

Rethinking Language-thought Relationship from the Perspective of Non-linguistic Behavior:

Interpreting Benjamin Lee Whorf's Language, Thought, and Reality

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Abstract: *This paper revisits Whorfian-Hypothesis based on Language, Thought and Reality: Selected Writings of Benjamin Lee Whorf. The researchers point out and interpret the faults and weaknesses in Whorf's theorization, and clarify the misunderstandings of the Whorf Hypothesis. This paper is supposed to illustrate the relationship between languages and thought from cognitive and social perspectives and explore how nonlinguistic elements impact people's cognition in language from different perspectives.*

Key words: Linguistic Relativity; Non-linguistic Behavior; Cognition; Socio-cultural

1. Introduction

Since Benjamin Lee Whorf (1897-1941) put forward the principle of linguistic relativity, it has been dubbed the "Whorf hypothesis" or the "Sapir-Whorf hypothesis", which has been widely mentioned in different academic fields, especially in linguistics, philosophy, anthropology and other disciplines. The verification of this hypothesis has never really been interrupted, either proven (Lucy, 1992, p.158) or falsified (Pinker, 1994, p.18). Other researchers pointed out that later generations misinterpreted this hypothesis (Wang Yingchong, 2011, p.583-592). The author stressed the theory of language, thought and reality --- Whorf corpus (hereinafter referred to as the "corpus", through the "corpus" and related examples are introduced in detail, further understanding of, to dig the connotation of the hypothesis, and find out the problems existing in the hypothesis of the holes, and on the basis of analyzing the existing research on the understanding of the connotation of the whorfian hypothesis contribution and misreading, and from the aspect of nonverbal behavior such as cognitive level and social level to clarify the relationship between language and thinking, further understanding language relative principle of analects of Confucius.

2. Origin of Principles of Linguistic Relativity

The debate about the relationship between language and thought has been going on for a long time. As early as ancient Greece, Plato argued that "thought is a silent language, and therefore the two are inseparable." Aristotle, on the other hand, believed that language was only a sign of thought, and thought was not equal to language (Lin Xinhua, 1998, p. 5).

Under the influence of common rationalism and natural logic, in the past, western linguistic studies only regarded language as the coat of thought, and language had a low status. Until the 18th century, German philosopher G. Heider (1744-1803) proposed in his paper "On the Origin of Language" that language and thinking are inseparable, and language is the tool, content and form of thinking. Language and thought have the same origin and the same development. They both go through stages of growing maturity. The role of language has gradually come to be valued. The German thinker Humboldt put forward a topic similar to the theory of relativity of language. The rise of Humboldt's theory triggered the turn of language and changed the stereotype that language can only be subordinate to the thought. This viewpoint was pushed to the extreme by Sapir and Whorf. Farnz Baos (1858-1942), a famous American linguist, studied American languages. In the face of many complex and unique languages in America, he believed that synchronic analysis and description of language should be carried out based on the actual use of language. He found that in describing a language, not to use the traditional grammar structure framework or other languages, only according to the structure of the language, and created a new concept and method to better describe the, because he thinks about the analysis of the special structure of different language is the most important task, describes itself is purpose. The hypothesis (Edward Sapir, 1884-1939) is in regard to the relationship between language and thinking, "men are not only live in the objective world, is not the only life in the field of social activities, people in the very great degree is to act as specific language of the medium of social justice, and unconsciously built on the basis of the social language specification." Whorf was apprenticed to Sapir. He absorbed the essence of Sapir's thought, summed it up and developed it. Whorf believed that the background language system (grammar) of every language is not only a tool to reproduce thoughts, but itself is a mechanism to form thoughts, a procedure and guide for individual psychological activities, impression analysis and mental reserve synthesis. The formation of ideas is not an independent process of pure reason in the old sense, but a part of a certain grammar, which differs more or less from one grammar to another. Whorf did not publish a monograph, but most of his work appeared in J. Carroll's anthology on Language, Thought, and Reality, which was compiled in 1956. The "Whorf hypothesis" (or the "Sapir-Whorf hypothesis") is a concentrated embodiment of Whorf's "language-thought view". It has been widely discussed and debated in the fields of contrastive linguistics and anthropological linguistics. In her foreword to "On Language, Thought and Reality", Carroll summarized Whorf's view of language-thought as "Linguistic relativity" and regarded it as his most famous work (Carroll, 1956). But his lack of a clear definition of linguistic relativity has led to some linguistic summaries being taken out of context and categorizing the Whorf hypothesis into strong and weak forms (Crystal, 1997, p. 15; Kramsch, 1998, p. 13-14 et al.). After the mid-20th century, the universalism of Chomsky's linguistics attracted the attention of a whole generation of scholars for its potential to explain the striking similarities in children's language learning, and the influence of linguistic relativity in the academic world gradually diminished. Since the 1980s, some

