Can Language Affect Thought?

An Overview of the Sapir-Whorf Hypothesis and Examination of the Grammatical Gender in Regard to the Theory.

Ritgerð til BA prófs í Ensku

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Abstract

The ever so contentious subject on the idea of whether or not the language we speak could have a distinct effect on the way we perceive the world around us is an interesting field for any linguist to examine and research. The idea most often referred to as the Linguistic Relativity Hypothesis or the Sapir-Whorf hypothesis appears to have divided linguists into two opposing groups, as with most theories and hypotheses, where opposition is rarely absent. What makes the subject so controversial is perhaps the lack of concrete information available and the difficulty in obtaining precise results when the hypothesis is tested. It is the idea that the language of a respective speaker shapes the way he conceives the world around him. In other words, that his cognitive processes are in some way impacted by the language he speaks, and not the other way around. There are a great variety of forms by which this theory can be looked at. We can examine the effect of a particular language on the comprehension of time and space, colors as well as the grammatical gender. In this paper all factors will be examined, however the main focus will be on the grammatical gender in an attempt to find affirmative evidence for the hypothesis. A small survey is conducted where the grammatical gender is examined and contrasted between native speakers of English and native speakers of Icelandic by looking at the way the participants choose to assign genders to specific nouns. Albeit small, the results of the survey indicate some supporting evidence for the Sapir-Whorf hypothesis, in that the traditional attributes and characteristics of each noun appears to have some correlation with the way native English speakers choose to assign imaginary genders to words that grammatically have no gender in modern English.
Introduction

The question of whether or not language shapes thought has been a controversial subject among linguists around the world with discussions about the subject found in the writings of Wilhelm Von Humboldt, a 19th century Prussian linguist, diplomat and philosopher (Duranti, 2000). A partial discipline of cognitive science, the theory of linguistic relativity borders within both psychology and anthropology. Linguistic relativity or the Sapir-Whorf hypothesis has been the topic of research for a great number of linguists and others interested in the complex inner workings of language, shaped by Edward Sapir and Benjamin Lee Whorf in the 20th century after whom the theory is also named. As mentioned above, the topic has been a controversial one with many linguists finding possible evidence for the theory and others arriving at contrary conclusions. The reason for this said controversy may be the fact that when research is made on the topic, participants are usually tested in their own native tongue which then gives way for instructions being lost in translation. The idea of something being “lost in translation” could perhaps be considered a highly simplified explanation of the theory itself for someone with less of a linguistic background. When examining the theory, we find multiple factors that need to be taken into account in order to improve our understanding of said theory. We can look at colors and the way they are perceived by speakers of different languages and we can attempt to appreciate the part in which our linguistic systems take to assist us in understanding slightly more abstract constructs such as space and time. Grammar must be considered imperative to the study of the hypothesis as all languages have different grammars, different rules for their syntax, morphology and semantics which is where the discussion on the grammatical gender is also applicable. English does not assign genders to nouns like languages such as Icelandic, German, and Spanish do so it is an interesting area to examine further. By reason of the apparent limitations when researching the issue the question we should be asking ourselves should not necessarily be whether or not language does shape thought, but rather if the language we speak can affect our thought processes and the way we perceive and think about words and concepts in the world around us.
1. Can Language Shape The Way We Think?

According to Boroditsky (2001), the strong Whorfian view that thought and actions are exclusively determined by language has more or less been wiped out of the field of cognitive linguistics. However, the less deterministic version of the theory has been more prominent, yet has proven difficult to substantiate by researchers with some giving supportive evidence and others finding opposing evidence for the theory. Linguistic determinism involves the idea that language entirely controls our thoughts whilst linguistic relativity gives way for other factors as it aims to demonstrate how language takes part in shaping our thoughts and views. Boroditsky states that although linguistic determinism can be considered an illogical issue, “many weaker but still interesting formulations may be entertained” (p. 220). Duranti (2000), also suggests that the study of linguistic relativity has been ignored by a large group of linguists in the latter part of the 20th century and partially blames Chomsky’s persistence on the idea of universal grammar and universal properties of all human languages. He also mentions that there is a sort of a stereotypical way of viewing the hypothesis in that it refers primarily to the difference in the number of words a language carries to essentially describe the same concept. In ‘Evidence for Linguistic Relativity’, a compilation of essays on the legitimacy of the Sapir-Whorf hypothesis, Gábor Györi (2000) aims to prove that evidence for the hypothesis can be found in the semantic structure of the language since meaning is essentially a conceptual structure. Firstly, our assumption about the world is controlled by our previous knowledge and experiences with the concepts therein which gives way for the idea that “language is a cognitive device” and “has a knowledge storing function” (Györi p 759). Therefore it should be expected to influence our assumptions.

