

## Chapter 1

# Language

This book is an introduction to the comparative study of human language across the planet. It is concerned with the immense variety among the languages of the world, as well as the common traits that cut across the differences. The book presents a number of analytic tools for comparing and contrasting different languages, and for seeing any one particular language in a larger linguistic perspective.

The book attempts to avoid **eurocentrism**, the excessive focus on European languages often found in introductions to linguistics. Although, for ease of presentation, examples are often drawn from English, a large variety of languages from all continents are drawn into the discussion whenever this helps to broaden our perspective.

This global focus is reflected in the choice of topics. The book is primarily interested in the following seemingly simple questions:

1. How and why do languages resemble each other?
2. How and why do languages differ from each other?

These questions are first dealt with in a brief introductory chapter on the nature and origin of language and then approached in three chapters introducing basic linguistic concepts, one chapter on words, one on sentences and one on sounds. The bulk of the book consists of chapters discussing branches of linguistics that are specifically devoted to the comparative and contrastive study of languages: language universals, linguistic typology, language families, language contact, and language variation. Finally, a chapter on writing discusses similarities and differences in the ways in which various cultures have used a visual medium to represent and augment the auditory signals of speech.

The book is primarily concerned with **natural languages** that function as full-fledged mother tongues for larger or smaller groups of people. It is less concerned with the clearly artificial and highly restricted languages of, for instance, mathematics, formal logic or computer programming. The line of division is not always clear. While the word *one* belongs to English, the number *1* belongs to mathematics; and while the words *if* and *then* belong to English, the logical operator *if-then* belongs to formal logic and computer programming.

At the heart of our concern lies the **spoken language**. All natural languages are spoken, while to this day many of them have no written form. Unlike most textbooks in linguistics, however, this book will also devote a whole chapter to **writing**, which may be seen as an extension of speech. On the other hand, it will have little to say about forms of language that are based on gestures rather than speech,

such as body language or the sign languages of the deaf (though see the subsection on sign languages below).

Like most modern studies of linguistics, this book is **descriptive** rather than prescriptive. It is not within the scope of the book to judge which of the following sentences is the more correct:

A. *I can't get no satisfaction.*

B. *I can't get any satisfaction.*

It is within the scope of the book, however, to describe the fact that different speakers of English will form different judgements regarding the acceptability of these sentences under different circumstances.

In addition to descriptions, the book will also seek **explanations**. *Why* do languages across the world have certain traits in common, such as the tendency for the subject to precede the object? *Why* are certain features systematically linked to each other, so that, for instance, languages where the verb precedes the object tend to have prepositions, while languages where the verb follows the object tend to have postpositions? In such cases, we shall try to consider alternative explanations without theoretical prejudice.

## 1.1 What is language?

Human beings can **communicate** with each other. We are able to exchange knowledge, beliefs, opinions, wishes, threats, commands, thanks, promises, declarations, feelings – only our imagination sets limits. We can *laugh* to express amusement, happiness, or disrespect, we can *smile* to express amusement, pleasure, approval, or bitter feelings, we can *shriek* to express anger, excitement, or fear, we can *clench our fists* to express determination, anger or a threat, we can *raise our eyebrows* to express surprise or disapproval, and so on, but our system of communication before anything else is **language**. In this book we shall tell you a lot about language, but as a first step towards a definition we can say that it is a system of communication based upon words and the combination of words into sentences. Communication by means of language may be referred to as **linguistic communication**, the other ways mentioned above – laughing, smiling, shrieking, and so on – are types of **non-linguistic communication**.

Most or all non-human species can exchange information, but none of them are known to have a system of communication with a complexity that in any way is comparable to language. Primarily, they communicate with **non-linguistic** means resembling our smiling, laughing, yelling, clenching of fists, and raising of eyebrows. Chimpanzees, gorillas, and orangutangs can exchange different kinds of information by emitting different kinds of shrieks, composing their faces in numerous ways, and moving their hands or arms in different gestures, but they do not have words and sentences. By moving in certain patterns, bees are apparently able to tell their fellow workers where to find honey, but apparently not very much else. Birds sing different songs, whose main functions are to defend their territory or to attract a mate.

**Language** – as defined above – is an exclusively human property. Among the characteristics that make a relatively clear distinction between linguistic and non-linguistic communication meaningful, two are particularly important: **double articulation** and **syntax**.