discussions and empirical studies have put forward new ideas and attracted attention (Bloom, 1981; Lucy, 1992a,b; Imai & Gentner, 1993; Slobin, 1996; Heider, 1972; Mazuka&Friedman, 2000). At the same time, the rapid development of cognitive science, especially the emergence of The psychological space theory of Fauconnier and Turner and the conceptual metaphor theory of Lakoff and Johnson, further promoted the research on the relationship between language and thought.

3. Defects in Principle of Linguistic Relativity

Linguistic relativity principle on clarifying the relationship between language and thinking provides researchers with a certain way of thinking, there is a certain contribution, but the theory in the process of argumentation lack of material, or argument is not enough and accurate, the instance is not accurate is out of misuse of intentional manipulation or not, we don't know. But the holes in the argument do exist and have been falsified by some researchers, so I will not repeat them here. The author thinks that there is nothing wrong with Whorf's basic point. The most important problem is that the argumentation process is not rigorous, and there are loopholes in logic.

The main logical mistake of Whorf's theory is that it falls into a circular argument to prove the difference of language form by using the difference of language form, which is not convincing. Whorf pointed out in linguistics as a Precise Science that, in a colloquial language, people who use markedly different grammars will observe differently depending on the grammar they use, and will have different evaluations of similar external observation behaviors (Whorf, 1940b/1956, p. 221). Whorf spent a lot of time on the study of language structure and language vocabulary system, aiming at obtaining people's different perception and evaluation of the objective world under different language systems. They pay less attention to the study of thought and perceptual processes, and thus avoid non-verbal fields such as psychology (Carroll, 1956b, p. 26). As Lenneberg said, the argument for linguistic relativity must directly relate language and nonverbal behavior, otherwise it is circular argument: in short, the basic assumption that language affects nonverbal behavior is derived from the test of linguistic facts. Therefore, the reverse reference to the same or similar linguistic facts does not complement such a hypothesis (Lenneberg, 1953, p. 464). We here don't obsess over the Whorf in the demonstration examples and materials on the vulnerability of snow, but focus on the argument of the doctrine of the logical if there is a problem: even if only a description in English the word "snow" (besides English described in the words "snow" fundamental snow more than one, such as slush 'melting snow, blizzard "storm", sleet' sleet and hail 'hail snow, crust' frozen snow on the ground, etc.), also cannot prove that native English speakers lack of ability to identify the snowflakes shape or weak (Lin Xinhua, 1998, p. 6), does not mean that they do not have the ability to sense different forms of snow. For example, the word "uncle" is not a one-to-one correspondence with the Chinese word, but can refer to "uncle", "uncle" and "uncle". When Chinese speakers want to

express uncle in English, especially for beginners, they cannot quickly find the corresponding English words in their mind. They need to reflect to remember that "uncle" is used for uncle. This is because of the different conceptualization of kinship terms in Chinese, but it does not mean that native Chinese speakers cannot understand or express this division in English.

The limitation of a language's vocabulary system does not limit the perception of nature, nor does it necessarily limit other non-verbal behaviors. Whorf believes that the limitations of this vocabulary system will lead to the corresponding absence of nonverbal behavior. The author thinks that language users with different vocabulary system in the way of thinking will be different, indeed to the evaluation of objective things, there will be differences, or because of the different language system will affect the perception reaction speed and breadth of thinking for things, but will not lead to the lack of perception of this nonverbal behavior, Whorf mistake associated impact (correlation) as a cause and effect (causation), made a logical error.

