Original Paper

A Simple Discussion on Mentalese

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Abstract

From the beginning of language to now, the relationship between thought and language has been the focus in such studies as Linguistics, Psychology, Philosophy and so on. Opinions are widely divided to this discussion. The proposition of "Mentalese" seemingly broke this debate or made it more heated. On the basis of the previous achievement, this paper dialectically discusses the mentalese and its roles in foreign language teaching and translation.

Keywords

Mentalese, LOTH, mental language, natural language

1. Introduction

The issue of the relationship between thought and language has been a long-standing and fundamental theoretical problem in the fields of linguistics, philosophy, and cognitive science. In recent years, proponents of the "linguistic innatist" perspective, represented by Noam Chomsky, and proponents of "psycholinguistic innatism", represented by Steven Pinker, have put forward the theoretical viewpoint that there exists a mental language called "Mentalese", emphasizing that thought precedes language and is superior to it (Feng, 1997). Based on previous research, this paper will comprehensively examine and discuss the abstract concept of "Mentalese" from a dialectical perspective, along with its applications.

2. The Relationship between Thought and Language

The relationship between thought and language has always been a subject of diverse opinions and continuous debate in the field of linguistics, often characterized by negation of negation. Two and a half millennia ago, the philosopher Aristotle posited that categories of humans' thought determined categories of language . However, in the first half of this century, proponents of linguistic determinism, represented by figures like Sapir and Whorf, proposed an opposing viewpoint, suggesting that human

thought is determined by linguistic categories. These determinists argued that language dictates thought, with different languages leading to different ways of thinking. Yet, this claim was substantially challenged and quickly refuted, gaining limited consensus (Huang, 1998). Later on, a milder version of this theory emerged as "linguistic relativity", which, though it diluted the absolute influence of language on thought, still maintained that thought cannot be separated from language.

The theory of relative effect presents a neutral perspective, neither supporting "thought determinism" nor opposing the "Sapir-Whorf Hypothesis". It considers language as a tool for thought. The evolution of language propels the development of thought, and reciprocally, thought also profoundly influences language. The two are intertwined in a mutual and complementary relationship.

The uniqueness of human language is the most distinguishing factor between humans and other species. The peculiarities inherent to human language reveal its distinctiveness. This distinctiveness isn't merely a simple amalgamation of vocabulary; it reflects the uniqueness of human cognition. Language is intrinsically tied to thought, and one could even argue that thought operates through language, making language a tool to express thought. The theories of linguistic determinism or even the theory of relative effect tend to overlook this dominant role of cognition.

Shi Xin (2002) explored the influence of thought on language by taking metaphors and metaphorical thinking as starting points. With 70% of ordinary language being metaphorical, almost all linguistic elements carry metaphorical connotations over time. This implies that human thinking is primarily metaphorical, and natural language metaphors are but external manifestations of metaphorical thinking. Hence, thought determines language; language is an external representation of thought. The relationship between language and thought is analogous to that between metaphor and metaphorical thinking, with thought playing a determinant role, and possibly a more influential one than commonly imagined. The sequence and structure of thought align with those of language in a certain pattern of correspondence.

Which came first, thought or language? Does language dictate human thought? Archaeological research suggests that children first learn gestures, body language, and facial expressions before gradually acquiring linguistic skills. Infants, as young as five months old, can perceive colors, distinguish faces, and already engage in abstract and generalized thinking processes. Looking from an evolutionary perspective, human history can be traced back millions of years, but studies on language only go back a few million years. Humans existed and thought even when language remained silent. Language emerged in the late Paleolithic era, and while these early humans lacked a hyoid bone essential for speech, the absence of language did not hinder their thinking or living (Wu, 1985). Wu Tieping (1985) also points out, aligning with Marx's viewpoint that humans first engaged in productive activities before naming objects. During these productive activities, individuals had to think to achieve desired results, thus establishing that thought predates language (Xiang & Zhang, 2009).

3. The Rationality of the Hypothesis of Mentalese

A novel perspective posits the existence of a Mentalese, standing on the premise that thought precedes language, and its study is as systematic as that of language. Various scholars might not share identical viewpoints on the content and perspective for Mentalese; however, they converge on the basic idea. So for the sake of convenience, we collectively refer to it as "Mentalese".

