

The Language Origin of the Thinking Differences Between Chinese and English

Xinyu Wang^{1,a,*}

¹University of Chinese Academy and Social Sciences, Gongchen Street, Beijing, China

a. wangxy92933@163.com

*corresponding author

Abstract: Language is not merely a tool for communication; it is intricately intertwined with thinking and culture, perpetually evolving under their profound influence. Linguists widely acknowledge that language acts as a reflection of people's worldview, unveiling diverse modes of thinking, cultural values, and perspectives. The objective of this paper is to delve into the disparities between the English and Chinese languages, shedding light on how these linguistic characteristics engender four fundamental thinking distinctions: imaginal thinking versus logical thinking, linear thinking versus curved thinking, holistic thinking versus individual thinking, and subjective thinking versus objective thinking. By exploring these disparities, a deeper understanding of the intricate relationship between language and cognition can be gained. This exploration helps to comprehend how language not only shapes perception of the world but also influences thought processes and cultural perspectives. This research contributes to the broader field of linguistics and provides valuable insights into cross-cultural communication and understanding.

Keywords: language differences, Chinese, English, thinking

1. Introduction

Language is one of the most unique and powerful tools of human beings, which can not only convey information, but also influence one's way of thinking and worldview. The relationship between language and thought has always been a key issue discussed by many linguists, psychologists, biologists, cognitive scientists and others. Many linguistics courses in universities even use the question "which came first, language or thought?" as a prologue to bring out the topic of "human's unique language ability", which reveals the mystery of human language. This paper will analyse the interplay between language and thinking, focusing on how language differences lead to thinking differences.

2. The Relationship Between Language and Thought

Since the inception of humanity, individuals have exhibited an innate curiosity towards their surroundings, prompting them to observe the world with great interest and explore its uncharted territories using their diverse senses. Consequently, the process of human language acquisition extends beyond mere linguistic learning and communication; it serves as a gateway to comprehending the world around individuals. Language acts as a crucial tool that enables individuals to not only

grasp the intricacies of the world but also articulate their thoughts and ideas effectively. However, the intricate relationship between language and thought raises a perplexing question akin to the age-old “chicken or egg” dilemma: which one influences the other? Resolving this enigma poses a significant challenge for individuals seeking to unravel the intertwined nature of language and thought.

In the Western psychology field, many scholars have offered insightful analyses of the relationship between language and thought, and this problem has become more evident with the advancement of cognitive psychology. The relationship between language and thought can be roughly classified into five types: Thought is equivalent to language; Language determines thought; Language influences thought; Thought determines language; Thought and language are independent of each other.[1] Some of these views are interrelated, some are contradictory, but they all explore the important function of language in the human world from different perspectives.

2.1. Thought Is Equivalent to Language

Behaviorist psychology believes that thought is equivalent to language. Most supporters base their argument on the observation that when humans think, the muscles of their vocal organs contract and change in ways similar to speaking. However, this ubiquitous phenomenon does not prove that thought and language are identical, and later this view was refuted by another experiment. As early as 1947, Smith, S. M., Brown, H. O., Toman, J. E. P., and Goodman, L. S. found that people who took curare derivatives, despite being unable to move any muscles due to paralysis, could still think. This showed that although thought can take the form of internal language, it is definitely not equal to speech behavior itself.[2]

Later, some psychologists presented evidence from memory studies that thought is not equal to language. They found that people do not memorize every word in speech verbatim but extract a more abstract theme. Therefore, they argue that the mental process of handling language information (thinking) is not exactly the same as the specific speech behavior.[3] Since then, although the view that thought and language are equivalent has not vanished in the Western psychology field, it has lost much of its support.

2.2. Language Determines Thoughts

The idea that language shapes thought was first proposed by Sapir, E. A. and later developed by Whorf, B. L., forming the famous “Sapir-Whorf hypothesis” [4]. Whorf investigated the languages of North American Indians and found that different language structures emphasize different facets of the world, and this emphasis has different effects on the way people using different languages perceive the world. He gave the example that Eskimos have many words for different kinds of snow, while English only has one word “snow” for it. According to Whorf, the specific language that people speak determines their thinking, and the differences between language systems are related to the cognitive variations between the speakers of these languages; moreover, language determines thought through vocabulary and structure. Because of the different structures of languages, the paths of analysis vary as well, and thus the categories separated from the ever-changing world are also different. As a result, people’s thinking is constrained by these categories.