4. Misreading of Principles of Linguistic Relativity

Whorf died at an early age, unable to fully establish and explain his own system, due to insufficient evidence and unclear logic, which led to the misinterpretation of later generations is inevitable. The most mentioned by scholars are strong speech and weak speech. Scholars often believe that there are two forms of this hypothesis. One is the strong form: language determines/restricts/dominates thinking; The other is the weak form: Language affects thinking (Cited in Yao Xiaoping, 2002, p. 75-77; Tohidian,2009, p, 65-74). But it is not so simple. As mentioned earlier, the Whorf hypothesis is itself a descendent. Reading through Whorf's original work, this distinction is not made. Because Whorf never explicitly states that language determines thought/culture. What I need to point out here is that some recent scholars pay less attention to but do exist some misinterpretations.

Misreading one, the problem of thinking is a problem of language. In his article "The Relationship between habitual thinking, behavior and language", Whorf pointed out that "I do not believe that culture and language have a definite correlation". 'The problem of thought is the problem of language' is a misreading of Whorf. It is more correct to say that 'the problem of thought is the problem of different languages' (Whorf, 1939/1956, p. 138-139). In other words, language does not restrict creative thinking and the development of specific culture, but is unable to speak without a specific language system, that is, cannot communicate with others, cannot be understood and accepted by the language community, and thus cannot achieve "consensus". "Of course, this is not to say that the grammar caused the use of science; it merely affected it," Whorf wrote in "Linguistics as a Precise science" (Whorf, 1940b/1956, p. 221).

Second, it confuses habitual and creative thinking influenced by language. The language vocabulary system is basically stable in a period of time. If this system limits people's perception of nature, that is to say, perception is dependent on the language vocabulary system. The language vocabulary system does not change, so does the perception and evaluation of the world and nature. According to this logic: the limitations of the language vocabulary system limit the perception of nature and limit other non-verbal behaviors, then where do all kinds of innovations, changes and breakthroughs come from in the process of natural changes in human history? Is not the perceptual foundation on which rapid technological development depends imprisoned? How to explain the endless stream of new words that arise from people's different perceptions of different things in life and life changes? The "language influences thinking" mentioned in Whorf's theory mainly refers to habitual thinking rather than creative thinking.

5. Relationship between language and thought from the perspective of non-verbal behavior

Since Whorf's principle of linguistic relativity mainly demonstrates linguistic form through linguistic form, it falls into circular argument and lacks persuasive power. Largely confined to the language structure and rules to judge people's perception and thinking ability, easy to arouse people to its claims misreading, thinks the language can affect people's thinking, thus confusing the habitual thinking and creative thinking, expand the language of "absolute binding", led to the confusion of logic. In order to clarify the relationship between language and thought, it is necessary to have a deeper discussion from the perspective of non-verbal behavior beyond the linguistic level.

Many researchers have conducted relevant studies on linguistic relativity from the perspective of language. The results show that the language misuse of Chinese learners is influenced by the conceptual system of Chinese. For another example, in Lucy's structure-centered study, the comparison of numbers in different language syntactic structures was involved (Lucy, 1992b). Lucy from several tags (number marking) compared the English and the Mayan, pointed out that in English, must use to represent Numbers, plurality, and elegant language is optional (optional), and the number is often directly describe the subsequent nouns in English (such as one based), the Mayan language must be in the classification number followed by the number of words (numeral classifier), similar to the Chinese (a candle), so as to explore the concept of plurality, concept and classification of words in a different kind of thinking is the use of language or not, etc. These studies are conducted from the perspective of linguistic pure language to compare and analyze different language structures (including vocabulary, sentence pattern, grammar, etc.) so as to find out the influence of language on way of thinking. The author thinks that the contrast from the perspective of language tends to make a logical paradox. That is to say, the researcher takes "language can affect thinking" as the starting point to see how different languages affect

