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Differences beyond language: the linguistic relativity debate

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Alla mia famiglia, che spero di aver reso fiera di me.

A me stessa, per la mia perseveranza.

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INTRODUCTION

We live in a world full of people with different cultures, and thus different customs, practices, and languages. Today we are connected more than ever: we can come in touch with everyone with a simple click and we can learn from everything and everyone from all over the world. One thing that allows us to do this is language. But what is language? Simply, language is something that makes us humans (Deutscher, 2006). It is a set of rules and norms that allow people to make sounds that others can understand (McWhorter, 2016). Today we have more than six thousand languages in the world, each one with its own rules, habits and particularities. Despite the fact that languages are used for the same purpose, that is communication, they accomplish this task in different ways. In other words, we all have different ways to say things because our grammar forces us to do so. Some spontaneous questions arise here: does this difference lead to different thoughts? Do I speak and consequently think differently compared to German or Chinese? Do I see things differently? This is linguistic relativity.

Linguistic relativity is a concept that comprises different significances and interpretations. For many, it is a recent term developed with the growth of importance of languages today, but for others, its roots have longstanding origins. Above any possible perspective, linguistic relativity is a theory that proposes that language influences how people think and perceive reality. Since language is omnipresent and our thinking depends on the situation we find ourselves in, it may have potential effects on how we think (Casasanto, 2016). Linguistic relativity finds its origin in the work of many scientists, psychologists, and linguists, but it tends to be traced back to the theories of Sapir and Whorf. Even though they proposed an overly deterministic theory, which was dismissed by scientists many years ago, their studies laid the foundations for further research and experiments that still today fascinate the world of linguistics and psychology. The Sapir-Whorf hypothesis launched a series of doubts on language that are still debated today: To what extent does language determine a worldview? Does it determine the way people live their lives? Does language create or reflect culture? (Whorf, 1940). Again, these are strong questions that have been moderated and modernized today, but they were just the basis of a long debate. To be precise, the Sapir and Whorf view was untenable, and therefore strong perspectives like theirs have been

abandoned in favour of weaker versions of linguistic relativity (Boroditsky, 2001). Yet despite this weaker form, linguistic relativity is still a complex phenomenon. In the last few years, its appeal has spread widely, signalling the start of an enormous variety of studies and experiments among speakers from all over the world, covering numerous different aspects that go from time and space conceptions to colours, gender and other domains. Most of the experiments carried out in this field consider two conflicting languages and test their speakers in various types of tasks. By analysing the results carefully, linguists and psychologists attempt to explain how language can impact thought, showing real-life differences between speakers of two different languages.

However, the popularity of linguistic relativity in the last few decades brought many other studies to investigate whether it is actually a phenomenon that can impact our lives or just an alternative and questionable way to explain why we as humans are different from each other. From this point of view, it might appear that the answer to the question ‘does language shape thought?’ cannot be ‘no’ because linguistic relativity gives people a reason to accept diversities (McWhorter, 2016). For this reason, linguistic relativity research found on its way numerous controversies that contributed to the creation of a wide debate. This is the other side of linguistic relativity, which is the disapproval and dismissal of a theory that for many cannot explain humans’ differences. To be precise, languages differ from each other because are part of different cultures, and therefore, humans behave differently depending on their culture and not their language (Lucy, 1992). Consequently, it is not linguistic relativity that matters here, but cultural relativism, a term to define different cultures without highlighting different behaviours, ways of speaking and thinking (Khan Academy, 2018). In fact, one can argue that languages all do the same thing even though the world is culturally diverse (McWhorter, 2016). In this regard, linguistic relativity underlines the uniqueness of people, and hence it is fascinating to think that the way we speak defines our differences.

To give proof of the inaccuracies of linguistic relativity research, numerous studies are being conducted following the line of those carried out to confirm the hypothesis, to show limitations and potential errors that can explain how this phenomenon is just a “hoax”. To cite again the beginning, we live in a world full of different cultures, but what is important is to accept them without shedding light on

them in a discriminative way. Furthermore, it should be good for speakers of different languages to try to find similarities between each other to enhance good and productive communication.

As mentioned above, the focus on languages in the world is gaining importance and linguistic relativity research is expanding. For this reason, its studies are focusing on bilingualism too. Bilingualism is the ability to speak two languages and having two linguistic systems in one mind. Knowing a particular language means knowing a certain set of concepts (Bassetti, 2007). But how does this work in bilinguals? It can be said that bilinguals “choose” from these two systems when speaking, but one may influence the other, creating different ways of speaking and thus thinking. In this sense, one may argue that bilinguals are the only ones who experience the effects of linguistic relativity because of their ability to speak two different languages. Hence, linguists and psychologists are studying the bilingual mind in order to understand and explain how it works and how two languages may affect it. Experiments carried out among bilinguals slightly resemble those conducted among monolinguals, with the difference that in this case they always take into account the mother tongue of a person, in order to find any potential influence and interaction between his/her first or second language while speaking. In this way research is trying to find possible effects of languages on the bilingual mind, supporting the linguistic relativity theory and enhancing a deeper understanding of how languages work.

These three features of linguistic relativity, approval, dismissal, and bilingualism are just a drop in the ocean; research on this phenomenon is expanding and new theories are being formulated. However, the next three chapters present the reader with a complete overview of the topic, leaving open the debate of these contrasting theories.

CHAPTER 1

“To have a second language is to have a second soul” (Charlemagne)

According to the linguistic relativity hypothesis, language can influence the way we think; therefore, speakers of different languages may think differently, in predictable ways (Casasanto, 2016). The aim of this chapter is to present the supporting side of the linguistic relativity theory and its implications in different domains of the real world such as time, space, grammar, colours, and numbers. To be precise, the chapter focuses on past and current research on monolingual speakers of different languages. Further studies on bilingual speakers will be analysed in Chapter Three. This chapter investigates numerous studies carried out in the field, presenting and explaining the results in order to make the reader able to compare these findings with those explored in the Second Chapter.

1.1 Linguistic relativity and linguistic determinism

It is necessary to underline a first basic distinction between linguistic relativity and linguistic determinism. The linguistic relativity theory takes two similar but different positions in practice: that language determines thought, and that language influences thought. The former is called linguistic determinism and is the stronger version of the linguistic relativity hypothesis, better known as the Sapir-Whorf hypothesis, born during the 1920s and 1930s but wider spread during the 1950s. According to Whorf, “we cut nature up, organize it into concepts, and ascribe significances as we do, largely because we are parties to an agreement [...] that holds throughout our speech community and is codified in the patterns of our language” (Whorf, 1956:213). Additionally, in Sapir's view, the language habits of the individual's community effectively influence the perception of experience and its interpretation (Van Troyer, 1994). According to Sapir:

Human beings do not live in the objective world alone, [...] but are very much at the mercy of the particular language which has become the medium of expression for their society. [...] The fact of the matter is that the "real world" is to a large extent unconsciously built upon the language habits of the group (Sapir, 1949:209).

This deeper version has been abandoned in favour of the less deterministic one, linguistic relativity. The latter is the weaker form, and it claims that the structure of a language does not determine one's worldview but influences its speakers to have a particular worldview (Wardhaugh, Fuller, 2015).

Although answering the question "does language shape thought" has proven to be a difficult task, in recent years, research on linguistic relativity made great strides and much new evidence regarding the effects of language on thought has been analysed (Boroditsky, 2003).

1.2 The linguistic relativity hypothesis

Linguistic relativity is a debated topic that has encountered numerous analyses and interpretations throughout its history. Notwithstanding the recent findings and advances in the field, and the expansion of empirical studies, the debate is still open today and many different aspects of this theory are being investigated. As a consequence, evidence of language effects on thought has been discovered and the question has increasingly broadened (Lucy, 2016). Some studies support the affirmative side of this theory, while others support the contrary. Wolff and Holmes (2010) affirmed that recent findings support a range of alternative ways in which language might have significant effects on thought, leading to possible differences in thought across language communities. Despite the fact that research has found intriguing and nuanced versions of linguistic relativity, we can generally assume that this theory comprises three main ideas: first, that languages differ in the meaning of their words and syntactic constructions; second, that the semantics of a language affects the way in which its speakers perceive the world; third, that speakers of different languages think differently (Wolff, Holmes, 2010).

But how does language influence thought? Numerous experiments on monolinguals have been conducted in order to explain how language affects thought and reality conception, comparing the effects between speakers of different languages, but in order to understand better the findings of this research, it is fundamental to give the reader some details. In the study of linguistic relativity, the distinction between verbal and nonverbal evidence is essential: according to Bylund and Athanasopoulos (2014), verbal evidence concerns overt speech production or comprehension, with

narrative tasks such as picture descriptions, and is the most commonly used technique. On the other hand, nonverbal evidence is elicited through tasks that do not involve overt production or comprehension of speech, such as perception, classification, and matching of objects and events. To be precise, nonverbal tasks are more suitable to demonstrate the effects of language on thought (Bylund, Athanasopoulos, 2014). Moreover, it is important to mention the thinking-for-speaking framework, which involves picking those characteristics that fit some conceptualization of the event and are readily encodable in the language (Slobin, 1987). The thinking-for-speaking system is based on verbal evidence, while studies within the linguistic relativity paradigm focus on nonverbal evidence (Bylund, Athanasopoulos, 2014).

The following sections will investigate different aspects of this field, describing and analysing various experiments conducted among monolingual people in order to prove the linguistic relativity theory by comparing the linguistic behaviour of speakers of different languages.

1.3 Space and time

Space and time are linguists' favourite domains to explain how linguistic relativity works. One of the definitions that can be found in dictionaries for the word 'time' is: "the indefinite continued progress of existence and events in the past, present, and future regarded as a whole" (Oxford Dictionary). As a consequence, we as humans should have a quite similar conception of time. However, it has been shown that speakers of different languages talk about time differently, and it is argued that they think about it differently. The same goes for space, which according to the linguistic relativity hypothesis may be perceived differently because speakers of different languages have diverse ways to talk about it.

1.3.1 Time

One of the most famous studies carried out in this field is the experiment conducted by Lera Boroditsky, professor of cognitive psychology at Stanford University. She argued that "those aspects of time that are not constrained by our physical experience with time are free to vary across languages and our conceptions of them may be shaped by the way we choose to talk about them" (Boroditsky, 2001, 4). Therefore, speakers of

different languages have different conceptions of time. English and Mandarin Chinese speakers refer to time differently: it has been seen that English speakers predominantly talk about time using horizontal terms (ahead, behind, etc.), and although Mandarin speakers use horizontal terms to talk about time too, they also commonly use vertical spatial terms (up and down, respectively ‘sha`ng’ and ‘xia`’). To test whether this leads to differences in thought, one part of the study tested speakers of these languages by presenting them with horizontal and vertical scenarios about objects (e.g., a figure with a black ball above a white ball for the vertical scenario) and then asking them to judge temporal sentences like “August comes later than June”. After seeing horizontal scenarios, English speakers were faster to judge temporal events, whereas Mandarin speakers were faster at doing it after seeing vertical scenarios (Gijssels, Casasanto, 2017). It could be argued that the effects observed in the experiment were driven by cultural differences between English and Mandarin Chinese, but Boroditsky (2001) then showed that the effects were actually driven by differences in languages and not in cultures by training English speakers to talk with vertical terms like Mandarin. The results were very similar to those of Mandarin speakers, and this confirmed the language-driven effects (Boroditsky, 2001).

Another experiment that showed differences in thinking about time was carried out by Daniel Casasanto, Associate Professor of Human Development and Psychology at Cornell University. He argued that English speakers tend to express duration using linear metaphors, while Greek speakers commonly do it using volume or amount expression, in fact, they say “a big night” ‘megali nychta’ rather than “a long night”. He then showed that this leads to differences in thought by testing participants with psychophysical duration estimation tasks, with two types of spatial interference: distance and amount interference condition. Casasanto (2017) affirmed that “English speakers should show greater interference from irrelevant length information, whereas Greek speakers should show greater interference from irrelevant amount information”. In other words, when Greek speakers saw an empty container filling up, the fuller the container, the longer they estimated its duration. Results showed that Greek and English speakers who talk about duration differently, also think about it in different ways (Gijssels, Casasanto, 2017:658-659).