Some people, however, have challenged Whorf’s view that grammatical structure influences people’s thinking in a specific way, based on their analysis of grammar. In addition, many language memory scholars also found that the surface structure of language, such as active voice and passive voice, tends to fade from memory quickly, which may be because that these grammatical structures are not significant for thinking and memory. For example, Iannucci, D. E. and Dodd, D. H. conducted a study that showed that verbs and nouns in English, such as attack (verb) and attack (noun), have similar effects on memory. Example [5]:

Sentence 1: The attack of the army was swift.

Sentence 2: The army attacked swiftly.

This example does not prove that verbs and nouns can substitute for each other, since they have different grammatical functions; however, in most cases, people can use verbs and nouns to construct sentences with similar or identical meanings. Whorf claims that the word 'attack' in the first sentence denotes a thing, while the same word in the second sentence implies an action, a duration, and so on. If so, these differences should be significant and affect the memory of the words beyond their surface form. Yet, Iannucci and Dodd found that these differences were quickly forgotten by the participants. This suggests that language, to the extent that it influences thinking, does not do so in a decisive way.

2.3. Language Influences Thought

Language may not directly shape thinking, but it certainly has an impact on how people think. Some American psychologists have explored this idea further by looking at how language functions as a symbolic marker. Brown, R suggested a concept of "de-cognitive bait", which refers to using new terms in a new subject area, such as statistics, to spark people's interest and curiosity. For example, teachers may introduce statistical terms like mean, variable, correlation, and so on. These words may be unfamiliar to learners at first, but they will gradually acquire meaning as learners explore the new subject and apply the new terms.

2.4. Thought Determines Language

The view that thinking determines language dates back to the time of Aristotle, and many scholars still adhere to this position today, such as the renowned Swiss psychologist Piaget, J. He argued from the perspective of the origin of language and thinking that "Language is not the source of logic, but rather, language is formed by logic." Piaget claimed that logical operations preceded language in terms of their origin and depth, and that they were subordinate to the universal rules of action coordination, which governed all activities, including language itself. Piaget drew his conclusions from the perspective of developmental psychology [6]:

(1) In individual development, logical structures comes before language structures.

(2) Sinclair, H. observed that children from five to eight years old did not necessarily develop logical thinking by learning certain expressions, but rather that logic helped them improve their language skills.[7]

(3) Oleton, P. and Furth, H. compared deaf-mute children, blind children and normal children and found that deaf-mute children could think without language.[8]

People who support this view confirm from many different perspectives that thinking ability comes before and shapes language ability, such as:

(1) Many animals without language have complex cognitive abilities.

(2) Children show complex cognitive abilities before they effectively use language.

(3) Every language has a phrase structure, which controls the understanding and production of language.

(4) When the examples of a category are all related to the language user's life experience, there may be different terms for the same category. This suggests that different words are influenced by different cognitive and experiential factors, rather than different words causing different ways of thinking.

2.5. Thought and Language Are Independent of Each Other

Representatives of the view that thinking and language are independent of each other include Chomsky, N. and Fodor, J. A. Chomsky school believes that the language system is different from

other human cognitive systems, and that the acquisition and use of language cannot be explained by general psychological principles, such as [9]:

(1) Unlike other cognitive skills, language is unique to humans.

(2) Humans have specific learning mechanisms for language acquisition that are not used for acquiring other cognitive skills.

(3) The mechanisms for understanding and producing language are also different from those for other cognitive skills.

Fodor, J. A argues [10]:

(1) Language is not a prerequisite for thinking, as children who lack language can still exhibit rational behavior based on rules.

(2) Language is not sufficient for thinking, as many thoughts are hard to convey in words, such as smells, emotions, or complex ideas.

(3) Language is not involved in all aspects of thinking, as some activities like seeing, tasting, or using motor skills do not rely on linguistic encoding.

