

## HOW HUMAN THINKING IS INFLUENCED BY THE SPOKEN LANGUAGE

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### **Summary**

This paper aims to prove a deep connection between language and thought and confirm that language is a powerful tool that humans possess. It is not just a collection of words, but rather a medium of communication that has far-reaching impacts. Effective communication heavily relies on language, which serves as a vital tool for communicating with others. Although it may not determine our thought patterns, language is universally recognized as an essential component of human interaction. With over 7,000 languages spoken worldwide, each one boasts a unique vocabulary, sound, and structure. Humans possess an incredible ability to convey complex ideas and thoughts through language. Language can also impact our perception of time and color. Different languages have varying words to describe colors, with some having only a few, such as dark and light. This article explores these various aspects of language. The connection between language and thought is intricate and multi-dimensional. Language is an essential aspect of human interaction, and its structure is linked to brain processes and external factors in nature. This article intends to discuss the varying meanings of language expressions and their significance.

**Key words:** thought, language, community, studies, human brain, distinction.

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## **1. Introduction**

Body language, words, and vocal inflections can either create wars or peace when delivering the primary point to the listener. They have the power to make someone feel terrible or consider things they never thought of before. Communication is a tool that can spread helpful information and knowledge, but it can also lead to people feeling foolish or astounded when they realize they were wrong about something. It can create bonds, friendships, and even countries, but on the darker side, it can cause death and destruction. A single kind word can uplift

someone who is struggling, while negative words can spread like wildfire and cause people to feel darker and less enjoyable to be around. Our words and how we convey them have a profound impact on others, and it's crucial to be mindful of how we speak to and about others. Language can be a weapon that causes genocides, but it can also save souls and create strong bonds between nations and neighbors for the betterment of humanity (*Leavitt, 2011*).

The idea that language is a tool for expressing thoughts has been around for a while. However, in sociolinguistic thought, this concept is considered to be too narrow. This is because language activity is primarily concerned with "who speaks what language to whom, when, and for what purpose." Therefore, from the perspective of sociolinguistics, language functions can be viewed from various angles, which include speakers, listeners, topics, codes, and the purpose of the conversation (*Chaer and Agustina, 2004: 15*).

## 2. Human magic ability

Different languages have their unique sound and structure, and they convey a certain feeling. Italian has a musical quality to it, whereas German seems harsher. Even if a person is fluent in both languages, he/she can appear to have two distinct personalities. However, is it possible that language can influence our identity? Linguistic relativity theory suggests that the language one speaks influences his/her perception of the world – including surroundings, sense of time, memories, behavior, and sense of self.

The ability to communicate using language is a magical ability that humans possess. It allows people to transmit complex thoughts across vast distances of time and space. (*Majid, Bowerman, Kita, Haun, & Levinson, 2004*). By combining words in new ways, people can even create new ideas that they've never thought of before. One can say, "Imagine a bear that is looking for stamps because he has to send his new poetry collection to his literary agent, the owl." If everything has gone well in a person's life so far, that's a new thought for him/her. He/she hasn't had that thought before and was able to implant it in his/her mind using language (*Boroditsky, 2011*).

Currently, there are approximately 7000 languages spoken in the world, each with its unique sound, words, and structure. This raises the question of whether speakers of different languages think differently and if language shapes the way we think.

For example, Charlemagne, Roman Emperor, said: "To have a second language is to have a second soul." That's a very strong statement about the power of language. When someone is learning a language on Duolingo, is he/she just learning a new way of talking? Or is he/she acquiring a new soul? On the other hand, Shakespeare said: "A rose by any other name would smell as sweet." That suggests that maybe language isn't that important, and doesn't change the way you think. While opinions on this topic have existed for thousands of years, there has been little scientific evidence until recently to support these claims.

## 3. Language restricted by culture

The American linguist Daniel Everett conducted research and worked with the Pirahã, a hunter-gatherer tribe residing in the Brazilian Amazon. His work demonstrates how culture can restrict language. For the Pirahã tribe, the present experience is of utmost importance. They only talk about what they can see, hear or infer. Although they believe in spirits that can take

the form of people, animals, or visible objects in their environment, they have no concept of a supreme god or spirit. The Pirahã don't discuss the distant past, so they don't have a creation myth. Not surprisingly, their language lacks past and future tenses, and there is no recursion in their grammar. However, they do exhibit recursion in their stories. Numerical understanding and counting systems seem to arise from linguistic recursion. The Pirahã don't have discrete numbers, and they only have three words that convey some notion of quantity. These words are "hói," which means a small size or amount, "hoí," which means a somewhat larger size or amount, and "baágiso," which can mean either "to cause to come together" or "a bunch" (Everett Daniel L., 2017). The Pirahã don't count, nor do they ask for a specific number of anything, presumably because they have never felt the need to do so. The fact is that the way of living and cultural ideas of those people have determined specificity of their language.

