Language relativity hypothesis

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Linguistic Relativity Hypothesis Does Language Affect Out Thoughts?

Abstract

Benjamin Lee Whorf and his teacher and mentor Edward Sapir developed the theory that language affects our thoughts and perceptions. This theory proposes that there is a systematic relationship between the grammar of a language a person speaks and how that person both understand the world and behaves in it.

Today linguists now call that theory the Linguistic Relativity Hypothesis, or Whorf-Sapir Hypothesis. Studies have not conclusively proven Whorf's and Sapir's theory, however, there is intriguing data to support their idea.

Does Language Shape our Thoughts?

Most humans communicate with each other through language. At this time, there is thought to be over 5000 different languages in use today, and most are quite different from each other (Stanford encyclopedia, n. d.). The relationship between language and thought is an important question in Cognitive Science.

Do speakers of different languages think differently about the world? This question has been attracting thinkers from Plato to Whorf, but despite much attention and debate, definitive answers have not been forthcoming.

Benjamin Lee Whorf and his mentor and teacher Edward Sapir, examined the question of how language affects our thoughts, in their renowned and much considered Linguistic Relativity Hypothesis.

Linguistic relativity hypothesis/ Whorf-Sapir hypothesis

Linguistic relativity or what is also referred to as the Whorf-Sapir hypothesis, was developed by Benjamin Lee Whorf and was an expansion on his mentor, Edward Sapir's, theory that language has a coherent and systematic nature and interacts at a wider level with thought and behavior (Yale University, n. d.).

Whorf proposed that there is a systematic relationship between the grammar of a language a person speaks and how that person both understand the world and behaves in it (Whorf, 1956). The hypothesis postulates that a particular language's nature influences the habitual thought of its speakers: that different language patterns yield different patterns of thought

(Stanford encyclopedia, n. d.)

Though there is no empirical proof of this hypothesis, there is convincing data to support this theory. In the past, the bulk of research was concentrated on supporting or disproving the Whorf's hypothesis, with very little new research being done (Lucy, 1992). According to Lucy (1992) there is little experimental data that is able to disprove Whorf's theory, and they are questioned due to the research methods used (Lucy, 1992). However, in the last decade, Whorf's idea has taken on new enthusiasm within the linguist research community and new data is emerging that supports the original idea.

Benjamin Lee Whorf

According to the Linguistic department at Yale University (n. d.) Benjamin was an influential American linguist that first graduated first from the

Massachusetts Institute of Technology (MIT) in 1918 with a degree in chemical engineering. In 1931, Whorf changed focus and began studying his passion for linguistics at Yale University, where he first began developing his now famous hypothesis under his professor and mentor Edward Sapir.

In 1936, Whorf was selected for an Honorary Research Fellowship in Anthropology at Yale and received the Sterling Fellowship in 1937. He was a lecturer in Anthropology from 1937 through 1938 in the field of linguistics. Whorf focus was Linguistic Anthropology, Psychological Linguistics, Mayan hieroglyphics and a dictionary of Hopi languages (Yale Linguistics, n. d.). This is where he began to develop his ideas about language and our perceptions.

Principle of Linguistic Relativity

Zhu Zhifang (2002) author of Linguistic relativity and Cultural Communication, shares that while Whorf was investigated Hebrew, Aztec, Maya, Hopi and other unfamiliar languages, he discovered that these languages were structured differently from that of English and other European languages. Languages, with different collocations of semantic ideas might provide different 'segmentation of experience' (Whorf, 1956 p. 56). Zhifang (2002) continues to clarify that Whorf put a great deal of emphasis on the Hopi language.

A language, he thought, had a grammar much more complicated and subtle than that of the European languages. Whorf saw that experiences were segmented by language in a very different way, not only by its lexicon but also by its grammatical organization. The notion of linguistic relativity is the suggestion that all one's life has been tricked by the structure of language

into a certain way of perceiving reality, with the implication that awareness of this trickery will enable one to see the world with fresh insight (Zhifang 2002, p. 263). With a detailed description of the grammatical and semantic structure of the Hopi language, Whorf concludes:

All this ... is an illustration of how language produces an organization of experience. We are inclined to think of language simply as a technique of expression, not to realize that language first of all is a classification and arrangement of the stream of sensory experience which results in a certain world order, a certain segment of the world that is easily expressible by the type of symbolic means that language employs. (Whorf, 1956, p. 55)

Language Metaphysics (Philosophy)

Eleanor Rosch (1987) explains in her paper, Linguistic relativity, etc.: A Review of General Semantics, that the average European languages uses objects (nouns) as the basic unit of reality, which is composed of substance, form, and actions (verbs). All of which, Rosch (1987) describes, as existing in an objective, three-dimensional space, and a one-dimensional uniform and perpetual flow of time, expressed in sentence tense, that create our perceptions.