3. Linguistic and Cognitive Differences Between Chinese and English

Different languages may shape different ways of thinking among their speakers. Chinese and English, as two representative languages of the East and the West, have distinct linguistic features that influence the thinking patterns of their users. The differences between Chinese and English can be seen from various aspects, such as logic, expression, structure, image and context. These differences lead to different thinking modes among Chinese and English speakers. This part will analyze the main features of these modes of thinking and explain how they are related to language characteristics.

3.1. Imaginal Thinking and Logic Thinking

English speakers prefer logic thinking while Chinese speakers tend to have imaginal thinking.[11] The difference can be traced back to the differences of languages. Chinese and English have different origins and writing systems. Chinese characters are derived from pictographs that represent the shapes of objects, while English letters are based on phonetic symbols that represent the sounds of words. Chinese characters can evoke the visual images of objects, while English words require the combination of 26 meaningless letters into meaningful units through fixed grammar rules. This may have an impact on the development of logical thinking.

Besides, Chinese tends to use concrete images to convey abstract concepts, such as using animals or plants as metaphors, while English tends to use abstract expressions to describe concrete things, such as using colors or shapes as adjectives. This can be reflected in the phenomenon that English uses more nouns and adjectives, while Chinese uses more specific verbs. Examples:

1) English: I'm not a specialist in Japanese, but I think my sister can be a good teacher.

Chinese: 我觉得我妹妹会比我教得好 (wǒ juéde wǒ mèimei huì bǐ wǒ jiāo de hǎo)。 (I think my sister can teach better than me.)

2) English: He became a narrator of enchanted adventure of his childhood.

Chinese: 他讲述起了他童年的奇幻冒险 (tā jiǎng shù qǐ le tā tóng nián de qí huàn mào xiǎn)。 (he narrated enchanted adventure of his childhood.)

In English, the noun “teacher” and “narrator” is used, while in Chinese the verb “教 jiāo (teach)” and “讲述 jiǎng shù (narrate)” is used. Verbs are used to express abstract concepts such as actions, states, and changes, while nouns are used to express specific concepts such as the essence, attributes, and classification of things. Therefore, when people are speaking English or Chinese, they tend to be influenced by the languages. Chinese speakers tend to have imaginal thinking because they are used to using verbs to describe events and situations, which require them to imagine the scenes and

processes vividly. On the other hand, English speakers tend to have logic thinking because they are used to using nouns to categorize and compare objects and phenomena, which require them to focus on the features and relations of things logically.

3.2. Linear Thinking and Curved Thinking

English speakers tend to use linear thinking, which means presenting their ideas in a clear and direct way, following a logical sequence, from beginning to end, from main to minor. Chinese speakers, on the other hand, tend to use curved thinking, which means implying their ideas in a subtle and indirect way, based on the connections among things, from the whole to the parts, and from the background to the foreground.[12] In terms of the difference in language, three main differences can be noticed:

1) Sentence structure: English sentences usually follow the subject-verb-object order, while Chinese sentences can be flexible depending on the context and the tone. For example, Chinese can use inversion, omission, insertion and other techniques to change the sentence structure. For example:

English: He loves her.

Chinese: 他爱她; 她, 他爱; 爱她。(Tā ài tā; tā, tā ài; ài tā.)

2) Logical relations: English pays more attention to the use of explicit conjunctions or punctuation marks to express causal, adversative, parallel and other relations, while Chinese pays more attention to expressing grammatical meaning and logical relationships through the meaning of words or clauses. Therefore, English is called a hypotactic language while Chinese a paratactic language. Example:

English: I like apples because they are sweet and delicious.

Chinese: 我喜欢苹果, 甜甜的, 很好吃 (Wǒ xǐhuān píngguǒ, tiántián de, hěn hǎo chī). (I like apples, sweet and delicious.)

In Chinese, there is not conjunctions, prepositions, pronouns, or other connecting devices used for expressing reasons and other relationships like English.

