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**CONSTRUCTION OF PERCEPTION THROUGH LANGUAGE IN  
*STORY OF YOUR LIFE* BY TED CHIANG**

**MA thesis**

**MARIIA SHERIKH**

**SUPERVISORS: *Prof.* RAILI MARLING**

***Prof.* MARKO PAJEVIĆ**

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## ABSTRACT

The concept of worldviews and them differing across human cultures has been explored for a very long time in various disciplines, including cultural studies, philosophy, and language theory. One of the prominent, but not necessarily well-known, ideas on this issue is Wilhelm von Humboldt's concept of *Weltansichten* (German for worldviews). This thesis aims to investigate this concept and combine it with insights from Benjamin Lee Whorf's take on linguistic relativity and George Lakoff and Mark's Johnson's conceptual metaphor theory. The theoretical discussion will be applied in analysing the short science-fiction novella *Story of Your Life* by Ted Chiang.

In the introduction I will provide the background of the concept of worldviews, and the aims of the thesis. In the theoretical chapter I will introduce the concept of *Weltansichten*, along with other notions from Humboldt's writing like *ergon* and *energeia* and dialogicity. I will link Humboldt's work to Whorf's approach to linguistic relativity and Lakoff and Johnson's orientational metaphors. In the second chapter I will proceed to the analysis of the novella and will pinpoint how the main character's evolving worldview is represented there through linguistic and narrative means.

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## INTRODUCTION

With the increase of global travel and intercultural communication, the question of the extent to which perception is influenced by culture has become increasingly urgent. This urgency has only increased with the wide use of the Internet and social media. The question of perception covers the perception of the people and objects surrounding us, perception of what we are told, perception of our own respective worlds and ourselves. Every day we come across new difficulties in interpersonal communication and in understanding the other side, due to the way we *perceive the world*. This is not just a matter of us constructing different worlds through our perceptions. Perceptions can also be manipulated with. Especially due to the information wars raging across our planet, in some cases it is increasingly difficult to say objectively what is truth and what is lies, what is propaganda and what are actual facts, especially because of the way language is used, to achieve the level of misinformation that helps to create a false understanding of the issues at hand.

But this is only one way of looking at perception. Another interesting issue, and the one that has engrossed the minds of various thinkers over centuries, is understanding how perception is constructed. This discussion appears in ancient philosophical writings, to the early modern era, and all the way into the 20<sup>th</sup> and 21<sup>st</sup> centuries. There have been numerous debates on the issue of languages, and on how they influence people and the views of the world surrounding them. The thinkers include Johann Gottfried von Herder, who wrote on thought being dependent on language and Johann Georg Hamann, who, influenced by Herder's writing, viewed language as a living system. This thesis focuses especially on Wilhelm von Humboldt, the linguist and politician who lived in 18<sup>th</sup>-century Prussia, who wanted to develop and expand on the ideas originally developed by Hamann and Herder.

Wilhelm von Humboldt, a thinker strongly influenced by German Enlightenment, delved into the issues of education, reimagining the German education system and, for

example, introduced the idea of collaborative research between professors and students into universities (Sorkin 1983). He also studied the structures and vocabularies of dozens of languages, European and non-European, and how these affect people. Humboldt never left Europe but for instance got the information on Southern American languages from his brother Alexander, a famous naturalist (McNeely 2011). Throughout his life, Wilhelm von Humboldt also wrote several works that discussed what he called the ‘spirit of the people’, that is, how language influences our perception, and how we influence our languages. Just like the Enlightenment strove for more reason, knowledge, and critical thinking, so Wilhelm tried to approach language from a different point of view than previously existing and put more agency into the human mind.

The questions of perception have been explored further in linguistics by Benjamin Lee Whorf, who, on the basis of his research in Native American languages, developed a more deterministic view of the interaction between language and culture. George Lakoff and Mark Johnson approached the question from a cognitive linguistics point of view. Bringing together these debates from different centuries helps me trace the different emphases in the discussion of culture and perception.

While philosophers and linguists have been developing different theoretical models, most people are unable to follow these debates. Instead, they are more likely to encounter this range of questions through fiction or film. The topic of perception and understanding others surrounding you has been developed especially in science fiction, since it very often deals with alien (in all the meanings of this word) beings and thus is able to make the readers think about modes of thinking that can seem alien to us. The examples of such texts range from Stanisław Lem’s book *Fiasco* to the *Doctor Who* television series, which has been aired (with a break) since 1963.

This thesis, too, engages with science fiction. The *Story of Your Life*, a short science-fiction story written by the Chinese-American author Ted Chiang, encompasses many elements to be expected in a sci-fi story needs: aliens, spaceships, and challenges of communication. First published in 1998, in the two years following its publication it won the Nebula and the Theodore Sturgeon awards, both highly regarded in the science-fiction community. It very closely deals with the problem of understanding each other despite speaking drastically different languages. The question of perception is reflected not only in the storyline but also the formal aspects of the story. Apart from using words to indicate the transitions that the main character goes through, the author has also employed an unusual structure in the novella. It starts out describing the present events, but already in the second paragraph it flows into the future with the main character *recalling* what will happen to her later in life. Recalling, as the reader will see later in the text, is, indeed, the most appropriate verb to use here, since the character, Louise, already knows the future. It is to come, but it has already happened, and it is happening, all in the same moment. The perception of time and of her world that learning the alien language, Heptapod B, gave Louise was unlike our own, linear one.

The aim of this thesis is to take a closer look at the connection between perception and language, as developed in philosophy and linguistics and as played through in Chiang's novella. Specifically, I will develop a dialogue between Wilhelm von Humboldt's notion of worldview and 20<sup>th</sup> century theories of linguistic relativity and conceptual metaphors. This discussion will be followed by the analysis of the short story. I will be looking at what the Heptapod language created by Chiang can tell us about alternative modes of constructing worldviews and how the protagonist, Louise, by learning a new language, started perceiving time differently.

Perception in this thesis is understood as the ability of a person to see, hear, feel, understand, and engage with the world through one's senses. Wilhelm von Humboldt, one of the key theorists in this thesis, in his writing was influenced by Kant and his *Critique of Pure Reason*. Humboldt did not agree with the way Kant saw language, since Kant's system, unlike that of Humboldt, was to be applied to all languages universally, as a one-fits-all solution, disregarding the differences between languages (Brown 1967). Despite this difference, however, Humboldt was inspired by Kant's conception of perception. As Roger Langham Brown writes:

The most important thing that Humboldt took from Kant was the argument that what is perceived is the result of an interaction between the human individual and the external world, between the subject and the object. What [Humboldt] added was, first, the notion that perception is structured by the active application of the framework of language to the flux of sensations, and, second, the idea that the frameworks of different languages differ. (Brown 1967: 90)

Kant's idea of perception is similar to what will later become the groundwork for Humboldt's *Weltansichten* and his general discussion of the interaction between the human and the world, discussed in greater detail in Chapter One. Humboldt, however, believed that different languages are different and should be approached differently. Both of these aspects will be developed in this thesis.

In order to answer all these questions, I will be, above all, referring to Wilhelm von Humboldt. This choice may seem odd at first glance, since a lot of time has passed since he wrote his main work on language theory, "On Language" (1836), and especially since his subject was, as I mentioned already, linguistics, not theorisation about the role of language in culture. One should note, however, that Humboldt's writing, while covering language, especially the parts where he talks about grammar, is, at times, highly philosophical, including the concept of worldviews that I will be covering extensively in my thesis.

Wilhelm von Humboldt's work also influenced a number of linguists, who later also wrote about the relationship between language and culture (Koerner 1992). Benjamin Lee Whorf, for instance, whose ideas I shall also explain in the theoretical chapter, worked on

the empirical study of non-Indo-European languages. This created the basis for his work on linguistic relativity and the influence of language on people.

This thesis will also cover, albeit more briefly, the works of Henri Meschonnic and George Lakoff and Mark Johnson. Henri Meschonnic was a French theoretician, whose best-known work, *Critique du Rythme*, proposes a new understanding of the flow of speech in text, building on Humboldt's ideas. While this thesis does not address poetry or rhythm, Meschonnic's work can be helpful to understand worldviews, by showing that language is an activity rather than a product. The work of Lakoff and Johnson on orientational metaphors will add to the understanding of how not only language influences a person's understanding, but also how the way we physically live in this world influences the way we structure and use our language.

The second chapter, dedicated to the literary analysis, will be divided into three 'time-zones' according to the main character's progression in the novella, and in each of them I will be highlighting how the theories and concepts from the previous chapter manifest themselves in the story, and what they can show, regarding the worldviews, the perception, and the formation of language.

This thesis aims to investigate the complex theory of how languages shape worldviews, with the emphasis on the writing of Wilhelm von Humboldt, and to apply the ideas presented in those theories to a contemporary science-fiction text. Such an application, and, hopefully, the exploration of the theory, will try to demonstrate that the older theoretical works can enrich today's literary and cultural research. More broadly, the thesis hopes to contribute to a better understanding of how we function in our respective worlds, and, perhaps, also of how we perceive and understand our world.

## **CHAPTER ONE. Theoretical Inquiry: Perception, Worldview and Language**

The question of how perception is formed has been debated across disciplines, from discourse analysis to neurolinguistics, for years. The overall aim of this chapter is to explore the ideas introduced by Wilhelm von Humboldt, their later interpretation, their relevance to the study of literature, and their further application in the text analysis. The notions and conceptions will be introduced in their respective subchapters, with the aim to create a cohesive network of terminology, ideas, and theories. At first, I will speak about the ideas of Humboldt, the interaction of our language and our conception of the world, his concept of *Weltansicht*, his ideas about language formation and the dialogical nature of language. Then will follow the discussion of linguistic scholars, with the most attention given to Benjamin Whorf's ideas and linguistic determinism. After that I will introduce the concept of poem transformation of Henri Meschonnic, followed by orientational metaphors of George Lakoff and Mark Johnson.

### **1.1.1. Influence of the world on language**

The question of the influence of the world on language, and vice versa, has been debated for a long time without a definitive result. One of the reasons for the complexity of research of this issue is the fact that it has been studied in various disciplines. In the European tradition authors have dealt with the issues of cultural and linguistic diversity since the Classical period to our day. Of the more recent popular science texts, one could mention *Through the Language Glass* (2010) by Guy Deutscher that explains why we perceive the world the way we do, the differences in languages that lead to it, and the different opinions that have collected on the issue over time. It aims to introduce the reader to linguistics and argues for a more or less relativist view of the influence of language on a person.

The differences in languages were, already used to create the self/other opposition in Antiquity. For example, in the second book of Cicero's *De Oratore*, written in 55 BC, where he writes about oratory as an art, his character, Crassus, creates a parallel between the Greek language and attitudes (Cicero 1967: 211). We can see similar comparisons between language and behaviour in Dante Alighieri (1996: 27). When presented with the question of how the other is different from one's self, one of the common answers is found in linguistic differences.

By the 18<sup>th</sup> century, this question becomes more political and comes to be associated with the search of cultural uniqueness and the connections of language and the nation. Étienne Bonnot de Condillac, a French philosopher, in his work *On the Origin of Human Knowledge* wrote that “/.../ the language of each nation expresses the character of the people who speak it” (Condillac 2003: 185). Condillac also in his writing covers issues similar to Humboldt, like language being “crucial to the development of moral knowledge /.../, because [it] /.../ depends /.../ upon human reflection through linguistic thought” (Coski 2003: 67).

In this thesis, however, I will look first and foremost into the works of Wilhelm von Humboldt, who developed the idea of a connection between the world and the language in his writing, especially in *On Language* (1836), *On the Dual* (1828), and *On Thinking and Speaking* (1795-1796)<sup>1</sup>. Such a connection can especially be seen in relation to culture, or, rather, language communities in which people function. Humboldt states: “language is, so to say, the external appearance of the mind of the peoples; their language is their mind, and their mind is their language; one can never conceive of them enough as identical” (Humboldt

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<sup>1</sup> *Über die Verschiedenheit des menschlichen Sprachbaues, Über den Dualis* and *Über Denken und Sprechen* respectively.

1974: 52)<sup>2</sup>. By ‘peoples’ here Humboldt implies a specific language community in which a specific person exists, and ‘spirit’ (*Geist* in German) in this particular context can be most fittingly translated into English as ‘mind’. This quote tells us that not only is language something that defines the people speaking it, but also that the people speaking the language define it to a reasonable extent, since language exists only as used (be it with the voice, or, for example, hand signs) by people. He also mentions that “[t]hought /.../ is not only dependent on language in general but also *to a certain extent* [emphasis added] on each individual language” (in Harden and Farrelly 1997: 15). This emphasises that every single person’s individual language use, with all the connotations that they put into words, has a certain influence on their thinking.