### 1.1.1 Form and meaning

Languages consist of tens of thousands of **signs**, which are combinations of **form** and **meaning**. Form in spoken languages is a sequence of sounds, in written languages for example a sequence of letters (depending upon what kind of writing system we are talking about) and in the sign languages of the deaf a certain combination of gestures. Here, we shall concentrate on spoken languages, and one example of a sign is the English word *sit*, which has the form /sɪt/. Speakers of English associate a certain meaning with this form: ‘to assume a position of rest in which the weight is largely supported by the buttocks’. The form and the meaning together constitute a sign, as shown in FIGURE 1.

<b>SIGN</b>	<b>FORM</b>	/sɪt/
	<b>MEANING</b>	‘to assume a position of rest in which the weight is largely supported by the buttocks’

FIGURE 1. A sign.

Languages have tens of thousands of signs, and the term **double articulation** refers to the fact that the formal sides of these sign are built from a relatively small repertoire – usually between 10 and 100 – of meaningless sounds.

In English, the number of sounds is around 50 – almost equally divided between consonants and vowels – varying somewhat between dialects and between different ways of analyzing the English phonological system. There is no connection between the meaning and any of the sounds. If the /ɪ/ of /sɪt/ is replaced by /ʊ/, we get /sʊt/, spelt *soot*, which has the meaning ‘a black powdery form of carbon produced when coal, wood, or oil is burned, which rises up in fine particles with the flames and smoke’. This meaning is totally unrelated to the meaning ‘to assume a position of rest in which the weight is largely supported by the buttocks’, despite the fact that the units /sɪt/ and /sʊt/ both start with /s/ and end with /t/ and have a vowel in between, and the difference in meaning is in no way connected to the phonetic difference between the vowels /ɪ/ and /ʊ/. If /t/ in /sɪt/ is replaced by /k/, we get the sound sequence /sɪk/, spelt *sick*, which is used to express another completely unrelated meaning: ‘affected by an illness’.

In a “language” without double articulation, the formal sides of all signs would be constituted by individual sounds, and the number of different sounds would be equal to the number of signs. One example would be a system of communication where the formal side of of each sign is a specific cry. A human being would probably be able to distinguish several hundreds of cries, but such a system would not only be poor, but also uneconomical, and extremely vulnerable to noise.

### 1.1.2 Grammar and productivity

The principle of double articulation has enabled human beings to create languages with an impressively large number of signs, but the inventory of signs in a language is by necessity finite. Since the number of sounds in a language usually is between 10

and 100, we could not have hundreds of thousands of different signs unless we allowed them to be extremely long, and there is anyway an upper limit to the number of signs that a human being is able to remember. It would not be very practical for a language to have separate signs for meanings like ‘man killed lion’ and ‘lion killed man’. The total number of isolated signs in a human language is generally limited to roughly 10 000–20 000, and with this number of signs we cannot talk about an infinite number of meanings – *unless we combine them*.

The ingenious invention that enabled human beings to talk about everything they can imagine, is **syntax**. Syntax is used to put together signs expressing relatively simple meanings into sign combinations expressing more complex meanings. To express a meaning like ‘man killed lion’, we combine signs meaning ‘man’, ‘kill’, ‘past’, and ‘lion’, and we combine the same signs in a different way to express the meaning ‘lion killed man’. The English sign sequences *man kill-ed lion* and *lion kill-ed man* are **sentences**, and the number of sentences in a language is infinite. Take any sentence in a language, and it is always possible to make it longer: *man killed lion* ⇒ *the man killed the lion* ⇒ *the woman said that the man killed the lion* ⇒ *the old woman said that the young man killed the lion* ⇒ *the old woman said that the young man killed the lion that ate the antelope* ⇒ *the girl believed that the old woman said that the young man killed the lion that ate the antelope* – and so on infinitely.

Syntax is a mechanism that enables human beings to utter or understand an infinite number of sentences constructed from a finite number of building blocks. Without syntax, we would not be able to express other meanings than those associated with isolated signs, and the number of different meanings we would be able to express would be equal to the number of signs in the “language”.

### 1.1.3 Sound languages vs. sign languages

This book is about languages using sound. One type of language uses signs made with different body parts, especially the hands. This is the sign languages of the deaf. They are similar to sound languages in most respect.

## 1.2 The origin of language

Biologists refer to the modern human as *homo sapiens*, Latin for ‘wise man’, but the possession of language is such an important part of the definition of the modern human that *homo loquens* ‘talking man’ would be an equally appropriate name.