1.1 In the Words of Whorf

Whorf refers to natural logic in his writing about the process of thinking and formulating speech and he mentions that the act of talking (according to natural logic) is “merely an incidental process concerned strictly with communication, not with formulation of ideas” (Whorf p.207). Natural logic can also be interpreted as common sense, which may be a more accessible term. He mentions that every person in the world, can and does talk which certainly seems like a fairly bold statement to make, seeing as he does not take into account any sort of speech impairments the speaker might suffer from. He claims that those who can talk, those who use a language as a part of their daily lives, have become detached from understanding how the very language they speak is actually formulated. The whole entire
process has become so automatic and speech is so effortlessly expressed that those notions as he asserts, tend to be rather “intolerant of opposition” (Whorf, 207). Talking he states, is therefore simply the act of expressing what has already been formulated non-linguistically in the mind and he claims that this process is predominantly detached from the nature of particular languages. In Whorf’s view, the grammar of a language is merely the product of social norms and correctness and thought in terms of natural logic does not depend on grammar but rather on the laws of logic or reason which he claims is “the same for all observers of the universe” (Whorf p. 208). Every person is therefore their own authority and simply has to turn to a common basis of this aforementioned natural logic that everyone, in Whorf’s opinion is supposed to possess. He claims that natural logic describes different languages to be coordinated methods for conveying essentially the same principles of thought and therefore differ only in insignificant ways. In his writing, Whorf discusses the old familiar saying that the exception proves the rule and brings forth a few examples of how this can be connected with the hypothesis in terms of the usage and understanding of color terms. He takes as an example, an imaginary race of people who have the lack of understanding or seeing any colors apart from the color blue. We can imagine that they would find it difficult to devise a rule noting that they saw only the color blue as the word itself would presumably bear no meaning to them. “In order to formulate the rule or norm of seeing only blue, they would need exceptional moments in which they saw other colors” (Whorf, p.209).

Whorf also mentions the laws of gravity in this sense as he explains that an “untutored” person might not give any thought to the physics of gravitation that is indeed the reason for why they do not go flying off the ground. A universe where bodies float around without the gravitational pull of the earth would therefore seem extremely illogical. As with the imagined race and the color blue, gravity and the person’s sense of it (or lack of) is a part of the individual’s background but not something they separate from that background. A rule could not be developed until the people started seeing other colors or bodies floating around in space and could make contrasting assumptions about the concepts. This background phenomena as such is therefore mostly irrelevant to the daily life of the speaker. Whorf takes two speakers of the same language as an example, and asserts that there is a difference between agreement about subject matter which is attained through the use of language and the knowledge and understanding of the actual linguistic process that takes place in a conversation between two speakers of the same language. Speaker A and speaker B are able to understand each other so perfectly that directions speaker A gives are able to be executed by speaker B without any major problems. They therefore think it is simply a matter of
choosing the correct words to express the thought process. They are however, absolutely unaware of the remarkably complicated system of linguistic patterns that is formulated in their minds that they must have in common before being able to relay the piece of information. It can therefore be said that knowledge of the background linguistic patterns is not a necessary tool to the speaker when it comes to everyday life but it can most certainly be a useful tool in more complicated matters. Whorf likens this to navigation, in that a boy can play around with his small craft around a lake or the harbor without any knowledge or benefit of international politics, astronomy, mathematics or geography whereas to a captain of a larger boat, all of those are most certainly essential (p.212).