#### 4. Perceiving space and time

To illustrate how the languages people speak can influence the way they perceive the world, it is good to consider the example of the Kuuk Thaayorre people, an aboriginal community living on the West coast of Cape York in Australia. What's fascinating about their language is that it doesn't include words like "left" and "right." Instead, they use cardinal directions such as North, South, East, and West to describe the position of objects and places. This feature is shared with many other languages spoken around the world. In some of these languages, people might say something like "There's an ant on your north-west leg" or "Move your cup to the south-south-east a little bit." In Kuuk Thaayorre language, the equivalent of "hello" is "Which way are you going?" The appropriate response would be something like "North-north-west in the far distance. How about you?" This means that in this language, even basic communication requires an awareness of one's heading direction.

It has been discovered that individuals who speak certain languages possess an impressive ability to stay oriented. They are able to stay oriented better than it is previously thought humans could. In the past, people believed that human brains were not capable of staying oriented as well as other creatures due to biological limitations such as not having magnets in beaks or scales. However, it has been found that many individuals across the world can stay oriented remarkably well due to their linguistic and cultural practices. This is a fascinating example of how much more our brains are capable of than one may think. Often, human perception of what is possible is limited by what people are accustomed to. In this particular case, being oriented in this way is not only possible, but it is not even that difficult. It has been simply not considered before.

Different languages not only have distinct ways of treating space, but also time (Boroditsky & Gaby, 2010). For instance, by considering photos of grandparents at different ages, it is interesting to compare how an English speaker would arrange them from left to right, which is influenced by his/her writing direction. However, if someone speaks Hebrew or Arabic, which is written from right to left, they might arrange the photos from right to left. But what would the Kuuk Thaayorre people do? They don't use the words "left" and "right." So, when the photos are shown them facing north, they arranged them from right to left. When the photos are shown facing east, they arranged them to come towards them. The pattern is that they arranged them from east to west, following the direction of the sun.

That's amazing for them – time is not tied to the body at all, but rather to the landscape. When you think about it, our way of measuring time, tied to the body, seems a bit odd. Making time's direction change every time you turn your body is very egocentric. For them, time

moves in a fundamentally different reference frame – from east to west (*Majid, Bowerman, Kita, Haun, & Levinson, 2004*).

## 5. Handling colors

Different languages have different ways of dividing the visual world, which can affect how people perceive things (*Boroditsky, 2011*). One example is the way languages handle color. Languages vary in the number of color words they have and how they set boundaries between different colors. Ukrainian is one language that illustrates this point. Unlike English, Ukrainian doesn't have a single word for blue that covers the whole spectrum of colors that English calls "blue." Instead, it has separate words for light blue and dark blue: "blakytnyi" and "synii," respectively. This means that Ukrainian speakers have a lot of experience distinguishing between these two shades. Studies show that when Ukrainian and English speakers are tested in the same experiments, Ukrainian speakers are quicker to distinguish between colors that cross the boundary between *blakytnyi* and *synii*. Additionally, when researchers observe the brains of people who speak languages that make these distinctions, they find that the brain of a Ukrainian speaker reacts with surprise when a color crosses the boundary from light blue to dark blue. In contrast, the brain of an English speaker who calls both colors "blue" doesn't register any surprise because nothing has categorically changed.

## 6. Gender category

Many languages have a grammatical gender system where every noun is assigned to either a masculine or feminine gender (*Guiora, Beit-Hallahmi, Fried, Yoder, 1982*). However, the gender assignments differ from one language to another. For example, the Sun is feminine in German but masculine in Spanish, and the Moon is the opposite. It is worth wondering whether this grammatical gender system affects how speakers of each language think about objects and things. Research has shown that gender connotations do affect language speakers' perception of objects (*Levinson & Wilkins, 2006*). For instance, if one asks Spanish and German native speakers to describe a bridge, they will use feminine adjectives like *beautiful* or *elegant* if the noun is feminine in their language. On the other hand, they will use masculine adjectives like *strong* if they are describing a masculine noun.

## 7. Describing events

According to the study (*Fausey, Long, Inamori, Boroditsky, 2010*), speakers of different languages have different ways of describing events, which affects their ability to remember who did what. The study involved participants who spoke English, Spanish, and Japanese watching videos of people intentionally or accidentally popping balloons, breaking eggs, and spilling drinks. Later, they were asked to identify which person did each action, just like in a police line-up. Another group of participants described the same events. Researchers found that speakers of all three languages remembered intentional events equally well since they described them using the agentive voice, such as "He popped the balloon." However, when it came to accidents, Spanish and Japanese speakers were less likely to use the agentive voice, resulting in poorer

memory of who did what compared to English speakers. This was not because their memory was worse overall, as they remembered the agents of intentional events just as well as English speakers did (*Fausey, & Boroditsky, 2011*).

