

The First Nature of Language

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Abstract: The first nature of language function is often considered to be communication. But with the rise of cognitive linguistics, whether the primary function of language is externalized communication or internalized thinking has been re-examined. This paper focused on what is the first function of language, and argued that the thinking function should remain the top priority. Based on theories of generative grammar from Noam Chomsky, it redefines the key concepts of language, thinking, and communication, discusses the superiority of language for thinking and the shortcomings of language for communication, and reveals the direction of language evolution by natural selection, and compile a series of evidence to justify the top status of thinking function by comparing the common people's thinking ability and the auditory disabled's thinking ability. Besides, another possible communicative pattern, direct brain-to-brain communication (DBBC) was also introduced to prove there might emerge a better way for communication. It is hoped that this will paint a possible picture of the development of language function science and provide an organic extension for the subsequent discovery of language function. At the end the paper finds out the first nature of thinking is plausible and tangible, conforming to the evolutionary tendency of human language. More researches are expected to provide more direct proofs approving the arguments.

Keywords: language function, thinking, communication, natural selection

1. Introduction

To inquire into what language is, is to inquire into what human beings are. This informative idea by Chomsky could be considered as a timeless summary of the nature of language [1]. Since time immemorial, the problems about language function and evolution have been discussed back and forth, and researchers in some related fields have been trying to add their own idea to the epochal puzzle of the century. Until now, the mainstream of the first nature of language is communication. However, with the development of cognitive science, the linguists like Chomsky put forward the idea: the first nature of language is for thinking, rather than communication [2]. In other words, the primary function of language is internalized thinking, instead of externalized communication [2]. This paper intends to approach the question of the function of language based on Chomsky's perspective, and the related knowledge from biology and psychology will also be introduced as the entry points. The main task of this paper is to discuss: why the first nature of language is for thinking, rather than communication?

To prove this kind of idea, it must be clarified that the substantive contradiction of the issue and require interdisciplinary, multidisciplinary, and multidirectional thinking from the perspective of empirical science. This paper can be broadly divided into the following parts. Firstly the author will give the definitions of the key concepts, language, thinking and communication. Next this paper will interpret the first nature of language function with the evidence from the theory of natural products' perfection, the faculty of language and comparison of language function between common people and the auditory disabled. Then the flaws of language for communication will also be introduced from the perspective of semantics and pragmatics, and present a possibly more efficient way to communicate: direct brain-to-brain communication (DBBC). Finally comes the revelation of the problem of language function. The author will point out that the problem of language function can somehow reflect the problem of language evolution under the selection of nature.

2. The Definition of the Target: What Is Language, Thinking and Communication

In order to make the analysis more persuasive and avoid misunderstanding, the author is going to give the definition of the concepts, language, thinking, communication. It's easy for people to enlarge the concepts of communication thus misleading the notion of the first nature of language function.

2.1. Definition of Language

Linguistics has a place in both the humanities and the natural sciences. From ancient times to the present, its complexity has been so high that the most basic questions of the research object have been much debated. What is language? There are different views among scholars of different schools of thought. In this module, the author will choose two landmark linguists, Saussure and Chomsky, to define the most fundamental aspects of language. Saussure, as a structuralist linguist, considered language to be a completely social product, a notion that has been abandoned by today's linguistic area, but his introduction of the notion of the semiotic point, defining language in terms of a semiotic system has been extremely enlightening for the understanding of the definition of language [3]. Perhaps this can mean something other than an acoustic image, or perhaps the scope of the can mean something is open to debate. On the other hand, language is thought to be a product of nature according to the theory of generative grammar. Xu concluded that language has the following properties: limitlessness, discreteness and structure hierarchy [4]: (1). Limitlessness. Human beings can use finite words to generate infinite sentences by using language. (2). Discreteness. Physically speaking, the sounds of vibration made by human through vocal organs are continuous. The flow of speech is continuous in the acoustical concept of time. But from a psychological point of view, sentences are divisible. They consist of the discontinuous components. These components can be further divided until they are completely cut into morphemes and phonemes, the smallest units of language. (3). Structure hierarchy. In the sentences, there are always two kinds of relationships between units: one is linearity, with units arranged in a sequence; the other is the structure hierarchy, the sentence is divided into larger units, larger units can be divided into smaller units. Therefore, if a kind of semiotic system is human language, it should bear all of the three properties.

