance), but may be realized in any substance (Hjelmslev 1966, 93, see also Gullichsen 1990, 28). This view seems to be quite widespread today. According to Bouchard (2013, 146), the sign is «modality-independent». Bolhuis et al. (2014) regard speech and gesture as different «externalizations» of language, and Hurford (2014, 106) says that «…underlying the medium in which language is expressed, whether signed or spoken, is a system which is independent of the medium».

Here both written and gestural language are accepted as language – but not proper, independent languages, just as «modalities» or expressions of the *same* language, which is neither spoken nor written nor gestural. This means that we have an *abstract* language, consisting of signs without a *specific* expression. Such a language is difficult to conceive, especially if also gestural language is a realisation of it, because it has a quite different structure from «verbal» languages, which are *parallel* and therefore more easily seen as the same system. It is not only the type of *expression* that separates the three «modalities»; also the *signs* may differ. For example, there are no signs in speech that correspond to parentheses or quotes in writing. These are exclusively written signs.

The claim that language is «form» and does not have any qualities, is untenable. Spang-Hanssen (1954, 102) points out that «any difference […] presupposes a similarity», and *differences* can only mean 'different *qualities*'. Nothing can consist of functions or relations without qualities – there must be *something*, with specific qualities, that *has* a function and relations *between entities* with specific qualities. Harder (1996, 26) is right in saying that "Extreme structuralism […] will not do: substance matters, and structure presupposes substance" (see also the critique of Hjelmslev's view in Garvin 1954, 91 f, Eco 1984, 23, Vachek 1989, 109 f and Johansen 1993, 49).[7] In addition, the view that speech, writing and gestures represent the same sign system implies a favouring of the *content*, which is of the same kind (conceptions) in all «modalities» while the expression varies. But that is of no consequence for the identity of the sign and the language: It is the content which is constant and defines the sign and the language. But signs are defined by *both* expression *and* content, and have a *specific* expression as well as a specific content – not any expression. That's why *synonyms* are different words though they have the same content.

If so, also signs with different *types* of expression such as sounds and letters must be different signs. The alternative to Hjelmslev's view, which especially the Prague structuralist Vachek (1989) has argued for, is to regard spoken and written language (and even more gestural language) as *different signs systems* instead of different realisations of the same one. For example, the spoken word /bit/ and the written word *bit* in English must be different, but *semantically corresponding* words, just like German *Ochs* and French *bœuf* (with expressions of the same type), and spoken and written English are different sign systems. Even if they represent the same *national* language (i.e. English) – a sociolinguistic concept and the usual meaning of *language* in everyday

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[7] If language is pure form, [h] and [ŋ] must be considered as allophones in Germanic, since they are in complementary distribution and therefore non-distinctive. But if substance matters, allophones must be *phonetically related* and the difference must be conditioned by *the phonetic context*, which excludes [h] and [ŋ]. Unfortunately, the claim that language is form became the central tenet of European structuralism, but led the theory straight into the realm of fogginess and unrealistic abstractions.

speech – they are not the same language in the basic sense of 'sign system'. And unlike *Ochs* and *bœuf* /bit/ and *bit* have expressions of different *types* – speech (pronunciation) and writing (spelling) – which *correspond* to each other: Each sound corresponds to a letter (a rather unusual case in English), so spoken and written words and texts can be *translated* to the other system according to grapho-phonological rules (which can be rather complicated in English). In other words, to read aloud a written text or write down a spoken one is a *translation*, as Haas (1970) underlines. And not all units can be translated: Very useful written signs like quotes are untranslatable to speech, although people sometimes try to mimic them by gesturing with the fingertips. But that is not speech.