The linguists’s base of reference was expanded when they became able to “examine critically and scientifically a large number of languages of widely different patterns” (Whorf, p. 212). The phenomena heretofore held as universal was interrupted when their base of reference became broader. The base of reference in this context is in fact the grammar or the background linguistic systems, and it became known that the grammar of a language is not only a “reproducing instrument” for the expression of ideas but rather the shaper of the very ideas itself. Formulation of ideas Whorf says, is not an independent process but is a part of a particular grammar which differs slightly or highly between different grammars of different languages. Whorf claims that the world is presented in “a kaleidoscopic flux of impressions” (p.213) which then need to be organized, not only by our minds but by the linguistic systems therein to make sense of the categories presented in the world of phenomena around us. These ideas can most certainly be linked to the fact that within our speech community we have been taught to dissect and refer to the world around us in a certain way and as Whorf puts it “we are parties to an agreement to organize it in this way” (p.213). These rules are of course unspoken of but we must adhere to these decrees in order to formulate and be understood by other members of our speech community. It can therefore be said that no individual is adept to describe the world impartially but is constantly confined by these unspoken rules of the particular speech community to which they belong. The person most likely to be free of the restraints of the implicit law of the linguistic community is a person, perhaps a linguist who has a broad knowledge of a large number of different linguistic communities and grammars. Whorf believes that no linguist could ever find himself in that position but we must give way for the idea that a large number of polyglots must assuredly be able to remove themselves linguistically from a speech community and transfer knowledge between different backgrounds in that sense, and therefore acquire a better understanding of grammars. The polyglot is consequently what Whorf would consider “nearly free”. “We are
thus introduced to a new principle of relativity which holds that all observers are not led by
the same physical evidence to the same picture of the universe, unless their linguistic
backgrounds are similar or can in some way be calibrated” (Whorf, 214).
2 Whorf on Hopi in regard to time

Linguistic relativity has often been discussed in terms of space and time and Whorf’s ideas of spatiality represent a certain universality in that sense. Whorf was very interested in the languages of native tribes and spent much of his time researching the Hopi language and aimed to prove his ideas within the hypothesis of linguistic relativity by explaining the grammar of Hopi. Hopi is a Uto-Aztecan language spoken by Native Americans in the north-east part of Arizona, and being a separate branch of Uto-Aztecan, has no close relatives. It seems plausible that a language so isolated within a society would be a good candidate for further research as the language differs so greatly from English, its closest neighbor geographically wise.

When we look at isolated languages such as Hopi and many of which are spoken by native tribes around the world, it becomes apparent that languages truly do dissect nature and the world in many different ways and we need speakers of various languages in order to be able to accurately compare and contrast the different linguistic systems.

In English, words are divided into two groups or classes with their rational and grammatical properties in mind, namely verbs and nouns. Let us take the same examples as Whorf in this case in order to better explain the grammatical contrasts between English and Hopi. If we take the nouns ‘house’ and ‘man’ for example and the verbs ‘hit’ and ‘run’, it becomes obvious to the observer that words of one class can also act as being of the other class. We can talk about ‘a hit’ or ‘a run’ even though those words are more traditionally referred to as verbs. We can also talk about ‘to man’ (some sort of a vehicle for instance) but Whorf states that the division between these two classes is absolute on the primary level. It is therefore only on a secondary level that they can behave as a part of the other group. With these examples in mind, we can imagine that our language (English in this case) gives us a bipolar view of nature. However, nature itself is not polarized as such (p.215).

If we say that word such as ‘strike’, ‘turn’ and ‘run’ are verbs because they describe an event that is temporary in nature then what is the explanation for the words ‘lightning’, ‘spark’, ‘spasm’ and ‘emotion’ to be categorized as a noun? These words all denote a temporary event as well. Words such as ‘man’ or ‘house’ are nouns since they denote items that are long lasting and permanent in nature whilst words like ‘keep’, ‘dwell’ and ‘adhere’ are considered verbs which can undoubtedly be bewildering to the observer because even though these verbs all describe an action of some sort, the actions themselves can be considered permanent. We have been taught that words that describe events or actions ought
to be categorized as verbs but it becomes apparent when comparing Hopi to English that defining the terms “event” and “action” is not a result of nature itself but of the speaker's grammatical background, language and the grammatical categories therein.

By contrast, words such as “lightning”, “wave” and “flame” are categorized as verbs in the Hopi language, that is to say “events of necessarily brief duration cannot be anything but verbs” (p.215). In Hopi, events are classified in terms of the duration of which the event takes place which may seem strange or even illogical to some but gives some weight to the very idea that the language we speak, has a great effect on how we perceive the world around us.

One of the best known examples people give when trying to explain the linguistic hypothesis is the fact that Eskimos have many different words for many different types of snow while English only has a handful. In a similar way, Hopi has only one noun that stands for everything that flies, airplanes and insects included. Birds are however not a part of this group but it must be considered incredible that a whole group of people within this linguistic community makes no distinction between a helicopter on one hand and a butterfly on the other. We must keep in mind that there really appears to be no way of fully understanding whether the speakers of Hopi for instance, make as big of a distinction between a helicopter and a butterfly as native speakers of English do. Whether or not the fact that they only have a single word for two very different phenomena has an effect on the way they think about these particular words. Whorf refers to Hopi as a “timeless language”, in the sense that it recognizes time psychologically in the same way we sense the ‘duration’ of events and actions. ‘We’ being the people of the Western world who Whorf believes is full of generalizations about time, velocity and matter for instance as it proves no universality of the picture of the world.