These and numerous other studies appear to indicate that language has a powerful effect on thought about abstract domains like time.

1.3.2 Space

Space is another domain that identifies languages according to how they describe and think about it. In particular, Kuuk Thaayorre, a language spoken in the Aboriginal community of Pormpuraaw, uses cardinal points instead of our left-right system to talk about space around them (Gaby, 2012). For example, they would say “the girl standing to the north of Jim is my sister”. For this reason, it has been suggested that they are always oriented even in unfamiliar places because their language forces them to know it. Lera Boroditsky and Alice Gaby of the University of California tested Kuuk Thaayorre in a non-linguistic task by asking them to arrange a set of photos on the ground indicating the correct temporal order. Participants did not arrange cards from left to right as English speakers normally do; they did it from east to west. In other words, when they were facing south, cards went from left to right, when they were facing north, cards went from right to left, and so on (Boroditsky, 2011).

Another similar study concerning space was conducted among Mianmin, speakers of Mian, a language spoken in Papua New Guinea. Compared to Kuuk Thaayorre, the Mian language does not have cardinal directions and has a system based on landmarks, in particular, on rivers (upriver, downriver). The experiment carried out among Mian speakers was similar to the one of Kuuk Thaayorre in which they were asked to arrange pictures in the correct temporal order. The results demonstrated that even among Mian speakers there are different spatial representations. Some arranged the pictures like time came towards the body, while some others arranged them from east to west. This may indicate that space in Mian is less standardized compared to Western cultures and that its speakers do not strictly rely on geographical spaces compared to Kuuk Thaayorre. Such differences may be related to the flat landscape of Kuuk Thaayorre and the mountainous environment of the Mian region. However, both Kuuk Thaayorre and Mian languages require their speakers to stay oriented in their environment, a pattern that cannot be seen among Western languages and that may lead to different time and spatial conceptions (Fedden, Boroditsky, 2012). Space and time are only two aspects of linguistic relativity theory that have been used to show how

language influences thought, but further research among other domains has been carried out to demonstrate the effects of linguistic relativity.

1.4 Grammar

Languages differ in how they grammatically describe events and how they build sentences. Human language use is deeply structured and systematic, and appears to have many irregularities (Fausey, Inamori, Boroditsky, Long, 2010). But do humans think about events differently because they describe them in different ways? Linguistic relativity studies attempted to give an answer to this question.

1.4.1 Event description

Language production is an important aspect of linguistic relativity. It has been demonstrated that people are more likely to use the passive voice to describe an event if they had previously heard a passive voice. This repetition shows that the syntactic formulation process is influenced by factors such as the frequency of use of particular structural forms (Bock, 1986).

Moreover, the description of causal events has effects on the conception of these events. In other words, agentive or non-agentive descriptions (respectively: ‘she broke the vase’ or ‘the vase broke’) may influence causal event construction and how people think about such events. In an experiment carried out by Fausey, Snider, and Boroditsky (2009), it has been shown that agentive and non-agentive causal event descriptions can be primed¹. They tested American university students and showed that they are more likely to mention an agent when describing a causal event whether they had previously encountered an agentive description rather than a non-agentive one. As a result, people are more likely to remember the agent of an event when primed with agentive language than when primed with non-agentive (Fausey, Snider, Boroditsky, 2008). Another experiment concerning agentive and non-agentive language was carried out by Boroditsky, Caitlin, and Fausey (2010) about blame and punishment. They tested university students and asked them to read descriptions of accidental events and then judge them. It was discovered that agentive descriptions led participants to attribute more blame and punishment than non-agentive descriptions. The study showed that

¹ priming is a technique in which the introduction of a first stimulus influences how people respond to a subsequent stimulus (Cherry, 2021)

linguistic framing influences participants' judgments and it was argued that this has implications in the real world (Fausey, Boroditsky, 2010).

When describing actions, significant differences between languages can be observed. In particular, one of the experiments in this field was conducted by showing English and Japanese monolinguals some videos and then asking them to describe what they saw. The test found that both English and Japanese speakers tend to describe intentional events using agentive language, but English speakers use more agentive language when describing accidental events compared to Japanese speakers. Further research in this experiment discovered that both English and Japanese speakers remember equally well the agents of intentional events, but English speakers, as predicted from patterns in language, pay more attention to agents in accidental events, and thus, they remember better the agent of an accident. This experiment then followed another method, using non-linguistic tasks to test speakers' memory: participants saw 16 videos with different agents but the same actions and had a brief distracter task (like counting to ten). They were then asked to press a key associated with the agent that did the action in the various videos (for example black-shirt man or white-shirt man). The study showed the same results: intentional events were remembered equally well, but accidental events were better remembered by English speakers (Fausey, Williams, Boroditsky, Long, 2010).

1.4.2 Gender

Languages differ in how they name objects and group them into grammatical categories. Many languages define objects with grammatical gender, that is they assign things genders like masculine and feminine, but also neutral and vegetative. In other words, there are languages such as German and Italian that talk about gendered objects, adapting verbs and adjectives to what they are referring to. On the other hand, there are languages such as English and Hungarian that are genderless, and thus they have no distinction between grammatical gender (Boroditsky, 2003). At this point, linguistic relativity asks if this can lead to differences in thinking about objects. For example, does an Italian speaker think differently about the sun, 'il sole' which is masculine, compared to an English speaker who has no grammatical gender? And does a German

speaker think about the sun differently compared to an Italian speaker because the sun 'die Sonne' is feminine?

Various experiments have been conducted concerning this domain to demonstrate language effects on thought. Among these studies, there can be found a category decision task with pictures comparing English and Italian monolinguals. The results showed that Italian speakers had a semantic and grammatical gender effect when completing the task, while English speakers only had a semantic effect without any gender influence. Although it has been demonstrated that English speakers do tend to assign gender to objects, grammatical gender's influence on thought is less strong (Cubelli, Paolieri, Lotto, Job, 2011). It has been shown that to learn a gendered language, people focus on some properties of an object that may identify it as masculine or feminine. For example, when a noun is masculine, like in Italian 'il mare', people tend to perceive it as stereotypically masculine and assign it masculine characteristics like threatening or deep. On the other hand, when the same noun is feminine, like in German 'die See', people tend to perceive it as feminine and assign it feminine properties (Boroditsky, Schmidt, Phillips, 2003). One of the experiments in this field demonstrated that even when Spanish and German speakers were presented with English nouns and then asked to give three adjectives, these were strictly correlated to the gender they respectively assigned to those nouns. (Reines, Prinz, 2009).

After grammatical genders are learned, language may influence thought when thinking for speaking (Slobin, 1996). In fact, gendered languages mark objects with gendered articles, pronouns, adjectives, etc. leading to differences in thought (Boroditsky, Schmidt, Phillips, 2003).

These and a large variety of other studies showed that grammatical gender influences people's descriptions of objects, their evaluation of similarity, and their ability to remember objects' names.

1.4.3 Evidential markers

Evidential markers or linguistic markers are a way for many languages to indicate the source of knowledge of information. Not all languages possess evidential markers, but this does not prevent them from marking evidentiality (Grossmann, Tutin, 2010).

Whether languages decide to mark evidentiality and how they do it is a widely debated aspect of the linguistic relativity hypothesis.

Tuyuca, an Eastern Tucanoan language, considers evidential markers essential to point out where the information comes from. In detail, Tuyuca speakers must indicate through suffixes whether they obtained the information by witnessing it, by being told about it, or by assuming it (Barnes, 1984). This could be similar to the way English speakers mark the past tense by adding -ed at the end of the verb (McWhorter, 2016). The question that linguistic relativity theory places is: does the presence of evidential markers in a language make its speakers more sensitive to where the information comes from?

One of the various studies in this field concerns the difference between English and Turkish linguistic marking. Turkish grammar requires speakers to state whether the information is based on first-hand knowledge (witnessing) or non-first-hand knowledge (hearsay or assumption). English speakers, on the other hand, convey optionally the source of information with lexicon (modal adverbs, adjectives, auxiliaries, etc.), but it is not required by grammar (Tosun, Vaid, 2018). This research attempted to show the effects of evidentiality in the Turkish mind compared to the English one, analysing the impact of evidential marking on recognition and source memory, distinguishing between first-hand and non-first-hand sentences. The experiment presented participants with both first-hand and non-first-hand sentences and then subjected them to a source memory task where they had to choose which sentences they had previously seen. The results demonstrated that Turkish speakers remembered better first-hand sources than non-first-hand ones while English speakers showed equal precise memory for first-hand and non-first-hand sources. Therefore, grammatical evidentiality does not mean having an overall better memory but privileging first-hand sources (Tosun, Vaid, Geraci, 2013).

The monitoring of sources makes people stand in different informational relations to the world and their beliefs and memory may change and be modified depending on evidentiality in their languages (Papafragou, Li, Choi, Han, 2007). Although this domain of linguistic relativity is still wide, further research is being undertaken in order to investigate whether evidentiality actually leads to higher sensitivity.

1.5 Colours

Colour is another domain on which linguistic relativity research has been focusing in the last decades. Languages have different ways to refer to colours: Russian, Chinese and Italian for example have two different terms to refer to light blue and dark blue, while English and Mongolian have only one word that has to be pre-modified. The question that linguists are trying to resolve is whether this small difference leads to different colour perceptions.

The first experiment presented in this chapter investigates the difference between Russian and English colour discrimination. Russian speakers obligatorily divide light blue with the word ‘goluboy’ from dark blue ‘siniy’ while English speakers have only the word ‘blue’ and need to put adjectives before the noun to modify the colour. The non-verbal experiment presented Russian and English monolinguals with a series of three colour squares arranged in triads and asked them which of the two squares on the bottom was more similar to the one on top. Results showed that Russian speakers were faster than English speakers at discriminating between two colours of different categories (light blue and dark blue) rather than two colours of the same category (both light or both dark blue). However, this Russian category advantage was eliminated under a verbal interference task that asked them to rehearse digit strings while completing the colours task. This was used to show that the effects of language on thought are online. On the other hand, English speakers did not show a category advantage in any condition (Winawer, et al. 2007). Since effects were disrupted by verbal interference task, results do not imply a change in memory representations but overall, they demonstrated the influence of language on colour cognition (Wolff, Holmes, 2010).

To further this question, research in this field has been carried out in the East, testing Chinese and Mongolian colours’ perceptions. Mongolian speakers refer to the colour blue dividing light blue with the word ‘qinker’ from dark blue with ‘huhe’. Nevertheless, they have the same word (‘nogvgon’) to describe both light and dark green. On the other hand, Chinese speakers have one word for blue (‘lan’) and one for green (‘lv’). The experiment tested Chinese and Mongolian monolinguals in a free-sorting task similar to the one presented above, asking them to categorize blue and green patches. As the results showed, Mongolian speakers distinguished clearly

between light and dark blue but sorted similarly the green patches, while Mandarin speakers did not show a distinction in any category. However, in a visual sorting task, both Mandarin and Mongolian speakers reacted faster to the green colour than the blue colour. This last result suggests that certain aspects of human colour perception may be universal. The third part of this experiment was a verbal interference task that confirmed the previous findings about the online effect of language on colour perception (He, et al: 2019).

Further research is being carried out to investigate deeper this aspect of linguistic relativity. These are only two of the studies that have been conducted in the last few years concerning the colour domain, but they clearly show the effects of language on colour perception.

1.6 Specific vocabulary

It happens sometimes that languages have their own way to convey the meaning of certain nouns. Some languages have more words to name something that other languages would name just with one single word, and other languages convey the meaning of a noun in a slightly different way compared to other languages, leading to different conceptions of that noun.