Language and perception of the world around us, hence, depend on reciprocity, since both influence each other to a certain extent, and neither could sufficiently exist without the other. Or, rather, the world as such, the physical objects, would exist, but the perceived world, the understanding of those objects would not. While it would be possible to exist in a world without a language, it would not be possible to be in such a world since humanity is unthinkable without language and communication. Existence without a language would not have any space for experiencing feelings, be they physical or mental, as to be felt and perceived by people they need to be understood, and the understanding can only come through language giving the intelligibility to the sensations. This could also be better described by the German verb *erleben*, since it means receiving something through living, so, *living*, the necessity to not just witness something, but to live through it.

In addition to individual use of language, Humboldt talks also about the influence of language as of systems (*langues* in Saussure’s meaning, that is, vernacular languages). He

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<sup>2</sup> All the translations given in the thesis are mine, unless stated otherwise. I am providing the German originals to show the precise nuances that Humboldt creates that might get lost in translation. Original: “Die Sprache ist gleichsam die äusserliche Erscheinung des Geistes der Völker; ihre Sprache ist ihr Geist und ihr Geist ihre Sprache; man kann sich beide nie identisch genug denken.”

discusses how the process of the development of our present-day languages was influenced by ancient languages, from which they developed. He draws on the difference between Greek and Hindu antiquity, and concludes, eventually, that:

The difference of the position, which a time is placed in /.../ even in fully formed languages is infinitely powerful, because the language is, at the same time, a way of understanding the entire way of thinking and feeling, and this, presenting itself from distant time to a people, cannot have an effect on them without also having an influence on their language. (Humboldt 1974: 44)<sup>3</sup>

Not only does language influence those who speak it, but the context and the circumstances that may influence the language, and, perhaps, the specific ways in which the language is spoken as well, since every new interaction brings you different perspectives and different viewpoints.

Another important and related idea is that a person lives in a world full of objects that he or she perceives with the help of language. A person “surrounds themselves with a world of sounds, in order to take in and process within themselves the world of objects. /.../ People live with objects, in principle, as they are presented to them by language” (Humboldt 1974: 73)<sup>4</sup>. As such, language affects our perception. However, we, too, by developing and shaping language, can influence the way we perceive the world. We, from the very beginning of our own lives, arrive into a world that has already been shaped by language of the people who were there before. As soon as we acquire language, however, we begin to further shape the existing world, the changes introduced coming from all the possible spheres of our life. We surround ourselves with the objects that are created by our languages, and we live and develop in them. Humboldt does not limit language to the words and grammar, and the person to the concept of a speaker, but involves the fact that language is everchanging and

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<sup>3</sup> “Der Unterschied, in welche Lage ein Zeitalter durch den Platz gesetzt wird, /.../ bei schon ganz geformten Sprachen unendlich mächtig, weil die Sprache zugleich eine Auffassungsweise der gesammten Denk- und Empfindungsart ist, und diese, sich einem Volke aus entfernter Zeit her darstellend, nicht auf dasselbe einwirken kann, ohne auch für dessen Sprache einflussreich zu werden.”

<sup>4</sup> “Umgiebt sich mit einer Welt von Lauten, um die Welt von Gegenständen in sich aufzunehmen und zu bearbeiten. /.../ Der Mensch lebt mit den Gegenständen hauptsächlich /.../ wie die Sprache sie ihm zuführt.”

not a fixed entity, and that a person's mental striving is also at play in the formation of language.

### 1.1.2. Worldviews

While the influence of the world on language and vice versa will be an integral part of this thesis, the key theoretical concept is *Weltansichten*, also developed by Humboldt. The concept has been translated into English as worldviews, and the *Ansichten* part of this word, just like in English, can also mean outlook and opinion. For Humboldt it is not solely about how a person *sees* the world, what shapes stand in front of their eyes, but how they experience the world and interact with it. However, worldviews for Humboldt are not just something additional that we get as a bonus from knowing and speaking languages. In his conception, languages *are* worldviews. They provide us with “access to and perspective on meanings” (Pajević 2016b: 2). That is, through them we can understand the objects surrounding us, and those objects can have a meaning in our respective worlds. It is through and with the help of language that we can have meanings, since they are formulated in language, and it is also through and with languages that we can understand the meanings, grasp them, and observe them, since without language (including signs, codes, and images, not only the ones consisting out of letters) we would not be able to objectivise ideas and to communicate them.

It is important, however, to highlight the distinction between the notions of *Weltansicht* and *Weltanschauung*, both often translated as worldview in English. The concept of *Weltanschauung*, according to James W. Underhill, “assert[s] that worldviews [Weltanschauungen] /.../ [are] visions of the world in the sense of conceptions and ideologies. /.../ affirmations about the nature of the world and our place within it” (Underhill 2009: 55). That is, the word refers to the way we have learned to interact with the world, something we have developed more or less actively. An example of such a worldview as

*Weltanschauung* would be, for example, religion, or a political stance. The concept of *Weltansicht*, on the other hand, “is the capacity which language bestows upon us to form the concepts with which we think and which we need in order to communicate” (Underhill 2009: 56). Hence it is something that we have through speaking, hearing others speak, and interpreting what is being said, and something that helps us access the world – it, in fact, is our access to the world. While both notions have something to do with the world surrounding us, *Weltanschauung* only covers learned attitudes toward the world, acquired through our interaction with others, and *Weltansicht* addresses the creation of those attitudes, or concepts, a process, as said by Underhill, that is required, in order to exist in the world. The two notions are not mutually exclusive: one can develop their *Weltansicht*, together with the way they view the world, and at the same time also develop a *Weltanschauung*, the way they operate in their perceived world.

The ability to form a *Weltanschauung*, as previously mentioned, depends on developing a language, or *Weltansicht*, first, since, as Humboldt puts it: “there is an undeniable connection between language structures and the success of all the other intellectual activities. It lies, eminently, in the animating breath that the formative power of language instils in the act of transforming the world.” (Humboldt 1974: 50)<sup>5</sup> ‘The animating breath’ here is, quite literally, the breath a person takes and exhales when saying something, and this animating power of a person gets transferred to the language, which then alters the world. In speaking we transform the world from sensations to words, the sensations are partly determined by the words, that is, concepts, we use. So, without a developed language it would be virtually impossible to form one’s concepts and a mode of operating in their one’s world.

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<sup>5</sup> “Zwischen dem Sprachbaue aber und dem Gelingen aller anderen Arten intellectueller Thätigkeit besteht ein unleugbarer Zusammenhang. Er liegt vorzüglich, /.../ in dem begeisternden Hauche, den die sprachbildende Kraft der Sprache in dem Acte der Verwandlung der Welt einflösst”

Hence, to change one's world one would need to change one's language. Some type of language is needed in order to have a successful communication in any way, but there is also a way to make the language mean more than the words mean themselves, through emotions. This is why this aspect of language can be and is being used for manipulation, that is, for making people (mis)perceive concepts and through that also the world. This idea is not in itself new can be found in George Orwell's essay on "Politics and the English Language", originally written in 1946, to warn readers about the problems of political language. He explores how the overuse of long pompous words, expressions and metaphors makes the language indirect and misleading. For him such "[p]olitical language /.../ is designed to make lies sound truthful and murder respectable /.../" (Orwell 1972: 157). All language is, if we follow Humboldt, aimed at altering one's perspective on an issue, but in the kinds of cases that Orwell describes, the persuasion is hidden and thus manipulative. Another example of such a phenomenon can be *langue de bois*, a French notion used for "usually ideologically motivated" political cant (Pajević 2019: 29), similar to jargon, filled with buzzwords. Meschonnic talks about *langue de bois* as follows:

langue de bois is, or is becoming, lies that we do not want to see as lies, truism that we do not want to see as truism, the cream pie one has in their face but that one takes as one's proper portrait. (Meschonnic 2008: 126)<sup>6</sup>

Through such language, a politician can, by using the words that would have similar connotations for the people in the given community, influence the emotions of the people and create desired reactions. Here I employ the Foucauldian understanding of discourse, as a set of certain practices that define and regulate the behaviour of the people in the group (e.g., Foucault 1972), as such, a similar discourse community would be a group of people that live under similar rules, have similar *Weltanschauungen*, and employ similar categorisation to communicate their understanding of the world surrounding them.

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<sup>6</sup> "Est langue de bois, ou en train de le devenir, le mensonge qu'on ne veut pas entendre comme mensonge, le truisme qu'on ne veut pas reconnaître comme truisme, la tarte à la crème qu'on a sur la figure mais qu'on prend pour son propre portrait."

According to Humboldt's theory, our sensations are partly determined by the words we use, and this general aspect of language then can also be used for different types of persuasion. This, however, is not a central concern of this thesis. Instead, I am interested in the relationship between languages and discourse communities or cultures.

Language, in Humboldt's words, is "the formative organ of thought" (Humboldt 1974: 64)<sup>7</sup>, in an analogy to anatomical organs. That is, similarly to how a person needs lungs to breathe, thought needs language to exist and to be formed. Language also, for Humboldt, is a person's thinking. For him, the richness of our world is derived from the plurality of our language uses. Language is the source of our conceptualisations, including our moral norms, for example about right and wrong.

This feature of language also has social implications, as was shown above. By changing the language, and using the language in a specific way, a person's thinking can also be influenced. One of the most obvious examples for this can be any political propaganda that often relies on ingenious language use. Another example could be religious cults, where the leaders, by (mis)interpreting the scripture, influence their followers to believe in what is being said, and to act in a certain way. Such negative manipulation, however, is not the only case of how language can influence people. We can also create positive change through language. Language, throughout the years, has been the source of people's education, growth, and self-development. Language can be used to direct people in the direction of improvement, like through constructive criticism, or simple words of support. Correctly chosen words can take people off the edge, and this has led to the profession as hostage negotiators, for example.

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<sup>7</sup> "Das das bildende Organ des Gedanken"

### 1.1.3. Limitations of Acquiring a Worldview

Humboldt's core concern is with how we perceive the world and how we create the world in language. With each new language that we learn, we, by extension, expand our perception and broaden our worldview by having other worldviews extend or shift our original one. However, as Humboldt writes, "since one always, more or less, brings one's own worldview and language-view over into the foreign language, this success will not be clearly and fully felt" (Humboldt 1974: 73)<sup>8</sup>. While our worldview is being expanded, we are not fully aware of extent of this process. Humboldt also makes a terminological distinction here. The term he applies, *Sprachansicht* (that is, language view), while at first glance similar to worldviews, is used to refer to one's understanding of language.

Languages are always something individual. Any language we acquire and consequently speak is going to be our own, even though grounded in an objectivised variant that we had to learn in order to speak. Learning more languages, also, would not necessarily mean getting a variety of different worldviews between which a person can switch. Instead, the worldviews enlarge a person's existing one. The more languages a person speaks, the broader perspective on the world and on the objects surrounding them they will have.

'Receiving' a worldview is not a question of simply learning the language system. Worldviews are contained in the context and communicativeness of a language with which the person engages. Engaging with different worldviews, however, does not solely mean engaging with different foreign languages. There are dialects within languages, different cultural varieties that depend on the environment and the community. On a daily basis a person speaks several different tongues: with their boss at work, vendor in a shop, their kids at home. These all can function in one 'standard' language, and still remain different. As

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<sup>8</sup> "Weil man in eine fremde Sprache immer, mehr oder weniger, seine eigne Welt-, ja seine eigne Sprachansicht hinüberträgt, so wird dieser Erfolg nicht rein und vollständig empfunden"

such, one cannot say that a person, by learning, for example, Turkish, acquired a Turkish worldview, since there is no static and established Turkish worldview. It would be more accurate to say that by learning Turkish the person extended their pre-existing worldview and potentially acquired a new perspective on certain things.

#### **1.1.4. Dialogical Nature of Language**

*On Language*, Humboldt's key work in the field of language studies,<sup>9</sup> discusses various notions of his language theory. Among many other issues, he argues that languages are open systems that are dialogical in nature, which is one of the ways through which language and also cognition develops. Dialogicity of language implies that there is more than one side engaging in communication, that one's thoughts and ideas have to be heard by someone else and replied to. The notion of a language as an open system implies that the language is not fixed but is open to welcome new words and expand.