Languages not only affect human memory but also enable or disable human ability to learn new things. According to (*Boroditsky, 2011*), the structure of a language can make it easier or harder for people to learn. For instance, Mandarin has a more transparent structure for revealing the underlying base-10 than English, and thus, children learning Mandarin can learn the base-10 insight earlier. Moreover, the number of syllables in the number words of a language can affect the difficulty of remembering a phone number or doing mental calculations (*Gordon, 2004*). Beyond that, language can also affect how quickly children learn their gender. A study conducted by Alexander Guiora of the University of Michigan at Ann Arbor revealed that children growing up in a Hebrew-speaking environment figure out their gender about a year earlier than Finnish-speaking children, as Hebrew marks gender prolifically. Meanwhile, the Finnish language has no gender marking, and English is somewhere in between. (*Guiora, Beit-Hallahmi, Fried, Yoder, 1982*).

## 8. Bilingual thinking

One way to approach the question is to study individuals who are proficient in two languages (*Frank, Everett, Fedorenko & Gibson, 2008*). According to studies, bilingual individuals alter their perception of the world depending on the language they are using. In 2010, two sets of findings showed that even basic preferences, like whom you like or dislike, can be influenced by language. The studies were conducted by Oludamini Ogunnaike (*Oludamini Ogunnaike, 2010*) and his colleagues at Harvard and by Shai Danziger and his colleagues at Ben-Gurion University of the Negev in Israel. They examined Arabic-French bilinguals in Morocco, Spanish-English bilinguals in the US, and Arabic-Hebrew bilinguals in Israel. In each case, the participants' implicit biases were evaluated. For example, Arabic Hebrew bilinguals were asked to quickly press buttons in response to words under various conditions. They were instructed to press "M" if they saw a Jewish name like "Yair" or a positive trait like "good" or "strong," and to press "X" if they saw an Arab name like "Ahmed" or a negative trait like "mean" or "weak." In another condition, the pairing was reversed. The researchers measured how quickly subjects responded under both conditions. This task is commonly used to determine automatic or involuntary biases, such as how easily positive traits and ethnic groups seem to associate in people's minds.

According to the study, bilingual individuals demonstrated significant changes in their automatic biases based on the language in which they were tested. The study revealed that Arabic-Hebrew bilinguals displayed more favorable implicit attitudes towards Jews when tested in Hebrew compared to when they were tested in Arabic.

## 9. Conclusions

Scientists have discovered that language plays a bigger role in our mental lives than previously thought. Even simple tasks like recognizing colors, counting dots, or navigating a room involve language. This means that the categories and distinctions found in different languages have a broad impact on our thinking. Researchers have found that thinking involves

both linguistic and non-linguistic processes. Therefore, language likely plays a role in most adult human thinking.

These are only a few of the intriguing discoveries made through the study of cross-linguistic cognitive differences. However, the question remains: do language differences affect thinking patterns, or is it the other way around? The answer is that both are true. The way people think impacts the way they speak, but language also influences human thinking patterns. In the last decade, many studies have demonstrated that language has a causal role in shaping cognition. These studies have shown that changing the way people express themselves can change the way they think. For example, teaching someone new color terms can improve their ability to differentiate between colors. Additionally, teaching someone a new way to talk about time can give them a new way of thinking about it. The research demonstrates that language plays a role in our early perceptual process. Although differentiating between colors may seem like a small task, we constantly make thousands of these distinctions. Language can influence even these small decisions.

Furthermore, language can have a significant impact, for example, grammatical gender affects all nouns and requires a wide range of agreement in the language. This means that language affects how people think about any object that can be named by a noun. The study also provides examples of how language can shape important human concepts such as blame and punishment. The remarkable diversity of languages is a testament to the human mind's ingenuity.

One of the hallmarks of human intelligence is its adaptability. Humans are capable of inventing and rearranging conceptions of the world to suit changing goals and environments. This has resulted in the great diversity of languages around the world. Each language provides a unique cognitive toolkit that encapsulates the knowledge and worldview developed over thousands of years within a culture. Thus, each language contains a way of perceiving, categorizing, and making meaning in the world, which is invaluable knowledge developed and honed by our ancestors. Research into how language shapes the way people think is helping scientists to understand how humans create knowledge and construct reality. This insight, in turn, contributes to a better understanding of what makes us human.

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