2.2. Definition of Thinking

Thinking is the process by which humans respond to things with the help of language; in other words, thinking is linguistic thought, a uniquely human activity of thought. In today's world of linguistic relativity, the mainstream view is that human's thoughts determine language, and that language is extremely counterproductive to thoughts. In this regard, the author must clarify that human being has many forms of thoughts that are nonlinguistic, such as the direct presentation of images, sounds, and colors in the brain [5], which are nonlinguistic thoughts. This does not mean, however, that the

thinking function of language does not have an overwhelmingly dominant position. The configuration of language for thinking is the most superior relative to a range of roles such as communication and emotion, as will be argued in detail later in following paper.

2.3. Definition of Communication: Not Pleasantries

Communication is the process by which two individuals exchange information in some way. When it comes to communication, the first thing that comes to mind is that people use language to have conversations with others every day and everywhere. Therefore, it's easy for people to take it for granted that the greatest use of language is for communication. It is worth noting that a significant portion of the conversations that take place in human daily life are not communication in the true sense of the word, and that people must interact verbally with others in various forms in order to maintain certain social relationships. Most of the conversations that occur at this time do not achieve mutual exchange of information, or the complexity of such information exchange is so low and inefficient that the author does not treat them as communication in the true sense, but rather as a kind of phatic interaction. In short, people often mistakenly think they are communicating, but in fact they are making present choices to maintain social relations, not really transmitting information.

Basically, a lot of misunderstandings generate owing to the ambiguity of the key concepts. If the meaning of communication can be figured out, it will be clear that most of the language is internalized, only a small part of language application is to exchange information externally. The real external communication seldom happens than people think it in daily life [6]. However, this is not enough to prove thinking is the first function of language. So next part the author will discuss the superiority of linguistic thinking and the flaws of linguistic communication to prove the proposition further.

3. The Superiority of Language for Thinking

This paper has already defined the key concepts of the problem in the first place, in the following part, the author will formally begin to elaborate: why the thinking function is superior to the communication function.

3.1. Nature Is Not Necessarily Economical, but It Must Be Perfect

This paper builds on Chomsky's view of language to address the first nature of language. Therefore, this paper tacitly acknowledges that language is a product of nature, and that language, as a product of nature, accumulates in a constant process of inheritance and selection. Whether in the macrocosm, where the orbits of cosmic bodies are formed, or in the microcosm, where the complex trajectories of quantum motion are created, or in nature, where a series of "miracles" are performed: the golden ratio, pi, etc., all these products of natural design are flawless [7]. In the world of human beings, they are philosophically defined as rules and laws and are unreachable by human beings. No matter how ingenious human manufacturing is, its ingenuity can never match the natural manufacturing. After all, human civilization is a derivative of such laws. Therefore, nature is somehow perfect at least in human cognition. In that case it can be assumed that language evolution is for thinking ability, because so far it is hard for humans to find reason rebutting the perfect of language for thinking, but the communication function of language is not flawless. Language can somehow facilitate communication under specific circumstances, but it can't be the most perfect tool for communication.

3.2. Interfacing Accessories Match Each Other

When it comes to people's talent for language, it is inevitable to discuss the faculty of language. Generally speaking, the faculty of language can be understood in the broad sense (FLB) and in the

narrow sense (FLN). Basically, FLB includes a sensory-motor system, a conceptual-intentional system, and the computational mechanisms for recursion, while FLN only includes recursion, providing the capacity to generate an infinite range of expressions from a finite set of elements, and is the only uniquely human component of the faculty of language [2]. The sensory-motor system and the conceptual-intentional system can exist in other creatures, not only do they facilitate humans' thinking, they also benefit people's ability to communicate. However, this kind of systems don't take the central place of people's faculty of language. They are just a part of faculty in broad sense, some other primates possess them too. But only human beings bear the core of faculty of language, the computational mechanisms for recursion [2]. In other words, FLN is the core component of human language faculty. FLN is a sufficient condition for humans to be able to think, but only a necessary but not sufficient condition for human's verbal communication, and the linkage between the interfaces are all somehow flawless. It's hard to find one mechanism that can match with the recursion system for generating sentences and thinking. Now that the core of faculty of language is designed for thinking, it is easy to infer the thinking function of language always remains the top priority among others.