Humboldt writes: "in appearance, language develops itself only socially, and one understands themselves only after having checked the understandability of their words on others" (Humboldt 1974: 67)<sup>10</sup>. He implies that solely existing in your individual language on your own is not sufficient to form a truly developed language. As such, for a person to confirm their idea, they need to 'bounce' it off someone else, they need to objectivise it, to give them an objective value, as opposed to a subjective one, to test their meanings against those of others. A thought, according to Humboldt, goes from being purely subjective, existing in the mind of one person, to being objective, confirmed by someone else as something that makes sense and can exist in the meta-world of the speakers. This is what

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<sup>9</sup> The original title of the work is "Über die Verschiedenheit des menschlichen Sprachbaues und ihren Einfluß auf die geistige Entwicklung des Menschengeschlechts". It is presented as a preface to a wider work on Kawi language, but this introduction is Humboldt's most important writing on a language, and, possibly, his best-known work on linguistics – "Über die Kawi-Sprache" [On the Kawi Language].

<sup>10</sup> "In der Erscheinung entwickelt sich /.../ die Sprache nur gesellschaftlich, und der Mensch versteht sich selbst nur, indem er die Verstehbarkeit seiner Worte an Andren versuchend geprüft hat."

Humboldt calls “concept-formation” (Humboldt 1974: 67)<sup>11</sup>, the necessity to voice one’s idea and hear it back. As Humboldt puts it, regarding the process of objectivising ideas: “the mental striving bursts through the lips in the form of language, the product of it returns to the speaker’s ear. As such, the conception is transposed into real objectivity” (Humboldt 1974: 67)<sup>12</sup>.

John Walker, a scholar of philosophy and intercultural communication, exploring the issue of communication as presented by Humboldt, expands on the idea of a person’s language being objectivised through dialogue: “just as the individual speaker can realize her own linguistic and intellectual personality only through the act of dialogue, languages themselves can historically evolve only through linguistic encounter” (Walker 2022: 62). Walker highlights that it is indeed the dialogue with another person, the hearing of a different voice repeating your idea, that helps to create objectivised products of language and hence evolve the language further.

Humboldt’s reflections on the dialogical nature of language can also be found in his “On the Dual Form” (Über den Dualis). There he explores the issues of dialogicity and the I-You relationship in language. He argues that “there is, however, in the original nature of language an irrevocable dualism, and the possibility of speaking itself is conditioned by addressing and replying” (Humboldt 1907: 26)<sup>13</sup>. This implies that, for a language to exist, it must have in its nature the possibility of a dialogue, of, yet again, objectivising one’s thoughts through conversation with the other, the participant of the conversation that is not *I*.

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<sup>11</sup> “Die Bildung des Begriffs”.

<sup>12</sup> “/.../ das geistige Streben sich Bahn durch die Lippen bricht, kehrt das Erzeugnis desselben zum eignen Ohre zurück. Die Vorstellung wird also in wirkliche Objectivität hinübersetzt /.../”

<sup>13</sup> “Es liegt aber in dem ursprünglichen Wesen der Sprache ein unabänderlicher Dualismus, und die Möglichkeit des Sprechens selbst wird durch Anrede und Erwiederung bedingt”

The objectivisation of thought by itself is not the only process that this *other* is a part of. Another such process is *Mitdenken* – thinking along (or with), a notion that Humboldt used in his earlier essay “Über Denken und Sprechen” [On Thinking and Speaking]. He talks of this notion as of dialogue in itself: “no-one, apart from man, invites their fellow beings to understanding through thinking along” (Humboldt 1908: 583).<sup>14</sup> Since, as one could argue, the aim of a dialogue is to understand each other, *Mitdenken* fits the description fairly well, but one should keep in mind that this term is not limited to solely understanding each other. *Mitdenken* implies that you expect the other person to think together with you, to engage in the conversation and try to understand what point you are trying to bring across.

Trabant adds that “the ‘thinking along’, to which people invite one another, is not joined knowledge, but a never-ending process of the creation of open thinking” (Trabant 2020: 85)<sup>15</sup>. Thus, dialogue becomes not only a source for exchanging ideas, but also for successful co-existing through being open to other understandings and to creating meaning together. Trabant also comments on the issue of the immutability of dualism by saying that “this immutable dualism is not only something formally dialogical (like in theatre drama), as one could think considering that formal dialogical elements of address and reply are mentioned, but also the basis of language’s role – to build thought” (Trabant 2020: 81)<sup>16</sup>. Despite the seeming simplicity of the I-You dialogicity, where one may draw parallels or similarities with role play, *Mitdenken* is related to the creation of thought. *Mitdenken* and the dialogical nature of language help in creating our perceptions of the world surrounding us.

Duality, or dialogicity, is something omnipresent in all the spheres of human life, as people encounter it on a daily basis. Humboldt, while defining dialogicity itself as a notion,

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<sup>14</sup> “Niemand, ausser dem Menschen, seine Mitgeschöpfe zum Verstehen durch Mitdenken /.../ einladet”

<sup>15</sup> “Das ‘Mitdenken’ zu dem die Menschen sich einladen, ist kein Mitwissen, sondern ein ewiger Prozess der Erzeugung des offenen Denkens.”

<sup>16</sup> “Dieser unabänderliche Dualismus ist nicht nur etwas Dialogisches-Formales (wie im Drama), wie man angesichts der Erwähnung der formalen Dialog-Elemente Anrede und Erwiderung meinen könnte, sondern die Grundlage der Aufgabe der Sprache, den Gedanken zu bilden.”

mentions that “the notion of duality is predominant in the rules of thinking, the striving of feeling, and the in its deepest dimensions unfathomable organism of humankind and of nature” (Humboldt 1907: 24) <sup>17</sup>

Indeed, this duality is not only something we simply use in our language, but it is also the way we function ourselves, the way we feel and perceive, it is necessary for us to think the way we do, and to remain humans that we are. One needs dialogue in order to communicate with others and to engage in their society. This dialogue, however, goes beyond using language use for communication and extends to our cognition. Without the dialogue, without the other person it, one could argue, would be impossible to form our own subjectivity. Since Humboldt, who notes that the I-You dimension exists in all languages, also makes the argument that we conceive of ourselves as subjects in relation to an *other*.

### **1.1.5. The Notions of Ergon and Energeia**

As was previously mentioned, there is no one singular worldview even in any given language. A worldview, in fact, cannot be a fixed unchanging entity since languages themselves are not. They are, as Humboldt puts it, “not a product (Ergon), but an activity (Energeia)” (Humboldt 1974: 56)<sup>18</sup>. These terms are derived from ancient Greek: *ἔργον* (ergon) means a work or function, something more static and fixed, and *ενέργεια* (energeia) means activity. He implies that language is something living and evolving, a process. For him, dictionaries and grammars will convey a “dead skeleton” (Humboldt 1836: 417) of a language, in contrast to the living language in use.<sup>19</sup> A dictionary will not represent language itself, only its bits and pieces, deprived of their liveliness, of the “work of the mind” (Humboldt 1974: 56)<sup>20</sup>, and of the real-life context. Language is everchanging, be it through

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<sup>17</sup> “Der Begriff der Zweiheit /.../ [ist] vorwaltend in den Gesetzen des Denkens, dem Streben der Empfindung, und dem in seinen tiefsten Gründen unerforschbaren Organismus des Menschengeschlechts und der Natur.”

<sup>18</sup> “Kein Werk (Ergon), sondern eine Thätigkeit (Energeia).”

<sup>19</sup> “Todtes Gerippe”

<sup>20</sup> “Arbeit des Geistes”

the addition of loanwords, or through old words gaining new meanings in a new context. Above all, for Humboldt, the liveliness appears when we move from the word to the utterance and the sentence. Dictionaries, even if they are being constantly updated, cannot help but be the *ergon*, a lifeless product that has no subjectivity and no context of utterance. A similar concept can be found in foreign language teaching, there it is called ‘*linguaging*’, which Alton Becker defines as an “ongoing process”, and as an idea of “language that is being done and reshaped constantly” (Becker 1988: 25). This shows that the concept of language as something living has found its place in practice-oriented spheres of linguistics.

Since there is no one singular worldview to pinpoint, it would be impossible to create mechanisms with which to detect them in a person’s perception or understanding. We could, however, partially observe slight changes in one’s linguistic behaviour, such as sentence structuring patterns or usage of words from other languages. Those seemingly insignificant but nevertheless important changes could hint that the worldview of a person is being extended through an addition of a new one. One could also, arguably, feel more comfortable about various concepts through learning them anew in a different language. For example, if a person has a distinction between the formal and the casual ‘you’ in their first language and acquires all the cultural intricacies that go together with using those different pronouns, they might feel uncomfortable deviating from using a specific pronoun in certain cases (usually this concerns the switch from the formal to the informal ‘you’). However, when learning a new language, and starting to use a casual pronoun, instead of the formal one, in certain cases, they might normalise this usage. It will not be something they have necessarily consciously learned but acquired by functioning in the other language community. Speaking a language is all about what we are used to doing and saying based on the context in which we function and the people with whom we engage in a dialogue.

The notions of *ergon* and *energeia* were used not only in linguistics of the 19<sup>th</sup> century, but they also appeared in the 20<sup>th</sup> century in the writings of Henri Meschonnic. He worked on new definitions of rhythm and poetry and, in this process, came to understand the poem as “not the product or work of art any more (*ergon*), but an activity (*energeia*)” (Pajević 2019: 24). One could say that this is a direct allusion to Humboldt’s idea. A poem to Meschonnic is not something fixed, but rather a transformation, not a fixed instance of language, but one that is constantly living and changing. But even more interestingly, he “define[s] the poem as the invention of a form of life by a form of language and the invention of a form of language by a form of life” (Meschonnic 1982, cited in Pajević 2019: 25). As Meschonnic in his writing mentions Wilhelm von Humboldt several times, it could be argued that by such a definition he builds on Humboldt’s ideas. As such, similarly to Humboldt’s ideas, the ideas of not only language influencing our life, but also our life influencing our language, continue to be discussed in the 20<sup>th</sup> century.

### **1.2.1. Linguistic relativity**

Benjamin Lee Whorf, whose works were read by Ted Chiang in order to, as he said (personal communication 21.09.2022), better understand the concept of linguistic relativity, develops different strands of Humboldt’s ideas. The concept of linguistic relativity, while never appearing in the novella, is mentioned in its screen adaptation, which Chiang helped to write the screenplay for. As will be shown in the following subchapter, Whorf worked, partially, with the ideas developed by Humboldt in regard to language perception, but in a somewhat different direction. Humboldt in his work allowed for the human spirit to influence language and did not contain all the formative power in the latter. In his writing language and human function in a sort of symbiosis. For Whorf, however, the main focus was the influence of the language on a person, and not vice versa. Whorf, however, also

seems to build, to some extent, on Humboldt's theory of the language being a living and everchanging organism, *energeia*.

Benjamin Lee Whorf studied linguistics in Yale, under Edward Sapir, one of the key figures in the development of anthropology and linguistics in the USA. Whorf's interest lay in studying indigenous languages, and his greatest work was conducted on the Hopi language (Koerner 1992). He is the most associated with the Sapir-Whorf hypothesis, one of the key ideas of linguistic relativity. The name of this hypothesis was, in fact, coined long after Whorf's death, and the writings associated with the hypothesis are actually Whorf's work on Hopi language and linguistics that he published earlier (Beeman 2012). It was this work on Hopi and other Native American languages that made him to think about differences in how people perceive the world, and how it is dependent on language. This curiosity stemmed from, for example, the fact that Hopi does not have time markers which might have implications for how the Hopi perceive time (Whorf 1956).

Benjamin Lee Whorf's work follows that of Humboldt in the aspects of the relations between languages and the perception of the world. Admittedly, Whorf, in his research, was somewhat more radical than Humboldt regarding the extent of the influence of language on perception, although not as far as it is usually perceived (Leavitt 2011). John Leavitt (2011: 141) writes that Whorf "has most often been presented as the very epitome of extreme cognitive relativism and linguistic determinism". Linguistic determinism argues that language fully determines and limits the extent of one's thinking. This, however, is not all. As Leavitt further puts it, although Whorf "maintained /.../ a principle of linguistic relativity" (Leavitt 2011: 141), he was also a "strong universalist" (Leavitt 2011: 141) since he allowed for the fact that thinking might not be influenced only linguistically, that is, our cultures have much in common as well, despite the role language has in shaping our perception of the world. It is important to also note that linguistic determinism and linguistic

relativity are two different ideas, despite being, indeed, to some extent similar. Determinism would state that if a language does not have a specific tense, then people cannot perceive that time. Like, for example, Estonians would not be able to conceive of the future, and the Chinese would not be able to conceive both of the future and the past. Relativism, however, only proposes that language has some influence on perception, like, for example, in the commonly used example of the Sapir-Whorf hypothesis, that the Eskimo people<sup>21</sup> have several words for snow, and as such they can perceive different types of snow, while a person with only one word will not perceive fine differences in the quality of snow.