Amidst the unique characteristics of time in the Hopi language is the fact that it does vary in interpretation between each speaker and observer, it does not allow for simultaneity and has no dimensions. A speaker of Hopi would not say “I stayed for two days” but rather “I left on the second day”, that is because a word that refers to this particular type of time cannot have a plural in Hopi. When studying languages and linguistics systems such as the Hopi language we must surely have to take some factors into consideration such as geographical position, history and other cultural factors. In a similar way a Spanish person whose life does not revolve around the harshness of winter, may not understand why an Eskimo might use multiple words for one single concept.
2.1 Different perception of time for speakers of different languages

While all languages differ in how they talk about time, most languages use spatial terms when describing time because of the fact that human beings commonly think spatially rather than exclusively (Levinson, p.357). We have the ability to cast non spatial concepts into spatial thinking which gives us literacy, geometry and the ability to measure the distance between relatives for example. It seems almost impossible to talk about time in this sense without including space as these concepts most certainly go hand in hand. In English we talk about looking ‘forward’ to a certain event or that a dreadful thing that happened to us in the past is now ‘behind’ us. Boroditsky refers to these as front/back terms and explains that these terms are the same as we use for describing and explaining asymmetric, horizontal spatial relations.

Boroditsky (2001) makes a comparison and contrasts English and Mandarin. She states that Mandarin also does use spatial terms to refer to time but mentions that what makes Mandarin an interesting comparison to English is that they methodically use vertical metaphors to talk about time whereas as aforementioned, English mostly makes use of horizontal metaphors in describing spatial terms. There is therefore a big difference in the coordinate systems between the two languages. The spatial morphemes for the words ‘up’ and ‘down’ are frequently used in Mandarin which more or less have the same meaning as ‘last’ and ‘next’ in English. This brings us yet again to the very core idea of the Sapir-Whorf hypothesis. That is, whether English speakers and speakers of Mandarin in this case, have a different way of viewing and thinking about time because of the fact that they use different terms for essentially the same universal idea of time. Respectively, do English speakers think of time horizontally while speakers of Mandarin think of it vertically, or construct vertical timelines? A collection of studies made, proves that Mandarin speakers appear to think about time vertically even when thinking for English (Boroditsky, 2001).

Although there may be a difference in how the speakers of the respective languages talk about time, evidence suggests that people also use spatial knowledge to think about time as Boroditsky (2000) explains. Most evidence suggests that language does indeed have a very large effect on the shaping of thoughts when we look at the concept of time but again, lack of concrete evidence appears to be persistent in the field. She states that “one’s native language plays a role in shaping habitual thought” however, “does not completely determine thought in the strong Whorfian sense” (Boroditsky, 2000). What this tells us is that language can generally be thought of as a metaphorical concept where speakers are made to deal with metaphorical ideas on a daily basis without giving much thought to the fact. The use of
conceptual metaphors to express an idea or a conceptual domain can easily be associated with the study of linguistic relativity as both fields touch upon a process that takes place in our minds. However interesting this subject may seem, this will not be looked at in any detail here as we turn our focus to discussions on the grammatical gender.

2.2 Thinking-for-Speaking as a Tool for Understanding Linguistic Relativity

Slobin (1996) proposed a new way of talking about the very core question “Does language shape thought?” since the question has proven to be problematic to answer. He suggested ‘thought’ and ‘language’ should be replaced with ‘thinking’ and ‘speaking’ in order to maximize the distinction between linguistic processes and nonlinguistic processes in the mind.

As McNeill & Duncan (2000) point out, thinking-for-speaking is a process that takes place in the thought and speech process of bilinguals for instance, and gives way for the idea that different languages require a different thought processes and therefore different variations of ‘thinking-for-speaking’. It is fundamentally the process that takes place in the mind, from choosing the appropriate words, replacing them in the correct grammatical order to then formulating sentences and speech. Bilingual speakers then, must have the ability to transfer word concepts into another language and therefore making sure that all aspects of the concept are encodable.