thinking. But as a second - or multilingual themselves, they already think differently from monolinguals of any language. Given the differences in thinking, how can researchers interpret or analyze a language like native speakers? People's thinking and cognition are influenced by their acquisition of different languages (Panos Athanasopoulos, 2016), as proposed by Cook (1991, p. 103-117, 2003, p. 1-18) "multicompetence", points out that the ability of speakers of two or more languages is different from that of any native speaker, and therefore must have different influences on thinking. There are some limitations in the study of linguistic relativity from the perspective of language. This paper advocates the use of non-linguistic tasks to explore the relationship between language and thinking. Because nonverbal tasks can reduce or eliminate language interference (Bylund&Athanasopoulos, 2014, p. 952-985). We can explore more broadly in terms of cognitive psychology and social culture.

5.1 Analyze linguistic relativity from the cognitive perspective

The relativism of language is analyzed from the perspective of cognition. It is believed that although the relationship between language and thought is very close, they are not homologous, but have their own development rules. In the process of language acquisition, cognition precedes language, and thinking determines language. In the process of language use, language and thinking are increasingly closely related, often inseparable, but there is still thinking without language shell. There are opposing views on the relationship between language and thought to the Whorf hypothesis. However, both cognitive linguistics and Whorf's thought essentially support the view that the different cultures rooted in various languages influence the internal classification and external expression of their languages (Li Yan, Liu Yonghong, 2011, p. 21). The "cognition" hypothesis has been on the rise since the 1960s, probably for two reasons: First, the Swiss psychologist Piaget's research on developmental psychology has been paid more and more attention by psycholinguists; Second, an important work of Vygotsky, a psychologist of the former Soviet Union, *Thought and Language* was translated into English in 1962, which also had an important influence on western psycholinguists. Some psychological experiments carried out under its influence are conducive to a more comprehensive investigation of the relationship between language and thought (Gui Shichun, 2000, p. 570-580). These cognitive psychological aspects of thinking are a kind of non-verbal thinking. Piaget explored the relationship between language and thought when examining children's intellectual development. He believes that language is neither the source of image thinking nor operational thinking, on the contrary, the development of language should take the pre-development of perceptive motor intelligence as the prerequisite. Although Piaget denied the view that language is the root of thinking and the only tool of thinking, he did not deny the great role of language in thinking. Instead, he stressed that the more people's wisdom developed and their thinking entered a higher stage, the greater the role of language in thinking would be (Tu Jiliang, 1996, p. 233-236). Vygotsky's view of language cognition in *The Origin of Thought and*

Speech, discusses the relationship between thought and speech from the perspective of phylogeny, and points out that the relationship between thought and speech changes in quantity and quality during the development process. Thought and speech have entirely different roots. There is no limit between language and thought: we can speak of or think of that time and that place. Both language and thought can go against the facts: we can talk or think not only of what the objective world would be, but of what the objective world might be. We can also misrepresent the objective world. Our mental representations are the same, although some thoughts are difficult to express, but there is no words we can not think of (Gui Shichun, 2000, p. 597-601). In other words, thought and language will influence each other, but they will not have too many restrictions on each other. From a cognitive point of view, it seems more obvious to analyze the relationship between language and thought by combining language and cognitive non-verbal behaviors.