In 1975, Fodor introduced the concept of "Mentalese" in his book *The Language of Thought (1975)* in which he proposed Language of Thought Hypothesis (LOTH). According to LOTH, thought occurs within a mental language—a symbol system implemented physically in the brain (Song & Gao, 2009). Fodor considers thought processes to be mental processes, primarily because he views the mind as a symbol-processing tool. This emphasis aligns with his Representational Theory of Mind (RTM), wherein Mentalese is akin to a machine language that computers can process. On one hand, Fodor argued that both non-human primates and pre-linguistic children lack a natural language but can engage in "reflective behavior, concept learning, and perceptual integration". On the other hand, he asserted that we must learn a language system to obtain predicates and their extensions, implying that some cognitive processes occur in languages different from natural languages. Furthermore, to validate LOTH's correctness, Fodor and Plesan proposed the "compositionality principle" to illustrate the interconnectedness of various representational capacities within systems. They claimed that psychological representations are combinatorial and are linked to internal semantics simultaneously (Song & Gao, 2008). Fodor's analysis of Mentalese stems primarily from a psychological perspective.

Nearly two decades later, American psycholinguist Steven Pinker reintroduced the concept of "Mentalese" in his book *The Language Instinct (2003)*, Chapter Three, titled "Do We Think in Words?" Pinker's hypothesis regarding Mentalese also draws from Fodor's "Language of Thought" or "Mentalese". It addresses a prevalent human experience: the feeling of thoughts that remain inexpressible. For instance, expressions like "words fail me" or "I struggle to find words to capture what I'm thinking" exemplify situations where thought appears to exist independently of language. So, what do people use for thinking when not using language? This question directly relates to the concept of Mentalese. Mentalese refers to the "tool" humans employ for thinking; it is neither identical to thought itself nor fully synonymous with any specific natural language like Chinese, English, or Japanese. Mentalese represents the cognitive content within our brains; some of it can be articulated in sound or text, thus forming language. In essence, natural languages are for everyday communication, while Mentalese is for thinking, residing deep within our minds. Mentalese serves as the source from which natural languages originate, and it encapsulates elements of thought that cannot be expressed through natural language (Feng, 1997). In simple terms, natural languages are used for communication in daily life, while Mentalese is the language of thinking, an entity residing deep within our minds, serving as the source from which natural languages emerge. It represents the thoughts within our minds that cannot be entirely, precisely replicated in language. This explains why we often experience the

feeling of "understood but unsaid", as our natural language is insufficient to fully and accurately represent our thoughts. Both Chomsky and Pinker support the notion that Mentalese is more abstract, more pervasive, and that thought precedes language, thus establishing the relationship as "thought precedes language, and thought is superior than language".

In assessing the imperfections in language for communication and thought, Chomsky and Pinker assert that Mentalese and natural language are intrinsically connected. Language can be understood in two forms: one as an abstract, ineffable, and deeply embedded representation within our brains, i.e., Mentalese, and the other as a concrete, practical tool for everyday communication, i.e., natural language. Mentalese represents the unspoken substrate of language that resides in our minds, while natural language, conversely, manifests itself in specific forms, sounds, or words used for external communication. The two forms of language are not separate. Using Chomsky's theory of deep structure and surface structure in syntax as an analogy, the connection between thought language and natural language is primarily semantic rather than syntactic. Thus, it can be understood that Mentalese is the essence of natural language, while natural language serves as a specific expression of Mentalese. Human reliance for thought rests with Mentalese, not natural language. Mentalese is more abstract and more comprehensive, establishing a relationship where "thought precedes language, and thought is superior than language". The concept of "gaps" in language arises because natural languages inadequately capture the full and accurate scope of thought, leaving certain cognitive elements unexpressed (Feng, 1997). Chomsky (1995) further postulated that language is imperfect for communication but perfect for thought, emphasizing that the transition from imperfect conversational language to perfect Mentalese entails a syntactic derivation process. This process also substantiates the existence of Mentalese. Studies on infants focus on Mentalese as an object of research, exploring the abstract material basis of infant Mentalese. During infancy, humans experience a stage characterized by pure Mentalese, devoid of concrete linguistic learning. While infants have not yet begun to learn specific languages during this phase, they already possess cognitive abilities (Zhang, 2002). Over time, through exposure, imitation, and adult instruction, as individuals learn to use natural languages, the portion of thinking activities conducted in natural languages gradually increases. This eventually relegates Mentalese to a relatively inconspicuous and imperceptible role. Nevertheless, Mentalese does not vanish because individuals have learned a specific natural language. It remains innate, coexisting with individuals from birth to death. Natural language, as a specific symbolic system with inherent acoustic or visual features, such as sounds or written symbols like words and sentences, may seemingly enter the human brain for thought reception, understanding, and processing. However, in reality, written language requires intricate energy transformations to become a signal or form devoid of physical features for thought comprehension. Natural language cannot directly and unalteredly enter the human brain as a direct object and medium for thought (Huang, 1998). Research on children's Mentalese further confirms Chomsky's and Pinker's views on the concept of Mentalese from a physiological

perspective.