While Whorf himself seems to not express any linguistically radical ideas, one can find moments in his texts that hint at linguistic determinism. He compares English, German, French, and Hopi languages, and comes to the conclusion that “our behavior, and that of Hopi, can be seen to be coordinated in many ways to the linguistically conditioned microcosm” (Whorf 1956: 148). Microcosm in his essay means a “‘thought world’ ... that each man carries about within himself” (Whorf 1956: 147), which seems to be rather close to Humboldt’s idea of worldviews. To further explain the notion of microcosm, Whorf suggests the following examples:

[t]he SAE [Standard Average European] microcosm has analyzed reality largely in terms of what it calls ‘things’ (bodies and quasibodies) plus modes of extensional but formless existence that it calls ‘substances’ or ‘matter’. /.../ The Hopi microcosm seems to have analyzed reality largely in terms of EVENTS (or better ‘eventing’), referred to in two ways, objective and subjective. Objectively /.../ events are expressed mainly as outlines, colors, movements, and other perceptive reports. Subjectively /.../ events are considered the expression of invisible intensity factors, on which depend their stability and persistence /.../. (Whorf 1956: 147)

By saying this, Whorf potentially means that people conceive of the world surrounding them differently and that is reflected in their language. In English, one is used to having nouns and verbs, and all describing singular entities, like a bird and an airplane. In Hopi, however, things would be separated based on what they do, as such, both a bird and an airplane would

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<sup>21</sup> The early antropologists did not differentiate between the different Native American peoples (like the Inuit or Yupik people) and their languages (cf Martin 1986).

simply be flying objects (Whorf 1956: 216). As such, a microcosm is something active, like a human mind, that conceives of the world in a particular way.

Thought worlds themselves, in turn, are not simply made up of language or the patterns, but “all the analogical and suggestive value of the patterns” (Whorf 1956: 147). Thus, it is not only the linguistic that has an effect on the thought worlds, but also the context and communication. Whorf elaborates on this idea: “our linguistically determined thought world not only collaborates with our cultural idols and ideals but engages even our unconscious personal reactions in its patterns and gives them certain typical characters.” (Whorf 1956: 154). Our thought worlds consist not only of the objects that surround us and of people we encounter, but also of the emotions and feelings we experience, and those, in turn, are perceived by us through the lens of the language we speak.

Just like Humboldt does with worldviews, Whorf ties his concept of thought world to the cultural and language communities, the groups of people in which we communicate, grow, and develop, what we today might call discourse communities. Since our thought worlds depend on the language that we speak, as such, our communication within our discourse communities would also be influenced by the way language influences our consciousness. People coming from different languages could have endless discussions, for example, on colours. A native English speaker would perceive most blueish colours as ‘blue’, while a native Russian speaker, for example, would immediately distinguish ‘blue’ – ‘синий’ from ‘light blue’ – ‘голубой’, which are completely different words, and, as such, different ideas (Winawer 2007).

### **1.2.2. Formation of Language**

Language formation and the development of worldviews touches upon what Humboldt calls the “spirit of a people” (Humboldt 1974: 52)<sup>22</sup>, that is, the cultural and

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<sup>22</sup> “Geistes der Völker”

interpersonal aspects within a language community that are influencing the way a specific language is formed. One of the biggest aspects influencing our languages, however, are the concepts in which we function. In the middle of the 20<sup>th</sup> century linguistics took a ‘cognitive turn’ and started paying more attention to the connection between the mind and the body (Thagard 2023). George Lakoff and Mark Johnson’s work comes from the hypothesis of the embodied mind and from the fact that our physical experiences (like the gravitational pull for example) would be reflected in our language.

Lakoff and Johnson state that “[o]ur concepts structure what we perceive, how we get around in the world, and how we relate to other people” (Lakoff and Johnson 1984: 3). They develop the notion of conceptual metaphors to discuss this process. First of all, they define conceptual metaphors by making a distinction between the “device[s] of poetical imagination and the rhetorical flourish” (Lakoff and Johnson 1984: 3), and the metaphors as something “pervasive in everyday life, not just in language, but in thought and action” (Lakoff and Johnson 1984: 3). They argue that “[o]ur ordinary conceptual system /.../ is fundamentally metaphorical in nature” (Lakoff and Johnson 1984: 3). They further claim that “[t]he essence of metaphor is understanding and experiencing one kind of thing in terms of another” (Lakoff and Johnson 1984: 3) and that those experiences happen “within a vast background of cultural presuppositions” (Lakoff and Johnson 1984: 57).

They introduce the idea that we not only use metaphors in our everyday language, but by extension, we live in them. Lakoff and Johnson argue that our physical way of existing in the world (or our perceived worlds, to stay truer to the idea that the world of every person can be different) has led to the creation of these metaphors. Those metaphors later lead to us perceiving our respective worlds in specific ways, like ‘winning’ or ‘losing’ arguments as though they are a war, for example, or seeing time as money, to give just two of the numerous examples they offer.

This idea of conceptual metaphors can be, to some extent, tied with Humboldt's ideas on language: "just like no concept is possible without language, there can also be no object for the soul, since everything external receives complete consciousness only through a concept" (Humboldt 1974: 72)<sup>23</sup>. He suggests that that language as such is not there simply to designate objects, and that it is not an object that a person's mind perceives. Language concepts are created in our minds, and they give us a gateway to perceiving those objects. We imagine those objects in our consciousness, and the images transform into words, which we then later use to help us perceive the world around us.

Lakoff and Johnson also write about the 'orientational metaphors' that are affected by how one embodies not the abstract world, but the physical, material world surrounding us, with such examples as "up-down" and "front-back" (Lakoff and Johnson 1984: 14). Metaphorical orientations like these have "a basis in our physical and cultural experience", like the pull of gravity that makes the up-down dimension fundamental to human existence in the world (Lakoff and Johnson 1984: 14). While the oppositions will always be the same, the metaphors that are based on them will vary depending on the culture. We all exist in the same physical world, but our meta-worlds, the perceived worlds will differ depending on the culture and the context surrounding the person.

They use, for example, two simple directions of up and down and their connection to the metaphors. An example of "conscious is up; unconscious is down" (Lakoff and Johnson 1984: 15) is explained by the fact, that "[h]umans and most other mammals sleep lying down and stand up when they awaken" (Lakoff and Johnson 1984: 15). This is not only the matter of single expressions. They state that "[t]he most fundamental values in a culture will be coherent with the metaphorical structure of the most fundamental concepts in the culture" (Lakoff and Johnson 1984: 22). Thus, they seem to develop an idea similar to

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<sup>23</sup> "Wie, ohne [Sprache], kein Begriff möglich ist, so kann es für die Seele auch kein Gegenstand sein, da ja selbst jeder äussere nur vermittelt des Begriffes für sie vollende Wesenheit erhält."

the notion of worldviews, only using a slightly different terminology, rooted in cognitive linguistics. Or, rather, their concept fits within the concept of *Weltansichten*, since metaphors are created in language, and, as such, themselves constitute a part of our worldviews. Just like the worldviews, metaphors can vary, although usually not from person to person, but from culture to culture.

### **1.3. Summary**

As demonstrated throughout this chapter, the universe of Humboldtian knowledge is a rather complicated one, and one interconnected with various other disciplines, both by Humboldt himself and by the later theoreticians who have developed Humboldt's ideas. The question of the influence of language on our individual world and the world on language, as shown, has been debated in different disciplines over centuries. It has interested language theorists like Humboldt, but also linguists, philosophers, and literary scholars.

The notion of worldviews, in the context of Humboldt's theory, describes not only the way one perceives the world, but also the power one has to form the concepts that will in turn become the tool for perceiving the person's world. One's worldview is extended by speaking other languages in addition to one's native one. As the following analysis will show, the concept of worldviews is not connected only to existing national languages or to any language in particular. This makes the notion useful for analysing science fiction and its representation of alien languages.

The understanding of the dialogicity of language benefits not only language studies, but ordinary life as well. It is important to remember that every speech act exists in a dialogue and will also depend on the context in which it is produced. Apart from being dialogical, language is also a living entity, and as such it would differ from conversation to conversation, even if the same words are produced, and for that it depends on the context even more.

The chapter has developed Humboldt's ideas of the influence of language on perception in the context of linguistic relativity. Whorf's concept of 'thought worlds' to some extent resembles Humboldt's worldviews, but it also, to some extent, deprives the language and the perception of a certain level of agency and the ability to influence each other. The analysis will test whether it is Humboldt's or Whorf's conceptualisation that is realised in Chiang's novella. This will be complemented by the integration of orientational metaphors introduced by George Lakoff and Mark Johnson to place the embodied experience within the notion of worldviews and the influence of the world on language.

## **CHAPTER TWO. Language and Worldviews in *Story of Your Life***

This chapter shall provide a literary analysis of the *Story of Your Life*. It aims to show how this novella explores the idea of perceiving time and the world surrounding a person differently, and the influence of languages on them. In addition, I will look at how the author, Ted Chiang, uses this idea to drive the story forward and create the storyline. This chapter, after giving a short overview over the plot of the novella and talking more in-depth about the way it is structured, will be divided into subchapters, based on the various stages of the interaction of the main character with the alien language. I will speak about Louise's first contact with the language, then I will go on to her first attempts to learn the language, and I shall end with her acquiring it to demonstrate the steps in the changes in her consciousness. Throughout the subchapters I will make references to the concepts discussed in the first chapter: worldviews, linguistic relativity, and orientational metaphors, how they fit within the story, and how they influence perception. Ultimately, I shall take the reader on the same journey of learning (about) Heptapod language as the main character.

### **2.1. The Plot of the Novella**

*Story of Your Life* talks about alien ships, called 'looking glasses', that one day appeared in diverse locations all across the Earth. Through the technology located on those ships the aliens, heptapods, want to communicate with humans. The ships landed in different countries and in different spots, associated with every ship, a pair of scientists, a linguist and a physicist, work on trying to decipher the language and understand how the aliens and their technology function.

The protagonists of the novella, Louise, a linguist, and Gary, a physicist, are recruited by the US Army to work together with the aliens on the ship that has landed in the US. Due to the concerns the army personnel have regarding the aliens learning English, Louise has to

make sure that her interactions are as precise as possible and give as little opportunity as possible to the aliens to learn the language. At the same time, she has to learn their language to a sufficient enough level, so that she can communicate with them and find out why they have arrived. As the story progresses, we find out that the aliens, like humans, have two forms of their language, a spoken and a written one. The spoken one, named Heptapod A by Louise, cannot be spoken by humans, since our vocal cords cannot produce such sounds. Due to this, Louise resorts to only learning Heptapod B, the written form of the language, that exists in the form of logograms, and has a visual syntax. Those logograms can exist as single ‘words’, but in order to form a sentence they connect into one bigger logogram.

*Story of Your Life* is very rich in moments of repetition, othering, and interesting narrative building through interchanging episodes of the past and future. I will, however, focus on how the novella addresses worldviews and perception, and will proceed to the first part of my literary analysis, where I will be looking at Louise’s first interactions with the aliens, her thought processes, and how all of that can be connected to the theories of Humboldt and others discussed above.

## **2.2. Narrative structure and the limits of English**

Throughout the novella we follow Louise’s journey in trying to first just simply understand the writing system of heptapods, then try to learn it, and gradually we see how she starts to perceive time differently. The way in which the story is organised starts to make sense as we learn from Louise herself that she starts perceiving time as happening simultaneously. She goes from not understanding the grammar of Heptapod A to saying that through the mode of consciousness required for Heptapod B she “understood the rationale behind Heptapod A’s grammar: what [my] sequential mind had perceived as unnecessarily convoluted, I now recognised as an attempt to provide flexibility within the confines of sequential speech.” (Chiang 2010: 135). One can see through this quote that Louise’s perception slowly changes

to accommodate for the Heptapod language and modes of thinking. An example of this can be her saying “I knew what I had to say” (Chiang 2010: 139). This sentence is one of the many in the story in which Louise shows her knowledge of what was supposed to happen. Later on in this chapter I will show how Louise’s perception of the world is represented in the novella, specifically how her own meta-world changes from usual human perception to already knowing what will happen to her later in life.