1.6.1 Future forms

One of the most particular features that linguistic relativity research encountered is how languages refer to the future. To be precise, it is the future-time reference (FTR) that has to be taken into consideration, because according to Keith Chen, behavioural economist (2013), different FTR may even influence the saving rates of nations. Central to this topic is the marking of future events. In this sense, language can be divided into weak-FTR like German and Chinese, and strong-FTR like English. Weak-FTR languages do not require marking the tense when speaking, thus according to the linguistic relativity hypothesis, their speakers are less precise when differentiating between past and future and could have different future-oriented behaviours such as saving (Chen, 2013).

Chen compared weak and strong FTR languages and suggested that among people with identical income, family structure, and education, language can play an essential role in influencing their saving rates. Speakers of weak-FTR languages seem

to be more future-oriented and are likely to save 31% more than speakers of strong-FTR languages do. Moreover, he examined this phenomenon from a wider perspective, demonstrating that nations with weak-FTR languages save on average 6% more of their GDP per year (Chen, 2013). These results indicate that there is a strong correlation between individuals and their saving rates depending on their future-time reference and that languages may influence an entire nation's economic behaviour.

Further research is being conducted, but the debate is still open and encounters many studies that are trying to confirm and discredit these findings.

1.6.2 Snow

One of the most interesting cases that has engaged linguists and anthropologists since the 1950s is the case of the Eskimo language. Eskimo people live in the Arctic and Subarctic regions of Siberia, Alaska, and Canada; therefore, they have to deal with snow every day. For this reason, Eskimo speakers have developed several nouns for the word snow. The point that linguistic relativity here is trying to make is that languages classify things in different ways, and thus speakers have different conceptions of them.

Anthropologist Franz Boas claimed that Eskimo people have hundreds of words for snow, which show the relationship between the vocabulary of this language and the environment in which they live. He compared Eskimo vocabulary with English and found that English speakers do have only a single word for snow compared to Eskimos, suggesting that the English language tends to generalize meaning using one single term. But on the other hand, English refers to water with various words depending on its state, like Eskimo does with snow (Kaplan, 2003). Whorf in 1940 compared Eskimos with English speakers too, stating that "We (English speakers) have the same word for falling snow, snow on the ground, snow hard packed like ice, slushy snow, wind-driven snow [...] whatever the situation may be. To an Eskimo, this all-inclusive word would be almost unthinkable" (1940; 216).

However, recent research has demonstrated that Eskimo words are built through multiple suffixations. In other words, Eskimo vocabulary behaves in the same way as English does when describing snow, with words like 'snowbank', 'snowflake' or 'snowman'. Moreover, it has been claimed that Boas' work on Eskimo vocabulary was meant to show the impossible comparability between language structures rather than

their cognitive implications (Martin, 1986). In this regard, further studies are investigating this aspect of linguistic relativity, correcting the misunderstandings of previous findings, but this topic will be analysed in depth in the Second Chapter.

1.7 Numbers

Numeric representation is a cognitive domain on which linguistic relativity has been focusing in the last few years. Numbers allow people to count and represent quantities, and therefore it would be impossible to live without them. Nevertheless, a few languages could be considered anumeric, that is, they do not have words for numbers, while other languages just have different systems to count things. Linguistic relativity here comes into play asking whether this can influence how people think and perceive the world.

Yucatec Maya, a language spoken in the Yucatán Peninsula and northern Belize, has been investigated by linguists for its counting system. Yucatec speakers, compared to English speakers that have to signal the plural forms for lexical nouns, optionally convey the plural, but numerals in Yucatec must be accompanied by a suffix that gives information needed to count (Lucy, 1996). Further research demonstrated that this optionality of conveying the plural forms makes Yucatec speakers refer to objects like they were substances; for example, ‘two candles’ in English is ‘two long thin units of wax’ in Yucatec (Boroditsky, 2003). One of the studies of this domain that can be taken into consideration is a non-verbal experiment comparing English and Yucatec classifying skills. In detail, English and Yucatec monolinguals were presented with a standard object (e.g., ‘a cardboard box’) and two related entities that could match the standard in shape or material (e.g., ‘a plastic box and a piece of cardboard’); they were asked to choose the most similar to the standard (Li, Dunham, Carey, 2009). Results showed that English speakers preferred shape-based classification (they chose the box), while Yucatec speakers had a preference for material-based classification (they chose the piece of cardboard). This small-scale experiment may show how natural language gives rise to a sort of relativity that creates a communicative system full of diversity and flexibility between languages (Lucy, 1996).

Another example of how languages may vary across the world is the Pirahã language. Although it is a widely studied case and further research is being conducted to

investigate its nature and compare it with other languages, results are still not clear and leave the debate open. Pirahã, a language spoken in Amazonia, does not have a precise system for counting. In particular, various studies have shown the imprecision of the counting system of this language by making them give a name to specific different quantities. It has been demonstrated that numbers are conveyed with other words like ‘hói’ to indicate a small amount or size, ‘hoí’ for larger amounts or sizes, and ‘baágiso’ for even larger amounts or sizes, without specifying the exact quantity (Everett, 2011). Moreover, Pirahã speakers have other gaps, such as the perfect tense, colour terms, the ability of drawing, etc. However, the reason for these absences in Pirahã may be culture. Other domains like space and time can be compared between two or more languages, but the case of Pirahã is unique. Pirahã speakers refer to immediate experience when talking and their linguistic constraints are considered a strong cultural trait, that makes Pirahã an attractive case for linguists (Everett, 2005).

This example has been presented to give another perspective from which the reader can see this work. In other words, cultures differ from one another across the world, but this difference may not be caused by languages (McWhorter, 2016). Further explanation of this point is given in the next chapter.

CHAPTER 2

“What’s in a name? A rose by any other name would smell as sweet” (Juliet, in Romeo and Juliet, Shakespeare)

The linguistic relativity hypothesis is widely supported by linguists and psychologists but in the last few decades it has encountered numerous controversies. Recent research is trying to discredit and dismiss this theory by examining deeper previous analyses and providing proof of what is sometimes referred to as the linguistic relativity “hoax”.

This second chapter aims to present the reader with the other side of the linguistic relativity theory, comparing and contrasting various studies and experiments in the same fields as Chapter 1 in order to give an overall view of how the phenomenon is debated. To be precise, this chapter will focus on limitations, potential errors and new ways to interpret previous findings that supported the linguistic relativity hypothesis, highlighting new perspectives from which this theory can be seen.

2.1 The world is the same in any language

The previous chapter analysed the effects of language on thought and the perception of reality, comparing different languages to provide evidence of language influence on people’s minds. Nevertheless, the findings presented above are not unanimously shared among professors, linguists, and psychologists. Recent research further opened the debate, expanding its horizons and bringing it into new contexts of analysis. In fact, previous studies had a lack of knowledge and approaches that now are commonly spread.

Deep interest in linguistic relativity comes from humans’ need to explain differences. Inevitably, languages differ from one another and are part of different and varied cultures that may lead to different behaviours, but on the other hand, the relationship between language and thought arose from the attempt to examine the connection between individuals and society (Lucy, 1992). Moreover, from what can be seen in the real world, believing in languages’ influence on speakers’ minds may lead people to privilege their uniqueness. It would seem that the answer to the question ‘Does language shape thought?’ cannot be ‘no’ because with linguistic relativity everybody matters (McWhorter, 2016). This obviously leads speakers of different

languages to consider themselves different from one another because they speak differently, and therefore they have different conceptions of things. But what is true is that everybody has more or less the same idea of something like a car or a broken vase, regardless of its gender, marker, and other semiotic domains. It has to be said that language has a sort of influence because speakers of different languages may be sensitive to different features when talking, but this does not necessarily imply that they have different worldviews depending on their languages.

Linguistic relativity is considered a pair of glasses that allows people to understand their differences, but it seems that this pair of glasses creates different humanities rather than a single humanity with different cultures.

2.2 Cultural relativism

There are plenty of different definitions for the word 'culture', but what can be generally found in dictionaries is that culture is a set of values, beliefs, traits, and practices that are commonly held within a social group. For this reason, the world is full of cultures, thus full of people with different values, beliefs, and languages. Cultural relativism (Khan Academy, 2018) is the principle of valuing the practices of a culture from the point of view of that culture in order to avoid bad and hasty judgments. In other words, cultural relativism is a term to refer to the diversity of cultures present in the world, regardless of their different ways of behaving and especially talking and thinking. The line taken by linguistic relativity concerning different thoughts and perceptions makes people sceptical about differences. Moreover, seeing how people from different countries behave differently depending on cultural norms worsens this judgment. However, since learning a language does not only mean learning words and since language is part of a culture and cultures differ from each other, it can be deduced that language reflects our cultural experiences. Therefore, one could argue that it is the cultural trait that creates the linguistic one and not the contrary (McWhorter, 2016). The next sections will analyse domains based on cultural differences and not linguistic ones in order to give weight to the view that we are all part of one humanity, which comprises different cultures but not different points of view just because people speak differently.

2.3 Space and time

Space and time representation is one of the most studied aspects of the linguistic relativity hypothesis, but it draws the attention of both those who are trying to support it and who are searching for proof to discredit it.

Boroditsky's experiments on English and Mandarin monolinguals' conceptions of time showed that English uses horizontal spatial terms and Mandarin uses vertical spatial terms to talk about time. However, her findings may not be completely valid. In fact, her experiment was re-conducted by January and Kako (2006), who tried to replicate Boroditsky's findings but without success. By setting almost the same procedures to test English and Mandarin speakers they did not find a prime orientation effect, thus no differences between horizontal and vertical prime conditions were seen (the differences between Boroditsky's and January and Kako's procedures were not relevant as explained by January Kako, 2006). Indeed, English speakers were even slower at judging temporal events after seeing horizontal scenarios. This suggests that Boroditsky's experiment may not be replicable, and therefore that language may not have always these strong effects on how people perceive time. Moreover, when English speakers were trained to talk about time using vertical spatial metaphors, results showed that they had taken Mandarin's way of thinking about time (Boroditsky, 2001). But a question here inevitably arises, since Mandarin-English bilinguals persist in having vertically oriented temporal representations, why do they always talk about time vertically even after years of speaking English while English speakers in the experiment easily changed their temporal representations after being trained to do so? (January, Kako, 2006). Further studies on bilinguals will be analysed in Chapter 3.

In addition to these unsuccessful replications of Boroditsky's experiment, other research has been conducted in order to test these differences among English and Mandarin speakers. But again, findings demonstrated that the assumption of language shaping thought in time and space conceptions is problematic, showing results similar to those above. Moreover, it seems that Boroditsky made an incorrect assumption about the usage of Chinese spatial metaphors. Results of these experiments differed from those reported in Chapter 1 and showed that overall vertical spatial primes facilitate the judgment of temporal targets more than horizontal ones; this may be due to the fact that both Eastern and Western cultures are more likely to think about a calendar as vertical,

and therefore when answering the questions during the experiment they tended to activate this ‘vertical calendar representation’ in mind (Tse, Altarriba, 2008).

Moreover, putting this question on a more understandable level, it could be better explained what participants’ ‘speed’ means when they answered the questions. In Boroditsky’s experiment, Mandarin speakers were 170 milliseconds quicker with vertical buttons, and English speakers were 300 milliseconds quicker with horizontal ones. What findings here are reporting is that English speakers register their time conception quicker compared to Mandarin speakers; but quicker means 130 milliseconds, which is too low to talk about language’s influence on thought (McWhorter, 2016). Hence, linguistic relativity should not consider this a different worldview.

Theories about language influencing space representations have been discredited too. Recent research reanalysed previous findings and came up with new and less “deterministic” perspectives which show that maybe linguistic relativity is being taken too seriously.