Since humans are the only creatures on Earth that possess language, this system of communication must by necessity be younger than the split between the human lineage and that of our closest modern non-human relative, the chimpanzee. This split is generally assumed to have taken place 5 to 7 million years ago. The oldest creatures in the human lineage are called *hominids*, while the first individuals belonging to our own genus, *Homo*, appeared about 1.9 million years ago. Few researchers – if any at all – believe language to be close to 2 million years old, but before we discuss in more detail the upper limit or the maximum age of language, let us take a closer look at the lower limit or the minimum age of language.

We shall discuss the age of language on the basis of *writing*, *historical reconstruction*, *oral tradition*, and *archaeology*.

### 1.2.1 The beginnings of writing

In many parts of the world – France, India, Zimbabwe, and elsewhere – cave drawings and bone carvings have been discovered that were made during the archeological period referred to as the *Upper Paleolithic* in Europe and Asia and the *Middle Stone Age* in Africa. Roughly, this period lasted from 35 000 until 10 000 BP (= before present). Some researchers interpret these drawings and carvings as the earliest precursors of writing. The relevance to us of such claims is that **writing** depends upon language, since it can be defined in the following way:

**Writing** is a set of visible or tactile signs used to represent units of language in a systematic way.

On the basis of this definition, writing is much younger. It is tempting – and quite reasonable – to propose that those ancient drawings and carvings cannot have been made by humans without language, but they do not constitute direct evidence of language. Writing in the strict sense started around 5 300 BP in Mesopotamia with the *cuneiform* writing system, and the first language ever written was Sumerian. About 300 years later, the *hieroglyphic* writing system appeared in Egypt. In China, writing started not more than 1 000 years later, around 4 000 BP. In the Americas, the oldest writing system is that of the Maya civilization, and the oldest documents have been dated to 2 200–2 100 BP. However, most languages in the world were not written down until the 19<sup>th</sup> and the 20<sup>th</sup> century.

It is almost an understatement that language must have existed for a considerable time before humans started to write, so that nobody would question the claim that language is much more than 5 300 years old. Still, it is important to remember that we do not have any *documentation* of language from an earlier date.

### 1.2.2 The minimum age of language

Today, about 6 900 languages are spoken throughout the world – more than 2 000 languages in Africa, 1 000 in the Americas, more than 2 250 in Asia, about 220 in Europe, and more than 1 300 in Australia and the Pacific. These languages can be grouped into more than 90 **language families**. A language family is defined in the following way:

**A language family** is a group of languages with a common origin.

The *common origin* is postulated to have been a single language, referred to as a **proto-language**, that was spoken at a certain time in the past. Through the ages that proto-language broke up into dialects. As time went by, these dialects become increasingly more different from each other, ending up as different languages, primarily due to geographical distance. These languages developed dialectal differences, and the whole cycle was repeated, many times.

The major language families in the world are *Afro-Asiatic* (353 languages spoken in Africa and Asia), *Austronesian* (1 246 languages spoken in Asia and Oceania), *Indo-European* (430 languages spoken in Asia and Europe, and in European settlements in other parts of the world), *Niger-Congo* (1 495 languages

spoken in Africa), *Sino-Tibetan* (399 languages spoken in Asia), and *Trans-New Guinea* (561 languages spoken in New Guinea and adjacent islands).

Linguists have developed quite reliable methods to reconstruct proto-languages – for example, *Proto-Indo-European* – spoken before writing was introduced. The reason why we can call the methods reliable is that in several cases reconstructions have been supported by written texts discovered after the reconstructions were made.

We cannot exclude the possibility – in fact, it is highly plausible – that the proto-languages of the ninety-odd language families in the world were themselves languages in even older language families, but the methods of historical language reconstruction have their limits. After a certain period of time, languages change so much that a possible common origin simply cannot be detected. While archeologists can date the age of artefacts on the basis of the constant decay of radioactive atoms, languages do not change at a constant rate at all times and at all places, but most linguists do not think that it is possible to reconstruct proto-languages that were spoken more than approximately 10 000 BP. This does not, mean, however, that language origins should not be traced much further into the past.

### 1.2.3 The testimonies of oral tradition

When writing was invented, texts could be stored and information could be transmitted across generations, centuries, and millennia, to a much larger extent than before. But crossgenerational communication did not start with writing. Interesting pieces of information have been «handed down» to us through **oral tradition**.