3.3. Comparison of Language Functions of Special Groups

A good material for language research is the language ability of special groups. The author wants to analyze the language function of the auditory disabled and make comparison between common people and them to figure out the language function's role in different categories. There is no doubt that the communication of the auditory disabled is greatly limited. The vocal and auditory organs are the essential biological basis for verbal communication, and in groups that have lost the ability to hear and speak, the sending and receiving of information is hindered. Therefore, to facilitate communication, sign language was created. However, only humans can lose one modality (e.g., hearing) and compensate for this deficit by communicating in another modality (e.g., sign language) with full capacity. In addition to this, a deaf person would have a normal command of the script of his or her native language. However, sign language communication or text-only communication is not as low-costly or efficient as natural language communication. But even so, the auditory disabled with mental disease can still be efficient in some kinds of thinking pattern by sign language training [8]. Similar to common people, they still have most of the verbal thinking in their minds, and words as well as symbols such as gestures do not have the same tremendous impairment in the efficiency of thinking in the brain as they do in communicating. Simply put, the auditory disabled who lack the concept of speech have a smaller difference in thinking efficiency than the difference in communication efficiency compared to normal people.

It is easy to see that the language faculty is more oriented toward preserving the thinking ability than the communication ability for special situations, which is more indicative of the evolutionary direction of language.

However, one might counter that the difference in communication efficiency between ordinary people and the auditory disabled is greater than the difference in thinking efficiency because the physiologically deficient organs of the auditory disabled are the articulatory and auditory organs, which exist in the sense of communication itself. Therefore, in order to complement the viewpoint, the author would like to analyze the group of autistic and aphasic people who have defects in the thinking part of the brain as an example.

4. Deficiencies in the Use of Language for Communication

The text above has discussed how perfect the mechanism of language for thinking is. Nevertheless, the design of language for communicating is not so perfect. It can somehow facilitate humans'

communication, but as this paper said before, linguistic communication bears flaws, and there are more possible communicative patterns that can make information exchange more efficient.

4.1. Being Misunderstood Is the Fate of the Expresser

According to the theory of Chomsky, people can pick up language since they are small because of their innate talent: universal grammar (UG) [9]. Although all of healthy people have the similar mechanism to generate their language, there still exists huge difference from person to person, which somehow sets people's communication apart from each other. Universal Grammar is the mechanism for human being to generate languages, but individual differences make the language mechanism different from person to person. Therefore, it is somehow impossible for people to decode others' expression completely. It is well known that language expresses meaning, not only in the literal semantic part, but also in the extra-discursive part by context [10]. From the semantic point of view, many of the concepts expressed by sounds or words in a certain language are not unique. In other words, there is not a one-to-one correspondence between the energetic and the referent, which leads to a considerable obstacle to semantic understanding itself, not to mention the differences in the linguistic faculties of each individual. From a pragmatic perspective, the situation is even more complicated. The contextual part beyond the semantics is supposed to be a space of free imagination for the expresser and the listener. There is an untranslatability between a language and a language, and there is also an "untranslatability factor" between a person and another person. After all, there are as many different languages as there are people in the world. It is only that they have more in common than they have differences, and can be classified as the same language in the language classification. Thus, sometimes whatever and however the speakers express their ideas, there will always be something lost in their expression. The reason why people can still communicate with each other is their common part of language is larger than the different part, concealing the untranslatability of information, but it is easy and completely possible to lose some information in their conversation. In other words, the expresser can't realize 100% information exchange, something incomprehensible will permanently exist, and something in their articulation is bound to be lost.

4.2. Choice of Social Strategy

Everyone in the world has different experience. If people need to communicate with others, they must make assumptions about the other person's thoughts in the process of communication [11]. Assumptions about what he is going to say, what himself should listen to, and then what himself should say. Assumptions are the basis of the normal social process, in other words, the process of finding a common language between people is an inevitable part of human communication. But this is the social function of language, not the exchange of information. The exchange of information is not necessarily linked to a common language. It is often the case with communication that the expression exists precisely because the listener does not know it. But even so, the listener and the articulator still stand in each other's shoes to make assumptions about how the other side wants me to understand and how the other side wants me to express, in order to maximize the exchange of information. But at this point, if the expresser does not adopt appropriate social strategies, it is very easy to lead to inaccurate transmission of information; if the listener does not adopt appropriate social strategies, the reception and understanding of information will be biased. Besides, because of the invisibility of thoughts in minds, people can also deceive and conceal each other.