In the previous Chapter, the Kuuk Thaayorre’s way of using cardinal directions has been taken into consideration to show why they are constantly oriented in any place. However, the assumption that they think differently just because their language forces them to do so may not be completely correct. An in-depth analysis of this particular aspect of linguistic relativity deduced that their environment may have a certain influence on them. They live in a flat environment without any points of reference such as hills or mountains. This forces them to be oriented in order not to lose their way. Therefore, language is only a result of this process, not the cause of their different way of thinking about space. In other words, what drives their way of speaking and thinking about space is where they are and not language (McWhorter, 2016).

2.4 Gender

In Chapter 1, evidence of language influencing thought has been investigated taking into consideration the grammatical structures of different languages. One of the most curious domains that interest linguistic relativity is gender and how it affects people’s mental representations. Linguistic relativity shows how speakers of languages that assign different genders to the same noun tend to describe it differently. It is easy and

interesting to deduce that people who assign genders perceive objects as male or female. But here things need to be simplified again. The question that linguistic relativity forces its opponents to ask is why speakers of different languages should see objects differently. Gender systems according to linguistic relativity are used to classify objects, and therefore different classifications lead to different thoughts. In this case, patterns are analysed in terms of how they divide our familiar domains but doing so makes people lose sight of how languages actually structure reference (Lucy, 2016). Moreover, bringing things to a more practical level, if people from different countries assign gender differently, they could have differences in tastes, fashion, habits, and other everyday life preferences just because they see objects in different ways (McWhorter, 2016). A basic conclusion would be that speakers of different languages necessarily have different preferences. But this is quite impossible to assume. Again, language is driven by culture and an example to confirm this theory is international advertising. Cross-cultural advertising requires adaptations across different cultures in order to persuade the customer, and one of the most important tools that need to be adapted is language. However here language is not considered something that should be changed because customers from different nations think differently, but just something that accommodates the conventions of that particular culture. Advertisements do not report different aspects of the same products because speakers of different languages have different gender and thus tastes; they simply convey the same message of the product by adapting it to the conventions of a society to make the product more appealing (Torresi, 2021).

What the opponents of linguistic relativity have in mind when proposing new ways of analysing languages is that we are all humans, and thus differences are not encoded in languages, but in cultures. McWhorter (2016), an American linguist, on this point affirms that “the cool insight is about the world, not what one’s language makes you see in it” (2016: 70).

2.5 Evidential markers

Another grammatical domain that has shown language influence on thought in the previous chapter is evidential marking. Recent research contested the assumption that different ways of building words and sentences may shape thought. One of the first

findings that are being contested is Tuyuca and Turkish speakers' tendency of specifying how they obtained the information. This does not imply that they are more sceptical when speaking compared to English speakers. Overturning linguistic relativity implications on this aspect it should be the case that since Tuyuca and Turkish speakers are more sensitive when speaking, their language evolved requiring them to specify details on how they got the information. But this sounds impossible because we as humans are different from each other, and this does not depend strictly on our language, otherwise, speakers of the same language would have very similar behaviours and characteristics. The point here is that languages do not always seem to evolve according to their speakers' needs (McWhorter, 2016). Of course, speakers have different needs, but it is not language that fulfils them.

2.6 Colours

The linguistic relativity hypothesis has tried to demonstrate how different colour terms lead to different ways of thinking and seeing colours. The debate on the colour domain has swung back and forth, but there is not a theory that prevails over the others; on one hand, it has been argued that colour terms do affect colour perception, but on the other hand, there are also universal tendencies in colour naming (Regier, Kay, 2009). It should be pointed out that we are all humans, and we all see colours in the exact same way because otherwise, people should not be able to distinguish between the colour of the sky and of a leaf. Recent research tried to explain that colour terms cannot actually influence the way people see them. In particular, the flimsiness of previous findings has been revealed by re-examining speakers' colour discrimination on a colour grouping task, reporting evidence of weak linguistic relativity theory. The experiment taken into consideration here tested three languages with different colour categorizations for green and blue: English which has two basic terms (green and blue), Russian with three terms (green, dark blue and light blue) and Setswana, a language spoken in Southern Africa, which has a single basic term for both green and blue. This experiment aimed to establish how green and blue are categorized in these three different languages by testing participants in a free-sorting task as in Chapter 1. Overall, results showed that the behaviour of the three languages during the test was quite similar. Nevertheless, there were a few differences among them. Firstly, when Setswana speakers were asked

to group colours that were similar, they formed more groups than English and Russian speakers did; thus, the supposition that the number of groups formed reflects the number of basic colour terms of a language is not correct. Secondly, there was no evidence of Russian speakers categorizing differently light and dark blue just because they have different terms to express them. However, differences between languages in colour grouping were present since Setswana speakers tended to group together green and blue more often compared to English and Russian speaker. This may prove modest linguistic relativity, but cultural and environmental influences should be taken into account. Before claiming that language makes people see colours differently it is important to state that the three languages that have been examined possess completely different cultural aspects (Davies, Corbett, 1997).

Moreover, as McWhorter (2016) observed by analysing the experiment meant to prove the existence of linguistic relativity in Chapter 1, differences in reaction timing while matching colour squares between English and Russian speakers was of 124 milliseconds: Russians were 124 milliseconds quicker at hitting the button and this was absurdly considered proof of Russian being more sensitive to colour categories. Referring to the English language, he claimed that “we certainly know that the colour behind the stars on the America flag is different from baby blue – but we don’t need different words for it!” (2016: 49).

Again, languages differ from one another because they are part of the culture. Claiming that language reflects something essential in its speakers may be incorrect without considering the distribution of that something in the other languages around the world. Furthermore, assuming that different ways of expressing the same concept mean having different worldviews could be misguided because languages differ greatly in the degree to which they do the same thing (McWhorter, 2016).

2.7 Specific vocabulary: future forms

It has been previously investigated in this paper how different future-time references could lead to different saving rates between nations. Linguistic relativity came into play in order to demonstrate how language may influence thought but also behaviour. Although these findings are quite recent, controversies have arisen immediately. What economist Keith Chen (2013) affirmed is that languages that do not obligatorily mark

the future such as Chinese, pay more attention to it, therefore they have higher saving rates compared to English speakers who necessarily mark the future tense (Chen, 2013). On the contrary, what opponents of linguistic relativity are trying to explain is that a language choice to mark or not to mark the future cannot actually influence an entire nation's economy. Linking the economic behaviour of a nation to its linguistic characteristics sounds in fact rash. Recent studies brought up three main objections: future reference systems appear to be much more complicated than strong/weak future tense marking; this correlation cannot be considered positive or negative a priori; and finally, language is driven by culture because it is the cultural trait that creates the linguistic one, as a consequence savings behaviour are driving language and not the opposite.

First of all, it has been demonstrated that firm stock returns are influenced by the extent to which that firm talks about the future in its reports. Hence, it is not just language that affects economical behaviours. Secondly, further research found out that cultures are not completely independent, thus they may borrow weak or strong FTR from other cultures changing their savings behaviour. Finally, the reproduction of Chen's studies investigated the reliability of his results. Findings showed that there is actually a correlation between strong/weak FTR languages and their economic behaviours, but this is not that robust due to the variables mentioned above. The differences found between the two experiments prove the danger of cross-cultural studies because it is impossible to take into consideration all the possible variables (Roberts, Winters, Chen, 2015).

In addition to this, some errors in Chen's findings need to be explained. As stated above, future reference systems are not only based on strong/weak future tense marking but are much more complicated. For example, the Russian language is considered by Chen as a future marking language; however, analysing deeper the Russian grammar, it has been found that it does not convey the future tense as the English language does with 'will', but rather by implying the future in their sentences, without directly expressing it. It is important to notice that the critique Edmund Wilson, a supporter of the linguistic relativity theory, once argued that Russians are often late due to their lack of future tense marking. This obviously sounds contradictory. The same goes for English, which can choose to convey the future with the present

progressive (we're buying a car), even though this form is also used to express present actions (McWhorter, 2016). This shows that future tense marking is very sophisticated and needs to be well analysed before claiming that it influences the saving rates of a nation. In conclusion, Chen's findings cannot be considered detailed, thus they are not completely reliable to prove linguistic relativity's effects on people.

2.8 Specific vocabulary: snow

Chapter 1 investigated Eskimos' words for snow, introducing some weak assumptions about the relationship between their terms and their environment, indirectly stating that language evolves according to their speakers' needs.

Eskimo language is the easiest example for linguistic relativity theory to prove that our minds categorize things differently because Eskimos developed a huge number of terms just to classify things that other languages would render with one single word. However, this is as fascinating as wrong to assume. As Pullum (1989) observed in this sense, numerous other distinctions between humans should be made just because we categorize things differently (think for example about botanists that have hundreds of names for leaf shapes, or printers that categorize what we normally call 'font' with different names) (Pullum, 1989). Furthermore, claiming that Eskimos have more snow terms compared to other languages because they deal with it every day sounds strange and could lead one to ask why Tibetans for example do not have more terms to refer to mountains.

It was interesting for linguists in the 1940s to think about snow terms as showing the correlation between language and behaviour. However, there has been a big lack of precision. Eskimo language is inflectionally complicated, that is each term can have many different inflected forms. From this point, it could be argued that the Eskimo words for 'snowbank' and 'snowflake' do not directly refer to snow, but rather to its shape. As a consequence, should these words be counted in the list of Eskimo words for snow? Moreover, in the Eskimo language as in many other languages, synonyms are present. The best example here is the difference between American and British English, which have different terms to indicate the same thing (rubbish and garbage for example). This can lead to asking whether in the Eskimo language synonyms should be counted separately or together (Woodbury, 2019). The reality is that other languages use

more terms to refer to the same object and this cannot lead to different ways of thinking. These and other details have not been taken into consideration in previous analyses, therefore findings cannot be completely correct.

On this point, according to McWhorter (2016:162), “the reason why languages with fewer speakers are more complicated is not because the complexity befits their speakers in some way, but because for a language to be spoken by massive numbers of people tends to mean that it was imposed on nonnative speakers at some point.”.

2.9 Numbers

The simple action that many languages do of adding suffixes cannot alone explain that language may have effects on thought. Moreover, not having direct terms to indicate numbers does not imply that a speaker cannot say, or even know, how many brothers and sisters he has. Opponents of the linguistic relativity theory widely debated the opinion that the optionality of conveying plural or the lack of a precise counting system may lead to effects shaping thought.

It has been argued that suffixes only serve the general purpose of directing the addressee’s attention toward specific elements of the sentence (Gumperz, Levinson, 1991). Therefore, Yucatec speakers’ optionality of conveying the plural form does not imply that English speakers think differently just because of their grammatical necessity of marking it. Consequently, Yucatec speakers’ tendency to refer to objects as they were substances may lead to differences in speaking but not in thinking. To simplify, a Yucatec speaker would see a candle exactly in the same way as an English speaker does, thus they would never have two different worldviews just because they have two different ways of referring to the same object. Furthermore, stating that Yucatec and English speakers think differently implies that Yucatec speakers pay less attention to numbers and shapes and more to the material composition of objects (Lucy, 2016). Of course, we as humans are constantly paying attention to different things, but grammatically speaking it cannot be assumed that different ways to convey the plural mean having different thoughts.

The same goes for Pirahã speakers: claiming that they think or behave differently just because of their lack of a precise counting system seems to be only a matter of discrimination. Moreover, according to the linguistic relativity hypothesis, it

can be argued that Pirahã speakers are not good at math, or even that math could be useless in their society. But this is senseless to say.

In Chapter 1 it has been stated that this aspect of linguistic relativity is still strongly debated because the Pirahã's lack of numbers may be only explained by culture since they refer to immediate experience when talking and their linguistic constraints are considered a strong cultural trait (Everett, 2005). To be precise, it can be said that Pirahã speakers do not require numbers like 73 or 29 because they need little to count. In fact, it has been demonstrated that the majority of their population are hunter-gatherers, and therefore it seems obvious that they do not need long numbers or divisions. Moreover, over the years numerous studies attempted to teach number words to them but without success, in large part because they were not interested in learning them (Vuolo, 2013). This clearly shows that counting is not necessary for the Pirahã despite the importance that other languages such as English give to it. In this sense, language is primarily a cultural tool rather than an accretion of random habits. (McWhorter, 2016).