However, not only does the reader get an explicit explanation of how Louise begins to see the world and the events happening, but the story also itself is structured in such a way that one can, to some extent, experience the same mode of perception. For example, in the second paragraph of the story, Louise says “when we move out you’ll still be too young to remember the house, but we’ll show you pictures of it, tell you stories about it” (Chiang 2010: 91). The future tense is used to show the events that will happen several years later. As already mentioned in the introduction, the beginning of the story is one of the two times the reader will ever see Louise in the point in time from which she is telling this story. This can be seen through the way she forms her sentences: “This is the most important moment in our lives” (Chiang 2010: 91) – using present perfect, and “[r]ight now your dad and I have been married for about two years” (Chiang 2010: 91) – outright mentioning that what is happening is ‘right now’, in the present moment. The only other time one returns there is in the end of the novella, and interestingly, it is the exact same moment in which the novella begins. It is also noteworthy that despite the novella seemingly telling the story of Louise’s life, its name, *Story of Your Life*, tells us that the novella actually conveys Louise telling her daughter the story of *the latter’s* life.

From that point in the narrative, where her husband, Gary the physicist, proposes that they should have a child, the reader is sent directly to the future, to the stories of what happened to the houses the family lived in, and then to Louise’s interaction with her daughter

when the latter was 12 years old. From there the reader is sent into the past, to Louise's memory of talking to colonel Weber for the first time about the aliens. The entirety of the story continues the same way, with the memories from the past alternating with her knowledge of the future. The story is shown to the reader in different time levels, since that is how humans perceive time.

However, this chronology is dissolved for heptapods, as they perceive and experience all times simultaneously. While Louise's past memories always follow in a linear succession, the future ones do not really have a structure, because the memory of her 12-year-old daughter is followed by the memory of her at 21 when she died, which is later followed by the one where she is five, and so on. Such a structure permits the reader to be, to some extent, immersed in this mode of thinking, and to perceive time not as something linear, but more as something that is all over the place, that does not have to be sequential, just like Heptapod B grammar. The reader also gets used to the fact that a break between the paragraphs means that a jump in time is coming. However, this is not an absolute rule as sometimes Louise's thought process continues in the same time period. This also adds to the unpredictability of time and nonlinearity of narration.

The novella starts in Louise's present, with her retelling to her yet unborn daughter the story of her conception. Interestingly, already in the very first sentence one can observe the main feature of the story – the different time perception. “Your father is about to ask me the question” (Chiang 2010: 91), says Louise, which shows the reader that not only does she know that her husband will ask her *a* question, which is something a person could predict from body language, for example, but she knows the specific question that he will ask – “[d]o you want to make a baby?” (Chiang 2010: 91).

This story, told by Louise to her unborn daughter, already from the second paragraph sets out into the future, with Louise talking about the house Louise and her husband are

currently living in, saying that “when we move out you’ll still be too young to remember the house, but we’ll show you pictures of it, tell you stories about it” (Chiang 2010: 91). In this same moment, when her daughter has not even been conceived yet, Louise also already thinks about the time her daughter will be dead: “I’d love to tell you the story of this evening, the night you’re conceived, but the right time to do that would be when you’re ready to have children of your own, and we’ll never get that chance” (Chiang 2010: 91).

The story continues with Louise telling her daughter that she remembers “the scenario of your origin you’ll suggest when you’re twelve” (Chiang 2010: 91). This format – Louise reflecting on specific episodes from her daughter’s life, mentioning her age, and retelling the events, goes on through the entire novella. Louise also goes on to mention that she already knows the outcome of what will be happening later on, which can be treated as foreshadowing to the way Heptapod language functions and starts telling the story of the future from the past, from what began all of the events: “I know how this story ends; I think about it a lot. I also think a lot about how it began, just a few years, when ships appeared in orbit /.../. And then I got a phone call, a request for a meeting.” (Chiang 2010: 92)

The events from the past that began with a phone call are told in alternation with the events from the future throughout the entire novella. Right from the last sentence, quoted in the previous paragraph, Louise goes on to retell the story of the arrival of the aliens that began with her meeting Colonel Weber, who hired her to decipher the alien language, and Gary, a physicist working on the same team, who will later become her husband: “I spotted them waiting in the hallway, outside my office. They made an odd couple; one wore a military uniform and a crewcut /.../. The other one was easily identifiable as an academic” (Chiang 2010: 92).

Another curious moment related to the way the story is structured is that one can always know where in the timeline they are. The tenses used always reflect the time when

events are happening. In the quotations from the present the verbs are also in the present tense: “I know” (Chiang 2010: 92) and “I smile and answer” (Chiang 2010: 145) for example. The events from the past are clearly marked by the past tense: “I spotted” (Chiang 2010: 92), or, for example, “he turned” (Chiang 2010: 106). All of the events from the future are also clearly marked by the future tense: “[h]e and I will drive” (Chiang 2010: 95), or “I’ll stop in my tracks” (Chiang 2010: 115).

The switches in time between the past and the future usually do not have any triggers that would justify them. There is, however, one instance where there is a very clear reason for the passages to follow each other. At the age of fourteen the daughter asks Louise “what do you call it when both sides can win?” (Chiang 2010: 125), and at first Louise cannot provide an answer, because she does not remember the word. This excerpt from the future is followed by one from the past where during the meeting with the officials Gary describes a solution that a representative from the State Department suggest as “a non-zero-sum game” (Chiang 2010: 128), which is immediately followed by Louise saying this same word in her future: “[a] non-zero-sum game. /.../ When both sides can win: I just remembered, it’s called non-zero-sum game.” (Chiang 2010: 128)

It is also peculiar to notice that, while the fragments from the past all follow each other chronologically, the ones from the future do not. A fragment with “[y]ou’ll be thirteen” (Chiang 2010: 114) is followed by the one with “[i]t’ll be when you first learn to walk” (Chiang 2010: 119), followed by “when you are fifteen” (Chiang 2010: 121) and so forth, without a sequential order, which represents the heptapod perception, as will be shown in subchapter 2.5.

Such subtle differences in structures between the future and the past, and the structure of the novella in general, all play a role in showing the alien perception. The author, writing in English, especially about things that do not exist in our reality and would be otherwise not

accessible through our language, has to deal with the issue of creating an Other with a radically different mode of perception through widely understandable language. He is also somewhat constricted in the number of details he can go into in order to describe the aliens, so as to keep them indeed alien, the other to the human self. As such, the author chose a rather tangible, but nevertheless still complex way to allow the reader to engage in heptapod perception by introducing a non-linear structure of time. Thus, the readers are able to follow Louise's expanding worldview, without needing to learn Heptapod B, or any other language that could, potentially, alter a sequential time-awareness to a simultaneous one.

### **2.3. Encounter with the alien worldview**

In order to show Louise's expanding worldview, Chiang introduces the reader to the aliens, or the other – *der Andere* – that one needs in order to objectivise their ideas and language. However, as one will see, the aliens are not the only others. Military colonel Weber and physicist Gary both have worldviews different from Louise's. She also needs to communicate with them and take their worldviews into account when talking to them. For example, when talking about Weber, Louise describes his reaction as follows: "I could see he wasn't accustomed to consulting a civilian" (Chiang 2010: 93). While Louise's worldview, potentially, does not really expand through communicating with the alternative human points of view, one still notices how she, in her communication, accommodates for them. As previously mentioned, the language we speak, as an *energeia*, as something living, may change depending on the situation and the context we are in, and the same happens with Louise. She makes sure to use the language that would be understandable to those who have not studied linguistics, and she tries to give information to Weber in a concise and clear way, so that his superiors would approve of her plans.

Louise's acquaintance with the aliens begins with Colonel Weber coming to her office and playing her the recordings of the aliens speaking. While a potentially helpful tool

for deciphering an unknown language, the recordings lack vital information and the only thing she can estimate from them is “that establishing communications is going to be really difficult because of the difference in anatomy” (Chiang 2010: 93-94). The first thing Louise asks, in order to aid her in understanding the language at least to some extent, is “[w]hat was the context in which this recording was made?” (Chiang 2010: 93). The colonel cannot give her any information about the context in which the sounds were recorded, or even if the personnel could see the aliens while those were speaking.

Louise persists, however, that there is no way she could either decipher the language, or even decide if they need specialised machinery, unless she could “talk with the aliens directly” (Chiang 2010: 94). For her “the only way to learn an unknown language is to interact with a native speaker” (Chiang 2010: 94). She means that without face-to-face interaction it would be impossible to gather the interactional details or guess the possible intentions of the speaker. Simple recordings that convey only one side of the conversation, with no conversational prompts, like interview questions for example, would not give sufficient information on where to start in deciphering words out of the sentences, and on what those words could possibly mean. Louise believes that language is essentially dialogic and that, without dialogue, it would be rather difficult to fully understand the language of the other. Apart from the need to simply objectivise ones’ ideas, it is also necessary to think with (Humboldt’s *mitdenken*) the other being, to engage in the conversation, try to understand the other speaker.

In her first real, so to say face-to-face (even if screen-separated) meeting with the aliens in their ‘looking glass’ Louise starts off with the simplest words one can use when trying to learn another language without any previous knowledge and no idea of the language system. “I pointed to myself and said slowly, ‘Human’. Then I pointed to Gary. ‘Human’. Then I pointed at each heptapod and said, ‘What are you?’” (Chiang 2010: 97). In such a

way Louise tries to establish a connection between the words in English and the visuals that the heptapods could, potentially, understand better than a language they do not speak. After several failed attempts, she succeeds in getting one of the heptapods to say their name for themselves, and gets the “fluttering sound” (Chiang 2010: 98) that represents this word in what she will later call Heptapod A. Using a spectrograph Louise continues to try and understand the spoken Heptapod language by saying words in English and playing back the recorded fluttering. By the end of the first session Louise successfully learns words for “‘heptapod’ for [flutter1], ‘yes’ for [flutter2], and ‘chair’ for [flutter3]” (Chiang 2010: 98). She also learns that despite her attempts to recreate those fluttering sounds herself, she was not understood, since her vocal cords were not made to produce such sounds, and that the best solution in such a case would be using the recorded sounds.

After the first session the results that Louise had achieved were not as great as the colonel hoped for, since one cannot, in one short meeting, learn the entirety of a foreign language, especially in a completely different language system. However, in order to have better results, Louise asks for a screen, so that she could also engage with the heptapods’ written system, since, as she says, “it occurred to me that the heptapods must have writing too” (Chiang 2010: 101). This connection, that when there is a spoken language there should also be a written one, is not something that would work in all the cases, since some tribes, for example, may only be using spoken language, and some of our predecessors also did not have a writing system. According to Markus Messling, Humboldt spoke about writing as “the embodiment of a nation’s formal sense of language” (Messling 2008: 17).<sup>24</sup> More importantly, as Messling continues, he believed that “studies of [spoken] language and writing are to be integrated into one another” (Messling 2008: 17).<sup>25</sup> As such, it is important

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<sup>24</sup> die Verkörperung des formalen Sprachsinns einer Nation

<sup>25</sup> sind auch Sprach- und Schriftstudium ineinander zu integrieren

to study the spoken and the written language together, in some sort of a dialogue with each other.

During the next session with the heptapods Louise started learning both their written and spoken languages at the same time. Louise says that they “repeated the procedure we had performed before, this time displaying a printed word on our computer screen at the same time we spoke: showing HUMAN while saying ‘Human,’ and so forth” (Chiang 2010: 103). This approach helped Louise gather a rather extensive vocabulary: “I compiled two parallel corpora: one of spoken utterances, one of writing samples” (Chiang 2010: 103). Louise also asks the aliens for their names, in order to be able to address them, but since their names were impossible to pronounce, she “dubbed them Flapper and Raspberry” (Chiang 2010: 103), inspired by the fluttering sounds heard when heptapods spoke.