That this process varies between speakers of different languages is clear when we look at the fact that if Icelandic speakers attempt to include an adjective in their sentence, they must make sure that the adjective agrees with the grammatical gender and number of the noun they are describing. English speakers on the other hand, do not have to keep this in mind and that gives us an idea on the difference in the process between different languages. As Slobin puts it, the world does not present ‘events’ and ‘situations’ to be encrypted in a language but rather explains that experiences are filtered through language into events which are then verbalized (p.75). Whorf, among others suggested that obligatory grammatical categories in a language play a large role in this system. Slobin (p.75) asserts that in the classical sense of the hypothesis that has to do with ‘language’ and ‘thought’, language can be considered “the totality of structures described by linguists” but asks the philosophical question: What is thought? Without digging too deep into the philosophical side of the topic, although proving challenging at times, we can see that ‘Thinking for Speaking’ gives way for better a understanding of the question “Does language shape thought” which Boroditsky, Schmidt and Phillips have referred to as being “imprecise” (p.62).
3  The effect of Linguistic Relativity on Grammatical Gender Assignment

A great number of languages spoken around the world have a grammatical gender where all nouns belong to a designated gender category, be it masculine, feminine, neuter or other more ambiguous genders. The matter may have become even more problematic in current times where genders that have hitherto not been considered traditional or even plausible, have been brought into the discourse by open conversation about sexuality and sexual orientation. As a result of these relatively new ideas on gender, a whole new world of research has presumably opened up and will perhaps make the current discussion appear slightly outdated.

It is worth mentioning in the discussion of gender that English has not always been without the grammatical gender as such, as Old English assigned nouns to masculine, feminine and neuter in a similar way many of its Germanic neighbors did, and still do. What researchers believe contributed to the disappearance of the three genders was the “lack of concord” in the language (Mitchell, p.14). What Mitchell means by this is that gender would sometimes agree with the sex of the object, e.g. ‘se mann’ or ‘the man’ and ‘þæt scip’ for ‘the ship’ which would be referred to as natural gender of the object in question. The grammatical gender however, was often opposed to sex. The inconsistencies or the arbitrariness of the assignment of genders may therefore have been the very cause for the loss of grammatical genders from the English language. Modern English however, does not make this distinction with nouns as Boroditsky explains. In order to use a language that categorizes nouns in terms of a grammatical gender, the speaker is required to mark the object in regard to definite articles and pronouns for instance. It has been mentioned that gender assignment appears to be semantically arbitrary, which is evident when we take into account the ever popular example that in German a ‘girl’ is neuter in gender (das Mädchen) whilst cats, both female and tomcats are assigned the feminine gender. A cat is on the other hand, a masculine word in Icelandic and Spanish and considering these examples it makes perfect sense that the grammatical genders are not always taken as meaningful. Boroditsky, Schmidt and Phillips (2003) state that children learning a language where grammatical gender plays a big role, have no reason and no prior linguistic knowledge to believe anything other than that the grammatical gender they assign to objects, is an essential part of the distinction between objects, “for all they know, the grammatical genders assigned by their language are the true universal genders of objects” (Boroditsky, Schmidt, Phillips. p 65). An interesting point they put forth has to do with how the grammatical gender of objects affects the way in which the speaker perceives the word itself. They mention that in order to adequately learn the gender
of a noun, people focus on the physical attributes or characteristics of the object and from there, gather their ideas on whether the object should be considered masculine, feminine or neuter. Oftentimes when dealing with languages that assign objects to genders as mentioned above, the speaker must mark these objects by either using gendered pronouns or definite articles. E.g., the word for ‘car’ is masculine in Icelandic, therefore the speaker usually refers to a car as ‘he’. Boroditsky, Schmidt and Phillips (2002) mention that “needing to refer to an object as masculine or feminine may lead people to selectively attend to that object’s masculine or feminine qualities, thus making them more salient in representation” (p.65).

3.1 Conceptual Gender vs. Grammatical Gender
A question Boroditsky put forward and I feel is worth mentioning is the question of whether talking about inanimate objects as if they were masculine or feminine leads people to think of them as masculine or feminine. Boroditsky, Schmidt and Phillips (2002) conducted a research in which they tested native speakers of Spanish and native speakers of German in order to find out whether or not objects have a conceptual gender and if this gender is consistent with the gender assigned to objects by language. Speakers were made to memorize either female or male names given to inanimate objects which were the opposite gender to what each particular object was in either Spanish or German. The results showed that speakers had more difficulty learning the names when they were not consistent with the grammatical gender of the object in the speaker’s native language. The conceptual genders therefore appear to be engrained in the mind of the speaker. We must give way to the thought that perhaps the stereotypical masculine or feminine features of objects have an effect on how the objects are represented in the mind and as previously mentioned, the properties and characteristics may become more salient in representation. For instance, if the word ‘house’ is feminine in one language, its features may be described as ‘warm’ or ‘homely’ whereas if the word for ‘house’ is masculine in another language it may be described as ‘protecting’ or ‘large’. Yet again, giving way for salience in representation.

