Thinking for Speaking. Exploring the Interface Between Thought and Language

Uzelac, Nicol

SVEUČILIŠTE JURJA DOBRILE U PULI

FILOZOFSKI FAKULTET

Nicol Uzelac

Thinking for Speaking.

Exploring the Interface Between Thought and Language

Supervisor:

dr. sc. Marija Brala-Vukanović

Pula, 2024.

SVEUČILIŠTE JURJA DOBRILE U PULI

Filozofski fakultet

NICOL UZELAC

Thinking for Speaking.

Exploring the Interface Between Thought and Language

Završni rad

JMBAG: 0303102663, redovna studentica

Studijski smjer: Preddiplomski dvopredmetni sveučilišni studij

Engleski jezik i književnost i Japanski jezik i kultura

Kolegij: Semantika engleskog jezika

Znanstveno područje: Humanističke znanosti

Znanstveno polje: Filologija

Znanstvena grana: Anglistika

Mentor: dr. sc. Marija Brala-Vukanović, naslovna redovita profesorica u trajnom zvanju

Pula, 2024.

Contents

1. Introduction

The connection between thought and language has become an intriguing topic in the past couple of years. Linguists have made significant efforts to analyse the structure of various languages in an attempt to better understand how language influences our cognitive processes. However, while trying to understand the connection between two aspects inside the mind, we also need to consider the sensory component which accompanies these two parts. A renowned linguist named L. Talmy, when discussing the difference between perception and conceptualization, explained that ‘’psychologists themselves do not agree on where to draw the line, in principle, between perception and conception (Talmy, 2018: 141).’’ This is because we cannot be sure where to draw the line between conceptualizing an object and perceiving it as it comes to us in its physical form. As a result of this perspective, this work has initially focused on how language affects conceptualization within the framework of perception. It is a difficult thing to analyse, and not as difficult to misinterpret. When looking at an object, let’s say a hairbrush, do you merely see a rounded object only ascribed to the label ‘hairbrush’ or are you seeing a tool specifically associated with brushing hair. Some linguists would argue that everything we perceive upon seeing an object and interacting with an object is a part of our perception, while others would disagree (Talmy, 2018: 141). This work will analyse the background information needed to better understand the connection between thought and language. The focus will be on visual perception rather than conceptualization, as perception is the initial step in understanding the link between what we perceive, and what we conceptualize. Continuing from that, color terms will be analysed in greater detail as their contribution to this theory is crucial for understanding how our mind works. For example, If you happen to be waiting for the light to turn green in Japan, you would be surprised when native Japanese speakers, upon seeing this change of hue, do not associate it with the label we call green but rather with aoi – which means blue. Why is that so? Does this mean that Japanese people do not see the same range of shades as other people? No, it just means that the label used in their language does not correspond to the same point of reality. This may be due to a known phenomenon called ‘’Blue–green distinction in language’’ where these two colors are described using one label, but that is not the main issue at hand. It is important to note that because the Japanese language has been using kanjis for a long time, the nuances of labels have also

changed depending on the symbol used for them. The symbol for ‘blue’ (青) also means unripe or inexperienced while ‘green’ (緑), besides the color, holds the meaning of greenery or verdure. Both terms are used in different contexts based on the implicature of the conversation. We could say that a watermelon is blue, but a forest could only be green. It is an interesting concept where the language we speak influences how we see, feel, live and conceptualize the world. As Federico Fellini once said: ‘’ A different language is a different vision of life’’. Our native language brings us a perspective of the world connected to the roles within our language. The tenses, the gendered nuances, and even the particles are used as necessary building blocks to understand how people conceptualize objects that surround us. Perception is an interesting concept as it deals with subjective experiences which happen automatically with hearing, seeing, and perceiving something with our senses. However, the elements which bring it all together are concepts. Concepts are mental representations filtered by perception, with sensations used as stimuli for cognition. This invisible line of communication depicts the interplay between conceptualization and perception while focusing on important linguistic aspects. The influence of language spans in the way it labels, structures, and as a result conceptualizes objects, leading to a variation in color terms, motion perception, grammatical gender, shapes, and many more. For example, if a language does not have a label for what we in the English language call ‘green’ that does not mean speakers of that particular language cannot see the color. This only means that a language has not given them a label to represent the color, and they have no use of perceiving it. The same goes for spatial differences in language; such as cardinal direction. The languages which do not use the egocentric system, but a geographical one have developed a heightened awareness of their surroundings. Seemingly small differences in language like these are the reason we are inclined to conceptualize things so distinctively. An accident could be seen differently if two people from distinct linguistic backgrounds are eyewitnesses. One could see a victim, where one would see a culprit. In this thesis we explore the cognitive aspects which are needed to further understand the implications of language on cognition. From the empirical research to my own examples, there are many things explored here which give a better insight into the connection between our mind, thought, perception or, rather, conceptualization.

2. The Sapir-Whorf theory

Even though the first theory is about language influencing thought, and as a result conceptualization, came from Hamann and Herder during the Romantic period. The exact theory correlating to language influencing thought came from the anthropologists, Sapir and Whorf. Sapir is acclaimed for this theory, but his findings were only a tribute to those who came before him. He was influenced by previous anthropologists and this did not escape the eyes of a man named Benjamin Whorf. There are many reasons why Whorf's name is also ascribed to this theory, and one of the main ones is the ''advancements he made in the early to mid-20th century and the fact that his work continued to be the point of departure for research on linguistic relativity'' (Subbiondo, 2017: 215). Their collected influence created the term *Sapir-Whorf theory* which ''holds that the semantic categories of one's native language influence thought, and that as a result speakers of different languages think differently'' (Regier and Xu, 2017: 1). The first signs of interest towards the Sapir-Whorf theory are seen in the work by George Lakoff and Mark Johnson named *Metaphors we live* by where they discussed the work done by Sapir and Worf in further detail. Even if their primary field of study are metaphors, the work also has significant information concerning the visual field of language such as spatial and cultural correspondence, which will additionally help in dissecting the relationship between language, thought and perception. The Sapir-Whorf theory is divided into two parts consisting of: linguistic relativity and linguistic determinism. Both deal with the concept that parts of a language such as syntax, the system of grammar, spelling, and punctuation have a direct effect on how we conceptualize reality. These patterns of thought are said to be a direct consequence of immediate perception alongside the social-cultural classification of a specific group (Lucy, 1997: 294). Firstly, if we focus on the concept of linguistic relativity or 'the weak' Sapir-Whorf theory, we are only saying that a language partly influences how we go about the world. The word 'weak' is not correlated with how the influences affects us as a person, rather it deals with how these distinctions affect our functioning inside society. John. A. Lucy, a linguist specialised in the field of linguistic relativity, decided to analyse the patterns used in examining linguistic relativity; trying to find an easy answer to yet unanswered questions. From the review of particular empirical research, he divided the 'weak' theory into three different parts: semiotic, structural, and functioning. The semiotic theory deals with how speaking any natural