Some fascinating examples of information from a distant past that have survived through oral tradition is mentioned by the linguist R. M. W. Dixon in his book about the Australian language Dyirbal, *The Dyirbal Language of North Queensland*. On p. 29, Dixon writes that «beneath the veneer of fantasy, some [Dyirbal] myths may provide accurate histories of events in the distant past of the people», and this is just one example:

Further evidence is contained in the myth of Giṛugar, a legendary man who came from the south, visiting each mountain, lake and island and giving it a name. The storyteller remarked that in Giṛugar's day it was possible to WALK across to the islands (Palm Island, Hinchinbrook Island, and so on). In fact geographers believe that sea level was sufficiently low for it to have been possible to walk to all islands in the Coral Sea at the end of the last ice age, eight to ten thousand years ago.

This may be some of the oldest direct evidence in the world of the existence of language. The fact that it was possible to walk across to those islands could not have been «handed down» from one generation to another for at least 10 000 years without language.

### 1.2.4 The FOXP2 gene

Found in humans and, in somewhat different form, in chimpanzees, damaged in humans with a certain type of speech deficiency.

### 1.2.5 Archaeological evidence

In Africa, the first archeological remains of *anatomically* modern humans, *Homo sapiens*, have been dated to 130 000 years BP, and the development of *behaviorially* modern humans was apparently completed 60 000–40 000 years ago.

As we shall come back to below, language could not develop until our ancestors had acquired certain anatomical features, while, on the other hand, certain behavioral features are difficult to imagine in a society without language. Necessary anatomical features are what we call *articulatory organs* – that is, among other things, a mouth, and and throat of a certain shape – a *minimum brain size*, while art is an important behavioral feature.

Many scholars therefore believe that language emerged *not earlier than* the completed development of *anatomically* modern humans, 120 000–100 000 BP, and *not later than* the completed development of *behaviorally* modern humans, 60 000–40 000 BP.

While modern humans have existed in Africa for 130 000 years, it was only after the development of the *behaviorally* modern humans that they spread to other parts of the world. Fossil and archeological evidence indicate that they reached Australia 50 000 BP, West Asia 47 000 BP, New Guinea 45 000 BP, Europe 40 000 BP, East Asia 39 000 BP, the Americas considerably later, but at least 14 500 BP. Western parts of Oceania were settled by modern humans approximately 30 000 BP, while eastern parts were settled within the last 3 500 years.

We do not know whether language has arisen several times (**polygenesis**) or only once (**monogenesis**) in the prehistory of man. Monogenesis implies that all languages in the world are related to each other, in an ancient family of languages, all of which have descended from a proto-language that some linguists call *Proto-World*. To the extent that this question is being discussed, linguists can be divided into two groups, those that defend monogenesis and those – probably the overwhelming majority – that regards themselves as «agnostics».

Whatever the right answer, it is highly probable that those modern humans that left Africa 50 000–40 000 years BP had language. In this perspective, we're all Africans speaking African languages!

### 1.2.6 Did the Neanderthals speak?

But we have nothing resembling hard evidence that precludes the existence of language before the period before the anatomical and behavioral development of modern humans was completed in the period 130 000–40 000 years BP. The Neanderthals, who lived in Europe and Western Asia from around 250 000 years BP until 28 000 years BP, might well have had some kind of language. The Neanderthals are regarded as descendants of *Homo heidelbergensis*, that first appeared – as descendants of *Homo erectus* (1.9 million to 27 000 years BP) – in Africa about 1 million years BP. There were Neanderthals in Europe until 12 000 years after modern humans had settled there, and they may simply have been absorbed by the modern humans, and Europeans may count Neanderthals among their ancestors. As stated by John Gribbin and Jeremy Cherfas write in *The First Chimpanzee. In Search of Human Origins* (p. 86):

Neanderthal people were certainly intelligent – they used tools, they painted pictures in caves, built shelters and even buried their dead with ritual, judging by the evidence of a flower-bedecked grave found in Iraq.

In the preceding paragraphs we have presented some hopefully «informed guesses» about the age of human language as we know it, but we hesitate to write anything about *how* it all started, despite the fact that many «theories» have been presented through the ages.

Much has also been written about the question whether the ancestors or close relatives of modern man, like *Homo erectus* and *Homo neanderthalensis*, had any kind of language.

After our discussion of the minimum age of language, we may conclude that we have not found any hard evidence that language is more than 10 000 years old, but few scholars would doubt that it is considerably older, and at least 40 000–50 000 years old. Now we shall take a different perspective and ask about the maximum possible age of language.

While the discussion about the minimum age is primarily governed by *cultural* phenomena, that is, *inter alia* writing, language reconstruction, oral tradition, and art, the discussion about the maximum age will primarily be dominated by *anatomy*.