### 2.4.3 Words and Grammar BETWEEN *Expression and Content?*

There's hardly a linguist who does not speak of expression and content (or meaning), but not all linguists think that they are *directly connected* as parts of a *sign*. One example is Gil (2000, 176), who says that there is «…a crucial difference between human language and most other semiotic systems, such as, for example, traffic lights […], where *red* means 'stop' and *green* means 'go'.» Namely that "…the relationship between sounds and meaning is not direct […]. Instead, the relationship is mediated by various intervening entities: the linguistic forms […] which constitute the basic building blocks of linguistic analysis". From this follows «the autonomy of syntax», i.e. that syntax is a totally abstract system *between* expression and content, where the units have neither an expression nor a content (see Faarlund 2005, 41, or Teleman et al. 1999, vol. 1, 41).

Such entities certainly don't occur in usage and, in a usage-based account, not in the language that is used either. *Between* expression and content there is nothing, and linguistic forms, i.e. lexical and grammatical units, do not *intervene* between sounds and meaning, they *consist* of sounds (or other expressions) and meaning, so they can be *observed* and *understood*. In other words, they are *signs*, either minimal signs like *Stop!* or complex signs like *Stop here!* And traffic lights are

an exact parallel to morphemes or word forms: *Stop!* means 'stop' exactly like red light, and the connection is just as direct. In both cases we have a conventional (and unmotivated) combination of an expression and a content, and instead of the red light one could have had a screen that showed *Stop!* Neither the red light nor the morpheme, word form and sentence *Stop!* exist *between* expression and content – both *have* or *consist of* an expression (a spelling) and a content or meaning. The greatest difference between closed sign systems like the traffic lights and open systems like spoken, written or gestural languages is that the open systems have a *grammar* that makes it possible to *combine* smaller signs into larger signs according to certain rules, so that we get complex, grammatical signs and as many signs as we need to express any thought. Let's turn to such signs.

### 2.4.4 Complex Signs: Grammar

- *Complex signs consist of signs, not expression and content*

Because signs can be combined into larger signs according to grammatical rules, it is essential to distinguish between *minimal* and *complex* signs. In my view, only minimal signs consist of expression and content. Complex signs consist of *smaller signs* – the *constituents*, as they are usually analysed in grammatical analysis. The minimal sign and the smallest unit of grammar is well-known: the *morpheme*, e.g. *stop* (a lexical morpheme) or *-s* (a grammatical morpheme – plural, genitive or present, 3. person singular). Such signs can only be analysed in expression and content (which may be further analysed). But morphemes may be combined according to *morphological* rules into complex *word forms* such as *stop-s* (present, 3. person singular), composed of a *stem* and an *inflectional suffix* that is relevant for such (verbal) stems.[8] And word

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[8] Following Lyons (1981, 101), I distinguish between *words* (lexemes), which are abstract *lexical* units in the *language* (the lexicon), and *word forms*, which are concrete *grammatical* units in *usage and texts* (and as types in the language), in writing separated by spaces. In inflected words, word forms are *inflectional* forms, but some words have special *unstressed* forms. The verb *(to) have*, e.g., consists of the verb forms or verbals *have*, *has* and *had*, which can be

forms may be combined to *syntagms* according to *syntactic* rules, e.g. sentences like *Stop here*, composed of a *verbal*, i.e. a verbal word form, and an *adverbial*. Now *stops* of course may be analysed in the expression S-T-O-P-S and the content 'stop + present 3. person singular', but they don't make *one* sign – they make *two*, a stem and a suffix, each with expression and content. We should distinguish between combinations of *expression and content* (minimal signs) and combinations of *signs* (complex signs).

Furthermore, the combination of signs is *recursive*: Signs may be combined into larger signs, of the same or a different type, which may be combined into still larger signs etc. This way we may have a compound (as a constituent) in a larger compound or a sentence in a larger sentence. Therefore, complex sign must often be analysed on *multiple levels*, as syntactic «trees» show. *Stop at the first crossing* must be analysed on three levels, because it consists of three syntagms of different types: a *sentence*, a *prepositional syntagm* and a *nominal hypotagm* (usually called «phrases», but phrases may consist of a *single* word form, so *syntagm* and *hypotagm* are more precise for phrases consisting of several word forms).