This Chapter, integrated with the first one, presented the reader with the complete debate on linguistic relativity. It has to be said that further studies are being undertaken in order to give an explanation and a conclusion to this debate. However, the right answer seems impossible to give. Contrasting ideas and perspectives will always exist and we as humans are just part of this wide phenomenon called linguistic relativity.

Notwithstanding these conflicting opinions, recent research, presented in the following Chapter, focused in depth on another linguistic field, which led to interesting results about linguistic relativity.

CHAPTER 3

Linguistic relativity and bilingualism

In the first two Chapters, it has been seen that linguistic relativity is a complex subject and has encountered both approval and dismissal. Today research is still expanding, covering new areas and points of view from which this phenomenon can be analysed. In particular, one may argue that bilingualism is a good way for linguistic relativity to show its effects because the bilingual mind relates to two or more simultaneous systems and the speaker has to choose between them to speak. This may create new versions of the linguistic relativity hypothesis. The aim of this Chapter is thus to bring this issue to light in order to give the reader a third but not less important perspective of the linguistic relativity theory. To be precise, Chapter 3 will focus on the linguistic implications of bilingualism and what effects it may have on speakers, showing how the bilingual mind works. Moreover, a survey will be presented to explore what studies have found and to open new questions concerning this hypothesis.

3.1 Different types of bilingualism

Being bilingual means having competence in two languages. It means having the knowledge and the ability to speak more than one language. However, this knowledge is not the same in every bilingual: bilinguals differ from each other in many important ways that should be taken into consideration to analyse this phenomenon adequately. To be precise, some details need to be given to the reader in order to ensure a good understanding of the topic. Throughout this chapter, bilingualism will be analysed by naming L1 the mother tongue and L2 the second language of bilinguals. Furthermore, an important definition of what type of ‘bilingualism’ is going to be analysed in this paper is essential. In other words, different theories have been proposed to classify bilinguals. The first one is translanguaging. Like the linguistic relativity theory, it has a stronger and weaker form. The former posits that bilinguals do not have two separate linguistic systems but have just one integrated linguistic system, and therefore bilinguals do not switch between languages when speaking (García, Lin, 2016); the latter claims that national and language boundaries should be softened. In this sense, translanguaging goes beyond different linguistic systems by grouping together different

experiences, attitudes and beliefs (Li, 2011). Nevertheless, this theory has been applied to projects in schools where bilinguals have been asked to alternate between languages for receptive and productive uses. The second one is the theory that considers three types of bilingualism, namely compound, coordinate and subordinate bilingualism (D'Acerno, 1990). A compound bilingual is someone who learned two or more languages in the same environment and thus has a single conceptual system linked to two lexicons; a coordinate bilingual learned two languages in two distinct environments and is believed to have two conceptual independent systems; finally, a subordinate bilingual is someone whose L1 prevails over the L2. This theory implies that bilinguals switch from one language to another and that bilinguals activate a translation process to transfer information from one language to another (Grosjean, 1997). To sum up these two first views one may argue that a bilingual can be two monolinguals in one person or just a unique and specific speaker (Grosjean, 1989). Another kind of bilingualism should be de 'diglossia', which refers to the dialects of a language, considering bilinguals those speakers who use different dialects in different situations (Lyons, 1981). Despite the fact that a single and final theory has not been agreed upon yet, it is important to underline that this chapter will take into consideration the theory of the three types of bilingualism because it seems to be the most complete. This theory allows the reader to have a wider perspective of bilingualism. In fact, bilinguals acquire and use languages for different purposes, in different domains of life and with different people (Grosjean, 1997). Moreover, research defines bilinguals as speakers who use two languages in their lives, both simultaneously (in bilingual families for example) or sequentially (for immigration or study).

Bilinguals differ from each other in other two important ways: age and context of L2 acquisition. It has been shown that the age of acquisition of L2 may have effects on the maintenance of L1 patterns and L2 influence on L1 (Pavlenko, 2014). Moreover, the context of acquisition has a substantial influence too. Learning a second language from childhood or learning it at school may influence bilinguals' immersion in L2, and consequently, also their length of exposure, and this could lead to acquisition differences.

Since bilinguals' thinking may depend on the language they speak at the moment, it may be debated that bilinguals are the only ones who actually experience the

effects of linguistic relativity. On this point, it could be the case that linguistic relativity should be refreshed to adapt to bilinguals' minds, thus the next sections will provide some new explanations of this hypothesis.

3.2 Space and time in bilinguals

In the previous chapters, it has been seen how speakers of different languages may have different space and time conceptions. But on the other hand, it has been argued that these findings may not be completely reliable. Bilingualism requires linguistic relativity to be updated, and thus recent studies have tried to find out how space and time conceptions work in the bilingual mind. To be precise, recent research has indicated that bilinguals' conceptualizations of space and time may be affected by both languages' patterns (Park, Ziegler, 2013), but this might be true only for compound bilinguals since they experienced longer exposure to the L2 and have one single conceptual system for both languages. Experiments carried out in this field analyse compound, coordinate and subordinate bilinguals, providing possible evidence of the effects of linguistic relativity on bilingual speakers.

3.2.1 Time

As explored in Chapter 1, spatial metaphors of time may have an influence on speakers' time representations. Concerning bilingualism, this influence may vary depending on the length of exposure to the L2. To be precise, compound bilinguals are expected to be more influenced by their L2 when speaking in their L1, because they have been speaking their L2 for a longer time. Taking into account the experiment carried out by Boroditsky (2001) concerning English and Mandarin conceptions of time, it has been demonstrated that Mandarin monolinguals are more likely to think about time as vertical (Boroditsky, 2001). Further research conducted among Mandarin-English bilinguals showed interesting results. It was first found that the Mandarin tendency to think about time vertically remained in those bilinguals who began to learn English (their L2) later. Logically, compound bilinguals should have shown a horizontal tendency when describing time, because of their longer length of exposure to their L2. However, the vertical bias appeared to be independent of the length of exposure to English. In other words, compound Mandarin-English bilinguals did not show stronger

effects on thinking about time as horizontal. This may be due to cultural differences between Mandarin and English speakers (Boroditsky, 2001).

Nevertheless, recent research has found that linguistic relativity may still impact bilinguals' thoughts about time. In particular, L1 and L2 influence on bilinguals' minds has been studied in order to understand how these speakers understand spatio-temporal metaphors compared to monolinguals. In this experiment, Mandarin-English bilinguals were tested in both English and Mandarin language. Two tasks were included in the experiment and involved an ego-moving metaphor and a time-moving metaphor; in the former time is stationary and the observer moves along the timeline toward the future, in the latter the observer is stationary and time moves from the future to the past (Lay, Boroditsky, 2013). Previous research found that Mandarin monolinguals are more likely to use time-moving metaphors compared to English speakers (Ahrens, Huang, 2002). In this experiment, both influences of L1 on L2 and vice versa were found. To be precise, when Mandarin-English bilinguals were tested in English on exactly the same question as English monolinguals, findings showed that bilinguals were more likely to take time-moving metaphors as Mandarin monolinguals do. However, when bilinguals were tested in Mandarin, which is their native language, results demonstrated that they were more likely to take ego-moving metaphors as English speakers do. This appears to indicate that L1 influences L2 construction of meaning when speaking their second language, but on the other hand, L2 may influence L1 meaning constructions when speaking their native language (Lay, Boroditsky, 2013).

3.2.2 Space

Space is another domain in which experiments among bilinguals have been taken into account. Here again, bilingualism may require linguistic relativity to update its previous findings, adapting them to the bilingual mind. In particular, this section presents Korean-English bilinguals, trying to confirm the susceptibility of space conceptualizations to their language experience. The experiment was carried out in order to discover whether Korean and English monolinguals think about space differently compared to Korean-English bilinguals. Both the influence of L1 on L2 and the convergence of these two languages have been found. Previous research found that English speakers categorize spatial relations in terms of containment, while Korean

speakers do it in terms of tight fit (Choi, Bowerman, 1991). Findings from the experiment in this section demonstrated that Korean and English monolinguals do have different categorizations of space. It has to be said, however, that findings did not show a complete lack of space concept in terms of tight fit in English and vice versa in Korean; it only showed English and Korean speakers' preferences in categorizing space.

The non-verbal sorting task conducted among bilinguals in this experiment attempted to find how the bilingual mind works compared to the monolingual one. It has been shown that Korean-English bilinguals have mainly two ways to categorize space: the majority of participants combined patterns of both languages' categorizations and the others displayed patterns that resembled neither L1 nor L2 categorizations. Although previous research demonstrated that compound bilinguals maintain two separate categories for both L1 and L2, changing the concepts depending on the language they are speaking (Sachs, Coley, 2006), these results reported evidence of cognitive restructuring as a consequence of the convergence of L1 and L2 in the bilingual mind (Park, Ziegler, 2013). These results may concern only compound bilinguals due to their longer use of L2, while coordinate and subordinate ones might experience L1 influence when speaking their L2. According to Bassetti (2007) "when two languages of a bilingual represent a specific aspect of reality differently, the bilingual may develop different concepts from a monolingual" (Bassetti, 2007:251)

3.3 Gender

Gender categorization is better analysed by taking into account bilingualism because it allows for a deeper and more understandable comparison between gendered languages. To be precise, differences in how speakers assign genders have been discovered in bilinguals. That is, learning a second language may affect the way speakers categorize objects. Previous research found that bilinguals build mental representations of gender depending on the language in which they are engaged. That is, they switch from one language to another (contrary to translanguaging) and in doing so they switch their gender categorization. However, these findings appear to be true only for compound bilinguals, who have higher proficiency in their L2 (Sato, Gygax, Gabriel, 2013). Yet further research in this domain discovered L2 effects for coordinate and subordinate bilinguals too. In particular, an experiment carried out among English-Spanish

bilinguals demonstrated this point. Specifically, this experiment aimed to find L2 influence on L1 among subordinate bilinguals, thus English-speaking adults who began to learn Spanish a few months before.

Participants were examined in a voice-assignment task in which they had to assign a male or female voice to pictures of objects. Results showed that beginning learners start to acquire grammatical gender after ten weeks of instruction, but L2 effects on gender are stronger after twenty weeks. To be precise, English-Spanish learners were faster at learning gender determiners for people rather than for inanimate objects (maybe because they already have 'he' and 'she' in their L1), and they managed to use correct articles because they intuitively assigned gender by linking it to biological sex. This shows L2 effects on L1 in gender categorization among subordinate bilinguals. Even though grammatical gender had a stronger effect on advanced learners compared to beginners, it did not have the same impact as on native speakers. Hence, the proficiency level is not as correlated with conceptual gender as it is for native speakers (Kurinski, Sera, 2010). This may be due to cultural differences that prevent subordinate and coordinate bilinguals from completely acquiring L2 gender categorization.

3.4 Evidential markers

In Chapter 1 I discussed evidential marking, which is how languages indicate the source of knowledge of information. In other words, evidentiality is a semantic category that indicates whether a proposition comes from first-hand knowledge or non-first-hand knowledge (Tosun, Vaid, Geraci, 2013). All over the world, there are languages that require evidential marking and others that consider it only an option. Bilingualism here may play a different role compared to the one it played in the previous sections. In fact, it could be argued that bilingual speakers, whose L2 obligatorily marks evidentiality, need to express where they obtained the information even when they are using their L1 which does not possess this grammatical trait. An experiment carried out to investigate this point was conducted among Spanish-Aymara bilinguals. The Spanish language does not necessarily mark evidentiality, while Aymara, a language spoken in the Bolivian Andes, obligatorily marks it. The study found that bilinguals resort to using different past tenses in order to express evidentiality. To be precise, they use the past

perfect tense to state that they obtained the information indirectly, and they use the present perfect to indicate that they obtained it directly, since the present perfect tense includes in its meaning a deictic marker related to the moment of speech (Hernandez-Campoy, Corvalàn, 2000). This demonstrated the influence of L2 on bilinguals' L1 by indirectly making them need to mark evidentiality.