As appears to be a consistent pattern throughout the investigation of the hypothesis however, all evidence found and all results seem to suggest the same affirmative evidence but as a result of probable limitations, concrete confirmation appears to be more difficult to attain. Participants are most often tested in their own native language and it should most certainly be take into account that the instructions might not have the same precise meaning. Even when the instructions are minimal and the task itself is nonlinguistic, the surveyor can never be sure whether the question words in each language bear exactly the same meaning in both languages.
3.2 Does Gender Assignment vary between different Speakers of the Same Language?

In this paper I included a survey that I conducted in order to gain some first-hand understanding in whether or not, speakers of different languages perceive certain words in different ways. As has previously been stated, modern English does not assign genders to nouns, whereas Icelandic does, therefore I chose participants whose native language is Icelandic and another group of participants whose native language is English. This survey was highly influenced by the ideas Boroditsky has set forth regarding the grammatical gender and the effect grammatical gender may or may not have on meaning. She mentions that one way people might use to efficiently learn the genders of particular nouns is by directing attention to the physical properties of the noun and that way associate visceral attributes to the word. However, we must consider the fact that different people from different social and economic backgrounds are bound to have different ideas about what should be considered masculine and what feminine. The survey was highly influenced by a research made by Boroditsky, Schmidt and Philips (2000) where their aim was to test whether the grammatical gender of an object makes speakers of different languages focus on different aspects or attributes of the object. They gave the participants a list of 24 English object names that in German and Spanish had different grammatical genders, the participants were both native German speakers and native Spanish speakers and were made to write down the first three adjectives that came into mind to describe each object. The objective was to find out if the grammatical gender assigned to the objects in both German and Spanish would be displayed or reflected in the adjectives the German and Spanish speakers produced. The results were then shown to a group of native English speakers who had no knowledge of the purpose of the experiment and were made to rate the words in terms of their gender, +1 for feminine and -1 for masculine. The results matched their predictions as the speakers chose adjectives for the object names that were rated more masculine for objects that had a masculine grammatical gender in both Spanish and German. What follows is an experiment that aims to give affirmatory evidence for the theory by subject testing in a similar fashion Boroditsky, Schmidt and Philips’s experiment as explained above.
4 Method

As aforementioned, this small study was conducted over a period of one week in March of 2016. A list of words was presented to both groups of participants which all in all contained thirty nouns divided into three groups, and each group therefore containing ten words. The groups were divided into native speakers of Icelandic in one and native speakers of English in the other. To the Icelandic group I presented the three groups of nouns, with the first containing entirely neuter words, the second group only feminine words and lastly the third group which contained masculine words. Participants were asked to describe the attributes or characteristics of the nouns in any way they wanted or felt would be an appropriate description for each word in an attempt to gain a better understanding of the way the Icelandic speakers think about the words that have already been assigned to a particular gender in their native language. I wanted to get an idea of whether or not their pre conceived concepts of gender assignment had an influence on the way they chose to describe the word, its attributes and features. The main reason for my including the group of native Icelandic speakers in the study was mainly to gain a slightly less subjective approach to the Icelandic words than if I had chosen to describe them myself and compare those results to the English speaking group. The group of native English speakers then got the same list of thirty nouns to describe in the exact same manner as the previous group mentioned. However, in addition to describing the words, I wanted the English speaking participants to assign genders to the nouns dependent on what gender they found most appropriate in terms of characteristics of the noun. I wanted to test whether or not there was consistency in terms of the gender assignment between the English speakers and the Icelandic speakers but also to examine any differences between genders chosen by each participant for the nouns. Another interesting point worth considering and Boroditsky has also suggested is whether or not the grammatical genders assigned to objects by languages could affect the way the word is portrayed in their minds?

4.1 Participants

The participants for this study were a small group comprised of ten people, of which five were Icelandic and five were speakers with English as their first language. Their age ranged from 25-57 so that any analogous findings could not be pinpointed to the participant’s closeness in age. All the participants have concluded some form of undergraduate education and did not receive any compensation for participating. I did not want to take gender of the
subjects into account in this particular study but I believe that perhaps the results could have been interpreted differently, had the groups been divided into male and female groups.