language[1] may influence thought; focusing on how humans differ from other species which do not have a natural language, in other words, speech patterns that lack a specific code of symbols. Although language is the most important factor in analysing thought, we cannot be sure if language itself makes this distinction or the different cognitive aspects between species. Those who lean more towards the latter, focus on how perception affects our experiences more than a system of symbols. The structural theory is most relevant in the academic space when talking about linguistic relativity as it focuses on how natural languages differ from one another. The distinction between languages is made by comparing the semantic and pragmatic categories inside the exact *structure* of the language. Semantic categories focus on linguistic theory to explain how ‘’the meaning of a complex expression is determined by the meaning of the expressions constituting it’’ (Gillion, 2017: 310). For example, the abstract notion of identity contains multiple characteristics; national, cultural, personal, ethnic, racial, gender identity, etc. These smaller parts all fall under one label because of concepts inside our language, yet depending on another language in question this notion could be completely different. The English language has been steadily evolving to accommodate the changing gender identities, such as the use of various distinct pronouns for people who wish to be addressed differently. However, because the Croatian language is a gendered language with already determined pronouns, it faces difficulty to adapt like other non-gendered languages. Alongside that, pragmatic categories focus on the practical use of language, which is used in different real-life situations, in other words, it focuses on the meaning of a sentence conventionally determined by the mere utterance of the sentence (Recanati, 1989: 295). Lastly, functional theory focuses on different dialects or particular settings which use distinct patterns of speech within a single language (Lucy, 2004: 2). We could easily tell apart a person coming from Scotland or from York simply by their different speech patterns. The ’strong’ part of the Whorfian theory is called linguistic determinism, which Whorf says is when ‘’language shapes the way we think, and determines what we can think about’’. This theory fully states that language not just influences thought but determines it completely. In other words, linguistic determinism is the belief that our mother tongue determines how we perceive, conceptualize, and communicate in the world, making us believe that cognition and language have a direct cause-

[1] a language that has developed naturally in use (as contrasted with an artificial language or computer code)

consequence effect on one another. This theory has been under a lot of criticism. For example, during an experiment the Dani tribe were presented with a large set of colored chips and were asked to select the best example of each color. After some time, they were asked to remember which colors they had previously selected and they had no issue completing the task. Therefore, ‘’if language entirely determines thought, then the Dani should not have been able to categorise and remember a complex set of distinct focal colors because they only have two basic color terms in their language’’ (Evans and Green, 2006: 97). The main arguments for linguistic determinism all focus on a slightly nationalistic outlooks on language and are not considered as valid contributions to the theory of meaning. We cannot claim that one language is exceptional because it has three shades of purple while another one has less. It is important to understand the different levels inside the language we speak to gain an insight into the primary task of perception. Even though the Sapir-Whorf theory is mainly connected to thought, we cannot say thought is just one singular concept with no connection to the other parts of cognition. Our thinking has a direct relation to our perception of reality, which is influenced by language in many ways (Lyman, 2023: 536).

3. Mental Representations

Most people exhibit the ability to have visual experiences, auditory experiences, and thoughts which represent our knowledge, capabilities or ideas. Mental representations are ‘’used to explain central psychological abilities, such as language, perception, memory, theory of mind, abstract reasoning, and action (Smortchkova, Krzysztof, and Schlicht. 2020: 1)’’. The words we use in everyday language are indicators; they correspond to the mental image/idea that appears in a person's mind and create a cognitive representation of the real world. However, mental representations are not only correlated with words. Focusing on how we feel, hear, taste, and see physical objects can determine future mental representations. These perceptual experiences mentally represent the ways things are or will be (Mendelovici, 2010: 6). For example, when swimming in the sea our body is surrounded by different senses. Depending on the person, one might feel at ease upon hearing the sound of waves, and the feeling of surrounding water could induce a feeling of relaxation whereas another person would feel fear experiencing the exact same thing. This is a common problem when discussing mental representations, as not everyone has the same experiences which

ultimately results in a vast variation in the abstractness of ideas/images. From the aforementioned example we can note that there are two main types of mental representations which are important to the discussion of visual perception and conceptualization. The first type is the concrete level which is used to observe and comment objects that appear in the surrounding physical world, making it directly related to perception. When we first come to understand and feel things we store them inside our cognition for future use. This effect is most prominent in childhood as children are more susceptible to build languages and concepts. Culture also plays a big role in this theory; helping us understand why different people use different labels for terms that may visually correspond in other languages. The other type is more abstract, commenting on nonobservable objects presumed to underlie the observable phenomena (Paivio, 1990: 19). This is the version that corresponds to the swimming example, as it tries to clarify how we create mental representation for things based on our perceptive experiences, without tying it to a distinct object. However, we could tie it to something that we *feel* could be a representation of the label. One of the biggest problems arises with the abstract as they are intangible ideas; we cannot perceive them with the main senses. For the abstract nouns, we organize perceptions based on our ideas of the concept. We cannot touch the verb ‘’justice’’, nor can we see it, but based on our experiences with the world and culture we sense how justice should be represented. For example, when saying the word ‘’Justice’’ it could be easy to correspond it to the statue of ‘’Lady Justice’’ which is the contemporary personified representation of the term. The common use of this symbolism, be it in picture or words, creates the mental representation in our brain that justice is a scale which is held by the individual themselves. The forms which thoughts create are, within the linguistic space, known as representational concepts.

4.1. Concepts

An explanation given by Allan Paivio (1990: 22) says that concepts are ‘’psychobiological in origin and stay close to observables in that they are interpreted as having perceptual, behavioral, or natural-language properties’’. They create a constituent element to the theory of mental representations. As a result, any beliefs, desires, wishes or feelings enter the mental process as important symbols. If we believe that *cats are faster than dogs* this is represented by our mental representations with these animals and the adverb ‘’faster’’. This is a result of the mental

representations being seen as ‘’occurrent beliefs with functional roles’’(Margolis and Lawrence, 2003: 4). However, in semantic observation concepts are abstract units of thought which encompass our sensory and motor experiences in categorial structure which are not entirely connected to mental representations. To explain this further, concepts are constituents without a clear referent, resulting in total dependence on the senses. Concepts could have the structure of phrases but they are mostly lexicalized[2]. The concept is just a mere symbol which represents the true meaning of a word, but should not be mistaken for the object in question. If we take the word bear, and think about its attributes, we could say it is an animal, has four legs, it is brown, and it is an omnivore. We can see that the word bear just represents the true object as we are able to perceive it. However, if we suddenly found out that bears are ‘’automata rather than animals would the meaning of the word bear be different?’’ (Saeed, 2003: 36). In this sense, rather than just being mental objects, concepts are the medium between meaning and language.

5. Visual Perception

Language does not determine what we think about, but it shapes our individual experiences and makes itself a tool for describing our conscious experiences (Klemfuss, Prinzmetal and Ivry, 2012: 1). Visual perception, among other sensory channels, helps us gather these experiences within our cognition; defined as ‘’the brain's ability to interpret and make sense of visual information received from our eyes’’ (Interaction Design Foundation - IxDF, 2016). It indicates the ability to understand or notice things easily alongside visually distinguishing elements by using our eyes. Humans rely on the visual sense a great deal which makes it one of our most dominant senses. Perception is often seen as an active and constructive process, and there are many theories that introduce another way of understanding visual perception. Viewing perception as a process dependant on experiences, which relies on concepts within our cognitive space, can make it easier to understand its influences. As mentioned before, humans depend on cognition to correctly conceptualize and categorize different visual stimulus to help gather and identify information. If everyone has the ability to perceive the world equally through vision, does this mean everyone experiences the world in the same exact way? The answer to this question would seem

[2] Corresponds to a single word

like an obvious *no* because, although people biologically cannot have distinct visual perception, conceptualization strays away from that. However, the harder part resides in analysing the reason for differences in languages. The answer could lie within language structures or biological reasons such as color blindness or blindness in general. If a person has a decreased visual sense, it greatly influences living conditions and daily functioning. They often have trouble differentiating between left and right, lack a sense of direction, and become confused by similarities and differences in objects, shapes and sizes. Alongside that, there are many different ways researchers divide categories of visual perception. For example, Raghubir (2010: 202) suggests that ‘’there are seven categories of visual categorization: geometric, format, statistical, temporal, goal, structural, and other (i.e. size, texture, movement)‘’ but this work will further focus on how Lupyan et al. (2020: 3), divide the structure of visual perception in three categories: recognition, discrimination, and detection, and how these categories influence conceptualization. They arrived at this conclusion as a result of their study on *effects of language on visual perception*. This topic has been researched before, but no one had grouped these terms in named categories before them.

