5 · LANGUAGE AND THOUGHT

It seems evident that there is the closest of relationships between language and thought: everyday experience suggests that much of our thinking is facilitated by language (p. 13). But is there identity between the two? Is it possible to think without language? Or does our language dictate the ways in which we are able to think? Such matters have exercised generations of philosophers, psychologists, and linguists, who have uncovered layers of complexity in these apparently straightforward questions. A simple answer is certainly not possible; but at least we can be clear about the main factors which give rise to the complications.

KINDS OF THINKING

Many kinds of behaviour have been referred to as 'thinking', but not all of them require us to posit a relationship with language. Most obviously, there is no suggestion that language is involved in our emotional response to some object or event, such as when we react to a beautiful painting or an unpleasant incident: we may use language to explain our reaction to others, but the emotion itself is 'beyond words'. Nor do people engaged in the creative arts find it essential to think using language: composers, for example, often report that they 'hear' the music they wish to write. Also, our everyday fantasies, day-dreams, and other free associations can all proceed without language.

The thinking which seems to involve language is of a different kind: this is the reasoned thinking which takes place as we work out problems, tell stories, plan strategies, and so on. It has been called 'rational', 'directed', 'logical', or 'propositional' thinking. It involves elements that are both deductive (when we solve problems by using a given set of rules, as in an arithmetical task) and inductive (when we solve problems on the basis of data placed before us, as in working out a travel route). Language seems to be very important for this kind of thinking. The formal properties of language, such as word order and sentence sequencing, constitute the medium in which our connected thoughts can be presented and organized.

INDEPENDENCE OR IDENTITY?

But how close is this relationship between language and thought? It is usual to see this question in terms of two extremes. First, there is the hypothesis that language and thought are totally separate entities, with one being dependent on the other. At the opposite extreme, there is the hypothesis that language and thought are identical – that it is not possible to engage in any rational thinking without using language. The truth seems to lie somewhere between these two positions.

Within the first position, there are plainly two possibilities: language might be dependent upon thought, or thought might be dependent upon language. The traditional view, which is widely held at a popular level, adopts the first of these: people have thoughts, and then they put these thoughts into words. It is summarized in such metaphorical views of language as the 'dress' or 'tool' of thought. The view is well represented in the field of child language acquisition (§38), where children are seen to develop a range of cognitive abilities which precede the learning of language.

The second possibility has also been widely held: the way people use language dictates the lines along which they can think. An expressive summary of this is Shelley's 'He gave men speech, and speech created thought, /Which is the measure of the universe' (*Prometheus Unbound*). This view is also represented in the language acquisition field, in the argument that the child's earliest encounters with language are the main influence on the way concepts are learned. The most influential expression of this position, however, is found in the Sapir–Whorf hypothesis (see facing page).

A third possibility, which is also widely held these days, is that language and thought are interdependent – but this is not to say that they are identical. The identity view (for example, that thought is no more than an internalized vocalization) is no longer common. There are too many exceptions for such a strong position to be maintained: we need think only of the various kinds of mental operations which we can perform without language, such as recalling a sequence of movements in a game or sport, or visualizing the route from home to work. It is also widely recognized that pictorial images and physical models are helpful in problem-solving, and may at times be more efficient than purely verbal representations of a problem.

On the other hand, these cases are far outnumbered by those where language does seem to be the main means whereby successful thinking can proceed. To see language and thought as interdependent, then, is to recognize that language is a regular part of the process of thinking, at the same time recognizing that we have to think in order to understand language. It is not a question of one notion taking precedence over the other, but of both notions being essential, if we are to explain behaviour. Once again, people have searched for metaphors to express their views. Language has been likened to the arch of a tunnel; thought, to the tunnel itself. But the complex structure and function of language defies such simple analogies.

NON-VERBAL AND VERBAL THOUGHT

The two dimensions to rational thinking – linguistic and non-linguistic – can be discovered in a simple experiment, which anyone can perform.

1. Think of where you work. Now visualize the route you follow, as if you were driving along in a car, as you proceed from work to your home. The sequence of visual images which you bring to mind will be largely independent of language.

2. Now imagine you have to explain to a visitor how to reach your house from work. Think out the steps of your explanation, as you would present them, without saying anything aloud. The sequence of ideas will be expressed internally using language.
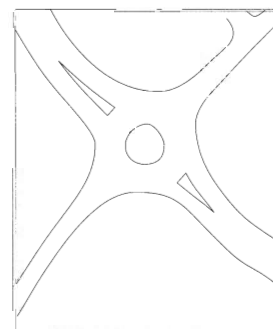
THE SAPIR–WHORF HYPOTHESIS

The romantic idealism of the late 18th century, as encountered in the views of Johann Herder (1744–1803) and Wilhelm von Humboldt (1762–1835), placed great value on the diversity of the world's languages and cultures. The tradition was taken up by the American linguist and anthropologist Edward Sapir (1884–1939) and his pupil Benjamin Lee Whorf (1897–1941), and resulted in a view about the relation between language and thought which was widely influential in the middle decades of this century.