Rosch (1987) further explains that in his study of the Hopi language, Whorf discovered that they do not differentiate between objects and actions. Object and actions are more accurately described as events, different from each other according to a length of time. Instead of considering substance, motion, space, and time, Hopi grammar separates their world by two main beliefs about language, manifested (objective) and Un-manifest (Subjective)

(Rosch, 1987). Manifested comprises all that is or has been accessible to the senses, and un-manifested is considered all that the Hopi call the future (Rosch, 1987).

Zhifang (2002) takes Rosch's ideas and further demonstrates that Whorf discovered the Hopi language functions entirely without tenses for its verbs and has no general understanding or perception of time and does not think of time as a linear continuum in which all in the world moves at an equal rate. The Hopi language contains no words, grammatical forms, constructions or expressions referring directly to what Europeans call 'time', or to past, present, future, or to enduring or lasting . (Zhifang, 2002, p. 164).

Rosch (1987) states that the metaphysics understood in the sentence structure of European languages, makes it reasonable to examine and evaluate sentences into, what we consider actions, and results of actions. However, according to Whorf, these ideas are gross distortions when used as units of analysis for various American Indian Languages. (Rosch, 1987).

According to Rosch (1987), Whorf uses the example of how Indian languages translate into English as a demonstration of the differences in thought processes between the two languages. He uses Apache, It is a dripping spring is deciphered as As water, or springs, whiteness moves downward in English. Another example, in Shawnee, cleaning gun with a ramrod is direct hollow moving dry spot by movement of tool in English (Rosch, 1987).

Zhifang (2002) sums up Rosch's' observations by stating that Whorf argued that every language 'conceals a metaphysics'. (Zhifang 2002, p. 163) The Hopi language applies a philosophy unlike that of European languages.

Zhifang, (2002) explains that the difference in concepts and abstractions associated with Hopi language make up a foreign metaphysics from that of European languages. From the Western standpoint, this philosophy appears mystical in nature (Zhifang, 2002).

They are ideas which we are accustomed to consider as part and parcel either of so-called animistic or vitalistic beliefs, or of those transcendental unifications of experience and intuitions of things unseen that are felt by the consciousness of the mystic, or which are given out in mystical and (or) so-called occult systems of thought. These abstractions are definitely given either explicitly in wordspsychological or metaphysical termsin the Hopi language, or, even more, are implicit in the very structure and grammar of the language, as well as being observable in Hopi culture and behavior. (Whorf, 1956, p. 58-59).

Whorf is not the only one who had this idea of cultural differences in language. Alfred Korzybski came to a similar view of cultural differences in language, several years before Whorf. He explained that, Culturally inherited structure of an individual's language, including his or her terminology, grammar, logic, semantics, doctrines, etc. relates to assumptions, premises, implications about the structure of ourselves and the world. (Korzybski, 1933, p. 92).

Author Alfred Korzybski (1933), in is article Science and Sanity, summed up the power of language well:

We do not realize what tremendous power the structure of a habitual language has. It is not an exaggeration to say that it enslaves us through the

mechanism of semantic or evaluational reactions and that the structure which a language exhibits, and impresses upon us unconsciously is automatically projected upon the world around us (Korzybski, 1933, p. 90).

Language and Thought

As demonstrated through Whorf's observation of the Hopi language and the differences in semantics from European language, we see a pattern of information that gave rise to his hypothesis. However, Lera Boroditsky, professor at Massachusetts Institute of Technology, (MIT), reminds us that a definitive answer to the questions does language shape thoughts?, has been a challenging task (Boroditsky, 2003). Not until the last decade, has research on language and thought gained new interest. As a result, new evidence has become available on peoples perspectives of space, time, and objects.

Spatial differences in Language and Thought

Remarkable differences in semantics have been observed in the way languages illustrate spatial locations. While most languages rely a great deal on relative spatial terms to express the relative locations of objects (left, right, front, back), Tzeltal, a Mayan language, relies largely on absolute reference (a system similar to English north and south direction system) (Levinson, 1996) .

Levinson (1996), points out that to the Tzeltal, spatial observations that are north are expressed as downhill and those south are expressed as uphill. This absolute uphill/downhill approach is the main system to express spatial relations between objects in Tzeltal. There is no corresponding equivalent to the English term front/back or left/right (Levinson, 1996).