5.1. Recognition

It is understood that we categorize objects inside our cognition by recognizing features, elements and senses that give us enough information to distinguish one element from another. If we see a table, we will know it is a table by comparing our current visual input and our previous ones. A table usually has a flat top and one or more legs, therefore if we see a chair with a flat top but a single leg, would that still classify as a chair? Yes. This is because we base our future methods of perception by our past experiences. Many people see stumps as a table or a chair based on the function needed in the moment. Function and past experiences have shown to be the fundamental ways our brain decide to categorize elements in our surroundings. As Christopher Baldassano said in his work about *Visual Scene Perception in the Human Brain* (2015: 30): ‘’the conceptual structure of environments is driven primarily by the functions, or the actions that one could perform in the scene.’’ Another example would come from a simple glass of water. A glass of water could have many different functions. It could quell thirst, be used to water flowers, wash something and it all depends on how we would recognize it, and change it based on our current needs.

Verbal hints are an excellent indicator and helper of recognition. The aid of language helps greatly increase the recognition of objects which would usually be indescribable. By giving people, a category which has the element we are trying to recognize it enables the object to start being recognizable not only in the current moment, but in future cases where we would need to understand a primary function once again. The word *dryer* could be indescribable by itself. But if we add verbal hints such as: *a machine, dries clothing by turning them in hot air, bathroom utility* we have an easier time of perceiving it as expected.

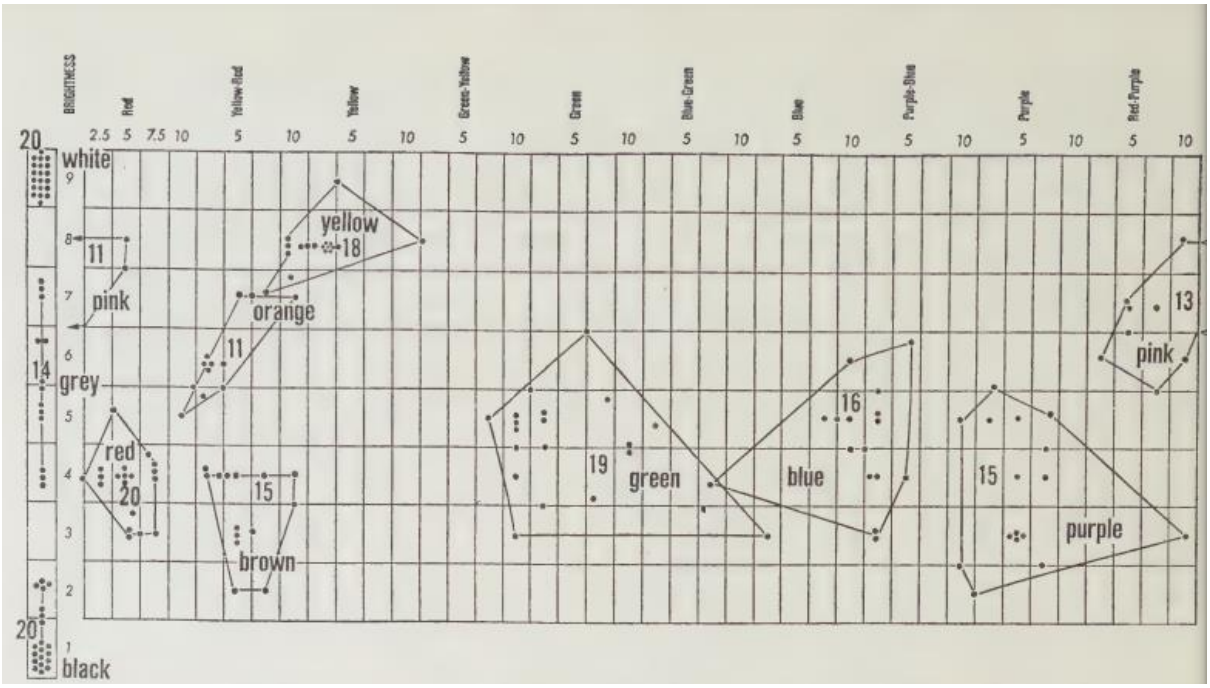
5.2. Discrimination – Color terms

In the context of visual perception, discrimination refers to the ability to distinguish between one thing or another. A field of semantics which has become popular in the contemporary world is whether the terms we give colors, influences our ability to discriminate between them. There have been many experiments focusing on color terms as a major issue at hand based on the influence on the previously mentioned theory of linguistic relativism. This is because studies that focus on linguistic relativity, particularly those discussing colors, argue that speakers of a language with multiple terms for a single color have a different way of perceiving that color, and subsequently the world. From a young age, we learn to categorize colors based on the labels provided by our language (Lupyan et al. 2020: 6). This is used as evidence for the claim that every person from a different cultural background has a different predisposition for perceiving colors. This view means that people may perceive the world in more distinct hues than someone from another culture would. What stands true are the basic colors most languages possess: white, black, red, green, yellow, blue, brown, purple, pink, orange, and grey (Berlin and Kay, 1969: 35). Basic color terms, as coined by Berlin and Key, exhibit four important characteristics: they are monolexemic[3], the signification is not included in other color terms, the application must not be restricted to a narrow class of objects, and it must be psychologically salient for informants[4]. Based on the criteria, they conducted an experiment with participants from all over the world. The participants were asked to map color terms,

[3] The meaning is not predictable from the meaning of its parts

[4] Berlin and Key, also provided an example based on their characterization of basic color terms, noting some English color terms consisting of: (a) crimson, (b) scarlet, (c) blond, (d) blue-green, (e) bluish, (f) lemon-colored, (g) salmoncolored, (h) the color of the rust on my aunt's old Chevrolet. All of these terms were eliminated as none of them fit into the mentioned criteria.

verbally elicited by an investigator, onto a stimulus board covered with an acerate overlay where the informants were given pencils to mark basic color terms with a simple *x*. Among the twenty languages examined in this study, varying from Indo-European languages to Afro-Asiatic languages, there were also English and Japanese whose difference will be further analysed in greater detail. From the collected data, it could be concluded that the span of color categories are similar even if the languages are totally unrelated. The participants all put x's in close proximity to one another or on the same place. There was a lot of empty space left as all the results were clumped together in small places on the board. This shows us that no matter the label, when people are given adequate explanation of a hue, they can easily distinguish it. Even if there are eleven basic color terms, some languages have more or even less, giving them a better understanding of shades of a color, but not the hue.