4. Controversies Surrounding the Mentalese Hypothesis

Much like the issue of the relationship between thought and language, the existence of a Mentalese is also a topic of contention, with many scholars voicing objections.

Upon introducing the Language of Thought Hypothesis (LOTH), Fodor received immediate backlash. In the book *Fodor and His Critics (2021)*, several scholars expressed their viewpoints against LOTH. Stephen Schiffer corrected Fodor on two major premises and steps in his process of arguing whether mental language had combinatorial semantics. Peter Hacker critiqued the foundation of Fodor's argument, no suggesting that the idea of a symbol system in the mind, i.e.LOTH, is based on a fundamental conceptual confusion, rendering it meaningless. The clearer the application of this concept, the more evident the absurdity of such a mental language becomes. His main reasoning was that assuming the brain uses a language or a symbolic system is, on its face, inconceivable (Song & Gao, 2009). Fodor did engage in debates to rebut these critiques.

There were also several objections to Pinker's discussions on thought language in *The Language Instinct*（2003）. David Cole (1999) agreed with Pinker's refutation of the Sapir-Whorf hypothesis, but argued that the thought language Pinker introduced essentially falls under natural languages, thus opposing the Mentalese hypothesis. He corrected various evidence presented by Pinker, for instance, that a 5-month-old infant can perform mental arithmetic. While Pinker posits the infant possesses a representational system of thought language, Cole argues such reactions stem from visual imagery, as mental imagery also has representational functions. For the five pieces of evidence Pinker provided in "How the Mind Works" supporting the precedence of thought language over natural language, Cole dialectically refuted each of them, highlighting aspects like co-reference, context and semantic ambiguity, implicit expressions, and synonymy.

The productivity, creativity, and interconnectedness of natural languages all point back to thought. The thought language offers a rational explanation for these characteristics. According to William Lycan (1993), an individual possesses multiple thought languages, and different modules of our cognitive system (information-encapsulated subsystems) each have their own proprietary language. Lycan acknowledges the existence of thought language, but he believes it is not singular. Instead, he views it as a personal language, unique and diverse for each individual. Larry Hauser (2003) refuted Lycan's point of view, offering explanations from computational, phenomenological, and experiential accessibility perspectives. He cited Einstein's views to counter Lycan and Fodor's arguments on the existence of thought language, suggesting that the Mentalese hypothesis smacks of empiricism. Public discourse is easier to observe and recognize, and although mental language might be read and decoded through some future machine, in practice, the content expressed through introspection is taken as internal discourse, and such operations are not objective.

Li Difei (2008) believes that opponents to the Mentalese hypothesis can only demonstrate that some of the evidence for it is insufficient or inappropriate. However, the basic arguments by Fodor and Pinker on the existence of thought language remain valid. Perhaps the thought language is not the sole tool for thinking. In some situations, simple intentions might suffice. When engaging in second-tier or especially higher-order thinking, thought language becomes essential. Yet, for abstract computational thoughts, thought language becomes powerless, and natural language becomes the inevitable thinking tool. While this perspective acknowledges the existence of thought language, it also suggests that its use is hierarchical.

5. Applications of Mentalese

In many ways, Mentalese can be seen as the "Tower of Babel" of human communication. Understanding the commonality of human thought is of paramount importance for gaining insights into the relationship between language and thought and their essence. It also holds significant guidance for foreign language teaching, the teaching of ancient Chinese, and translation.

In language teaching, thought and language are fundamental aspects of training. Listening, speaking, reading, and writing are the basic avenues for materializing thought (speaking and writing) or making language conscious (listening and reading). From this perspective, making language conscious is a prerequisite for materializing thought. In foreign language teaching, students should first develop the thinking process in their second language, cultivate foreign language thinking, and avoid using their native language for word-for-word translation. It is essential to encourage students to consciously internalize language thinking and engage with Mentalese. In practice, teachers should create an immersive second language learning environment, overcome the negative influence of the native language, especially for multilingual learners or minority language learners in China. Teachers should adjust Mentalese strategies and minimize the use of the native language and Chinese in the classroom. Instead, they should enhance foreign language communication to ensure that students gradually develop a habit of foreign language thinking based on ample input. Students should be encouraged to consciously and purposefully use learning strategies to cultivate foreign language thought (Liu, 2007).

