

The Relationship between Language and Thought

Introduction

The connection between language and thought is profound. The majority of our everyday life involves the use of language. We tell our ideas to others with language, we “read” their responses and understand their meanings with language, and very often, we “speak” internally to ourselves when we process this information and make logical conclusions. It seems that rational thinking¹ unavoidably involves certain degree of the use of language. This connection seems so tight that, some linguists like Sapir and Whorf had to propose that thought is indeed utterly determined by language.

On the other hand, some linguists hold that language and thought are two separate and independent entities. The differences in the syntactic structure and the lexicons available in different languages, for example, cannot possibly determine the way these people think. Thus we have thought in the very first place, and then language came in as a tool for expressing our thought.

Still some others, not feeling contented with either version, proposed a third possibility, that language and thought are interdependent. “Language is a regular part of the process of thinking... It is not a question of one notion taking precedence over the other, but of both notions being essential.”²

While the conclusion on this issue is not a simple this-or-that answer and cannot be easily drawn, this paper will nevertheless try to provide adequate evidences in linguistic and psycholinguistic studies and seek for a reasonable conclusion.

Thought without Language

The strong form of Sapir-Whorf Hypothesis proposes that language determines thought; therefore they are identical in nature. This argument in fact implies that thought is impossible without language. Language is a carrier of thought, just like water is to water waves. Without water acting as a medium, water waves cannot possibly exist.

¹ Following Crystal’s argument, it is unarguable that many kinds of ‘thinking’ behavior, such as emotional expressions and painting, do not involve the use of language (Crystal 2002). Therefore in this paper we will restrict ourselves to the discussion of *rational thinking* only.

² Crystal, David (2002), p.14.

However, one can find quite some evidences against such claim. Consider a new-born baby who has not yet acquired any language, experiments have shown that “infants are capable, during the first day of their life, of a kind of reaching... [T]hey are able to project their arms in the direction of a visually perceived moving object. The new-born’s reaching behaviour manifests his capacity to process certain categories of information related to the situation and to his own actions.³” Since this reaching behavior is telic and has a certain aim, the action cannot be merely reflexive, and there must be a rational cognitive process behind.

In addition, Sachs, Truswell and others have shown that “children who could say only single words could understand speech structures composed of more than one word, e.g. *Kiss ball* and *Smell truck*.⁴” According to Steinberg, “The fact that children have the ability to understand speech indicates that they must have the thought that is involved in the comprehension of speech.⁵”

Another example of thought without language is given by the higher animals, such as apes and birds. It is commonly agreed that animals do not have language; yet, numerous experiments and observations have been done on these animals, and it has been observed that they possess at least some degree of cognitive ability, which allows them to perform cognitive processes such as problem solving tasks, matching and simple additions. When language has been taught to these animals, they could even use them creatively. “For example, one chimp who knew the signs for *rock*, *berry*, *water*, and *bird* combined those signs to express new concepts when coming into contact with a Brazil nut and a duck; the chimp signed *rock-berry* and *water-bird*. It would be hard to claim that these animals are able to think but that their brothers and sisters cannot.⁶”

The possibility of thought without language does not only appear in these immature or non-human subjects. Even as adults with full language ability, we occasionally find ourselves better thinking in terms of imagery representations. Especially in the fields of mathematics and physics, where abstract concepts are sometimes hard to describe in words, schematic graphs are often employed to simplify the problems. Jansons, a mathematician who suffered a condition called dyslexia

³ Mounoud, Pierre (1988), p.30.

⁴ Steinberg, Danny D. (1982). p.103.

⁵ ditto.

⁶ ditto, p.108.

which brought him great difficulties in reading and writing, explained that he did a lot of his mathematics without words of any kind:

The first examples class I was asked to give to the undergraduates at University College involved working out the total resistance of a network of resistors... I manipulated the resistor network by mentally cutting, folding, and reconnecting it in a way that would clearly not change the overall resistance, thus reducing a complicated network to a simple one which could be solved immediately to give a numerical answer.⁷

These examples have shown to us, at least at the very basic level of the question, rational thinking without the use or even the knowledge of language is possible. Therefore language and thought cannot be the one and same thing.

The Dependence of Thought on Language

We have seen that the strong form of Sapir-Whorf Hypothesis simply does not work. If language were identical to thought, we would not be able to think without language, which is not the case. Then, we ask, is thought dependent on language, as suggested by the weak form of Sapir-Whorf Hypothesis? Or in Whorf's own terms, does language determine our *habitual thought*?

It is important to first understand the term 'habitual thought' before we carry on our discussion. Whorf has explained himself as follows,

By "habitual thought" I mean more than simply language, i.e. than the linguistic patterns themselves. I include all the analogical and suggestive value of the patterns (e.g. our "imaginary space" and its distant implications), and all the give-and-take between language and the culture as a whole, wherein is a vast amount that is not linguistic but yet shows the shaping influence of language. In brief, this "thought world" is the microcosm that each man carries about within himself, by which he measures and understands what he can of the macrocosm.⁸

Even though Frawley has commented that Whorf's meaning was not entirely clear⁹, we will nevertheless understand it as the *general tendency in thinking*. And since this tendency is common among speakers of the same language, Whorf argued that the

⁷ Jansons, Kalvis M. (2002), pp498-506.