1. Berlin, B., & Kay, P. (1969). Basic Color Terms: Their Universality and Evolution. Berkeley & Los Angeles: University of California Press.

In their research, Berlin and Key also analysed the fact that if a language has less than eleven basic color terms, they usually start with black and white. After that, the next color term would be red then green then yellow. Interestingly, blue comes after yellow as a sub-color in most languages analysed in their study. The proposed hierarchy of colors was made to show the results of their research. If a language contains terms

right of this hierarchy, then it certainly had all of the colors appearing to the left (Dowman, 2003: 100).

[white black] < [red] < [green yellow]< [blue] < [brown] < [purple pink orange grey]

As a result of this research, we can conclude that linguistic determinism has little effect on visual perception. Language does not determine what we see; if the results were different, and participants had a greater arbitrariness between their choices, the theory could be more plausible. However, as mentioned above, everyone put their choice in a close proximity to one another proving that ‘’color categorization is not random and the foci of basic color terms are similar in all languages (Berlin and Kay, 1969: 10).’’

Another continuation of the previous study deals with linguistic relativity and the belief that language we speak affects how we perceive and conceptualize the world (Lucy, 1997: 292). While Berlin and Key focused on the main experiment at hand, they also analysed the difference between how speakers of the same language divide colors, and how speakers of other languages divide them. Interestingly, they concluded that speakers of the same language show more arbitrariness in deciding which shade of hue fits inside the given label than speakers of different languages. In the Tzeltal language *yaš* is a color that could mean blue or green based on the context (Berlin and Kay, 1969: 11). Some speakers of Tzeltal placed the x in the green area of the board while some put it in the blue, and none were wrong. For example, this work will observe the Japanese word ‘ao’ *(blue) which* can be used differently depending on the context. From the earliest survived records of Japanese, people have used ‘ao’ and ‘midori’ (green) interchangeably (Kuriki, I. et al, 2017: 2). Nowadays, the label for blue is also used when describing traffic light green or green colored foods. It would seem that Japanese speakers perceive it based on their past cultural customs and aspects, which they continue to respect. ‘Midori’ on the other hand, could not be used to describe blue, only being used to explain objects that are completely green. The color in the Japanese language could be classified as a type of sub-color/shade represented by blue. For example, When the light turns from red to green on a traffic light in Japan, a speaker of Japanese would usually exclaim:

信号は青いです.

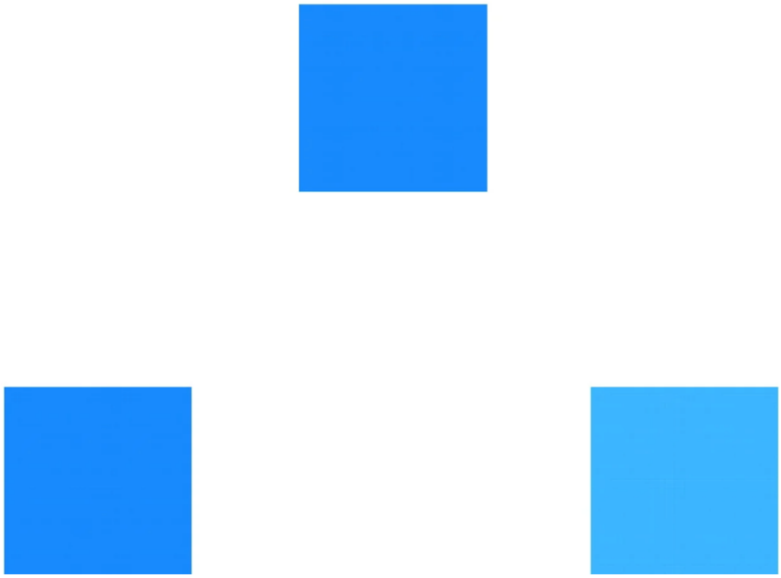
singou ha aoi desu.

The light is green.

The character written in this example is in fact the character for blue. As mentioned before, the perception of color is mostly influenced by categories made by a language. Even if we perceive colors the same way, language is the cause for this drift between terms used for color. If a language has the same term for two or more colors, they are naturally more inclined to confuse them. Another example of this exact distinction happening in another language is from the Tarahumara speakers. They base their assumptions on color on ‘’saturation rather than hue which reflects that the absence of linguistic distinction suggesting an influence of language on perception (Clifford et al, 2014: 5).’’ The term for this phenomenon is known in the English language as *Blue–green distinction in language* or simply *grue*. While a lot of languages look at blue and green as shades of one another, English separates them into basic colors. This is not only the case with green and blue, as the Italian language has two or even three shades of blue included in their basic colors. Italian speakers could either differentiate between ‘blu’ *(dark blue) and* ‘azzuro’ *(light blue)* or ‘blu’ *(dark blue),* ‘azzuro’ *(medium blue) and* ‘celeste’ *(light blue)* where the claim over their standing as basic color terms relies on geographical factors (Paramei et al. 2014: 28). It would be wrong to attempt to discover which of these terms best corresponds to one label singular. It is engraved in the Italian language that shades of blue are important enough to be classified as basic color terms. The same distinction happens in Russian language with *goluboy* (голубой) and *siniy* (синий).

This is an obligatory distinction in the Russian language which makes the discrimination between colors easier. They do not have a single word which would correspond to the English term ‘blue’. The difference between how English speakers see blue and how Russian speaker see will be examined by analysing a study done by Jonathan Winawer et al (2007: 7780) specifically created to oversee the difference in perceptive discrimination caused by different terms. The study was done by showing participants three differently colored squares; one on the top and two at the bottom. The top square is the primary color, and the participants had to pick between the bottom two to decide which one corresponds more closely to the primary color. The

result showed that Russian speakers were much faster and accurate at distinguishing colors than English speakers.



2. Winawer, J., Witthoft, N., Frank, M.C., Wu, L., Wade, A.R. & Boroditsky, L., (2007). Russian blues reveal effects of language on color discrimination.

It seems that a categorical advantage enables speakers to distinguish between colors faster and easier. English speakers had no advantage in any section of the study. There were spatial and verbal hints which helped but did not give them any advantage against a language that innately divides these colors. This is another form of proof that the way categories are formed based on our language influence perception of basic color terms. Specific terms for colors help people distinguish them easier, whereas lack of color terms sparks confusion when talking to someone that does not share your cultural background. English speakers understand that these are different shades of blue, and that they are seemingly different but they cannot be compared with people who ‘’cannot avoid distinguishing them as they must do so to speak Russian in a conventional manner (Jonathan Winawer et al. 2007: 7783). ‘’

5.3. Detection

Unlike recognition and discrimination, detection relies solely on visual cues given to a person during a conversation or an experiment. Most experiments dealing with detection as concrete proof that language affects perception briefly present a span of images or letters, and by verbal hints help connect cognition and verbal system to

detect the hidden meaning based on the label said before the experiment (Lupyan et al. 2020: 9). This may be due to visual detection, but it cannot be denied that spoken words influence how we perceive visual information. ‘’When a spoken word refers to an object in a visual display, attention is rapidly and automatically directed toward that object (Dumitru et al., 2013: 562)”. In this case, language seems to take a form of a guide. It does not determine what we see based on someone’s spoken words but it enables us to perceive what we wouldn’t have been able to without it. Even if the context does not fit the visual display, people will try to perceive it to fit the verbal description. For example, if we are given a paper that is crowded with the number nine, a person would be confused. However, if someone were to give you a verbal cue and exclaim that there is a hidden six somewhere, our mind will swiftly interpret the information. As a result, it will be much easier to detect the number. Detection is the least plausible option to prove that language affects perception because it is in our innate nature to detect objects and determine their use. However, it stands true that without verbal cues or rather language itself, we would not be able to continuously utilize or gather information. An amazing tribute for this theory, is attributed to Richardson and Matlock (2013: 130) who focused on how motion verbs aid in visual processing and conceptualization. The brain comprehends a situation differently based on the spoken words said in this environment. This may lead to a conclusion that language affects cognition much more than anticipated.