Another study conducted in this field concerns Turkish-English bilinguals. In Chapter 1 it was reported that the Turkish language requires its speakers to state how they obtained the information compared to English. In this experiment coordinate and subordinate bilinguals were taken into account. Here bilingualism plays almost the same role as in the previous experiment of this section. In fact, evidence of the impact of obligatory evidential marking on bilinguals has been proved. However, this time results showed that patterns of L1 (Turkish), which require evidential marking, carry over to their L2 (English), particularly if their L2 has been acquired later (Tosun, Vaid, Geraci, 2013), making Turkish-English bilinguals need to state how they obtained the information. In other words, in this experiment, the opposite influence has been discovered. Further research needs to be conducted in order to provide more detailed results, but one may argue that regardless of the language, evidentiality prevails, requiring bilingual speakers to express it.

3.5 Colours

Colour categorization and lexicon have been studied for a long time by linguists. This highly debated domain boasts various perspectives that can be taken into consideration: as seen in Chapter 1, language may have a certain effect on colour perception but as seen in Chapter 2, different perceptions may be also explained by culture or by theories that propose universals in colour categorization.

Some research focused on bilinguals in order to confirm or dismiss language effects on colour perceptions. An experiment carried out among coordinate and subordinate bilinguals compared the colour categories of Korean, Japanese, Hindi, Cantonese and Mandarin monolingual speakers with native speakers of the same languages who became bilingual by learning English. After listing the basic colour vocabulary of each language, participants were asked to map colours on a colour chart. The study showed that the boundaries of colour areas mapped by bilinguals were less

stable than those of monolinguals. In other words, bilingual speakers tend to generalize colours because they have a more varied terminology (Caskey-Sirmons, Hickerson, 1977). The point is that if language is seen as an innate and universal property of the human mind its change should not be that relevant. Recent studies, however, focused on language diversity, contact and change, in order to demonstrate that languages are actually a powerful tool.

Another study conducted among Japanese-English bilinguals resembled a previous study conducted among Greek-English ones that demonstrated how bilingual perception changes depending on the availability of relevant colour terms and the amount of time spent speaking their L2 (Athanasopoulos, 2009). Japanese was taken in this experiment for the presence of a term to delineate the colour 'light blue' compared to English which does not have a direct word. This study demonstrated that those bilinguals who use their L2 (English) more frequently distinguish between blue and light blue less well than those who spoke Japanese more frequently, showing the dynamism and flexibility of bilingualism (Athanasopoulos et al., 2010).

Various studies found that bilingual speakers performing a colour-naming task in two languages dissociate between perceptual experience and language choices dictated by grammar, and hence they can make meaning-based choices based on one language while using naming behaviours of another language. However, it has been shown that the colour domain is more complex than other ones because of the high number of languages in the world that distinguish between colours by means of suffixes, prefixes or modifiers. This complicates the process of cross-cultural comparisons used to name colours by bilinguals (Alvarado, 2013).

3.6 Case study

The following section will present a small case study I conducted on bilingualism. On a trip I took a few months ago I had the chance to visit a university where I met many people who came from other countries. The fact that they all shared the English language as L1 or L2, but they all had different backgrounds, interested me from the start, and I decided to compare what I saw with the findings of previous research. However, the simple survey I decided to conduct is not limited to English as L1 or L2 but takes into consideration speakers from 18 different countries:

Country of origin	Number of participants
Albania	4
America	1
Belgium	2
Brazil	1
Bulgaria	1
China	2
France	1
Germany	1
India	13
Italy	42
Ivory Coast	2
Morocco	1
Moldavia	1
Polonia	1
Romania	4
Serbia	2
Tunisia	1
United Kingdom	2

It was carried out among bilinguals aged from 18 to 50 years old, who were asked about their bilingual experience. Ten factual and attitudinal questions have been asked and participants answered anonymously (questions are listed in the Appendix). The survey was translated into Italian and English since Italy was the most frequent country of origin and English was more or less known by all the participants.

The aim of this survey was to broaden the investigation of bilingualism by taking into consideration the bilingual experience of numerous different speakers. By referring to previous findings this case study aimed to confirm or find some incongruences in other research and to lay the foundation for further studies of this phenomenon.

3.6.1 Methodology

As I previously indicated, this chapter, and thus the following section, takes into consideration the theory of the three different types of bilinguals in order to have more perspectives from which the linguistic relativity hypothesis can be analysed. For this

reason, simple close-ended questions and specific open questions were asked. The questions first of all made it possible to classify bilinguals as compound, coordinate or subordinate in order to analyse results considering different perspectives. It has to be said that coordinate and subordinate bilinguals have been gathered together because they are both believed to have two different conceptual systems compared to compound bilinguals. Secondly, questions investigated bilinguals' experience with their languages. To be precise, bilingual experiences have been gathered depending on their being compound or coordinate and subordinate bilinguals in order to analyse similarities and differences among the same group and among the two different groups. Previous findings have been taken into consideration as a starting point, but the analysis has been conducted keeping in mind that results could change, and therefore potential differences or errors of previous studies could be discovered. Overall, the case study has been created following what research on bilingualism has already found, and therefore the survey has been analysed to find also new potential questions and doubts to be investigated by future studies.

3.6.2 Results

The survey included a total of 82 participants: 53% subordinate or coordinate bilinguals, and 47% compound bilinguals. It is necessary to underline that the country of origin did not determine the mother tongue of a bilingual; in fact, the survey found that many bilinguals who came from a specific country, assimilated the L1 of their arriving country after emigrating at a young age.

A first basic but confusing assumption should be that, according to the theory, those bilinguals who learned their second language at home and have a single system for both languages (compound bilinguals) should feel less influence of their L1 on their L2 because they mastered their L2 almost to the same level as their L1, but at the same time having a single system may imply that L1 and L2 influence each other. The opposite should be true for subordinate bilinguals, thus those who learned their L2 in a distinct environment like at school and hence have a lower length of exposure to it.

After some basic information about their origins and their languages, the survey investigated how many participants believed in linguistic relativity. In fact, as affirmed in Chapter 2 and according to McWhorter (2016), it is fascinating for people to believe

that our language shapes the way we think, even though this is wrong to assume. In fact, after a brief explanation of what linguistic relativity is, 70% of participants stated that language may have an influence on the way they think and perceive reality.

Moving to more serious data, the survey asked participants whether they used their L1 or L2 more in their everyday life.

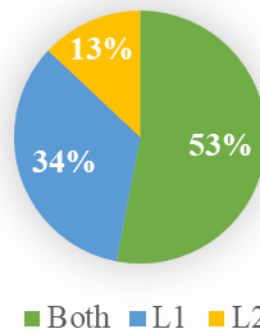


Figure 1: Language used in everyday life

The frequency of use of a language may impact the influence of a language on the other. Results showed that the majority used both languages because of immigration, study or work, while bilinguals who used their L1 more were more frequent than those who used their L2.

As previously indicated in this chapter, the theory that distinguishes between three types of bilinguals implies that they switch from one language to another when speaking. According to Foote (2010), bilinguals may encounter persistent difficulties when switching between languages. To be precise, those who should experience difficulty are coordinate and subordinate bilinguals due to their lack of integrated structures (Foote, 2010). Although this should not be true according to translanguaging, the survey investigated whether bilinguals experience difficulties when speaking their L2 because of the presence of different conceptual systems. Overall, the results did not show a strong difference:

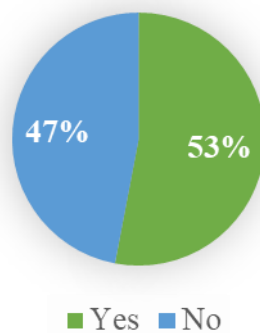


Figure 2: Difficulties in using their L2

A slight majority of the participants affirmed that they have some difficulties in explaining themselves in their second language because of a different conceptual system. This finding is in line with what previous research confirmed with various experiments, but it is not that clear. What this survey is trying to say is that even though experiments have been carried out for years to prove that code-switching may create difficulties, it is in the basic and direct experience of bilinguals that we should find the final answer. Direct experience, in fact, may be more reliable since it is what the speaker feels when speaking, and therefore it is more concrete. Yet analysing data by distinguishing between compound and coordinate-subordinate bilinguals, the survey found a curious result. It demonstrated that about 60% of compound bilinguals encounter some difficulties in explaining themselves when speaking their L2 even though they master it. On the other hand, a slight majority of coordinate-subordinate bilinguals declared they do not encounter many difficulties in explaining themselves in their L2. Of course, there are no big differences, and percentages are low to give a final reliable result. However, contrary to what Foote (2010) has affirmed, this may be an initial point to show how a single conceptual system in the mind of a bilingual may cause difficulties when speaking. All this points out that regardless of the theory that is being considered, thus switching or not between languages, difficulties are present for bilinguals, even though they are not that visible.

Furthermore, considering the direct experience of bilinguals, the survey investigated whether bilinguals who use their L1 feel that they are more influenced by it when speaking their L2. Overall participants stated that they feel influenced by both languages when speaking, depending on which language they are using at the moment.

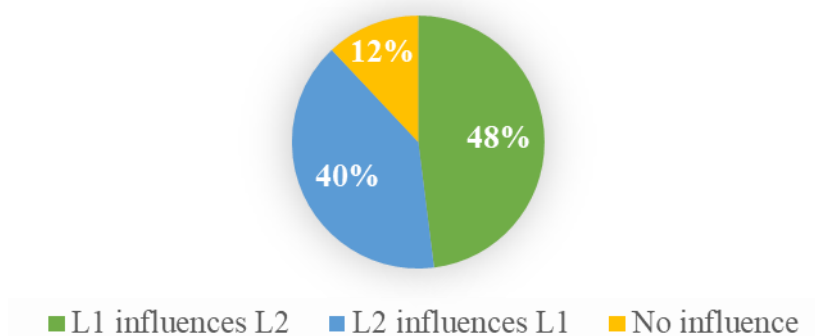
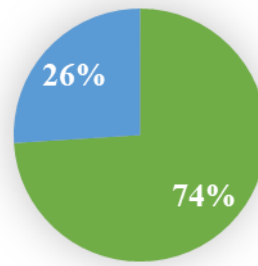


Figure 3: The influence of languages

Yet to be precise, the survey analysed this data with those of the use frequency in order to see how the frequency of use of a language may have an influence on the mind of a bilingual. Results found that bilinguals who use their L1 more or both L1 and L2 in their everyday life (about 90% of all participants), compared to those who use their L2 more, are more likely to be influenced by their first language. To be precise, results showed that 52% of participants who use their L1 more are more influenced by it when speaking. However, in this case, the results are not that strong. But returning to section 3.4 (evidential marking), one may argue that the results of this part of the survey reflect what research found, namely, nothing to prove a clear influence of L1 on L2 or vice versa. This shows the delicacy of this argument and the need for further research. Yet remaining on this set of data, something interesting came out. In particular, as previously said, many bilinguals in the survey indicated a different L1 compared to their country of origin, because of immigration or other reasons. On this line, the majority of bilinguals who go to the university I visited, who consider English their first language even though they come from other countries, affirmed that they feel more influenced by their L2 (the language of their origin country) when speaking English or that they do not feel influenced at all compared to other participants of the survey. This suggests that the environment in which bilinguals live may have an influence on how their languages behave. Here again, the survey confirmed what other scientific research found. In other words, L1 influence on L2 is as evident as L2 influence on L1.

The survey investigated also how bilinguals feel when speaking their L2. Overall, 74% of bilinguals affirmed that they feel different.