Apart from language teaching, translation is also a form of thinking activity. On the surface, translation involves the conversion of symbols between two languages, but fundamentally, translation is a unique form of thinking activity. Translation thinking is indirect; it mainly involves taking text in one language as the basis for one's own thinking objects and materials. This thinking process involves analyzing and synthesizing ideas and concepts abstracted from these linguistic texts and transplanting them into another language (Xu, 1994). The essence of this analysis, synthesis, and transformation is essentially the processing of Mentalese. The most challenging aspect is the "analysis" because the translator's analytical activity requires a transformation from native language thinking to target language thinking. Only when this transformation is accomplished can the text content be understood, and the integration

64

and transformation work be carried out smoothly.

Once the mystery of Mentalese is unraveled, the differences in thought between different ethnic groups will become more apparent. Perhaps, we only need to work on the source of Mentalese in language to quickly accomplish the translation between ~~two~~ languages.

6. Conclusion

The relationship between language and thought remains one of the central topics of debate in linguistics to this day. While the idea of Mentalese is reasonable, further research is needed to delve deeper into this concept. Two areas that have received relatively little attention in academic research include:

1) The proportion of thought conducted in Mentalese compared to natural language. Determining the exact extent to which Mentalese is utilized remains a challenge and requires collaborative research across multiple disciplines, including linguistics and psychology.

2) The process by which Mentalese operates systematically. Understanding how Mentalese operates is another challenging aspect of research in this field.

However, regardless of future breakthroughs or developments, the study of Mentalese remains crucial. The birth and development of the Mentalese hypothesis have significantly advanced our understanding of the human mind, particularly in terms of thought. It has propelled methodological changes in thought research, moving from shallow to deep, from abstract to concrete, and from vague to precise. It is not only a natural progression of knowledge but also provides the conditions for further cognitive development (Song & Gao, 2009).

References

Chomsky, N. (1995). Language and nature. *Mind*, 1-61.

Cole, D. (1999). I don't think so: Pinker on the mentalese monopoly. *Philosophical Psychology*, 283-295.

Feng, Z. (1997). Mentalese. *Modern Foreign Languages*, *(02)*, 9-13.

Fodor, J. A. (1975). *The Language of Thought*. Harvard University Press.

Hauser, L. (1995). Doing without Mentalese. *Behavior and Philosophy*, *(23)*, 42-47.

Hu, C. (1989). Exploring "Mentalese" through the "Rearward Shift" of English and Chinese. *Jianghan Academic Journal*, *(01)*, 80-83.

Huang, Z. (1998). A Review of Pinker's The Language Instinct. *Modern Foreign Languages*, *(01)*, 94-107.

Li, D. (2008). Mental Language: Rebuttal and Defense. *Studies in Dialectics of Nature*, *(07)*, 12-16.

Liu, K. (2007). A Brief Analysis of the Mental Language Strategies of Yi University Students in English Writing. *Journal of Southwest University for Nationalities (Humanities and Social Sciences Edition)*, *(S1)*, 208-210.

Liu, Z. (1989). Thinking, language, and practice: Some thoughts on cultivating students' language abilities. *Shanghai Education and Research*, *(04)*, 45-46.

Lycan, W. G. (1993). A deductive argument for the representational theory of think. *Mind and Language*, *(8)*, 404-422.

Ning, C. (2002). From imperfect communicative language to perfect mental language: A syntactic deduction. *Contemporary Linguistics*, *(02)*, 138-143.

Pinker, S. (2003). *The Language Instinct: How the Mind Creates Language*. Penguin UK, 55-82.

Pinker, S. (2008). *The Stuff of Thought: Language as a Window into Human Nature*. Penguin UK, 47-51.

Shi, X. (2002). The cognitive essence and function of Metaphor: Exploring the relationship between language and thought from metaphor and metaphorical thinking. *Journal of PLA University of Foreign Languages*, *(04)*, 41-44.

Smith, J. (Ed.). (2021). *Fodor and His Critics*. Academic Press.

Song, R., & Gao, X. (2008). On Fodor's Language of Thought Hypothesis. *Journal of Huaiyin Teachers College (Philosophy and Social Sciences Edition)*, *(05)*, 579-583.

Song, R., & Gao, X. (2009). Mental language: The logical starting point of Fodor's philosophy of mind. *Journal of Shandong Normal University (Humanities and Social Sciences Edition)*, *(02)*, 3-7.

Wu, T. (1986). *A New Exploration of the Relationship Between Language and Thought*. Shanghai Education Press, 57.

Xiang, M., & Zhang, J. (2009). On the relationship between language and thought. *Journal of Tongji University (Social Sciences Edition)*, 2009, *(04)*, 91-95.

Xu, J. (1994). Thinking, Language, and Translation. *Language and Translation*, *(03)*, 80-87.

Zhang, H. (2002). A preliminary exploration of the fundamental issues of language and thought. *Journal of Handan Normal University*, *(01)*, 34-37.