4.2 Materials
As mentioned above, participants were given a list of thirty randomly chosen words divided into three groups with each group containing ten nouns. The groups were organized in a way that the first included nouns that are considered of the neuter gender in Icelandic, the second group contained words that are feminine in Icelandic and the last group included nouns of the masculine gender. The words used are listed below. Table 1 shows the words divided into gendered groups in Icelandic and Table 2 shows the corresponding words in their English translation.

| Table 1 |
|-----------------|-----------------|-----------------|
| **Group 1-Neuter:** | **Group 2-Feminine:** | **Group 2-Masculine:** |
| Haust | Sól | Fugl |
| Tré | Tölva | Selur |
| Auga | Bók | Handleggur |
| Fjall | Manneskja | Skóli |
| Tungl | List | Geimur |
| Ljóð | Hugmynd | Köttur |
| Epli | Önd | Himinn |
| Barn | Planta | Þvottur |
| Orð | Vél | Vetur |
| Foreldri | Skyrta | Unglingur |

Table 2
Each person was tested individually and testing generally took no longer than twenty minutes to complete. The English speakers then described the nouns and assigned an imaginary gender to them. I gave the participants the liberty to interpret the instructions in a way they felt was most appropriate. If they felt the noun should have been described with one adjective or a whole sentence was entirely up to them.

### 4.3 Results & Discussion

I started by examining and comparing the results from the answers I received regarding the group of neuter words. When looking at the answers from the English speaking group I came across some definite similarities in terms of the way they chose to describe the words and their characteristics. Taking the word ‘ljóð’ or ‘poem’ as an example, all participants described the word as ‘thoughtful’, ‘soft’, ‘pretty’ or included the word ‘love’ in their description. All participants also assigned the word to the feminine gender after having described its stereotypical feminine characteristics. The Icelandic speakers also gave the word feminine characteristics which was a surprising find considering the fact that the word ‘poem’ is of course, neuter in Icelandic. This suggests that the way this particular word is perceived by its speaker may not necessarily go hand in hand with the grammatical gender language has assigned to it which goes against what has already been discussed.

If we look at words that can be said to belong to the same category in terms of the

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<tr>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
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<tbody>
<tr>
<td>Autumn</td>
<td>Sun</td>
<td>Bird</td>
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<td>Tree</td>
<td>Computer</td>
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<td>Poem</td>
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<td>Child</td>
<td>Plan</td>
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<td>Word</td>
<td>Machine</td>
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<td>Parent</td>
<td>Shirt</td>
<td>Teenager</td>
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noun they describe, there appears to be some sort of an agreement in the gender chosen by the Native English speakers. The words ‘autumn’ (neuter in Icelandic) and ‘winter’ (masculine in Icelandic) were assigned to the feminine gender by all participants but described with traits that would not be traditionally thought of as particularly feminine with ‘cold’, ‘inside’ and ‘snow’ being the most frequently used words. It is up for debate whether the fact that the words both represent a season has anything to do with the gender assignment or whether it simply is arbitrary. Most of the words used in the survey, apart from the one mentioned and discussed above were described with features and attributes that would generally be considered stereotypical for each particular word. As predicted, the words were given genders that matched the attributes by which they had been described. Grammatical gender can therefore be said to affect the meaning of words for speakers of different linguistic backgrounds. Research of this kind are always going to give qualitative results rather than quantitative which in a way makes the outcome somewhat challenging in interpretation, however the outcome of this particular study was of no immense surprise. The results give way for some affirmatory evidence although we must bear in mind the limitations that are present. My main concern in this case and what I feel must doubtlessly have a large impact on the results and how they are to be interpreted, is the participants’ background. Despite the fact that they are indeed all native speakers of the same language, their ideas of the words and the way they chose to describe them must differ depending on their social, economic or cultural background. As Whorf explains, there are some connections that can be made “between cultural norms and linguistic patterns” (Whorf p. 159).
5 Opposition to the Hypothesis