⁸ Whorf, Benjamin Lee (1971). p.147.

⁹ Frawley, William (1992). p.46.

world view or the culture of a particular linguistic group is dependent on their common language.

Whorf has given us one such example. When he worked for an insurance company, he was responsible for inspecting the causes of fires. He discovered that the term “empty gasoline drums” often mislead workers to think that the drums were indeed “empty” and safe. He reasoned that the word “empty” is used in two linguistic patterns:

- 1) as a virtual synonym for ‘null and void, negative, inert’ ;
- 2) applied in analysis of physical situations without regard to, e.g., vapor, liquid vestiges, or stray rubbish, in the container.¹⁰

Therefore, the use of these terms affects the way people think. However, Whorf failed to notice that such discrepancy between the word used (*empty*) and the reality (*filled with gasoline vapor*) is not due to linguistic reasons, but simply ignorance. Consider a chemist performing an experiment, such as electrolysis of water, and assume that he covers the experimental setup with a container. As the water is electrolyzed, it gradually disappears. Yet the chemist would not claim that the container is empty, because he understands that hydrogen and oxygen have been produced inside. On the other hand, it was the ignorance of the workers which made them fail to realize the existence of gasoline vapor inside the drums, not the superficial meaning of the word “empty”.

Whorf has also illustrated his view by taking examples from different languages. He argued that in different languages, there are different lexicons which classify things in different fashions, therefore we actually see the world differently. For example, there is a word for everything that flies except birds in the language Hopi, whereas in English such kind of classification seems weird and alien, and we do not tend to see things that way¹¹. Similarly, in the language Dani, there are only 2 basic color terms, one for “dark” and one for “light”, whereas in English and many other language, there are many more. But Frawley has pointed clearly, that this kind of differences can just be linguistic differences. Despite the different vocabularies in different languages, we can understand each other well provided that enough explanation is given on the terms concerned, and we obviously have the same

¹⁰ Whorf, Benjamin Lee (1971). p.135.

¹¹ Crystal, David (2002), p.15.

biological system to sense and perceive different colors.¹² After all, the variety of vocabularies clearly does not reflect our perception of the world, as even though we do not have a word for “male dog” (cf. *bitch* for female dog) or “back of hand” (cf. *palm* for the front or underside) in English, we are certainly aware of these ideas.¹³

In addition, if language indeed reflects world view, we will have to ask why there are totally different world views among the same linguistic group, while people speaking different languages can share similar world views. More interestingly, what kind of world view does a multilingual hold if his world view is dependent on languages signifying contradicting world views? Moreover, the world view of a society may change while its language remains relatively unchanged. For instance, China has changed from Feudalism to Capitalism to Communism in less than 100 years, while the language has changed little. Then, in what way does the language reflect the habitual thought of Chinese people?¹⁴ It seems that we are left no choices but to admit that if language determines any tendency in our thinking, it is in a very limited sense and cannot constitute what Whorf has suggested to be “habitual thought”.

Interdependence or Independence?

If language does not determine nor influence our thought, and its existence is merely an aid to thought; language, then, seems to us to be more like a tool of thought than a part of it. Steinberg has summarized three main functions of language to thought:

- 1) providing new ideas;
- 2) changing beliefs and values; and
- 3) assisting memory.¹⁵

We see that all of these functions only provide media for influencing our thought, but language itself does not alter the nature, content and direction of it. Steinberg noted that language itself is neutral to the thought which it conveys.

Therefore, even though language is significant in rational thinking, such importance is only due to the fact that language assists our memory and labels abstract

¹² Frawley ,William (1992). p.47.

¹³ Steinberg, Danny D. (1982). p.109.

¹⁴ ditto, pp.112-113.

¹⁵ ditto, pp.116-117.

ideas with words and sounds which can be more easily processed. For instance, when we do a calculation of one thousand plus one thousand in our mind, it is difficult to picture one thousand apples on one side, one thousand on the other, and then we count them altogether. Instead, we assign a word to the abstract concept of “thousand”, and follow certain arithmetic rules on these words (e.g. “one” plus “one” gives “two”). But the word *thousand* does not create our concept of “thousandness”.

Since language seemingly plays only an assisting role to thought, it is then hard to argue why language and thought might be considered interdependent. Those who argue that they are interdependent because language is a regular part of everyday thinking simply do not provide a satisfactory reason. For comparison, we can consider the case of computer. While computers are in very wide-spread use for communication nowadays, do we claim that computer and thought are interdependent? The same is true to art, are we to claim that to artists who often think in terms of pictorial representations, art and thought are interdependent? The answer to both questions is obviously no, as they are only means or tools for communicating our thought.

Conclusion

Evidences in psycholinguistics have shown that thought can exist without the presence of language. What this means is that language cannot be equated to thought. In addition, language is neutral to the thought which it conveys, it is merely a medium for transporting thought from one person to another, or as a tool for organizing and manipulating our rational thought. Language merely assists thought, just like a computer does to its user, and it can hardly be argued that they are interdependent. This is not to say thought is entirely independent of language, but its dependence seems trivial when we take other social and cultural factors into consideration.

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