To test whether this difference between the two languages has cognitive consequences, Levinson (1996) created a study whereas Dutch and Tzeltal speakers were tested in spatial tasks. In one study, participants were seated at a table and an arrow lay in front of them pointing either to the right (north) or to the left (south). Levinson (1996) explains how the arrows were rotated 180 degree to a second table which had two arrows (one pointing to the left (north) and one to the right (south), and were asked to identify the arrow 'like the one they saw before'.

The study reveled that Dutch speakers would choose the 'relative' solution. Further testing of Levinson's (1996) theory showed that if the arrow pointed to the right (and north), Dutch speakers would chose the arrow that still pointed to the right (though this time it pointed south instead of the previous north).

Tzeltal did precisely the reverse, and chose the 'absolute' solution. Levinson (1996) confirmed that if the arrow direction was to the right (and north) Tzeltal speakers chose the arrow that still pointed north (though it now pointed left instead of right). Thus, explains Levinson (1996), the Tzeltal language relies a great deal on absolute reference in spatial description. It has also affected their understanding of a non-linguistic orientation task (Levinson, 1996).

Time Differences in Language and Thought

Languages also differ from one another on their use and understanding of time. While all languages use spatial expressions to address time ('I will see you tomorrow', 'he was ahead of his time', he is behind in his homework'),

different languages use unique spatial terms (Boroditsky, 2001). He demonstrates how English primarily uses front/back vocabulary to talk about time, as evidence in terms such as 'we still have our vacation ahead of us', or 'that incident is behind us', or 'we are moving forward', or 'go back to the beginning' and 'take your shoes off before you enter'. The language employed to organize events are the same as those used to articulate asymmetric horizontal spatial relations ('he is looking forward to tomorrow' or 'the hard times are behind us') (Boroditsky, 2001, p. 2).

According to Boroditsky (2001), the Mandarin language also uses front/back spatial terms to describe time relationships such as the spatial term Xian (front) and Hou (back). What makes Mandarin remarkable is that the Mandarin language also systematically uses vertical metaphors to address time. The special word shang (up) and xia (down) are often used discuss the sequence of events roughly translated into English as last and next (Boroditsky, 2001). Earlier events are said to be shang (up) and later events are said to be xia (down). In summary, both the Mandarin and English language use horizontal terms to talk about time. In addition Mandarin speakers also use the vertical term shang and xia (Boroditsky, 2001).

Boroditsky (2001) discusses how the English and Mandarin ways of talking, lead to differences in how people think about time. Boroditsky (2001) analyzed a group of studies and discovered that Mandarin speakers tend to think about time vertically even when they are thinking for English. Boroditsky (2001) observed that Mandarin speakers could more rapidly confirm that March comes earlier than April, if they had just seen a vertical

group of objects than if they had seen a horizontal arrangement. Boroditsky (2001) noticed that the opposite was true for English speakers.

Another study showed that the extent to which Mandarin-English bilinguals think about time vertically is related to how old they were when they first began to learn English. According to Boroditsky (2001), this last outcome implies two things; language is a convincing tool in the influence of thought and one's native language plays a role in shaping habitual thought.

Objects

Languages also differ in how names of objects are grouped into grammatical categories. Boroditsky (2001) uses the argument that a many languages use grammatical gender and unlike English, many languages use a grammatical gender system where all nouns (chair, socks and books) are assigned a gender. Languages that use grammatical gender are required to assign objects a gender role by using gendered pronouns and modifying adjectives or verbs to match gender use with nouns (Boroditsky, 2001). This effects the how a person thinks about inanimate objects when assigned a gender.

Boroditsky, together Michal Ramscar and Wendy Ham, conducted four studies that suggests assigning grammatical genders to objects with language does influence people's mental representations of objects (Boroditsky, Ham & Ramscar, 2002).

Spanish and German speakers were asked to rate similarities between pictures of people (male and female) and pictures of objects (the names of which had opposite genders in Spanish and German). Both groups rated grammatically feminine objects to be more similar to females and

grammatically masculine objects more similar to males. This was true even though all objects had opposite genders in Spanish and German. It appears that even a small fluke of grammar (the seemingly arbitrary assignment of a noun to be masculine or feminine) can have an effect on how people think about things in the world (Boroditsky, et al, 2002, p. 136)

Summary

Through Whorf study of languages, especially his interest in Native Indian languages, he expanded on his mentor's idea that language has a coherent and systematic nature to develop his now famous Linguistic Relativity Hypothesis. He was not the first to propose the idea that language affects our thoughts and perception, but it is his hypothesis that inspired others such as Levison's research on spatial relationships and language, and Boroditsky's study of language in relationship to objects and time, to continue the search to find answers for his assumptions. Additional investigation into linguistic relativity will eventually reveal the exact nature of the connections between language and cognitive function. These studies will help us to establish what might be the commonality of all human cognition.

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