The idea that language shapes thought and not the other way around appears to be a delicate subject for many linguists as is evident in the writings of Pinker for instance, who states that the linguistic relativity hypothesis goes against all common sense and he goes as far as saying that it is an example of what can be named “a conventional absurdity” (Pinker p.57). In his 1994 *The Language Instinct* he does not tread lightly on the subject and puts forth the question of how it could be remotely possible for a child to learn a new word or how translation from one language to another would work, if it holds any truth that thought depended on words. This could be considered the fundamental idea behind the hypothesis which does not rely entirely upon individual words as Pinker appears to hint at, but rather the language system as a whole, morphology, semantics and syntax included. It is quite clear from his writing that he is strongly opposed to the notion of the hypothesis and *The Language Instinct* might be the best example of this. As Pinker aims to bring forth every fault to the theory and does not go about it subtly, he even goes as far as stating “it’s wrong, all wrong” (Pinker p.57). Pinker refers to “mentalese” in his discussion on the subject which he refers to as a “silent medium of the brain” or “language of thought” which is then draped in words whenever we need to express these thoughts (Pinker p.56). Mentalese is therefore the idea that words produced, surely ought to be built on some sort of a conceptual basis, or word concepts preexisting in the brain. It cannot be denied that when examining Pinker’s ideas, and specifically that particular chapter on mentalese, it gives way for some serious doubt in the mind of a reader who perhaps previously held Whorf’s ideas in high regard as Pinker’s enthusiastic opposition shines through. However, the more attention we give to the details of the work we begin to realize some inconsistencies that should be taken into consideration. Pinker states that “the implication is heavy: the foundational categories of reality are not ‘in’ the world but are imposed by ones culture” (Pinker p.57). When we look further into Whorf’s writings we come to realize that he never stated that the foundational categories of reality were ‘in’ the world per se, but rather explains that “there are some connections but not correlations or diagnostic correspondences between cultural norms and linguistic patterns”. (Whorf p. 159) He therefore makes no assumptions about correlations but rather connections between language and culture.

Pinker states that there is “no scientific evidence which proves that languages dramatically shape their speakers’ way of thinking” (p.58), and goes as far as referring to attempts that have been made to prove the theory as “comical” (p.58). Indeed there is no
direct scientific evidence to support the ideas or results gathered from experiments and studies but very few, if any have claimed their results being unquestionably accurate due to the aforementioned hindrances and limitations of evidence. There is no denying that Pinker’s frustration is coherent and understandable, in particular when he mentions that today’s scientists have a much better understanding of thought and thought processes than they did in Whorf’s time and we should therefore not hold his writing as the absolute truth.

5.1 Limitations to be considered

As a continuation of the discussion above, it seems logical to consider the faults to the hypothesis as facts which cannot be overlooked. We should also bear in mind that although results from studies mentioned above have represented evidence hinting towards affirmative evidence for the hypothesis, there are significant limitations we need to consider as well. It is worth mentioning that most, if not all the studies that have been done on the subject, have tested the participants in their own native language so all interpretations can only give us results that can be analyzed within that particular language on whether or not language shapes thought. Boroditsky also points out that these sort of studies cannot affirm that experience with a language affects language-independent thought such as thought for other languages or thought in nonlinguistic tasks (p.66). Another problem that needs to be mentioned again and may seem obvious to some, is the fact that when these studies are made and then compared, there is no way of really knowing if the instructions in each language are exactly the same. That is, the instructions may have become lost in translation which yet again brings us to the very question of how different languages may have different meanings for essentially the same words. That problem in itself, is in a sense the very core of the idea and in a way, brings us back to the starting point. With so many experiments at hand however, it is important to analyze the results the best one can before making assumptions on the matter.
6 Conclusion

So, can language shape thought? As we have now come to understand, a great deal of comparative linguistic experiments have been conducted in an attempt to find evidence in support of the Sapir-Whorf hypothesis. Many of these are the works of Lera Boroditsky and have been introduced in this paper. Although varying in strategies in the ways they are conducted, the objective is essentially the same for all of those experiments and studies, namely to identify and uncover any possible findings, supportive of the Sapir-Whorf hypothesis. The results can consistently be interpreted as indicating towards positive evidence of the idea that language might shape thought and affect the way its respective speakers perceive the world around them.

However, the complications involved in these cross-linguistic studies are also apparent when we take a better look at the results from the aforementioned experiments as well as the one conducted and introduced in this paper. Most of these experiments are conducted in the participants’ native language and when they are not, it is difficult to make assumptions as to whether the instructions given to the participants were the same in both languages. In other words, the stimuli might get lost in translation and give way for misinterpretation. With our experiment in mind however and all evidence hinting toward affirmative evidence, we can make our own assumptions about the hypothesis.
References


Levinson, S. C. (2009). Language and mind: Let’s get the issues straight! In S. D. Blum (Ed.), Making sense of language: Readings in culture and communication (pp. 95-