4.3. A Possible Puzzle: Direct Brain-to-Brain Communication (DBBC)

In some cases, some linguistic information can be unachievable to convey, decode and understand completely in semantic or pragmatic area. And owing to the invisibility of thoughts, the information

can also be hidden by the expresser. Therefore, the researchers began to assume that there is a way for creatures to communicate by presenting the thoughts in their minds directly. And it can somehow compensate the deficiencies of language communication. Therefore, the concept of direction brain-to-brain communication (DBBC) has been introduced [12]. So far researchers have already hypothesized the possible way to communicate by perceiving brain electromagnetic fields [12]. Moreover, people also assume that there may have been extraterrestrial civilization that can present their thoughts directly. Humans are the only species on Earth that has developed a complex system of communication. People use language to express thoughts, feelings, and ideas, and to interact with others. But why don't people directly express their thoughts, without the need for language? And if a more efficient and better way can be found to exchange information, why still human beings acquire such kind of language and use them to communicate? All the answers of these questions point at the same direction: human language has been evolving toward thinking function, rather than communicative function.

5. The Significance of Studying the First Function of Language

Establishing the crushing status of thinking in the function of language will help us to recognize what is the biggest difference between what makes human beings human and animals. As is known to all, animals can perceive and think in their nonlinguistic way too [13], but they don't have a kind of mechanism like language, and they can't use language to think, to process information, and to response to the stimuli, but human beings can. it will also make it clear what is the most appropriate and the most desirable way of communication to be chosen in a given event. In warfare, of course, people have to use treacherous word games to transmit information, but in scientific research or conference discussions, if humans have a choice, they will definitely choose to present what they think in their minds to transmit information in a clearer and more accurate way. The author does not intend to belittle the existing communication function of language. After all, misfortune might be a blessing in disguise. Perhaps the flawed language communication of human beings is just an oversight and dereliction of duty of the language function in natural selection, or perhaps the system is objectively unable to take into account the function of thinking and communication, but human can still imagine a possibility that perhaps nature has given some meaning in this, intentionally giving human beings not so perfect to make them become the most unique creature in the world. This is an significant clarification that can describe a possible pattern of what human being is and what direction human being evolve towards.

6. The Essential Part of the Problem, from Evolutionary Level

Since this paper has already discussed primary function of language is thinking, the author would like to add another stroke here to explain the essential part of this issue, it is worth mentioning that this kind of problem has been existing in the human world for dozens or even hundreds of years. Language, as a unique attribute of human beings, fundamentally draws the line between humans and other animals, and defines what a human being is from one aspect [1]. Since language is a unique property of the human species, this means that it is useful to understand the function of language when exploring its evolutionary direction. As is known to all, the attributes or "skills" of natural organisms are formed by genetic inheritance and natural selection over time, and that the skills that support survival are left behind, while the skills that do not meet the needs of the environment are degraded and the useless qualities disappear. Thus, the question of language function is really a question of natural selection. In what direction natural selection proceeds, that skill of the creature will be stronger and the quality will be concentrated and prominent. Obviously, in the above analysis, it is not difficult to conclude that the function of language for thinking has a perfect interfaces and mechanism, while

the system of verbal communication is somehow flawed. In other words, language can do perfect thinking, but not even close to perfect communication, language for thinking can be achieved even without information loss, while using language for thinking can only obtain low energy efficiency, therefore, the author believes that the function of language for thinking will always occupy the highest value priority, natural selection of evolutionary language to optimize thinking as the direction of continuous screening, ghostly endowed with the most profound, sophisticated, flawless human The way of thinking. The so-called communication and emotion functions are merely derivatives of this.

7. Conclusion

Basically, this paper talks about the first nature of language should be thinking, rather than communication. Owing to the ambiguity of the definition of language thinking and communication, thus the author reargues the definition and interprets the superiority of language for thinking and the shortcomings of language for communication respectively with the example of the auditory disabled and the direct brain-to-brain communication. Finally, the author thinks that the first nature of language is thinking is almost plausible. This paper also reveals that the essential part of the language function is the evolutionary direction of human language. If the first nature of language is clear, then it can mutually prove language evolution. Based on these, the future research should be interdisciplinary, researching from the perspective of empirical science, thus providing more direct proofs to discuss the first nature of language function. They can explore towards two main remaining questions: the speculation on natural selection based on the function of language is only a phenomenological deduction. It is worth noting that without a biological prove of the brain, all exploration will just be assumption based on phenomena, and only by analyzing the underlying logic of the brain's functioning and monitoring the conduction of each neuron can the proposition find the "definitive" evidence. As for the long history of human evolution, it remains to be explored in the future research.

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