6. Perception of Motion and Agency

Continuing from the theory of detection, one of the most seemingly likely ways it has been examined is by using figurative language or specifically, fictive motion. The term itself was coined by Leonard Talmy, a linguist who explored the impact of fictive motion on thought and language. In his book *Ten Lectures on Cognitive Semantics* he gives his readers a vast amount of examples concerning many different types of fictive motion. The differences in motion create a unique experience for each individual based on how strongly they induce the feeling of motion. Talmy initially explained the concept of fictive motion by dividing the meaning of a sentence with fictive motion into two parts: the factual and the fictional part. The factual part, which he called factive, refers to real and static occurrences happening in the physical world, while the fictive part refers to what happens inside the cognition when we imply motion. In his example: ''As I painted the ceiling, drops of paint slowly spread across the floor (Talmy, 2018: 134).'', he explains that factive motion refers to the act of paint falling downwards to the floor as the true meaning of a sentence. In contrast, fictive motion puts the focus on the drops of painting falling midair towards the ground as it would appear in our cognition.

As mentioned before, experiments done by Richardson and Matlock (2013: 131) provide evidence that figurative language affects processes which influence how we see the world. Most studies done on language and perception have focused on literal language as it is much easier to analyse, however figurative language evokes a mental representation of motion which subsequently affects how we conceptualize. Two examples which are frequently mentioned in their work about how *Language-guided visual processing affects reasoning* are:

(1a). The road goes through the desert (2a).The road is in the desert

(1b). The fence follows the coastline (2b). The fence is next to the coastline

The examples 1a and 1b are examples of fictive motion verbs suggesting a broader picture of something continuing outside of our perception. *The road goes through the desert* means it continues to somewhere beyond our understanding even after the desert. The same goes for *The fence follows the coastline* where based on the motion verb *follows,* we evoke a mental representation of motion where the fence follows the coastline far beyond what we can see. How we perceive our surroundings is influenced

by verbal cues that come from language. 2a and 2b are factual sentence that do not use motion verbs, and our mental representation conjure a different picture just from a static sentence. From these two sentences we understand that something is fixated at a location without a motion accompanying it. The sentences are similar enough to give an equal mental representation, but changing the motion of a sentence changes how we both think and perceive it. Even changing the motion verb changes how we conceptualize things. If we change the verb in 1b from *follows* to *sticks to* we form a mental representation of a fence being placed right by the coastline while being unsure of how long it spans forward. Everything seems to fall back onto language, this may be a result of motion verbs having ‘’distinct spatial representations that figurative descriptions can evoke that their literal counterparts do not (Richardson and Matlock, 2013: 136).’’ When imagining fictive motion, we would have to think deeply about the terrain, paths, and information which is needed to completely understand a scenario. In a similar experiment done by Spivey and Geng (2001: 236), they created sentences using motion verbs and spatial words such as *left*, *right*, *above*, and *below* while focusing on the eye movement of their informants who had their eyes closed. They noticed that every sentence which used some type of motion made the subjects unconsciously look in the direction which was said in the sentence. They acknowledged this as proof that imagining an event based on verbal cues ‘’activates the same perceptual-motor mechanics used for viewing that complex event (Spivey and Geng, 2001: 240).’’ Meaning that even if our brain is influenced by language, and not by direct visual processing it reacts the same way. Motion verbs give us the same effect inside our cognition as does actual motion. By closing their eyes, we gain a more objective result focusing on the mind, and not on the visual stimuli.

When the motion mentioned beforehand is directly linked to people and their actions, this is referred to as agency. Agency is the grammatical marking for focusing on a person doing the action in a sentence. This may not seem important in the context of conceptualization, but languages differ from one another, and their role on how they construct agency is also vastly different. Focusing on the English and the Japanese languages, two examples will be provided and explained. In the English language when someone breaks something we usually say *She broke the vase* even if the even was completely accidental. English speakers usually search for the agent of the action to put attention solely on them. *The vase broke* is an unusual sentence to exclaim as

it ignores the structure of the English language. Whereas *花瓶が壊れた / Kabin ga kowareta / the vase broke* is a normal sentence in Japanese whose structure is much different from English. Omitting an agent is normal in Japanese, where even nouns and pronouns are omitted to not put focus on any person at all. When Japanese and English speakers were shown a video depicting an accidental event where a boy pops a balloon intentionally the results were the same, but when he popped it accidently the results were different (Fausey et al., 2010: 4). Even if the act was accidental, English speakers pointed it out as an action done by the boy not influenced by his intentions. Whereas Japanese speakers omitted the agent knowing the boy did not mean to do that therefore he is technically not the agent of this action. They have perceived the same video differently, only based on the structure of their language and the patterns in culture. In the same study, they noticed that Japanese speakers have a weaker memory when remembering who did the action. This may be due to their culture, and their habit of ‘’looking away from individuals who are in unfortunate or embarrassing situations (Fausey et al. 2010: 3).’’ This is also present in criminal justice systems where people speaking agentive focused language have a better chance of identifying the culprit than non-agentive language speakers. The concept of motion is also important when considering how we perceive and interact with the space around us.

7. Perception of Space and Time

Figurative Language mostly uses motion verbs and spatial words to influence our mental representations of an utterance. Motion is directly interwoven with our surroundings, and we could even argue that motion and space do not need to be separate. However, while we perceive motion based on specific usage of words, our perception of our own physical space varies. As humans go about their daily lives, they are not aware how differently they conceptualize the world. Space does not only deal with direction of what we perceive but the whole orientation of the world around us. John Campbell-Larsen (2023: 70) explained that ‘’humans have a quadripartite division of physical space, centered on the human body; forward/front; backward/ back; left and right.’’ There are two common ways of deciding orientation, relative direction and intrinsic direction. When people use themselves as a marker, they form their future actions based on themselves; this is called a relative direction. The other type of deciding orientation is called intrinsic direction, mostly when comparing material objects with another object near it. Conceptualizing doors, beds, buildings as having a front, back and sides would be an excellent example of the intrinsic system (Campbell-Larsen, 2023: 70). None of the things mentioned in example of intrinsic direction have a conscience, making them unable to form any type of relative direction. These two systems are based on our body’s feeling, but how cultures shape cardinal directions changes things. For example, If someone asked an English speaker for directions to the nearest bus station, they might say: ‘’Go right, then turn left at the traffic, and walk forward until you see it.’’ However, a speaker of Guugu Yimithirr would give the same instructions by using cardinal directions: ‘’Go south, then turn north at the traffic light, and walk east until you see it.’’ Both speakers rely on the same information by using different systems. For the Guugu Yimithirr, this way of giving directions is their normal. The way their language is structured, they need to be aware of cardinal directions every moment (Deutscher, 2010). Both outside, inside, hidden from the sun, their sense of direction has to always be right. This is because, from a young age, they use physical clues and everyday usage of geographical languages changes the way they orient themselves. Humans naturally have an innate tendency to place themselves at the centre of the space they occupy. However, once language interferes it can change those primary feelings into secondary feelings. It has even been estimated that ‘’as much as one word in ten in a normal Guugu Yimithirr