3) Narrative order: English sentences usually start with the main points and then add other secondary details, while Chinese sentences often begin with some background information and end with the central message of the discourse. Linguistically, English sentence structures tend to have a front-heavy pattern while Chinese sentence structures tend to have a back-heavy pattern. For instance, an English sentence might say “you cannot be sure to succeed in learning even if you have got all the favorable conditions such as good environment, sufficient books and equipment, as well as instructions and enlightenments from scholarly mentors and beneficial friends, which are of great help”, while the counterpart in Chinese may be “环境好、图书设备充足、有良师益友指导启发, 当然有很多的帮助, 但是具备了这些条件, 也不能保证一个人在学问上就有成就”。(huánjìng hǎo, túshū shèbèi chōngzú, yǒu liángshī yìyǒu zhǐdǎo qǐfā, dāngrán yǒu hěnduō de bāngzhù, dànrán jùbèi le zhèxiē tiáojiàn, yě bùnéng bǎozhèng yīgè rén zài xuéwèn shàng jiù yǒu chéngjiù). The main point is “you cannot be sure to succeed in learning” and the rest of the sentence provides some background information.

3.3. Holistic Thinking and Individual Thinking

Chinese and English reflect different modes of thinking: holistic and individualistic, respectively. This difference can be seen in how they order the elements of time, place, and name. Chinese tends to express these elements from large to small, from the whole to the parts, while English tends to do the opposite. For example, in Chinese, the date is written as “2023年7月18日” (year-month-day), while in English, it is written as “July 18, 2023” (month-day-year). Similarly, in Chinese, the place is written as “中国江苏省南京市江宁区 (Zhōngguó Jiāngsū shěng Nánjīng shì Jiāngníng qū)” (country-province-city-district), while in English, it is written as “Jiangning District, Nanjing, Jiangsu Province, China” (district-city-province-country). In terms of names, Chinese puts the surname first

and then the given name, while English puts the given name first and then the surname. For example, in Chinese, the poet is called “李白” (Li Bai), while in English, he should be called “Bai Li”.

Besides, Chinese and English have different ways of expressing the specificity and generality of things. Chinese often uses adjectives and adverbs to modify the original characters, while English often uses words that have obvious morphological changes to show the detailed difference. For example, Chinese tends to use modifiers to form color words by adding them to the basic character “色 (sè)”, which means color. “红色 (hóngsè)” means red, “蓝色 (lánsè)” means blue, and “绿色 (lǜ sè)” means green. On the other hand, English has distinct words for different colors, such as “red”, “blue”, and “green”. Similarly, in Chinese, the action of walking can be modified by adding adverbs, such as “快速地走 (kuài sù de zǒu)” (walking quickly) and “慢慢地走 (màn màn de zǒu)” (walking slowly). In English, there are different words for different ways of walking, such as run, walk, stroll, or limp.

3.4. Subjective Thinking and Objective Thinking

Chinese is a language that emphasizes subjective awareness and tends to depict objective reality from a personal standpoint. It adopts a human-centered perspective to observe, analyze and study things and often uses personal pronouns as subjects to highlight the feelings, attitudes, and opinions of the speaker or writer. For example, a Chinese speaker might say “我觉得这本书很有意思 (wǒ jué de zhè běn shū hěn yǒu yì si)” (I think this book is very interesting), expressing his or her personal evaluation of the book. On the other hand, English is a language that manifests objective awareness and tends to present things in an impartial tone. English frequently employs impersonal pronouns as subjects to minimize the presence of the speaker or writer and stress objective facts, laws, and principles. For example, an English speaker might say “This book is well-written and informative”, stating the qualities of the book without revealing his or her personal feelings. Linguistically, Chinese favors active voice while English favors passive voice.

4. Conclusion

The relationship between language and thought is not unidirectional; rather, it is characterized by a mutual influence and constraint. Linguists widely contend that language serves as a reflection of one’s worldview, implying that diverse languages can shape distinct perspectives and impact the cognitive processes of language users. Chinese and English, as prominent representatives of Eastern and Western cultures respectively, exhibit dissimilar language usage patterns, which in turn contribute to the formation of four significant thinking disparities between China and the West. By delving into these disparities, a deeper comprehension of foreign cultures’ modes of thinking and worldviews can be attained. Moreover, this understanding of diverse thinking patterns not only facilitates cultural exchange and communication but also fosters an enhanced awareness of one’s own cognitive processes.

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