We do not know how large and complex a brain has to be to make language possible. May be chimpanzee's brain is too small for language, but whether the brain obtained the necessary size in *Homo erectus*, *Homo heidelbergensis*, *Homo neanderthalensis*, or not until *Homo sapiens*, will at our present state of knowledge be nothing but conjecture. Claims have often been made since the 19th century to the effect that modern humans have a «language center» in their brain, and we shall come back to this in section 1.3.

Psychologists have tried to teach chimpanzees human language. After some unsuccessful attempts 40–50 years ago to teach them spoken language, some chimpanzees have been taught parts of *American Sign Language*, the language used by deaf people in the United States. The reasons why chimpanzees did not manage to learn to speak are probably quite numerous. They may not have sufficiently developed articulatory organs; they may lack the ability to perceive and later to articulate sounds in a particular sequence; they may lack a sufficiently developed brain in a more general sense; or all of this may be true. When the chimpanzees were allowed to use their eyes, hands and arms instead of the ears and mouths, they were more successful. Linguists have been arguing ever since how much they learnt, and we shall get involved in that discussion. Instead, we shall take a look at research around the following question: Did the Neanderthals have an anatomy that enabled them to speak?

Several attempts have been made to reconstruct the *vocal tract* of *Homo neanderthalensis*, that is, tongue, mouth cavity, pharynx (throat), and larynx. On the basis of some early reconstructions – which have been heavily criticized as wrong – it was first concluded that a human vocal did not fit into the skull of a Neanderthals, who therefore had to be unable to speak. Among other things, it was believed that modern humans have a significantly lowered *larynx* (of which the Adam's apple is a part), which was believed to be a necessary prerequisite for speech. This allegedly lowered larynx was even regarded as a human evolutionary adaption to language. Later it has been shown that the lowered larynx is found in *adult males* only, and not in *children* and *adult females* – who nevertheless have the same ability to speak. The lowered larynx seems to be an evolutionary specialization of males after puberty, and



its main function is to give the males a darker voice that frightens potential attackers and competitors.

The American linguist Philip Lieberman, who has played a central role in the research on the Neanderthal vocal tract, writes in his 1998 book *Eve spoke. Human language and human evolution* (p. 8):

Neanderthals clearly possessed language and speech, but their speech capabilities were intermediate between those of still earlier hominids and those of modern humans. Neanderthal speech would immediately have been perceived as being different from that of our [modern human] ancestors.

Let us conclude this discussion with the conjecture that language may have developed gradually, and that Neanderthals had some kind of language, but that their language did not reach the stage of development of the language that came into existence in modern humans approximately 130 000–40 000 years ago.

### 1.3 Instinct vs. invention

It is a fact that in our time, 28 000 years after the disappearance of the Neanderthals, the modern human is the only species on Earth possessing language. Clearly, we are the only species with sufficient anatomical prerequisites for language learning, but linguists disagree about our degree of anatomical specialization for language.

Some linguists claim that the reason why humans are the only possessors of language is that we have an innate language capacity. Others claim that the reason is our general cognitive capacities, which surpass those of all other species.

#### 1.3.1 Language as instinct

The matter of controversy is whether the development of the brain is comparable to the development of the vocal tract, or whether this development can only be understood as a biological adaptation to language use. In 2002, the American linguists Stephen R. Anderson and David Lightfoot published the book *The Language Organ. Linguistics as Cognitive Physiology*, where they defend the latter view, which they formulate in the following way (p. 216):

Our ability to speak and understand a natural language results from – and is made possible by – a richly structured and biologically determined capacity specific both to our species and to this domain. [...] the language faculty is a part of human biology, tied up with the architecture of the human brain, and distinct in part from other cognitive faculties.

This alleged «richly structured and biologically determined capacity» for language is referred to as an **innate language faculty**, a **language instinct**, or a **language organ**, an «organ» that is compared to other organs like the visual system, which *inter alia* includes the eyes, the optic nerves, and the visual cortex, and which without any doubt is the result of a long biological evolution.

The main advocate for the view that human beings has this capacity is the well-known American linguist Noam Chomsky, who has presented several arguments in

favor of an innate language faculty, and we shall take a look at three of them, as an illustration of Chomsky's argumentation:

1. Speed of acquisition
2. Poverty of data
3. Language universals

We shall take a look at each argument. Some of the criticism presented is taken from the book *The 'Language Instinct' Debate*, which the British linguist Geoffrey Sampson published in 2005.