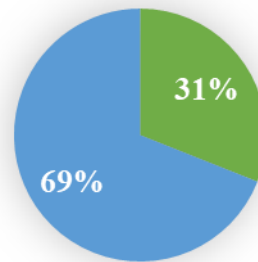


■ Different ■ Not different

Figure 4: Feeling different when speaking another language

Analysing carefully the results, the more common feelings when speaking the L2 were rationality and calm. One may argue that this is simply due to the context of use of the language or depending on the length of exposure to it. According to McWhorter (2016), people feel different when speaking another language because they learned it as adults and do not speak it natively (McWhorter, 2016). In fact, results showed that the majority of those who stated they do feel different are coordinate-subordinate bilinguals, thus those bilinguals who have two conceptual systems and learned their languages in two distinct environments.

Furthermore, the survey investigated whether bilinguals take more time to make decisions when speaking their L2.



■ Yes ■ No

Figure 5: Decision making

Around 70% of the participants affirmed they take exactly the same time to make decisions when speaking their second language. However, contrary to these answers, previous research has shown that people make different decisions depending on the language they are speaking at the moment. This is called the Foreign Language Effect (FLE) (Brouwer, 2019). Experiments found that FLE affects people's decision-making, in the sense that people who are speaking their L2 are more willing to choose harm and

reduce their risk aversion. However, similarities between L1 and L2 may reduce FLE effects on bilinguals' decision-making (Circi, Gatti, Russo, Vecchi, 2021), but this has not been analysed by the survey. From the survey it has been discovered that the remaining 30% of bilinguals who stated they take more time to make decisions are actually for most subordinate or coordinate. In other words, longer exposure to L2 may bring bilinguals to be less affected by the FLE. In fact, numerous experiments carried out about the Foreign Language Effect have been primarily conducted among compound bilinguals.

Overall, the survey was meant to find possible incongruences with previous research and to formulate new questions about bilingualism in order to enhance a deeper exploration of the phenomenon. It can be said that the only incongruency that has been found is in the decision-making area, in which the majority of participants, according to their personal feelings and experience, affirmed they take the same time to make decisions, contrary to what previous research argued using experiments. This shows how sometimes research needs to start from the basics before analysing scientifically people by putting them in front of a screen and asking them to do tasks by pressing buttons. Of course, experiments are much more reliable than a simple answer in a survey, but this is helpful to understand that most of the time speakers are not aware of how they are influenced by their languages. All this opens up doubts in the field of psychology and enhances an investigation on how it is possible that speakers do not feel directly the influence that research argues exists between two or more languages. Concerning the other results of the survey, it can be seen that they were more or less in line with what previous studies found, namely, that languages influence each other depending on many factors such as the length of exposure and the frequency of use. However, clear answers are still impossible to give, and further research is needed on language influence on bilinguals. Yet one should keep in mind that linguistic relativity has its opponents: language influence on the bilingual mind could also not be as strong as linguistic relativity argues, and therefore linguistic differences in bilinguals may depend on the cultures and families in which languages belong.

As shown in this chapter but also in Chapters 1 and 2, the debate on linguistic relativity is still wide and open, especially concerning bilingualism. Even though this area of linguistics is expanding, research is making great strides and finding new

potential answers. What is sure is that speaking two or more languages can blow people's minds and open new horizons, improving a better understanding of cultural and linguistic differences. As McWhorter stated: "languages are tickets to being able to participate in the culture of the people who speak them" (TED, 2016).

CONCLUSION

Language is what allows us to do sounds with our mouths, to transmit thoughts to one another, and to transmit knowledge across minds (Boroditsky, 2018). Language is essential for us humans to communicate and make ourselves understood, but we do it in different ways. Although languages all accomplish the simple task of communication, speakers of different languages convey information differently from each other. Linguistic relativity is the theory that for a long time is trying to explain why. This dissertation aimed to present the linguistic relativity theory by giving the reader the possibility to understand it from two main perspectives. It presented its two faces, which are briefly described in the titles of the First and Second Chapters. “To have a second language is to have a second soul” (Charlemagne) is the first one; it means that language actually creates a new reality, and as a consequence speakers of different languages perceive reality in different ways. “what’s in a name? A rose by any other name would smell as sweet” (Juliet, in *Romeo and Juliet*, Shakespeare) is the second one; contrary to the first statement, it means that we name things differently, but we perceive them in the same way. These are the two main faces of the linguistic relativity hypothesis that trace the ongoing debate on whether language can shape the way we think or not. Despite the huge number of data available nowadays that allow researchers to investigate this hypothesis, this debate is still open.

Chapter 1 analysed data from previous experiments, trying to explain why speakers of different languages perceive real-life aspects differently such as time, space, colours, gender, etc. It answered questions such as “Does language influence thought?”, “To what extent and how is it possible?”, presenting the reader with studies and experiments carried out in laboratories. Chapter 2 may turn out to be more debatable. It showed the other side of linguistic relativity, presenting experiments carried out to resemble those of the First Chapter in order to demonstrate errors and limitations. The chapter tried to explain how language cannot actually influence thought and that culture is what matters because it is the culture that creates such differences among speakers and not language. Chapter 3 gives a sort of solution between the first two chapters, demonstrating that the real influence of language on thought may be particularly perceived by bilinguals. Since today the majority of people in this world can speak two

languages, this chapter took into consideration three types of bilinguals so that everyone could feel involved in the discussion and could reflect on this, in order to enhance a deeper understanding of the linguistic relativity hypothesis.

The aim of this work was to shed light on the importance of languages, on how they behave and how they characterize our lives. The basic assumption behind this paper is that we are all different, and therefore this dissertation helps to understand the linguistic differences between humans in the way they think and communicate; it encourages the reader to look at the world with different eyes and celebrate such differences because they are part of the variety of this world.

It is important to mention that other studies and experiments are being undertaken by scientists, linguists and psychologists in order to deepen the analysis of linguistic relativity, even though languages and knowledge are expanding and creating new questions. For this reason, it should be interesting to analyse nascent and disappearing languages which could lead to interesting results on why they are forming or disappearing. In conclusion, we can say that language is unique in its diversity because all languages are a manifestation of communication. We are all part of a single human nature, and it is this human nature that allows such diversities.

APPENDIX

Questions of the survey:

1. Where are you from? Where do you live now?
2. What is your first language?
3. What is your second language?
4. When did you learn your second language? (e.g. at home, when I was a child, when I was 12 years old, at school, etc.). Try to be as precise as possible
5. Do you use your native language or your second language more in your everyday life?
6. Do you think your native language can influence the way you think about reality compared to a speaker of another language? (e.g. does an Italian speaker who uses the words 'blu' and 'azzurro' to refer to some shades of blue, think differently compared to an English speaker who uses only the word 'blue'? Or does a German speaker who uses the articles 'der', 'die', 'das' to express nouns' femininity, masculinity or neutrality think differently compared to an English speaker who has only 'the'?)
7. If you answered yes to the previous question, do you encounter difficulties in explaining yourself in your second language because you have different concepts in your first language?
8. Do you feel different when speaking another language? If so, how do you feel? Is your personality different? (e.g. gentler, less rational, more introverted, etc)
9. Do you take more time to make decisions when speaking your second language?
10. Based on you experience, is your native language more likely to influence the way you speak your second language or is your second language more likely to influence the way you speak your native language?

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ITALIAN SUMMARY

Viviamo in una realtà multicolore, sempre più connessa e sempre più in espansione. È una realtà piena di conoscenza e curiosità, che noi esseri umani viviamo con la consapevolezza di essere gli uni diversi dagli altri. Secondo Marino (1620) il mondo è bello perché è vario (Marino, 1620) e non esiste citazione più adeguata a descrivere ciò che il mio lavoro illustra. In un mondo pieno di culture diverse, la scienza sta espandendo le sue conoscenze, cercando di arrivare alla base di queste diversità. In particolare, la linguistica e la psicologia si stanno concentrando sulle differenze linguistiche che sussistono tra noi umani, cercando di dimostrare cosa ci sia dietro ogni lingua e quali siano le implicazioni.

La lingua è ciò che ci permette di esprimere dei suoni, di farci capire e, quindi, di comunicare (McWhorter 2016). Tuttavia, la comunicazione assume diverse sfumature a seconda della lingua che si parla, poiché è impossibile riportare una stessa informazione con le stesse identiche parole. Tutto ciò ha portato la linguistica a chiedersi cosa possano implicare queste differenze di comunicazione nel mondo reale. In altre parole, le maggiori domande che la ricerca si è posta negli ultimi anni sono: parlare una diversa lingua può portare a pensare e quindi comunicare diversamente? Di conseguenza, può una lingua influenzare la percezione di ciò che ci sta attorno? Tutto ciò forma la relatività linguistica.

La relatività linguistica ebbe origine più di 50 anni fa da ricerche di vari studiosi, ma la prima vera e propria ipotesi della relatività linguistica si fa risalire agli studi di Edward Sapir e Benjamin Lee Whorf, che ipotizzarono che la lingua che parliamo determini il nostro pensiero. Questa ipotesi più marcata è stata tuttavia messa in dubbio da vari studiosi successivi, anche se oggi questo fenomeno è ancora noto come ipotesi di Sapir e Whorf. Nella sua forma meno estrema, la teoria della relatività linguistica afferma che la lingua influenza il pensiero e quindi la percezione della realtà di una persona. Questa affermazione ha dato così il via ad un dibattito aperto ancora oggi sulla possibilità o meno della lingua di influenzare ciò che una persona pensa. L'interesse per questo fenomeno, soprattutto negli ultimi anni in cui le persone sono sempre più in contatto tra loro, ha portato alla formazione di numerosi studi ed esperimenti, pensati per dimostrare l'influenza della lingua sulla realtà.

Prima di illustrare brevemente ciò che questi esperimenti hanno messo in luce, è necessario sottolineare che non tutti i linguisti e gli psicologi sono sulla stessa linea di pensiero. Numerosi sono infatti anche tutti quegli esperimenti pensati per provare il contrario, ossia che la lingua non può avere alcuna influenza sul pensiero e che tutti abbiamo la stessa percezione della realtà. Ecco che quindi il dibattito si sta espandendo sempre di più, soprattutto se si tiene conto del fatto che una persona può parlare più lingue, ossia del bilinguismo. Di conseguenza, si può affermare che la relatività linguistica vede due fazioni contrapposte: coloro che supportano la teoria, affermando che diverse costruzioni grammaticali e la presenza di parole diverse nel lessico delle lingue portano a pensieri e percezioni diversi, e coloro che invece sostengono che pensare che la lingua possa influenzare il pensiero è tanto affascinante quanto sbagliato, poiché la differenza sta nelle culture e non solamente nelle lingue.

La relatività linguistica si può dimostrare in semplici ambiti della vita di tutti i giorni, come lo spazio e il tempo, i colori, il genere dei nomi, i numeri, ecc., per questo gli esperimenti condotti per dimostrare o meno l'influenza della lingua prendono in considerazione aspetti basilari. Uno degli aspetti principali su cui la ricerca si è focalizzata inizialmente è stata la percezione del tempo, comparando parlanti di due lingue diverse e notando come la lingua influenzi tale percezione. In particolare, sono stati analizzati l'inglese e il mandarino. Numerosi studi supportanti l'ipotesi della relatività linguistica hanno dimostrato che i parlanti inglesi tendono a riferirsi al tempo utilizzando termini "orizzontali" come 'ahead' e 'behind' (per esempio, il passato è visto come qualcosa che sta dietro di noi) mentre i parlanti mandarino prediligono termini verticali come 'sha`ng' e 'xia`' (su e giù). In un esperimento che chiedeva ai partecipanti di giudicare un'affermazione vera o falsa come "Agosto viene prima di Settembre" dopo aver guardato su un monitor delle immagini di tendenza verticale o orizzontale (una pallina bianca sopra ad una nera, per esempio), si è dimostrato che i parlanti inglesi sono più veloci a giudicare l'affermazione dopo aver visto immagini di tendenza orizzontale, mentre i parlanti del mandarino sono più lenti (Gijssels, Casasanto, 2017). Questo prova che l'inglese e il mandarino sono due lingue che portano i propri parlanti a pensare al tempo in maniera leggermente diversa tra loro. Tuttavia, studi che respingono la teoria della relatività linguistica affermano che una

differenza di millesimi di secondo tra le risposte di un inglese e di un mandarino non può da sola spiegare come la lingua influenzi la loro percezione del tempo (McWhorter, 2016). Inoltre, studiosi che hanno ricondotto lo stesso esperimento non hanno avuto gli stessi risultati in termini di velocità, dimostrando la precarietà della precedente ricerca. Analizzando poi i parlanti bilingue (con il mandarino come lingua madre) si è dimostrato come la tendenza ad usare termini verticali per parlare del tempo rimane in quei bilingui che hanno iniziato a parlare l'inglese fin da piccoli, senza alcuna influenza dei termini inglesi su quelli mandarini. Ciò prova che le differenze tra l'inglese e il mandarino possono essere ricondotte alla cultura e non semplicemente alla lingua (Boroditsky, 2001).