conversation is north, south, west or east (Deutscher, 2010).'' A person who does not use cardinal direction in everyday language will not perceive differences that come alongside being constantly aware of one's own surroundings. Their memories are also influenced by the use of cardinal directions. They remember where they were at every moment in their lives, and they also remember the placement of material objects much better. Many aboriginal languages use cardinal directions as a natural part of their language. The Marshallese language is also structured based on cardinal directions, but the meaning slightly differs. The words they use to orient themselves are based on winds for easier navigation. Because they orient themselves based on the primary axis, this being their island, the Marshallese north becomes quite different from the true north (Gaby, 2017: 2). People who use geocentric or egocentric systems perceive the world differently. English speakers only slightly pay attention to their surroundings, not deeming it important to know the precise orientation of their surroundings. While languages whose culture stems from navigating the seas or harsh lands to locate themselves around, shapes their individual experience and perception of the world they occupy.

The way we use spatial terms also influences how we perceive time. According to Hall (1959) there are two ways to organise time: Monochronic (Linear) Time and Polychronic (Circular) Time Orientation. Monochronic Time cultures see time as a linear line, capable of dividing into multiple smaller parts as to separate multiple events into organized parts. Some of the countries which follow Monochromic Time culture are United States, Britain, Germany, Switzerland, and Netherlands, categorized by following strict schedule and not deterring from their path. Polychronic Time cultures view time as a naturally occurring phenomenon where every moment we are doing multiple things at a time (Fulmer, 2014: 5). The name itself tells us that everything is going in circles, with no start or finish. Some of these countries are Vietnam, Bhutan, Japan, China which have been influenced by Buddhistic styles of life that focus more about the afterlife than the present life. To these countries, there is all the time in the world and no time at all. These cultures conceptualizes time in a completely different way. The former views time as a constant reminder of never-ending goals waiting to be finished, while the latter views it as a perfect opportunity to do everything. The way countries structure time is also different. English speakers view it as horizontal line, going from left to right based on the usual horizontal spatial metaphors used when

talking about time (Boroditsky, 2001: 427). Chinese speakers on the other hand, view it vertically much because of the same reason. The most important part is how cultures view past, present, and future actions. Edward Hall (1959: 26) gave an excellent example: ‘’the person who extends an invitation to a dinner party with only three or four days' notice has to apologize. How different from the people of the Middle East with whom it is pointless to make an appointment too far in advance, because the informal structure of their time system places everything beyond a week into a single category of "future," in which plans tend to "slip off their minds." There are languages, like English and other Western languages, that are present focused languages. They try to focus more on everyday comfort rather than future success. There are also past languages, like Japanese and other Asian languages, which are more past-oriented, making them more inclined to focus on tradition. In the study done by Keith Chen (2013) about how different languages influence economic decisions, he focused on the use of the future tense between the Chinese and English languages. He wrote a sentence which in English has a clear future tense, and in Chinese it does not. This shows us that Chinese speakers do not divide the present from the future, everything is connected in a single tense. They are able to understand future tenses but they rely on contextual aspects. The same goes for Japanese which also does not divide future and present forms:

A. I will pay my taxes B. 私 は 税 金 を 支 払 い ま す/ Watashi wa zeikin o shiharaimasu

The use of the future marker *will* automatically make this a future inclined sentence. Whereas in the Japanese sentence, the ending *shiharaimasu* is a present tense verb that does not indicate any future tense. The future aspect comes only from the context. This is also an example how language can influence how we perceive money and future investments. Countries that slightly divide or do not divide future tenses at all, save on average 6% more of their GDP per year (Chen, 2013: 2). They are more likely to save money, and be better decision makers. All because the structure of their language does not force them to divide between present and the future oriented behaviours.

8. Influence of Gendered Languages on Conceptualization

When talking about gender in terms of linguistics, we mean the category that classifies nouns into typically masculine, feminine, and sometimes neuter classes. Some languages have two, and some languages have up to twenty variations. The notion of linguistic gender changes the way people in different cultures interact with one another, the way they speak, and the subsequent social structures by attaching a gender to inanimate objects. Linguistic gender is a term that reflects cultural stereotypes and patterns of human perception. It is the belief about ‘’what men and women are like and how they behave, and features which are 'male'-like or 'female'-like (Aikhenvald, 2016: 4)’’ Linguistic aspects like this shape our individual experiences and influence us throughout our whole lives. Another thing to note is that the gender of nouns differs across languages. In Croatian, the word for sun is neuter, in Spanish it is masculine and in German it is feminine (El-Yousseph, 2006: 12). To further understand this, a Croatian speaker might see the sun as an otherworldly being, without adding any gender-specific attributes onto it. In contrast, a Spanish speaker might view the sun as a sign of strength and power. Another example would be how some languages see death as a masculine figure thus viewing death as a proud ending to a life, while languages that see death as a feminine figure see it as a warm, welcoming embrace. In a study done by Konishi (1993: 522), German and Spanish speakers were asked to rate nouns based on their power. The results classified every object which had masculine gender as potent, while nouns which had feminine gender were seen as weaker. Even if those objects had no biological gender, their opinion and perception was based on the structure of their languages. In Croatian, the noun *human* or *čovjek* has a grammatically male gender which sometimes confuses people into making sentences like: ‘’There are a human and a woman talking.’’ This seems like a strange sentence in English, and even though this is not seen as correct in Croatian, many people unconsciously mix these things up. The gender put on words in all these languages seem completely arbitrary, and we cannot explain exactly why some objects are perceived as male and some are perceived as female. Grammatical gender may be influenced by natural sex but it is an independent grammatical category. A noun could be an object without a natural sex, yet the grammatical gender will most likely be present. It is interesting to note that English is not a gendered language; rather it is a natural gender language where nouns are ‘’gendered in accordance with

the natural sex of their referents (Kurz et al, 2022: 144).'' This reflects the fact that English personal pronouns are often interwoven with natural sex of a person. In the study done by Boroditsky, Schmidt and Phillips (2003) where they questioned whether or not grammatical gender has an impact of their perception of external objects. They had asked Spanish speakers, German speakers and a small group of English speakers to think of three adjectives based on the noun that was on the given list. There were twenty-four nouns with randomised grammatical gender. The study was done in English to test whether the influence of grammatical gender in their mother tongue could be reflected in a language that lacks it. The results were as expected. All nouns that had masculine gender in their languages were given masculine traits while all nouns that had feminine gender were given feminine traits. The results differed because Spanish and German do not give the same grammatical gender to the same nouns. The famous example from this study comes from how they described the noun *key.* In German, *key* has masculine gender making them describe it as ''hard, jagged, metal, serrated, and useful'' while the same word has feminine gender in Spanish, and it was described as ''golden, intricate, lovely, shiny, and tiny.'' The study is an excellent view in how grammatical gender in languages affects our worldview. A singular word such as key made a big difference in how the speakers of these two languages go about the world. Linguistic categories seem to influence people's perception of the world by a big margin. They do not only influence how people perceive things, but also show us how speakers of different languages conceptualize things completely differently.