What is the *maximal* sign of language? Probably *sentence types* or, more generally, *utterance types*, which are the maximal units of grammar. Texts (e.g. this one) cannot be called signs because they are not *conventional*, but *individual* products. So are sentences, but they realize *constitutive* or *structural* – lexical and grammatical – conventions and a conventional sentence type like statements or passives, or an other utterance type (e.g *Yes* or utterances of the type *You fool!*), and can therefore be full of *mistakes* (breach of rules). Constitutive rules must be followed. Sentence types (and other constructions) belong to a language, texts do not, although they follow *regulative* or *functional* conventions, i.e. pragmatic and stilistic norms that govern the *use* of language, like Grice's

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combined into the verbal syntagm *have/has had*. Word forms are the *largest* units (the subject) of morphology and the *smallest* units (ultimate constituents) of syntax, so they are a central type of sign.

maxims (see Searle 1969, 33 f or Dyvik 1995, 24 for these two types of conventions). You can break everyone of them and still speak or write grammatically (but perhaps not very comprehensibly or sensibly). Texts *consist* of signs, but *are* not signs themselves. That's why sentence types are the object of *grammar* and texts of *text linguistics, rhetorics, conversation analysis* etc.

### 2.4.5 The Linguistic and the Semiotic Sign

- *The linguistic sign is a category of its own, not a subtype of semiotic signs*

The linguistic sign is usually considered as a subtype of the broader, «semiotic» sign category, which is everything that «stands for» or is connected to something else, called their «object». They are usually divided into three categories: *indices*, which are natural, and *icons* and *symbols*, which are artificial (Liszka 1996, 34, Leira 1971, 12, J. Martinet 1976, 51 f). Indices are naturally connected to their object and *indicate* – show or suggest – something, e.g. *smoke* as a sign of *fire* or *yellow leaves* as a sign of *autumn*. They include *symptoms*, i.e. physical conditions that indicate an illness or a mental state, e.g. *fever* as a sign of certain *illnesses* or *trembling* as a sign of *fear* or *excitement*. The connection is natural and thus *necessary*, namely *cause* and *effect*: Fire is the cause of smoke and illness the cause of the fever. We can *infer* from the effect to the cause, but that is not *communication* and does not presuppose any sign system. As Mounin (1985, 30) points out, «…there is no a priori code for the interpretation of indices». Indices do not *express ideas*: Blushing does not express the *concept* 'shame' like the letter sequence *shame* does, but is associated with the *feeling* of shame, i.e. the *non-linguistic referent* of *shame*.

Therefore, blushing is not communication or a linguistic sign, although it can reveal a lot about the blushing person. It's not a conventional expression and doesn't have any meaning in the linguistic sense. Communication presupposes the sender's *intention* to communicate, as Guiraud (1975, 27–28) and Mounin (1985, 23) point out. The sender has to produce at least one utterance, and one does not do so without a purpose, even if

the purpose is not always communication, as when swearing. Also Johansen (1993, 336–337) mentions «purposiveness» and «communicative intent» as defining qualities for traffic lights and other sign systems. And one doesn't blush intentionally to convey something. But physical factors that one can *control* can be used in communication. J. Martinet (1976, 47 f) contrasts coughing as a *symptom* (of e.g. a cold) with coughing as a «signal» or *sign* used in communication, such as warning someone that somebody that is being talked about, is approaching. A similar case is smoke as an *index* of fire versus smoke *signals*, e.g. when a new pope is elected. Both instances are informative, but only in one case is there an intent to communicate and a conventional sign – we have to learn that coughing or clearing one's throat can function as a warning in situations where we cannot speak.