Un altro ambito analizzato dai linguisti è il genere dei nomi. Esistono lingue come l'inglese che non hanno generi, lingue come l'italiano che ne hanno due e lingue come il tedesco che ne hanno tre. Vari studi hanno dimostrato che quelle lingue che assegnano il genere grammaticale ai nomi associano tali nomi a determinate caratteristiche. Pertanto, una stessa parola che in due lingue diverse ha due generi differenti porta i parlanti di quelle lingue a descrivere un nome maschile con aggettivi maschili come forte, robusto, ruvido, ecc. e nomi femminili con aggettivi femminili come brillante, delicato, ecc, influenzando quindi la percezione che hanno dell'oggetto (Boroditsky, Schmidt, Phillips, 2003). Ciò è stato smentito da coloro che si oppongono alla teoria della relatività linguistica affermando che se fosse così probabilmente i parlanti avrebbero gusti diversi in base alla lingua di appartenenza, poiché tutti i parlanti di una determinata lingua vedrebbero un oggetto secondo lo stesso punto di vista (McWhorter, 2016). Ciò è confermato dalla pubblicità, che viene tradotta e adattata da una lingua all'altra per rendere un prodotto accattivante seguendo le convenzioni di una data cultura di appartenenza e non seguendo la lingua (Torresi, 2021). Prendendo in considerazione il bilinguismo, è stato provato che quei bilingui che hanno appreso la loro seconda lingua fin da piccoli (chiamati secondo D'Acerno (1990) bilingui composti [D'Acerno, 1990]), passano da una categorizzazione di genere ad un'altra in base alla lingua che stanno parlando (Sato, Gyax, Gabriel, 2013), Coloro invece che padroneggiano la loro seconda lingua da meno tempo (chiamati bilingui coordinati o subordinati) apprendono prima il genere delle persone applicandolo al genere biologico, dimostrando più difficoltà ad imparare il genere degli oggetti. Questo dimostra che tali

differenze tra bilingui coordinati e subordinati possono essere ricondotte alla cultura più che alla lingua (Kurinski, Sera, 2010).

Ad affascinare linguisti e psicologi sono anche i numeri. A differenza di quello che si pensa, non tutte le lingue hanno a disposizione la stessa quantità di termini per indicare i numeri. Esistono, infatti, lingue “anumeriche”, che non hanno cioè parole per indicarli. Questo ha portato gli studiosi a chiedersi se questo possa impattare il modo in cui loro pensano. In particolare, due lingue hanno attirato l’attenzione dei linguisti. La prima è il maya yucateco, parlato in una piccola regione del Messico. I parlanti del maya yucateco non sono tenuti a riportare il plurale quando parlano, ossia non specificano la quantità a cui si riferiscono. Questa opzione di segnalare o meno il plurale però ha portato la grammatica ad aggiungere dei suffissi ai numerali per dare più informazioni sulla quantità di cui si sta parlando. Secondo vari esperimenti questo porta i parlanti a riferirsi agli oggetti come fossero sostanze (‘una candela’ diventerebbe in yucateco ‘una sottile unità di cera’) (Boroditsky, 2003). Anche se suona bizzarro, ciò dimostra la flessibilità di questa lingua, che rispetto ad altre lingue come l’inglese comunica la quantità in modo diverso, portando ad una concezione diversa degli oggetti. L’altra lingua che ha attirato gli studiosi è il Pirahã, una lingua parlata da una popolazione indigena della Foresta Amazzonica in Brasile. I Pirahã, infatti, non hanno un preciso sistema numerico. È stato dimostrato che essi usano la parola ‘hói’ per riferirsi ad una piccola quantità, ‘hoí’ per una quantità leggermente maggiore e ‘baágiso’ per grandi quantità, senza specificare quindi l’esatto numero di oggetti di cui stanno parlando (Everett, 2011). Coloro che supportano l’ipotesi della relatività linguistica affermano che questo può portare i parlanti della lingua Pirahã a pensare diversamente poiché non indicano precisamente la quantità di ciò di cui stanno parlando. Coloro invece che rifiutano tale ipotesi affermano che questo è solo un tratto culturale: i parlanti yucateco non vedono diversamente una candela solo perché non ne specificano il plurale, e i Pirahã, in quanto popolazione indigena della foresta, non hanno bisogno di un preciso sistema numerico. L’assenza dei numeri, infatti, non implica che una madre non sappia dire quanti figli ha; essa lo comunica semplicemente con altri termini (McWhorter, 2016). Nonostante gli studi abbiano approfondito molto quest’aspetto, il dibattito rimane ancora ampio, e il caso dei numeri rimane uno degli ambiti più complicati da analizzare.

L'ennesimo curioso ambito su cui linguisti e psicologi si sono concentrati sono i colori. Un banale esempio per far comprendere la diversità delle lingue è il caso del blu: i parlanti italiano distinguono tra il colore azzurro e il colore blu, indicano con due parole diverse due sfumature diverse; i parlanti inglese, invece, delineano questi due colori con la stessa parola 'blue', aggiungendo però un aggettivo a sinistra del nome per indicare la sfumatura più chiara: 'light blue'. Questo, secondo gli studi, può portare i parlanti a percepire i colori in maniera diversa. Tra i tanti esperimenti condotti in laboratorio è stato dimostrato che quelle lingue che possiedono termini diversi per designare le varie sfumature senza anteporre aggettivi sono più veloci a discriminare i colori, riconoscendo più velocemente le sfumature, mentre coloro che hanno lo stesso termine per due sfumature come il blu e l'azzurro risultano più lenti. Tali scoperte, tuttavia, sono risultate valide solo per alcuni test. In un esperimento che testava il mandarino e il mongolo, che possiedono due termini diversi per delineare le sfumature del blu ma un singolo termine per delineare il verde chiaro e scuro, entrambe le lingue sono risultate più veloci a discriminare le sfumature del verde rispetto a quelle blu, dimostrando che alcuni aspetti della percezione umana del colore possono essere universali. Inoltre, in un test che chiedeva ai partecipanti di raggruppare quadrati di colore simile è stato provato che la presenza in una lingua di più termini per delineare le sfumature di colore non implica necessariamente che i parlanti di tale lingua formano più gruppi (Davies, Corbett, 1997). Comunque sia, secondo i linguisti contrari alla teoria della relatività linguistica, tutti i parlanti sono in grado di distinguere tra il colore del cielo e di una foglia, a prescindere dal numero di termini che hanno per descriverne il colore (McWhorter, 2016). Prendendo in considerazione il bilinguismo è stato ipotizzato che la percezione del colore dipende dalla disponibilità di termini che una lingua ha (Athanasopoulos, 2009). Per questo, i bilingui giapponesi-inglesi che parlano l'inglese da più tempo tendono a distinguere i colori meno nettamente (Athanasopoulos et al., 2010). Tuttavia, altri studi sostengono invece l'idea che un bilingue non può essere influenzato così direttamente dalla lingua, e che quindi tende a parlare una lingua utilizzando la percezione del colore di un'altra (Alvarado, 2013). Nonostante la varietà di studi ed esperimenti condotti però il caso dei colori rimane ancora irrisolto.

Per analizzare più approfonditamente il bilinguismo e le sue implicazioni ho condotto un sondaggio tra adulti bilingue tra i 18 e i 50 anni. Questo caso studio è stato

pensato per confermare o trovare potenziali incongruenze con ciò che i precedenti studi hanno rivelato in materia di bilinguismo. Nel dettaglio, 82 partecipanti provenienti da svariati paesi hanno risposto in modo anonimo a dieci domande. In particolare, i partecipanti provenivano da 18 paesi: Albania, India, Portogallo, Romania, Inghilterra, Germania, Italia, Francia, Bulgaria, Cina, Belgio, Polonia, Tunisia, Serbia, Brasile, Marocco, Costa D'Avorio e Moldavia. Le domande sono state pensate per permettere ai bilingui di esprimere la loro esperienza in quanto parlanti bilingue che possono subire l'influenza di una lingua sull'altra. Le risposte sono state analizzate in maniera approfondita combinando le varie risposte, permettendo così un'analisi più dettagliata in base all'esperienza del singolo parlante. Nonostante la presenza di numerose teorie riguardanti il bilinguismo, tra cui la teoria del "translanguaging", che implica che ogni bilingue possiede un solo sistema linguistico nonostante parli due lingue diverse e non passi da un sistema all'altro per comunicare, tale sondaggio prende in considerazione principalmente la teoria del bilinguismo composto, coordinato e subordinato, che implica due sistemi linguistici e quindi diversi gradi di conoscenza ed esperienza della seconda lingua. Ciò è stato fatto per comprendere prospettive di bilingui diversi e quindi avere una più ampia gamma di risultati su cui basarsi per trarre delle conclusioni. La varietà di origini dei partecipanti, infatti, ha permesso un'analisi completa e variegata. Nonostante questo, come previsto, il sondaggio ha contribuito ad ampliare la questione della relatività linguistica e delle sue possibili implicazioni sui parlanti bilingue, dimostrando come quest'ambito sia ampio e dibattuto. In altre parole, il sondaggio non ha trovato nette incongruenze con i precedenti studi e ha confermato i deboli risultati che ancora oggi creano nuovi dubbi e dibattiti. Ciò che i risultati però hanno indicato e che sarebbe interessante approfondire con ulteriori studi, è il fatto che l'ambiente quotidiano di un bilingue può determinare il grado di influenza che la seconda lingua ha sulla prima. Inoltre, è stato precedentemente dimostrato tramite alcuni esperimenti che i bilingui tendono a prendere decisioni diverse quando usano la loro seconda lingua. Questo è stato smentito dall'attuale sondaggio, che ha però indicato come l'effetto della seconda lingua sulle decisioni possa vedersi maggiormente nei bilingui che parlano da meno tempo la seconda lingua. Ciò potrebbe essere analizzato ulteriormente dal punto di vista psicologico, cercando di scoprire perché i parlanti con la loro personale esperienza di bilingui non percepiscono così direttamente l'influenza delle lingue che è

stata invece provata scientificamente. Insomma, si può affermare che il sondaggio ha confermato l'attuale dubbio e l'ampiezza dell'ipotesi della relatività linguistica. Tale teoria è ancora oggi tanto un mistero quanto una fonte di conoscenza che ci permette di comprendere meglio le differenze linguistiche tra noi parlanti. È comunque necessario tenere a mente il fatto che la diversità è fonte di scoperta e conoscenza e che la lingua, per quanto possa variare da parlante a parlante, è pur sempre un'unica forma di comunicazione che ci permette di rimanere in contatto. Per questa ragione, la diversità è ciò che rende interessante il mondo, e tutto ciò che la scienza sta investigando serve a celebrare tale diversità e a guardare il mondo da una prospettiva più saggia.