### 1.3.1.1 SPEED OF ACQUISITION

Chomsky has claimed that language is acquired in «a remarkably short period», and that the speed would not be possible if the human did not have an innate language faculty.

Critics have pointed out that in order to assess this argument, we need to know what it means to acquire language in a remarkably short period, and that this information has never supplied by the «nativists».

### 1.3.1.2 □ POVERTY OF DATA

Chomsky has claimed that «the language each person acquires is a rich and complex construction hopelessly underdetermined by the fragmentary evidence available», that is, the grammar acquired by children is much more complex than one should expect on the basis of the language data the children is exposed to from people around them.

Geoffrey Sampson points out that «Chomsky originally made statement about the child's data being quantitatively poor years before anyone had done serious research on the nature of the speech addressed to children», and that later research has not supported Chomsky's statement.

### 1.3.1.3 □ LANGUAGE UNIVERSALS

All languages in the world are claimed to resemble each other in a remarkable way from a *structural* point of view. Notice that we are talking about the grammatical structure of sentences, and for example not about words, since there is no particularly striking resemblance between the word meaning 'book' in English (*book*), French (*livre*), Arabic (*kitāb*), and Chinese (*shū*). Chomsky says that languages resemble each other in structural features that are not necessary properties of a language, and that these universal structural properties must be explained on the basis of innate knowledge.

In Geoffrey Sampson's view, the number of language universals is not that impressive, and not large enough to justify the postulation of an innate language faculty.

Sampson also expresses agreement with the American linguist Martin Joos, who wrote in 1957 that «languages [...] differ from each other without limit and in unpredictable ways.»

### 1.3.2 Language as invention

According to an alternative view, language is primarily a cultural phenomenon and not a biological one, and explanations of the structure of language should be sought in language functions and general aspects of human cognition. In this perspective, language is **invented** by human beings, and through exaptation different parts of the human body have acquired a linguistic function, primarily in addition to other and primary functions that still survive.

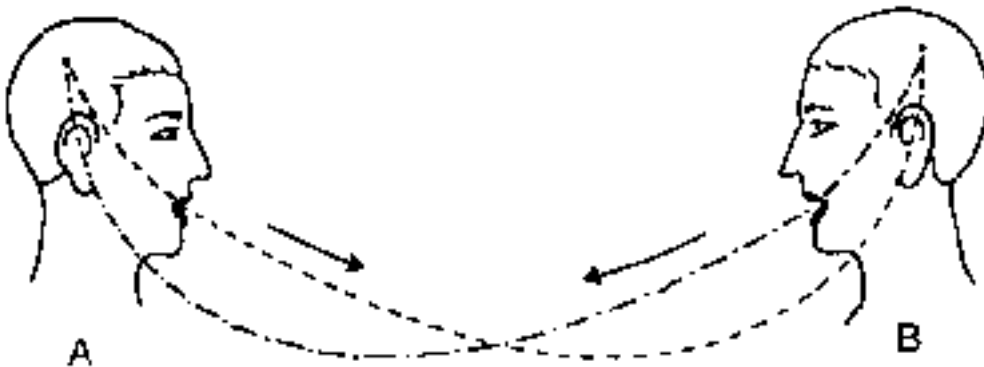
Theories about an innate language faculty cannot be defended before serious attempts have been made to account for more or less universal properties of language in this general cognitive perspective.

The particular shape of the vocal tract, that is, its fitness for articulating language sounds, is probably due to what in evolutionary biology is called **exaptation**: *a large change in function is accomplished with little change in structure, or, expressed in a different way, old tools are used for new purposes.*

It has not been possible to find anatomical changes in the vocal tract that can only be understood as evolutionary adaptations to language. The vocal tract most probably acquired its present shape for reasons that are irrelevant for language, like adaptation to a different diet and walking upright, but this new shape turned out to be an almost perfect tool for talking.

### 1.4 From meaning to form

The figure below shows how one of the founding fathers of modern linguistics, Ferdinand de Saussure, envisaged the speech situation:



Person A produces speech sounds to transmit ideas from his mind to the mind of person B. Person B more or less successfully reconstructs the ideas of person A in his own mind on the basis of the sound waves that his ears pick up. Since most people are not mind-readers, they need a medium for communication, and language is such a medium.

#### 1.4.1 Lexicon

All languages make use of a **lexicon** and a **grammar**. The lexicon is a mental dictionary containing all **lexical items** (such as words and fixed expressions) in a

given language. The grammar is a set of **rules** for the usage of these lexical items, especially for ways of combining them with each other.