Icons are *representations* of their object – photographs, pictures, sculptures, maps, models etc. – and usually *resemble* it (except non-figurative paintings). Like indices, icons do not represent concepts, but *things* – people, objects, places etc. – or *events* (e.g. a battle). The difference between a *picture* of a house and a *depicting written sign* for 'house' (as a simplified drawing of a prototypical house) is that the picture represents the *house* while the written character represents the *idea* of a house, the concept 'house'. It has a precise, conventional expression as well as content: We cannot draw the house as we wish and we're not depicting any specific house, but the idea of houses in general. Therefore, we can communicate precisely with the written sign, but not with the picture.

Symbols are connected to their object by *convention*, e.g. the *cross* as symbol of *Christianity*, the *flag* as symbol of the *nation* or *red* as symbol for *socialism*. Also linguistic signs are often called *symbols* by American linguists. According to Peirce, *words* are symbols, and their object seems to be the referent, not the meaning (Liszka 1996, 34, 39). But we should distinguish between linguistic signs and symbols in the everyday sense, as Saussure (1967, 101) does, using the scale as a symbol of justice as example. Saussure seems to think that the difference is that

symbols are more or less *motivated*, and also Guiraud (1975, 32) says that symbols are «analogical» or «iconographic». They often are – it's not accidental that the cross is a symbol of Christianity and green a symbol of conservation of nature. The scale as a symbol of legal justice is a *metaphor*: Legal justice is like a scale where one considers the evidence both for and against the defendant's guilt and sees which «weighs» the most. So the scale is motivated. But many flags are unmotivated, and why is red a symbol of socialism? And as we have seen, also linguistic signs can be motivated, so motivation cannot be the defining difference between signs and symbols.

The crucial difference is again that symbols like indices and icons are not connected to *ideas* but to *things*, usually abstract *social phenomena* – religions, ideologies, nations etc. The cross does not represent the *idea* of Christianity, but the *religion* itself, i.e. the non-linguistic *referent* of the word *Christianity*. Therefore, symbols are not normally used to communicate, but to *visualise* the (invisible) referent. We *can* communicate with them, e.g. by using the cross to communicate 'Christian' or 'Christianity' in a rebus. But that is *non-linguistic* communication and there is no precise content. If we want to express or communicate ideas, the expression must be connected to *ideas*, not to objects.

Mounin (1985, 53–54) warns against using the same word (i.e. *mean*) for «the interpretation of indices» and «the comprehension of signals», and Bickerton (1995, 13) distinguishes between meaning which «…can be inferred by an observer», e.g. in *That cloud means rain*, and meaning which «…is intended by an agent", e.g. in *kindly leave means* 'get the hell out'. In the interpretation of «signals» or signs we have to do with *intended* or *communicated* meaning. But also intended meaning is *inferred* from the expression, based partly on the conventional *content* of the sign and partly on the *situation* (including the context): What does the sender mean by the sign *here and now*? No convention can tell us who *I* refers to in a particular text; instead we must know who's speaking or writing. That is, we have to *infer* the reference from the

signs the sender has used plus knowledge of the situation and the world in general. So in usage meaning is *both* intended by the sender *and* inferred by the receiver.

Thus, both indices, icons and symbols in the everyday sense differ from linguistic signs both structurally and functionally. Structurally, they are *unilateral* units and comprise natural phenomena. As physical entities, they correspond to the *expression* in the linguistic sign. However, they are not related to *ideas* but to *physical, mental or social phenomena* – the non-linguistic *referents* of the corresponding linguistic signs. In other words, they have no *content* and are not *expressions*. A fever or a flag does not *mean* illness or a nation in the same sense as CAT means 'cat'. We can infer something from both fever and words, but we infer different things, respectively a *state* of a person (a certain illness) and *ideas*. Functionally, linguistic signs are primarily instruments of *communication*, while the other «signs» are not. Linguistics should not accept the broad and imprecise use of words like *sign* and *mean(ing)* in everyday speech and semiotics. Both Peirce and Saussure are trying to unite phenomena that don't constitute a uniform category. Although linguistic signs may have iconic and indexical *qualities* (e.g. in metaphors and metonyms), they don't have much in common with «semiotic signs» and should not be considered a subtype of such signs, but as a category of their own.

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