9. Influence of Honorifics on Conceptualization

Intercultural phenomena of politeness is a broad term to analyse. There are multiple different systems and studies done to explain politeness as a part of the structure inside language. They are not inherently connected to language as other aspects previously explained. All languages have some form of politeness engraved into them but it is the strict rules that dictate our manner of speech. There are many factors that influence social hierarchies which are not inherently connected to language; however, this paper specifically focuses on the linguistic factors of this study. For example, Tsuruta (1998: 3) noted that because her students have been learning Japanese through elementary school textbooks, which ignore most of the inherent politeness in the Japanese language, they were inherently rude when speaking Japanese. If they were put into a situation where they had to speak to native speakers, they would likely be perceived as rude and disrespectful. Asian languages, such as Japanese and Korean use honorifics to convey a degree of respect towards the other participants of the conversation. Honorifics are a ‘’linguistic form that is not only widely used in formal occasions but also plays a crucial role in everyday social interactions (Qian, 2023: 1)’’. For example, Korean and Japanese speakers have an understanding that some people are more deserving of respect, while some do not need to be given an honorific title. Languages which have the honorifics system prompt more attention to people, their status, and age to enable us to even correctly talk to them. They are a tool which changes how we perceive our social circles. The reason for this is credited to our experience in the environment we grew up in. The Japanese honorifics are an integral part of the Japanese language. They are only simplified or excluded when talking to someone inside our familial or friendly circle. We should recognize that in languages where using appropriate honorifics is important, it serves as a demonstration of respect. In this case, focusing on how languages establish politeness to show respect influences how we conceptualize the social ladder. In Japanese there are even different speech styles to put yourself down to make everyone perceive you as smaller, while your responsibility lies in putting everyone above yourself. As Masruddin et al (2023: 43)., explains honorifics serve as linguistic politeness markers that decode the social status of the participants in the conversations. They continue by explaining that honorific titles are used to ‘’convey formality, social distance, politeness, humility, deference, or respect’’.

10. Conclusion

Throughout my research, the aim was to explain the intricate relationship between thought and language, with a particular emphasis on perception. To understand this relationship, it was first necessary to explore the underlying elements. From examining the Sapir-Whorf theory to language structure components that influence how our mind conceptualizes, each part has provided a deeper insight of the subject at hand. This is further clarified by discussing the various examples given beforehand which offer a deeper insight into how different cultural and linguistic aspects impact how we conceptualize the world. Initially, this paper was written under the guise of explaining the way language affects what we perceive. However, the focus was placed more on how our mind conceptualizes terms, rather than on a biological component that cannot be changed. Concepts are the result of our mind's description of the interconnection between the physical world and language, and to provide enough evidence for these claims this paper focused on the most important components involved in the process. It was important to clarify the meaning of both concepts and mental representations, as these are fundamental to illustrating the interconnection between what we conceptualize and what we articulate. There were examples provided in the form of color terms, space, agency, grammatical gender, honorifics, and many other mentioned aspects. Subsequently, the notion of visual perception was divided into three parts: recognition, discrimination, and detection. Each of these parts is integral to the paper, providing a foundation for understanding our cognitive aspects, particularly conceptualization. Understanding the nuances among all of these components enables us to perceive the differences languages bring us. This work analysed many studies concerning the influence of language on visual perception, both from empirical research and my own observations. They provided a thorough explanation of each mentioned language and its effects on cognition. Adding on, there are several directions for further research, but I will be focusing on two most potential ones for my own research. The first direction would be to investigate aphantasia as a phenomenon that affects cognitive and linguistic processes. Aphantasia is the inability to visualize any kind of visual image inside the brain, meaning it affects our mental representations. People with aphantasia mostly rely on concepts derived from their physical surroundings. However, does the lack of mental imagery inside our mind's eye change our experience as compared to someone who has the ability to conjure

images? Research into whether the inability to visualize imagery alters their experience compared to those who can visualise could provide further evidence towards the connection between conceptualization and language. The second direction would extend to focusing on how English words are incorporated into the Croatian language, often bypassing clear grammatical rules. Although the influence is mostly lexicalized, many speakers have started to prefer English terms over their Croatian counterparts. The aim of this research would be to understand how the assimilation of a foreign language affects the native language. It is not difficult to see that language does influence our mental representations but to what degree? Many have already answered that question, but I would say that language first starts by affecting culture by giving meaning to words, and then those specific patterns of attention base the language we speak, and the way people conceptualize their version of the world.

11. Literature

1. Aikhenvald, A.Y. (2016).How Gender Shapes the World. Oxford Academic
2. Berlin, B., & Kay, P. (1969). Basic Color Terms: Their Universality and Evolution. Berkeley & Los Angeles: University of California Press.
3. Baldassano, C.A., (2015). Visual scene perception in the human brain: connections to memory, categorization, and social cognition. PhD dissertation. Stanford University.
4. Boroditsky, L., (2001). 'Cognition Psychology' Do English and Mandarin speakers think differently about time? Stanford University
5. Boroditsky, L., Scmidt, L. A., & Phillips, W. (2003). Sex, syntax and semantics. In D. Gentner & S. Goldin-Meadow (Eds.), Language in mind: Advances in the study of language and thought (pp. 61–79). Boston Review.
6. Campbell-Larsen, J., (2023). North at the top: Cardinal directions in languages, maps, and Hollywood movies. 京都女子大学
7. Chen, M.K., (2013). 'American Economic Review'. The effect of language on economic behavior: evidence from savings rates, health behaviors, and retirement assets. 103(2), pp. 690-731.
8. Deutscher, G., (2010). Does your language shape how you think? The New York Times
9. Dowman, M. (2003). 'Cognition Science'. Explaining Color Term Typology With an Evolutionary Model. 31 (1):99-132.
10. Dumitru, M.L., Joergensen, G.H., Cruickshank, A.G. & Altmann, G.T.M., (2013).'Consciousness and Cognition'. Language-guided visual processing affects reasoning: The role of referential and spatial anchoring. 22(2), pp. 562-571.
11. El-Yousseph, N., (2006). Sex and size: The influence of grammatical gender on object perception in English and German. Senior Honors Thesis. The Ohio State University.
12. Evans, V. & Green, M., (2006). Cognition Linguistics: An Introduction. Edinburgh: Edinburgh University Press.
13. Fausey, C.M., Long, B.L., Inamori, A. & Boroditsky, L., (2010). 'Frontiers in Psychology'. Constructing agency: the role of language.
14. Fulmer, C. A., Crosby, B., & Gelfand, M. J. (2014). Cross-cultural perspectives on time. In A. J. Shipp & Y. Fried (Eds.), Time and work, Vol. 2. How time impacts groups, organizations and methodological choices (pp. 53–75). Psychology Press.
15. Gaby, A., Lum, J., Poulton, T., & Schlossberg, J. (2017). 'M/C Journal'. What in the World Is North? Translating Cardinal Directions across Languages, Cultures and Environments., 20(6).
16. Gillon, B.S., (2017). Semantic categorization. In H. Cohen & C. Lefebvre, eds. Handbook of Categorization in Cognition Science. 2nd ed. Elsevier, pp. 291-311.
17. Clifford, A., Davies, I.R.L., and Sowden, P.T. (2014). The Evolution of GRUE: Evidence for a new colour term in the language of the Himba. In W. Anderson, C. P. Biggam, C. Hough and C. Kay. Colour Studies: A broad spectrum. Amsterdam, NL: Benjamins, pp. 53-66