Upon seeing the Heptapod writing for the first time Louise realises that their script is logographic, and that it will not help her understand their spoken language, since, as she ponders, “[t]heir logograms might include some phonetic information, but finding it would be a lot harder than with an alphabetic script” (Chiang 2010: 103). In this and in the next meetings Louise keeps learning body-specific words by pointing at heptapods’ body parts, and by utilising Gary as a living exhibit when showing transitive and intransitive verbs. Communication with heptapods keeps being rather smooth, even though it might take them some time to understand which exact words Louise is asking for. Eventually, “Raspberry began mimicking Gary, or at least performing the equivalent heptapod action, while Flapper worked their computer, displaying a written description and pronouncing it aloud” (Chiang 2010: 104).

It is in the third meeting when Louise realises how exactly Heptapod B functions and how sentences are built in it. She first notices that when sentences like, for example “the heptapod walks” (Chiang 2010: 104) were written, “some of the logograms looked like the

logogram for 'heptapod' with some extra strokes added to one side or another" (Chiang 2010: 104). Some more verbs later, at the sentence "heptapod eats gelatin egg" (Chiang 2010: 105), Louise cannot recognise the parts of the sentence-logogram. She understands later, however, that the Heptapod "script isn't word divided; a sentence is written by joining the logograms for the constituent words. They join the logograms by rotating and modifying them" (Chiang 2010: 105-106). This moment marks the point where Louise starts to, at least partially, understand the logic behind the Heptapod writing system, which will give her the 'ability' to know the future and perceive time all at once, as will be demonstrated later on. Such understanding begins to expand her worldview and will eventually lead to her having an altered perception of time.

In response to Louise's explanation of the heptapods' use of their script, Gary notices a peculiar detail. He wonders if the fact that heptapods can read the logograms equally easily regardless of how they are written spatially is "a consequence of their bodies' radial symmetry: their bodies have no 'forward' direction, so maybe their writing doesn't either" (Chiang 2010: 106). This is where Lakoff and Johnson's orientational metaphors come into play to help one understand the connection between the heptapod bodies and their writing. Orientational metaphors, as was explained earlier, deal with the words and phrases we use in our languages, and how they are dependent on the way we physically function in the world. So, to fully apply that theory to Heptapod A or B one would need to know the heptapod embodiment and their experience of the world sufficiently to be able to pinpoint the meaning assigned to conceptual metaphors. For humans, positive things are in the upward direction and negative things downward, but this need not be so for other species from another planet.

However, it does seem possible to stretch the concept of the orientational metaphors and apply them also to the forms language itself takes. Human language is written in a linear

fashion, be it from left to right like in the European languages, from right to left, like in Arabic, or from top to bottom, like in Chinese script. Regardless of the specific direction in which the words are written, they are always linear. Humans also tend to move forward, into the direction that is in the front of them – back and forth, up and down (climbing the mountains, for example). One never moves in antigravitational circles. Unlike heptapod bodies, human bodies have a very clear forward-direction. These factors could, hence, be tied together, to link our bodily experience and our writing.

Heptapods, on the other hand, are built in a completely different way. There is no information about their home planet, so one cannot really say for certain how they get around, but it is mentioned that heptapods walk. As Louise mentions during her very first meeting: “[t]he one in front of me was walking around on four legs, three non-adjacent arms curled up at its sides” (Chiang 2010: 97). She also highlights one very fascinating feature of the heptapods, after noticing that one of them walked to the far side of the room and back without ever turning around: “with eyes on all sides, any direction might as well be ‘forward’” (Chiang 2010: 97). Indeed, heptapods do not have bodily orientations similar to those of humans, since their coordinates are different, and they can move in any direction at any time. Their language seems to embody the same feature – it is not linear, and it can be written in any direction while still being readable and completely understandable.

The same feature is also characteristic, as was previously briefly mentioned, of heptapods’ time perception. Unlike the most regular human one, where there is a direction back, into the past, and a direction forward, into the future (even if this directionality is only imaginary), heptapods look in all directions at the same time and can picture any moment from their entire lifetime.

Louise points out, when reminiscing about the progress she and the scientists from the other looking glasses have achieved, that the heptapods were incredibly cooperative and,

since “[t]he heptapods at every looking glass were using the same language, so we were able to pool our data” (Chiang 2010: 107). However, she admits that the “biggest source of confusion was the heptapods’ ‘writing’. It didn’t appear to be writing at all; it looked more like a bunch of intricate graphic designs.” (Chiang 2010: 107) Louise remarks that “that implied one of three possibilities” (Chiang 2010: 107) as to why creatures with such advanced technology were using such a ‘limited’ writing system: first that this was a system created for this occasion, that heptapods used specifically to communicate with humans, second that their advanced technology was created by someone else, and third that they “were using a nonlinear system of orthography that qualified as true writing” (Chiang 2010: 107). The third options means that this form of circular writing that did not have a clear beginning or end was indeed the one they used on a daily basis. It is fascinating to see how at that stage Louise’s perception of the system is still very human, since her understanding of the “primitive sign systems” (Chiang 2010: 107) is that one needs to know the context around the message to understand what it talks about. It does not yet occur to her that it might be not the context that the heptapods know, but that they already have heard the message itself.

Soon after, however, Louise comes to the conclusion that the Heptapod writing is semasiographic, meaning that it is based not on phonetic properties of the language, but rather on ideas, like Ancient Egyptian script, for example. The reader can see Louise’s newly acquired understanding of the Heptapod script as she explains to Gary how it is different from Heptapod A, and how it can express different meanings:

when ‘heptapod’ is integrated with ‘hears’ this way, with these strokes parallel, it means that the heptapod is doing the hearing /.../. When they’re combined this way, with the strokes perpendicular, it means that the heptapod is being heard (Chiang 2010: 109)

In one of her reports Louise suggests that they should use the word ‘semagram’ instead of ‘logogram’, since Heptapod B does not represent spoken words. Semagrams, however, are “meaningful on [their] own, and in combination with other semagrams could

form endless statements” (Chiang 2010: 111), and as such they could very well describe how, or in what, heptapods write. She also notices that Heptapod language does not use any punctuation; the only way to indicate syntactic structures in a sentence is to combine the semagrams in a specific way, and that due to that semagrams could vary in size drastically.

Having collected a sufficient amount of vocabulary, and having, to some extent, understood the grammar of Heptapod B, all the teams start to talk with heptapods about physics and mathematics in order to find out where they come from, what their understanding of science is, and how they create their technology. Here, however, scientists hit a very specific wall in communication: “[o]nly with the most concrete terms, like the names of the elements, did we have any success /.../. For anything remotely abstract, we might as well have been gibbering.” (Chiang 2010: 113) This could be either because heptapods do not have such concepts in their language or simply due to the way humans named them through the lens of their perception. Although scientific terms are supposed to be free of subjective meanings, they cannot help but be created by a human civilization.

While physicists are struggling to advance with their work, linguists are doing significantly better. They are even making progress in understanding the grammar of Heptapod A. They understand Heptapod B grammar even better. Since it is solely a written script, inflections can be indicated in very different ways, “by varying a certain stroke’s curvature, or its thickness, or its manner of undulation; or by varying the relative sizes of two radicals, or their relative distance to another radical, or their orientations /.../” (Chiang 2010: 114). While in many human languages such traits refer only to calligraphy and have no relation to grammar, in Heptapod B they could introduce very significant changes to meaning. This could also mean specific challenges for a human learning Heptapod B. We are used to writing and not paying that much attention to the thickness of the lines or their curvature in the shaping of our letters, hence also having different handwriting styles. Such

a difference would impact the ease with which a human would be able to become fluent in Heptapod B.

Louise reflects on trying to write in Heptapod B and how her attempts did not look really close to what heptapods would write. She describes her writing as looking “misshapen, like a heptapod-written sentence that had been smashed with a hammer and then inexpertly taped back together” (Chiang 2010: 115). Despite all of her best efforts and collaborating with the heptapods, it was still difficult for her to master writing the semagrams using pen and paper. Louise also talks about one very important learning moment that she experiences, about how “[i]t was strange trying to learn a language that had no spoken form.” (Chiang 2010: 116), which is somewhat a contradiction, since there was, in fact, Heptapod A – the spoken language, however Louise was unable to speak it. With spoken languages it is rather easy to lead one-sided monologues in one’s head that can help one practice the language. With languages where one only has access to the written form, however, it is not as easy, as one has to think in shapes. With Heptapod B, however, Louise says that she resorts to “squeezing [her] eyes shut and trying to paint semagrams on the insides of [her] eyelids” (Chiang 2010: 116), which seems, indeed, to be the only way to ‘think’ in Heptapod B and to practice it in any other way than physically writing it out.

It is at this time in the story that the physics team has a breakthrough that, unexpectedly, tells Louise a lot about the way heptapods and their language function. Gary explains to Louise the physics of light rays and how they, usually, choose the fastest possible route to take, which is called Fermat’s principle. It is curious to Gary how this became the first law of physics where they were able to find common features and understanding with the heptapods, because their team “thought that some simple theorem of geometry or algebra would be the breakthrough” (Chiang 2010: 117). His explanation is that “the heptapods’ idea of what’s simple doesn’t match ours” (Chiang 2010: 118). This explanation, however, might

not be the most accurate one. Perhaps it is not what they perceive to be simple or difficult but that such laws are the most basic in their world. This, to some extent, brings one back to Whorf's 'thought worlds', and the fact that the words in the language would depend on how one conceives of the world surrounding them. As such, what is categorised as simple or difficult would not be categorised as such by speakers of a different language. Just like for humans the laws that are also mirrored in our languages or everyday things seem the easiest (algebra, for instance, is not considered that complicated because we function in a world of numbers), for heptapods the laws that are mirrored in their language use are the most basic ones.

Louise raises the same question in her later pondering: "what kind of worldview did the heptapods have, that they would consider Fermat's principle the simplest explanation of light refraction?" (Chiang 2010: 121). Louise seems to intuit the answer to her question – their worldview was Heptapods A and B.

The preconditions for heptapods' languages are further reflected in Louise's thoughts when she does, actually, explicitly answer her question: "the ray of light has to know where it will ultimately end up before it can choose the direction to begin moving in. I knew what that reminded me of." (Chiang 2010: 125) What this reminded her of was heptapods' language. In order to write a sentence in Heptapod B one would need to know the entirety of what they are going to say, and, on top of that, heptapods "knew everything that they would ever say or hear" (Chiang 2010: 138).

Following this breakthrough in physics, Louise and other linguists from the team decide to find out whether or not one can write in Heptapod B without a regard for the order in which the different parts of the sentence are written out, since it was already known that one can read it in such a way. Louise finds out, however, that the reality of their writing is

even more complicated than she initially expected, and it is her conclusion at this point that brings her to connect Heptapod B and Fermat's principle:

Comparing the initial stroke with the completed sentence, I realized that the stroke participated in several different clauses of the message. It began in the semagram for "oxygen" /.../; then slid down to become the morpheme of comparison in the description of the two moons' sizes; and lastly it flared out as the arched backbone of the semagram for "ocean". Yet this stroke was a single continuous line, and it was the first one that Flapper wrote. That meant the heptapod had to know how the entire sentence would be laid out before it could write the very first stroke. (Chiang 2010: 122-123)

Louise realises, hence, that heptapods do not write their sentences like humans would, one semagram, or word, at a time. All the semagrams are interconnected and depend on each other to make sense of the statement. Since, if one were to go with Humboldt's ideas, language is *energeia*, it depends on the context to create sense, and if the semagrams were separate, they would create something akin to the 'dead skeleton' of language. This realisation, and the one of heptapods having to know the entire sentence in order to write it brings Louise closer to fully acquiring Heptapod B and how this interacts with her worldview.

#### **2.4. Perfecting the language skills and expanding the worldview**

With her newly acquired knowledge and understanding Louise proceeds to learn Heptapod B further and to improve on it to the best of her ability. She recounts that she "practiced Heptapod B at every opportunity, both with the other linguists and by myself" (Chiang 2010: 126). By doing that she comes to be more comfortable with the language. The language is no longer completely foreign. We can see her progress in writing it "[o]ver time, the sentences I wrote grew shapelier, more cohesive." (Chiang 2010: 126). Heptapod B becomes more natural for her to write in, her actions are more automatic:

I had reached a point where it worked better when I didn't think about it too much. Instead of carefully trying to design a sentence before writing, I could simply begin putting down strokes immediately; my initial strokes almost always turned out to be compatible with the elegant rendition of what I was about to say. I was developing a faculty like that of the heptapods. (Chiang 2010: 126)

This is a very clear indication of the progress in Louise's fluency. If previously she struggled with writing clear semagrams, now she is able to do it, and without even having to put much

thought into it. As Charles Fillmore writes, fluency can be described as “the ability to talk in coherent, reasoned, and ‘semantically dense’ sentences. The main ingredient in this kind of ability appears to be a mastery of the semantic and syntactic resources of the language” (Fillmore 1979: 93). Very little can be said about Louise’s semantic skills in Heptapod B, apart from the fact that she knows enough semagrams, but we know she has enough syntactic skills to write proficiently.