A lexical item consists in a relation between meaning and form.<sup>1</sup>

The **meaning** of a lexical item is different from its **reference**. For instance, the English word *tree* represents a mental **concept** rendered by the *Oxford English Dictionary* as 'a perennial plant having a self-supporting woody main stem or *trunk* (which usually develops woody branches at some distance from the ground), and growing to a considerable height and size'. This concept is something that exists in the mind of a speaker of English; it is a psychological entity. The actual trees found in the physical world all belong to the reference of the word *tree*, not to its meaning, though there is obviously a close connection between the two. As a matter of convention, meanings are put between simple citation marks: 'tree'.

A distinction between psychological and physical entities is also made in the case of **form**. Although the phonetic form of a lexical item is concrete and physical, consisting of sound waves produced and modulated by the various speech organs, the sound shape of a word also has its psychological aspects. For instance, although the sounds [t<sup>h</sup>] (aspirated *t*, as in *tea*) and [t] (unaspirated *t*, as in *steal*) are phonetically different (just hold your hand in front of your mouth to feel the difference between the two), this difference is not enough to make speakers of English feel that they are different sounds. This contrasts with speakers of Chinese, for whom the same distinction is vital, because it constitutes the only difference between words like [t<sup>h</sup>wó] 'pull' and [twó] 'many; much'.<sup>2</sup> In Chinese, therefore, the distinction between [t<sup>h</sup>] and [t] has a psychological reality that it lacks in English. A physical sound is called a **phone** and put between square brackets ([t<sup>h</sup>] and [t]), while a psychological sound is called a **phoneme** and put between slashes (/t<sup>h</sup>/ and /t/). We shall return to this distinction, and the problems it involves, in chapter 4.

Basically, the relation between the meaning and the form of a lexical item is **arbitrary**. There is no good reason why a tree is called *tree* in English, except that most speakers of English agree that this is the case. It is a matter of **convention**. Other languages follow other conventions. On the one hand, the same meaning may be expressed through different forms, as when 'tree' is called *arbre* in French, *mti* in Swahili, *ju* in Japanese and *tlugvi* in Cherokee. On the other hand, one and the same form may express different meanings, as when the syllable written or transcribed *ni* is used to represent the number 'nine' in Norwegian and Danish, the dative particle (corresponding to English 'at', 'on', 'in', 'to' etc.) in Japanese, the first-person pronoun 'I' in Hausa and the second-person pronoun 'you' in Chinese. In all these cases, there is no obvious motivation for the relation between meaning and form. There are many interesting exceptions, and we will return to some of them in 5.7, but it remains true that the relation between the meaning and the form of a lexical item is *basically* arbitrary and conventional.

### 1.4.2 Grammar

Language does not only consist of individual lexical items, but also of rules for the usage and combination of these items. Such rules also have both meaning and form. Consider, for instance, the following two sentences:

<sup>1</sup> Saussure uses the terms 'sign', 'signified', and 'signifier' ('signe', 'signifié' and 'signifiant' in French) in basically the same meanings as 'lexical item', 'meaning' and 'form'.

<sup>2</sup> Written *tuō* and *duō* in pinyin transcription.

- A. Peter will come.  
B. Will Peter come?

Both sentences are combinations of the same words, but they differ both in meaning (statement vs. question) and form (word order).<sup>3</sup> In this case, the meaning is expressed through the **structure** of the sentence, not directly through its sounds. Of course, the structure also has consequences for the phonetic shape of the sentence, but the crucial difference does not lie in the phonetic difference between *p-e-t-e-r-w-i-l-l* and *w-i-l-l-p-e-t-e-r*, but between the order of the subject and the following auxiliary.<sup>4</sup> Compare the following two sentences:

- C. Mary must die.  
D. Must Mary die?

With regard to meaning, the difference between C and D is exactly the same as the difference between A and B. The same is true about the difference in structure, with both pairs representing a contrast between *subject-auxiliary-verb* and *auxiliary-subject-verb* word order. With regard to phonetic shape, however, the difference between C and D (*m-a-r-y-m-u-s-t* vs. *m-u-s-t-m-a-r-y*) is not the same as that between A and B.