The 'Sapir–Whorf hypothesis', as it came to be called, combines two principles. The first is known as *linguistic determinism*: it states that language determines the way we think. The second follows from this, and is known as *linguistic relativity*: it states that the distinctions encoded in one language are not found in any other language. In a much-quoted paragraph, Whorf propounds the view as follows:

We dissect nature along lines laid down by our native languages. The categories and types that we isolate from the world of phenomena we do not find there because they stare every observer in the face; on the contrary, the world is presented in a kaleidoscopic flux of impressions which has to be organized by our minds – and this means largely by the linguistic systems in our minds. We cut nature up, organize it into concepts, and ascribe significances as we do, largely because we are parties to an agreement to organize it in this way – an agreement that holds throughout our speech community and is codified in the patterns of our language. The agreement is, of course, an implicit and unstated one, *but its terms are absolutely obligatory*; we cannot talk at all except by subscribing to the organization and classification of data which the agreement decrees.

Whorf illustrated his view by taking examples from several languages, and in particular from Hopi, an Amerindian language. In Hopi, there is one word (*masa'ytaka*) for everything that flies except birds – which would include insects, aeroplanes and pilots. This seems alien to someone used to thinking in English, but, Whorf argues, it is no stranger than English-speakers having one word for many kinds of snow, in contrast to Eskimo, where there are different words for falling snow, snow on the ground, snow packed hard like ice, slushy snow (cf. English *slush*), and so on. In Aztec, a single word (with different endings) covers an even greater range of English notions – snow, cold, and ice. When more abstract notions are considered (such as time, duration, velocity), the differences become yet more complex: Hopi, for instance, lacks a concept of time seen as a dimension; there are no forms corresponding to English tenses, but there are a series of forms which make it possible to talk about various durations, from the speaker's point of view. It

would be very difficult, Whorf argues, for a Hopi and an English physicist to understand each other's thinking, given the major differences between the languages.

Examples such as these made the Sapir–Whorf hypothesis very plausible; but in its strongest form it is unlikely to have any adherents now. The fact that successful translations between languages can be made is a major argument against it, as is the fact that the conceptual uniqueness of a language such as Hopi can nonetheless be explained using English. That there are some conceptual differences between cultures due to language is undeniable, but this is not to say that the differences are so great that mutual comprehension is impossible. One language may take many words to say what another language says in a single word, but in the end the circumlocution can make the point.

Similarly, it does not follow that, because a language lacks a word, its speakers therefore cannot grasp the concept. Several languages have few words for numerals: Australian aboriginal languages, for example, are often restricted to a few general words (such as 'all', 'many', 'few'), 'one' and 'two'. In such cases, it is sometimes said that the people lack the concept of number – that Aborigines 'haven't the intelligence to count', as it was once put. But this is not so, as is shown when these speakers learn English as a second language: their ability to count and calculate is quite comparable to that of English native speakers.

However, a weaker version of the Sapir–Whorf hypothesis is generally accepted. Language may not determine the way we think, but it does influence the way we perceive and remember, and it affects the ease with which we perform mental tasks. Several experiments have shown that people recall things more easily if the things correspond to readily available words or phrases. And people certainly find it easier to make a conceptual distinction if it neatly corresponds to words available in their language. A limited salvation for the Sapir–Whorf hypothesis can therefore be found in these studies, which are carried out within the developing field of psycholinguistics (p. 418).

HAVING A WORD FOR IT

There is nothing in everyday English to correspond to the many Arabic words for *horse* or *camel*, the Eskimo words for *snow,* or the Australian languages' words for *hole* or *sand*. Speakers of English have to resort to circumlocutions if they want to draw the distinctions which these languages convey by separate words – such as the size, breed, function, and condition of a camel. On the other hand, several languages cannot match the many words English has available to identify different sizes, types, and

uses of vehicles – *car, lorry, bus, tractor, taxi, moped, truck,* and so on – and might have just one word for all of these.

There is in fact no single word in English for the driver of all kinds of motor vehicles – *motorist* being restricted to private cars, and *driver* being unacceptable for motorcycles – a lexical gap which greatly worried the British Automobile Association in 1961. It was felt that such a word would be useful, and they therefore asked for suggestions. Among the 500 they

received were:

autoist	autonaut
roadist	vehiclist
chassimover	murderist
mobilist	roadent
wheelist	vehicuwary

doice (Driver Of Internal Combustion Engine)

pupamotor (Person Using Power-Assisted Means of Travel on Roads)

licentiat (Licensed Internal Combustion Engine Navigator Trained in Automobile Tactics)

However, none of these ingenious ideas has survived.

WORDS FOR *HOLE* IN PINTUPI

It takes between three and 14 English words to distinguish the various senses of *hole* in this Australian aboriginal language, but the distinctions can nonetheless be conveyed.

yarla a hole in an object

pirti a hole in the ground

pirnki a hole formed by a rock shelf

kartalpa a small hole in the ground

yulpilpa a shallow hole in which ants live

mutara a special hole in a spear

nyarrkalpa a burrow for small animals

pulpa a rabbit burrow

makarnpa a goanna burrow

katarta the hole left by a goanna when it has broken the surface after hibernation