The increasing proficiency leads to other changes. Louise notices that “Heptapod B was changing the way I thought” (Chiang 2010: 126). This is a very good representation of the issue of worldviews that I have covered in the previous chapter – a new language Louise learns has an effect on her perception, her way of thinking about the world. This shows that the story does indeed deal with the influence of language on the perception of the surrounding world. The reader even gets a description of how Louise was perceiving the change itself:

[M]y thoughts were becoming graphically coded. There were trance-like moments during the day when my thoughts weren’t expressed with my internal voice; instead, I saw semagrams with my mind’s eye, sprouting like frost on a windowpane. As I grew more fluent, semagraphic designs would appear fully formed, articulating even complex ideas all at once. (Chiang 2010: 127)

She observes how, instead of thinking just in English, she starts having internal monologues in Heptapod B semagrams. She can see the shapes, which she compares to thinking in American Sign Language, based on her friend’s experience. The readers can also observe how the way of thinking itself was transformed: “[t]here was no direction inherent in the way propositions were connected, no ‘train of thought’ moving along a particular route; all the components in an act of reasoning were equally powerful, all having identical precedence” (Chiang 2010: 127). Speakers of English, one could argue, are rather used to thinking sequentially, with one thought triggering the other. In Heptapod B, however, one would have a “bundle” of thoughts represented in one or several semagrams.

Due to working side-by-side with physicists Louise gets one more way of interpreting and understanding the properties of Heptapod B and their difference from English:

[t]he physical attributes that humans found intuitive /.../, were all properties of an object at a given moment in time. And these were conducive to a chronological, causal interpretation of events: one moment growing out of another, causes and effects creating a chain reaction that grew from past to future. In contrast, the physical attributes that the heptapods found intuitive, /.../, were meaningful only over a period of time. And these were conducive to a teleological interpretation of events /.../. And one had to know the initial and final states to meet that goal; one needed knowledge of the effects before the causes could be initiated. (Chiang 2010: 129-130)

Yet again the reader is shown the difference between human and Heptapod languages. It is emphasised that we as humans are used to a chronological way of thinking, while heptapods rely on the end result.

At a slightly later point in the novella these differences are explained:

When the ancestors of humans and heptapods first acquired the spark of consciousness, they both perceived the same physical world, but they parsed their perceptions differently: the worldviews that ultimately arose were the end result of that divergence. Humans had developed a sequential mode of awareness, while heptapods had developed a simultaneous mode of awareness. We experienced events in an order, and perceived their relationship as cause and effect. They experienced all events at once, and perceived a purpose underlying them all. (Chiang 2010: 134)

This refers me back to the issues of worldviews. One can see that, indeed, the way we perceive the world will have an influence on the language one later speaks and vice versa. Since heptapods perceive the world and the events happening simultaneously, this is reflected in their language. They speak and write sentences that appear as one single entity, can be read in any direction, or order, and depend on knowing what will happen later. Humans, however, perceive everything sequentially and the same appears in our language – we read from one side to another, and the sentences do not depend on the future actions.

Louise goes on to describe her understanding of why heptapods have developed this form of writing: “it was better suited for a species with a simultaneous mode of consciousness. /.../ [E]very mark on a page was visible simultaneously.” (Chiang 2010: 135) This understanding comes to her as she finishes writing a sentence in Heptapod B fully on her own, without technology, with just chalk and blackboard. This shows that Louise’s

understanding of the Heptapod languages has had a lasting effect on her worldview and enables her to think in a way that is otherwise unavailable to humans.

#### **2.4.1. Narrative inconsistencies**

While in its majority the novella tends to be very consistent in representing the aliens and their interactions with humans, which mostly involve Heptapod B for communication, there seems to be an inconsistency when it comes to Heptapod A that can be understood and explained with the use of the concept of worldviews. This inconsistency derives from the need to tell the story in human language and the choice to represent the aliens from a human perspective. By choosing a human first-person narrator, the author has not filled in the details about how the aliens function or how their languages developed.

When reading the story, it becomes rather clear that Heptapod language is distinctly different from the human ones, which is logical, given that heptapods come from a different planet. The fact that their writing is semasiographic can be grasped by humans, since there are a lot of signs in our everyday life, even if written differently. Heptapod writing is simultaneous to some extent, it can be read in any way and is not constricted by order or time. As Louise mentions, this is very well suited for a species that functions in the simultaneous mode of consciousness.

However, Heptapod spoken language – Heptapod A – does not follow the same logic if we follow Louise’s reasoning. Louise mentions that “[f]or [heptapods], speech was a bottleneck because it required that one word follow another sequentially” (Chiang 2010: 135). This raises the question why or how a species that functions in a simultaneous mode of consciousness could develop and use a language that requires sequentiality. Louise also later mentions that the Heptapod A grammar, that seemed to her “unnecessarily convoluted” (Chiang 2010: 135) at first, was in fact “an attempt to provide flexibility within the confines

of sequential speech” (Chiang 2010: 135). It makes one wonder, hence, especially in light of the notion of worldviews.

First of all, going back to the notion of worldviews, one of the central arguments is that the language one speaks affects how one perceives the world and vice versa. Thus, if one lives in a world which they perceive simultaneously this would be transferred to their language. And vice versa, someone living in a sequential world will likely have a language that is also sequential.

In Chiang’s novella, however, heptapods, living in a simultaneous world, somehow have created a language that is perceived as sequential in its grammar and enunciation, although “their vocal tract is substantially different from a human vocal tract” (Chiang 2010: 93). Within the confines of science fiction, it would be possible for an alien race to have a spoken language where the entire sentence could be expressed in one prolonged sound, like the flutter of the heptapods, where words do not follow each other in a sequence that we as humans assume. If it were not possible, we may have to ask why heptapod spoken language can differ from their thinking.

However, this is true only under the assumption that the concept of worldviews functions the same way with all the languages and species. While it, indeed, functions rather well with the languages known to us, there might be languages that linguists do not know about and that might challenge the theory of worldviews. Perhaps it is, indeed, possible, to create a language that is not based on the perception one possesses. One could argue that German speakers do not perceive time differently from English speakers, and yet they have to know the entire sentence before saying it, in order to make it grammatically correct. That would constitute a somewhat different system of a spoken language that could, potentially, require a different perception, but it does not. As such, perhaps Humboldt’s idea of *Weltansichten* does not allow for the genius of the human (or alien) mind that can function

within different languages and different perspectives. To some extent, one could argue, the theory of worldviews is anchored to the languages known to Humboldt, however, should a completely different language become known, then it would no longer be as strong. Louise's perception of the heptapods speaking a language that was sequential, in contrast to their perception, undermines the idea of worldviews.

#### **2.4.2. Language and action**

An interesting reflection on the nature of language comes from Louise later in the novella, and it is prompted by thinking of how to describe needing language despite knowing the future. Louise says that language is not “only for communication” (Chiang 2010: 138) but “also a form of action” (Chiang 2010: 138). She explains that in human languages there exist “statements like ‘You’re under arrest,’ ‘I christen this vessel,’ or ‘I promise’” (Chiang 2010: 138), and that the actions described by those statements can only be enacted by being pronounced, and that for those actions “knowing what would be said didn’t change anything. /.../ With performative language, saying equaled doing.” (Chiang 2010: 138)

The notion of performative sentences comes from John Langshaw Austin, a language philosopher, and his book *How to Do Things with Words*. There he writes that such sentences “do not ‘describe’ or ‘report’ or constatae anything at all, are not ‘true or false’; and /.../ the uttering of the sentence is, or is a part of, the doing of an action, which again would not normally be described as saying something” (Austin 1962: 5). He calls them ‘performatives’ because they indicate “that the issuing of the utterance is the performing of an action” (Austin 1962: 6). He also writes, however, that it is not enough to just say the words for the action to be performed; there still need to be “‘physical’ or ‘mental’ actions or even acts of uttering further words”, as well as definite felicity conditions (Austin 1962: 8).

Just knowing about the actions was also not enough in the novella as “[f]or the heptapods, all language was performative” (Chiang 2010: 138). They did not need to use the

language in order to let each other know new information, “they used language to actualize” (Chiang 2010: 138). However, unlike in human language, where only a limited number of utterances can be called performatives, as they produce a change in the world by mere linguistic act, for heptapods language also plays a role in actualising the future that they knew would happen (and that would not happen without their active part in performing it).

Louise compares this to the *Book of Ages* and explains that while “[f]reedom [to choose what to do] /.../ [is] perfectly real in the context of sequential consciousness [,] [w]ithin the context of simultaneous consciousness, freedom is not meaningful, but neither is coercion” (Chiang 2010: 137). She elaborates on this by adding that “knowledge of future is incompatible with free will. What made it possible for me to exercise freedom of choice also made it impossible for me to know the future” (Chiang 2010: 137). She stresses that “[s]ure, heptapods already knew what would be said in any conversation; but in order for their knowledge to be true, the conversation would have to take place” (Chiang 2010: 138). This further stresses the difference between the human and the heptapod ways of living.

## **2.5. Fluent Heptapod B and expanded worldview**

Towards the end of the novella, we can see a change in the way Louise describes her interactions with other human characters and relationships with language. It goes from very simple and usual sentences like “I pointed at something that might have been a heptapod chair” (Chiang 2010: 98) as a representation of completely sequential awareness, to “I knew the heptapods were familiar with the conversation’s eventual outcome” (Chiang 2010: 137), that is, understanding of simultaneous awareness. Eventually Louise comes to the realisation that “I knew what I had to say” (Chiang 2010: 139), showing that she functions, at least partially, in simultaneous mode of awareness.

It is also here that Louise comes to a realisation about the nature of the performativeness of the Heptapod language: “I suddenly remembered that a morphological

relative of ‘performative’ was ‘performance,’ which could describe the sensation of conversing when you knew what would be said: it was like performing in a play” (Chiang 2010: 139). To her, the time awareness that speaking and thinking Heptapod B brought with itself meant that now she felt like in her interactions she was to some extent as if reading off a script, since she already knew everything that she would say, and everything that she would hear in response.

This metaphor of a script and a play is actually mentioned by Louise later on, when describing her conversation with Colonel Weber: “[h]e was perfectly oblivious of the script, yet his responses matched his assigned lines exactly” (Chiang 2010: 139) and “[h]e was improvising, while I had carefully rehearsed for this one and only show” (Chiang 2010: 139). Gary, in his reply, also says his words, as Louise says, “right on cue” (Chiang 2010: 139). Louise’s ability to know what was to come felt to her like a script of a play, where everything was already predetermined (especially since, just like in the *Book of Ages*, one cannot really change the events that are supposed to happen). It is interesting to note, however, that Louise talks about having rehearsed for this ‘show’, that is, the conversation with Weber. If it were her true future – she would have said them correctly either way, however as someone who has just acquired this new mode of perception, she might not have been fully at ease with the notion of having to say what you already know you will say, and keeping in mind that you have to say those things correctly.

Louise’s further understanding of the differences between human and heptapod ways of communicating is shown through her comparing the two: “[a]n utterance that was spontaneous and communicative in the context of human discourse became a ritual recitation when viewed by the light of Heptapod B” (Chiang 2010: 140). This to some extent repeats her previous thoughts on the matter. However here she applies Heptapod language logic to human speech and looks at the things she and her colleagues are saying the same way a

heptapod would look at them. This shows she is acquiring the heptapod worldview, as now she automatically perceives the world not only through the human lens, but also through the heptapod one.

This acquisition, however, is, to some extent, limited. Louise reflects on this herself, and this reflection might serve as the biggest case for the presence of the notion of worldviews in the novella:

Even though I'm proficient with Heptapod B, I know I don't experience reality the way a heptapod does. My mind was cast in the mold of human, sequential languages, and no amount of immersion in an alien language can completely reshape it. My worldview is an amalgam of human and heptapod. (Chiang 2010: 140)

As I have mentioned in the previous chapter, each newly acquired language, or worldview, only enlarges the worldview a person already possesses. Humboldt also stresses that “one always, more or less, brings one's own worldview and language view over into the foreign language” (Humboldt 1974: 73). Louise, in the quote above, reflects on the same issue. She highlights how, although she can now speak Heptapod B fluently, it does not mean that her perception has completely changed. Instead, it is now a mixture between the two – heptapod and human. The transition is further complicated by the fact that the two languages are so different in their structures and temporality.