There are several differences between lexicon and grammar. The lexicon contains particular **items** that must be remembered individually (such as *Peter*, *will* and *come*), while the grammar contains general **rules** (such as the rule stating that a question may be formed by moving the auxiliary in front of the subject). Lexical form consists in strings of **sounds** (such as /*pi:tə*/, /*wɪl*/ and /*kʌm*/), while grammatical form also involves **structural** patterns (such as the ordering of subject and auxiliary). Also, the lexicon tends to treat each item as a whole, while the grammar is always concerned with a combination of meaningful elements.

	<i>Objects</i>	<i>Form</i>	<i>Complexity</i>
<i>Lexicon</i>	individual items	strings of sounds	whole
<i>Grammar</i>	general rules	structural patterns	combination

The distinction is not absolute. First, what is a rule? Is the auxiliary *will* a lexical item meaning 'to be going to' or a grammatical marker employed by the rule for future marking in English? Second, grammatical meaning is expressed not only through structure, but also through affixes (like plural *-s*) and function words (like the perfect marker *have*). And third, the lexicon also contains a large number of complex items, such as irregularly inflected words like *children*, derived words like *kindness*, compounds like *milk-shake* or idioms like *kick the bucket*. In such cases, grammatical structure also enters into the lexicon. In fact, information about the grammatical properties of each lexical item, such as word class (noun, verb, adjective etc.), is an important part of the lexicon. The fact that there is some overlap, however, does not make the distinction between lexicon and grammar less important.

<sup>3</sup> For the sake of simplicity, we shall look away from the fact that they also differ in intonation pattern, or, in writing, in the use of punctuation marks.

<sup>4</sup> The term 'subject' is discussed in 3.3.1, and the term 'auxiliary' is discussed in 2.2.2.

As we have seen, the connection between meaning and form in simple lexical items is usually arbitrary. This is much less true of grammatical structure, which is often at least partly **motivated**. While both *milk* and *shake* are arbitrary names, the compound *milk-shake* is not, since knowing the words *milk* and *shake* is enough to indicate, albeit imprecisely, the meaning of the word *milk-shake*. And while the plural form *men* is arbitrary, the plural form *hens* is not, since knowing the word *hen* and the plural affix *-s* is enough to determine the meaning of *hens*. ??

Furthermore, some grammatical structures are not only motivated, but **iconic** in the sense that they function as images of the reality that they refer to. The most obvious case is temporal iconicity. In the following famous sentence, reportedly uttered by Julius Caesar after he had conquered the Pharnaces, the sequence of the three clauses reflects the temporal sequence of the events referred to:

I came, I saw, I conquered.

If the sequence of the clauses were changed, so would the temporal sequence of the events referred to. The temporal iconicity principle is extended to cover a number of other grammatical structures:

1. Given information tends to precede new information (since in the mind given information exists prior to new information).
2. In conditional sentences, the if-clause tends to precede the then-clause (since the if-clause usually refers to events that exist prior to the events of the then-clause).
3. Clauses expressing cause tend to precede clauses expressing effect (since a cause precedes its effect in time).

None of these principles are unbreakable, but they seem to apply to a greater or lesser extent in all known languages across the world.

### 1.4.3 The branches of linguistics

The traditional branches of linguistics cover different stages on the way from ideas to sound waves (and back again). At one end, we have **semantics**, the study of linguistic meaning. At the other end, we have **phonology**, the study of speech sounds. From one perspective, meaning is what language is all about, the other branches of linguistics being concerned with how meaning is given form, so that it may be conveyed between speakers and hearers. Sounds, on the other hand, are not strictly necessary, and some languages, most notably the sign languages of the deaf, convey linguistic meaning without the use of speech sounds. In the vast majority of languages, however, sounds play a crucial role.

In between semantics and phonology, there are two other branches of linguistics, and both are concerned with the structural principles for the combination of meaningful elements. In traditional terminology, **morphology** is the study of word structure, of how smaller units are combined into words (as in English *sing-er-s*), while **syntax** is the study of sentence structure, of how words are combined into phrases (like *the old man*), clauses (like *that he was dying*) and sentences (like *The old man knew that he was dying*). Syntax and morphology have partly overlapping tasks, and languages differ radically in the degree to which they make use of these two

branches to convey meaning. Some languages, such as Vietnamese, have little morphology and much syntax, whereas other languages, such as Inuit (Eskimo), have much morphology and comparatively little syntax. In this book, the term **grammar** will be used as a cover term for morphology and syntax.<sup>5</sup>

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<sup>5</sup> Some linguists prefer the term 'morphosyntax' and use 'grammar' in a wider sense, to refer to all the underlying rules of language, including semantics and phonology.