18. Hall, E.T. (1959) The Silent Language. Doubleday, New York.
19. Interaction Design Foundation - IxDF. (2016). What is Visual Perception?. Interaction Design Foundation - IxDF.
20. Klemfuss, N., Prinzmetal, W. & Ivry, R.B., (2012). How does language change perception: a cautionary note. University of California Berkeley
21. Konishi, T. (1993). 'Journal of Psycholinguistic Research'. The semantics of grammatical gender: A cross-cultural study. 22(5), 519–534
22. Kurz, P.I., Gonner, C., Bartnicka, M.M. & De Mulder, H.N.M., (2022). 'Linguistics in the Netherlands'. A table named James or a table named Maya? The influence of grammatical gender on the perception of objects in German and Polish. 39(1), pp. 143-157.
23. Kuriki, I., Lange, R., Muto, Y., Brown, A.M., Fukuda, K., Tokunaga, R., Lindsey, D.T., Uchikawa, K. & Shioiri, S. (2017) 'Journal of Vision'. The modern Japanese color lexicon. 17(1), pp.1-14.
24. Lucy, J.A., (1997). Linguistic Relativity. The University of Chicago
25. Lucy, J.A., (2004). Language, culture, and mind in comparative perspective. In M. Achard & S. Kemmer, eds. Language, Culture, and Mind. Stanford: CSLI Publications, pp. 1-22.
26. Lupyan, G., Abdel Rahman, R., Boroditsky, L. & Clark, A., (2020).'Trends in Cognition Sciences'. Effects of language on visual perception. 24(11), 930–944
27. Lyman, G. H. (2023). Perception, Cognition and Thought: Part I Nature, Evolution and Development of Conceptual and Symbolic Processes. Cancer Investigation, 41(6), 535–538.
28. Masruddin, M., Amir, F., Langaji, A., Rusdiansyah, R. (2023). ‘International Journal of Society, Culture & Language’. Conceptualizing Linguistic Politeness in Light of Age. 11(3), pp. 41-55.
29. Margolis, E. & Laurence, S., (2003). Concepts. In: S.P. Stich & T.A. Warfield, eds. The Blackwell Guide to Philosophy of Mind. Oxford: Blackwell Publishing
30. Mendelovici, A., (2010). Mental representation and closely conflated topics. PhD dissertation. Princeton University.
31. Paivio, A., (1990). Mental Representations: A Dual Coding Approach. Oxford: Oxford University Press.
32. Paramei, G.V., D’Orsi, M. & Menegaz, G. (2014). ‘Journal of the International Colour Association’, ‘Italian blues’: A challenge to the universal inventory of basic colour terms. 13, pp. 27-35.
33. Qian, C.,(2023). 'Academic Journal of Humanities & Social Sciences'. Research on the impact of honorifics in Japanese on social relationships. 6(24), pp. 82-87.
34. Raghubir, P., (2010). Visual perception: an overview. In: M. Krishna, ed. Sensory marketing: research on the sensuality of products. New York: Routledge, pp. 201-217.
35. Recanati, F., (1989). 'Mind & Language' The pragmatics of what is said. , 4(4), pp.327-354.
36. Regier, T. & Xu, Y., (2017). 'WIREs Cognition Science'. The Sapir-Whorf hypothesis and inference under uncertainty. University of California, Berkeley.

37. Richardson, D. & Matlock, T. (2007). The integration of figurative language and static depictions: An eye movement study of fictive motion. (1):129-138.
38. Saeed, J.I. (2003). Semantics. Blackwell Publishing Ltd
39. Subbiondo, J. L., (2017). 'US-China Foreign Language'. The History of Linguistics Matters: Linguistic Relativity and Integral Linguistics. David Publishing. Vol. 15, No. 4, 215-221
40. Smortchkova, J., Dołęga, K. & Schlicht, T. (eds.), (2020). What are Mental Representations? New York: Oxford Academic
41. Spivey, M., Geng, J.(2001). 'Psychological Research' Oculomotor mechanisms activated by imagery and memory: eye movements to absent objects. 65, 235–241
42. Talmy, L. (2018). Ten Lectures on Cognitive Semantics, Leiden, The Netherlands: Brill.
43. Tsuruta, Y., (1998). Politeness, the Japanese style: An investigation into the use of honorific forms and people's attitudes towards such use. PhD thesis. University of Luton.
44. Winawer, J., Witthoft, N., Frank, M.C., Wu, L., Wade, A.R. & Boroditsky, L., (2007).'Proceedings of the National Academy of Sciences'. Russian blues reveal effects of language on color discrimination. 104(19), pp. 7780-7785.

Abstract

The aim of this thesis was to understand the intricate relationship between thought and language within the framework of visual perception. Visual perception serves as the foundational building block in the process that enables us to conceptualize reality. Therefore, most of the attention was directed towards this initial step. From the Sapir-Whorf theory to various other components which have been analysed, each part has offered a deeper insight into the topic. While the primary focus was on visual perception, the study also examined how conceptualization differs among people based on their social, cultural, and linguistic background. This thesis explored many different results that came from both empirical research and personal observations. There were many fields of language that were analysed such as: spatial terms, color terms, grammatical gender, honorifics, and more. The conclusion that came from analysing these studies was that language and thought have a rather conflicting relationship. Although they influence each other, their connection stems from cultural and social factors, which shape how we act in our everyday lives and it decides the way people conceptualize their version of the world.

Key words: semantics, sapir-whorf theory, visual perception, conceptualization, mental representations, concepts, color terms

Sažetak

Cilj ovog završnog rada bio je istražiti i objasniti složeni odnos između misli i jezika kroz pregled vizualne percepcije. Vizualna percepcija služi kao temeljni "građevni" blok u procesu koji nam omogućuje konceptualizaciju stvarnosti. Stoga je većina pažnje bila usmjerena ovom početnom koraku. Od Sapir-Whorfove teorije do raznih drugih analiziranim komponenata, svaki dio je dao dublji uvid u temu. Iako je primarni fokus bio na vizualnoj percepciji, također se ispitivalo kako se konceptualizacija razlikuje među ljudima, ovisno o njihovom društvenom, kulturnom i jezičnom podrijetlu. Kroz ovaj rad istražili su se mnogi različiti rezultati koji su proizašli iz empirijskih istraživanja i osobnih opažanja. Bilo je mnogo dijelova jezika koja su analizirana poput prostornih pojmova, pojmova boja, gramatičkog roda, izraza poštovanja i drugih. Rezultati ovih analiza proizlaze u zaključku koji ukazuje da je odnos jezika i misli prilično konfliktan. Iako utječu jedno na drugo, njihova povezanost proizlazi iz kulturnih i društvenih čimbenika, koji oblikuju naše svakodnevno ponašanje i određuju način na koji ljudi konceptualiziraju svoju verziju svijeta.

Ključne riječi: semantika, sapir-whorfova teorija, vizualna percepcija, konceptualizacija, mentalne reprezentacije, koncepti, nazivi boja