Louise goes on to reflect also on the specific ways in which her perception became different with the acquisition of Heptapod B:

Before I learned how to think in Heptapod B, my memories grew like a column of cigarette ash, laid down by the infinitesimal sliver of combustion that was my consciousness, marking the sequential present. After I learned Heptapod B, new memories fell into place like gigantic blocks, each one measuring years in duration, and though they didn't arrive in order or land contiguously, they soon composed a period of five decades. It is the period during which I know Heptapod B well enough to think in it, starting during my interviews with Flapper and Raspberry and ending with my death. (Chiang 2010: 140)

She describes here how, while previously growing sequentially, one by one, now her memories filled her entire mind, the things that have passed, and the ones yet to come. One can see how she emphasises that the memories that are arranged in the ‘heptapod way’ are

only those that have appeared after she acquired the language. The heptapod perception does not affect her time before she spoke, or, rather, wrote, Heptapod B, since all of the events back then she was perceiving through the lens of only human language and sequential awareness. However, her memories changed when she acquired the faculty to perceive of time as simultaneous.

Louise also describes the limits of how Heptapod B affects her perception:

Usually, Heptapod B affects just my memory: my consciousness crawls along as it did before, a glowing sliver crawling forward in time, the difference being that the ash of memory lies ahead as well as behind: there is no real combustion. But occasionally I have glimpses when Heptapod B truly reigns, and I experience past and future all at once; my consciousness becomes a half-century-long ember burning outside time. I perceive—during those glimpses—that entire epoch as a simultaneity. It's a period encompassing the rest of my life, and the entirety of yours. (Chiang 2010: 140-141)

Memory is the aspect she stresses the most as now her memory also extends into the future. She also mentions, however, how, occasionally she gets moments in which she lives through full heptapod perception and experiences all the time as a single simultaneous entity. This, however, only happens occasionally, since, as previously mentioned, her perception is still human as much as it is heptapod.

During the last communication with the heptapods Louise is shown as being as comfortable in Heptapod B as she is in English. Previously Louise would give the English translation for what the heptapods said and then the sentence as it was written, just with English words: “[w]hat Flapper had said was that the heptapods’ planet had two moons, one significantly larger than the other /.../ translated literally as ‘inequality-of-size rocky-orbiter rocky-orbiters related-as-primary-to-secondary’” (Chiang 2010: 122). Now Louise first gave the sentences as they would sound in Heptapod B, and only then translated them to English: “I wrote out the semagrams for ‘process create-endpoint inclusive-we’, meaning ‘let’s start’” (Chiang 2010: 141). In another example she says “I wrote out the semagrams for ‘locus-exchange-transaction converse inclusive-we’ with the projective aspect modulation” (Chiang 2010: 142) without mentioning the way it would sound in English, because she was

fulfilling Weber's request to "schedule the time and location for the next exchange" (Chiang 2010:142) and, perhaps, because for her the English translation was not necessary.

As the reader also learns in this last communication with the heptapods, Louise is not the only linguist who has acquired the language sufficiently to have had their perception affected. Burghart, who worked on a different location, was also proficient and capable of writing in Heptapod B freely. Louise reflects on her conversation with him as "[e]verything we said to each other felt like the carefully bland exchanges of spies who meet in public, but never break the cover" (Chiang 2010: 142), since they were the only two people in the room who perceived time differently now and could communicate in ways that were inaccessible to others.

In the very end of the novella Louise reflects on the fact that she wished to be able to learn more of the Heptapod language, and to experience their worldview more. She also reflects on the dialogicity of learning a language and communicating, and how important it is to have the native speakers available in order to learn the language to the extent that it starts to contribute to our worldview, while knowing that we will never be able to experience the world the way in which the other does:

I would have liked to experience more of the heptapods' worldview, to feel the way they feel. Then, perhaps I could immerse myself fully in the necessity of events, as they must, instead of merely wading in its surf for the rest of my life. But that will never come to pass. I will continue to practice the heptapod languages, as will the other linguists on the looking-glass teams, but none of us will ever progress any further than we did when the heptapods were here. (Chiang 2010: 144-145)

Louise assumes that if she had an opportunity to experience more of Heptapod B and of heptapods' perception, she would have been able to acquire their worldview more fully. However, I would hypothesise that such an acquisition would be impossible because of Humboldt's arguments about the limits of acquiring a worldview. Her perception would have always been affected by her human, sequential awareness, and it is doubtful that she would have ever been able to overcome the sequentiality and exist only in the simultaneity. However, and especially with the lack of heptapods, such a feat would be especially

impossible, since, with just the words in Heptapods A and B, the language would become simply *ergon*, the aforementioned 'dead skeleton', with no livelihood. For a language to truly exist and be successfully used, it would need to be *energeia*, it would need to be a living organism, and without that it would only be a collection of words without any real-life context.

## CONCLUSION

The more people learn in their life, the more books they read, the more things they experience the more they know. The same works with languages – the more languages a person speaks, the more people they interact with, the broader their worldview. This process can be explained through the concept of *Weltansichten*, introduced by Humboldt. Humboldt's writing on language could, in general, be potentially very topical nowadays. *Mitdenken*, the process of accepting the fact that others have a different worldview, and of engaging in a dialogue with them, is more vital than ever. This research can be expanded by testing the claims made by Humboldt in empirical linguistic research across a diversity of languages. There is also potential to combine Humboldt's ideas with affect theories that seek to explore the pre-cognitive embodied experiences (e.g., the possibility to feel intensities despite not having words for them and not being able to describe them). This issue could, for example, be developed via further research that includes insights from neuroscience and neurodivergence.

Humboldt's idea of the language as *energeia* is not only interesting in itself, but also echoed in later research, as shown by the case of Henri Meschonnic. While the ideas on language changing with time and depending, to some extent, on the context are nothing new to people nowadays, it is still somewhat new to see language described as something living, as a work of mind.

Benjamin Lee Whorf's idea of linguistic relativity, occasionally also, incorrectly, called linguistic determinism, proved to be, in fact, much closer to Humboldt's ideas than I imagined going into the research. The concept of 'thought worlds' resembles the concept of worldviews by implying that the thought worlds are dependent not only on language, but also on the context in which they exist and on communication.

Lakoff and Johnson, presenting a fascinating case for the influence on how language is formed, also make a great addition to the theoretical foundation of this thesis. They, like Humboldt, are interested in the effect of the surrounding world on language, go, due to the time when they were researching and the academic traditions, much further in cognitivism than Humboldt could have ever imagined and expand the ideas of earlier authors by bringing into the equation the connection between the body and the mind. By talking about physical experiences and how they are reflected in language, they also generate insights about the importance of embodiment that can be potentially developed further with the help of affect theory.

Perhaps even more importantly, this thesis has demonstrated that there can exist a connection between theories spread out over time like Humboldt's, Whorf's and Lakoff and Johnson's. It was interesting to see how the concept of *Weltansichten*, and the ideas of language being dialogical, the linguistic ideas about linguistic relativity and cognitive metaphor theory can come together in a literary analysis of contemporary fiction. The theories, complementing each other, present a sound theoretical basis for the analysis of how perception and changes in it can be conveyed through language.

Throughout the novella the reader gets an opportunity to experience time together with Louise, the first-person narrator. Chiang conveys the temporal experience through the structure of the text that allows the reader to experience the past and the future as simultaneously as the English language allows. Apart from reading the story in a non-linear progression, the reader also gets linguistic hints that allow one to observe how Louise's perception changes throughout the segments from the past that she narrates. She starts out thinking like a human, then switches to mentioning that heptapods knew what was supposed to happen, and eventually speaks of herself and of her perception in the heptapod mode. She eventually even compares her interactions with others as a script, since knowing all of the

time and of the events is still too new to her to treat as a natural occurrence, but yet the author shows that she has this mode of awareness.

It is notable how Louise's understanding of and fluency in Heptapod B, and even Heptapod A, change throughout the novella. The reader goes with her on a sequential journey through her past, understanding the peculiarities of Heptapod B together with Louise. From "a doodle of script, vaguely cursive" (Chiang 2010: 103), her first impression of the written language, we move to confusion: "[t]he language had no written punctuation: its syntax was indicated in the way the semagrams were combined, and there was no need to indicate the cadence of speech" (Chiang 2010: 111-112). Eventually we reach mastering the language: "the giant Heptapod B sentence I'd written /.../ included several complex causes, and I had managed to integrate all of them rather nicely" (Chiang 2010: 135).

For a text that has to use sequential language to tell the story through a human narrator, I believe that *Story of Your Life* provides a rather convincing case for the representation of the influence of language on a person's perception. It showcases the important factors mentioned in the theoretical chapter, such as the need for dialogicity in language acquisition and the shaping of worldviews in which our existing worldviews necessarily change as we mingle with new ones.

Additionally, while working on this thesis, it felt more and more to me that Humboldt's idea of dialogicity could potentially be perceived as a part of a newer direction in humanities – affect theory. The idea that one is always in a dialogue with someone or something else, and the necessity to *mitdenken* are not just a matter of conscious mind but also of bodily intensity. By learning a different language and by communicating with others one is affected and expands their worldview. This, at least to me, resembles to some extent the key pillar of affect theory – the fact that we all affect each other and are by affected by others.

Similarly to how Louise's perception was constructed and extended in the novella, through communication with the aliens, one's perception is affected throughout their life. Through every interaction, through every new language, and through every new thing we do and achieve, we encounter differing worldviews, we think along with different people, and extend our worldviews. While Louise's interaction with the heptapods and learning their language helped her tell the story of her daughter's life, by conducting this research and writing this thesis I am to an extent creating the story of my own perception.

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## RESÜMEE

TARTU ÜLIKOOL  
ANGLISTIKA OSAKOND

**Mariia Sherikh**

**Construction of Perception Through Language in *Story of Your Life* by Ted Chiang**  
**Taju konstrueerimine keele abil Ted Chiangi teoses *Story of Your Life***

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Juba väga pikka aega on erinevad uurimisvaldkonnad, sealhulgas kultuuriuuringud, filosoofia ja keeleteooria, uurinud maailmavaadete mõistet. Üks huvitavamaid, ent mitte tingimata kõige tuntumaid ideid on Wilhelm von Humboldti mõiste *Weltansichten* (sks k maailmavaade). Käesolevas magistritöös proovitakse seda mõistet kombineerida keeleteadusega ning vaadelda seda praktilisemas võtmes, analüüsides Ted Chiangi ulmenovelli *Story of Your Life*.

Töö sissejuhatuses antakse ülevaade maailmavaate mõistest, samuti Wilhem von Humboldti taustast ja käesoleva töö eesmärkidest. Teoreetiline peatükk tutvustab maailmavaate mõistet ning teisi Humboldti teooriatest pärit mõisteid nagu *ergon* ja *energeia* ning dialoogilisus. Lisaks käsitletakse Whorfi keelelist relativismi ning Lakoffi ja Johnsoni suunametafoore. Teises peatükis analüüsin lähemalt novelli ja kaardistan, kuidas läbi keeleliste ja narratiivsete vahendite kujutatakse peategelase maailmavaate arengut.

Uurimistöö tulemusena võib kinnitada, et novell kirjeldab üsnagi veenvalt protsessi, mille käigus peategelane avardab oma maailmavaadet. Õppides ära enda jaoks täiesti uue ja tundmatu keele, muutub ka viis, kuidas tegelane tajub aega. Teiseks sai teoreetilise uurimise tulemusel selgemaks, et Wilhelm von Humboldti teooria kujutab kuidas inimese taju võib muutuda. Seda teooriat saaks edasi arendada, kombineerides seda näiteks afektiteooriaga.

Märksõnad: inglise keel, inglise kirjandus, taju, maailmavaated, keeleteooria.

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16.05.2023

## **Autorsuse kinnitus**

Kinnitan, et olen koostanud käesoleva magistritöö ise ning toonud korrekselt välja teiste autorite panuse. Töö on koostatud lähtudes Tartu Ülikooli maailma keelte ja kultuuride kolledži anglistika osakonna magistritöö nõuetest ning on kooskõlas heade akadeemiliste tavadega.

Mariia Sherikh

16.05.2023

**Lõputöö on lubatud kaitsmisele.**

Raili Marling

Marko Pajević

16.05.2023