5.2 Analysis of linguistic relativity from the perspective of social culture

In terms of domestic studies, empirical studies from this perspective are scarce, and most of them are still theoretical (e.g. Yang Yonglin and Men Shunde, 2004, p. 294-301). For example, Yang Chaochun (2005, p. 411-418), based on a review of relevant empirical studies in the West, points out that the synthesis of the results would be more convincing if the study of linguistic relativity could be carried out widely in different regions and languages. Language perspective focuses on the comparative analysis between different languages; Cognitive psychological perspective focuses on non-verbal tasks; The socio-cultural perspective focuses on ethnographic analysis. Whorf's cultural view is mainly reflected in his thinking on the relationship between language and culture. Like other early American linguists Boas and Sapir, Whorf was also deeply influenced by The German philosopher and linguist Humboldt. Humboldt pointed out that every person, no matter what language he speaks, can be seen as the bearer of a particular world view. The formation of world outlook itself can only be realized through language, and each language has its own world outlook (Yao Xiaoping, 1999, p. 72). Whorf inherited Humboldt's idea that language is an aggregation of cultural phenomena with a particularly close internal structure. In the relationship between Habitual Thought, Behavior and Language, Whorf argues that language and culture should be considered as a whole. But when Whorf talks about culture, he is referring more to social forms than to people's ability to think, their level of ability, or their level of social production. To analyze the relationship between language and thought without reference to the society and culture at that time obviously has great drawbacks. For example, the Eskimos, who live all year round in a world of ice and snow, use many words to mean different kinds of snow. This kind of conceptualization of words and grammar is taken for granted by native people, and although we can perceive the differences, there is a certain difficulty in understanding specific types of snow due to the differences in cultural reference points. Cognitive linguistics holds that people's experiences, contexts and situations related to each other are organized as cognitive models in long-term memory. The

cognitive model is of course not universal, but determined by the culture in which it was born, and the cognitive model shared by all persons belonging to a community or subcommunity is the cultural model (Ungerer & Schmid, 2001, p. 43). People's cognition of things is influenced by cultural models. For example, in the United States, people immediately come up with concepts such as "STOP", "school" and "give way" when they hear "bus". However, in our cultural concept, "bus" is only associated with "public transportation", not with specific places or groups of people. Thus it can be seen that people with different languages have different facts. Such differences are not caused by cognitive ability, but by the cultural model that constitutes the language background, which leads to multiple understandings of the same fact. People who speak the same language understand each other better, but not exactly the same. In essence, both cognitive linguistics and Whorf's thought support the view that the different cultures in which languages are rooted influence the internal classification and external expression of their language. Whorf pays more attention to the influence of cultural differences on the conceptualization and grammatical organization of words. If we consider the relationship between language and thinking more into the cultural background factors, from the cultural model to explain the reasons for language differences, to explore the impact of language on thinking will have a broader research space. How language and culture are related remains to be further explored.

6. Conclusion

The relationship between language and way of thinking is not the relationship between language and thought itself. It is not for creative thinking, but for habitual thinking. Therefore, the communication and development of science and culture will not be restricted by linguistic features. Humboldt (1823/2001, p. 74) once pointed out that, "On the one hand, as a form of thought, and on the other hand, as a material expression of thought, the two functions of language promote and constrain each other". Nowadays, I am afraid that no one can deny that there is at least a mutual influence between language and thought. Although Whorf's loophole in the process of argumentation, evaluate his contribution is not to see if it proves that "language or influence thinking", but to see he explored a nation's language form and interpret the world "habitual concept system, the relationship between the" especially languages for material, such as time, space, the concept of cognitive differences. We should not take a pessimistic view of "linguistic worldview" and "linguistic determinism", and one-sided emphasis on human perception, thinking and expression are limited by language, but should be aware of the benefits of language creativity to thinking and the development of human spirit. The relationship between language and thinking can be examined in a more macroscopic context, reflected as a social linguistic correlation (Hymes, 1964, p. 412), which can more accurately analyze the relationship between language and thinking. People's thinking has a lot in common in perceptual cognition, society and linguistic psychology, because the similarity of the objective world determines the commonality of perceptual cognition, which leads to the commonality of thinking (that is, concept composition). In

other words, the structural characteristics of nature restrict the basic way of thinking of human beings, so that they have something in common in the basic conceptual categories. At the same time, the diversity of the objective world in which different language communities live leads to their different ways of thinking. Social practice affects both human language and human thinking, both of which have a negative effect on social practice. Language and thinking influence each other, but they are not the only factors that influence each other. In addition to the mutual influence, they are influenced by the objective world and social practice. Therefore, when analyzing the relationship between language and thought, only by placing it in a broader space and conducting multi-dimensional investigation can we get rid of the limitation that linguistic relativity only stays at the linguistic level.

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