



UNIVERSIDAD DE JAÉN
Facultad de Humanidades y Ciencias de la Educación

Trabajo Fin de Grado

A Language-Shaped Reality: Science Fiction Linguistics in Literature

Alumno/a: JUAN CARLOS CAMPOS DE LA RUBIA

Tutor/a: Prof. D. Juan Ráez Padilla
Dpto.: Dpto. Filología Inglesa

Julio, 2021

Man has made himself from the beginning through language
— Tzvetan Todorov, 1970

Table of Contents

ABSTRACT	2
RESUMEN	2
1. INTRODUCTION	3
2. OBJECTIVES AND METHODOLOGY	4
3. THEORETICAL FRAMEWORK	7
3.1. The Sapir-Whorf Hypothesis	7
3.2. Bourdieu's Symbolic Power and Language	9
4. PRACTICAL ANALYSIS	11
4.1. Ted Chiang's Story of Your Life	11
4.2. Suzette Haden Elgin's Native Tongue	18
4.3. Jack Vance's The Languages of Pao	24
5. FINAL REMARKS AND CONCLUSIONS	30
BIBLIOGRAPHY	33

ABSTRACT

This final degree thesis looks into the role that linguistics play within the science fiction genre. This is, science fiction novels in which language plays an important and relevant role as a plot device through which the novel develops its world and story. In order to provide adequate support to this concept, we will pay attention to the conflicts and relationship between verbal elements and the fiction itself, subordinating these narratives to concepts such as Sapir-Whorf's Linguistic Relativity, and Pierre Bourdieu's Symbolic Power. This will place at the center of focus which are the human intentions for which language exists in this kind of novels and how linguistic structure and behaviors influence social structures and the process of thought within the selected science fiction novels. Specifically, we will place our focus in three works of fiction: Ted Chiang's *Stories of Your Life and Others*, Suzette Haden Elgin's *Native Tongue*, and Jack Vance's *The Languages of Pao*.

RESUMEN

Este trabajo de fin de grado analizará el papel que juega la lingüística dentro del género de la ciencia ficción. Es decir, novelas de ciencia ficción en las que el lenguaje juega un papel importante y relevante como dispositivo argumental a través del cual la novela desarrolla su mundo y su historia. Para dar un soporte adecuado a este concepto, prestaremos atención a los conflictos y la relación entre los elementos verbales y la propia ficción, subordinando estas narrativas a conceptos como el relativismo lingüístico de Sapir y Whorf, y el poder simbólico de Pierre Bourdieu. Esto situará en el foco de atención cuáles son las intenciones humanas para las que existe el lenguaje en este tipo de novelas y cómo la estructura y los comportamientos lingüísticos influyen en las estructuras sociales y el proceso de pensamiento dentro de las novelas de ciencia ficción seleccionadas. Específicamente, nos centraremos en tres obras de ficción: *Story of Your Life and Others* de Ted Chiang, *Native Tongue* de Suzette Haden Elgin y *The Languages of Pao* de Jack Vance.

KEYWORDS

Science-fiction, sci-fi, linguistics, linguistic relativity, language and culture, symbolic power, Sapir-Whorf hypothesis, whorfianism, Whorf, science fiction literature, dystopian novels.

PALABRAS CLAVE

Ciencia ficción, sci-fi, lingüística, relativismo lingüístico, lenguaje y cultura, poder simbólico, hipótesis whorfiana, hipótesis de Sapir-Whorf, literatura, novelas distópicas.

1. INTRODUCTION

Linguists and scholars have thoroughly discussed through the ages the sociocultural aspects involved in language functioning. In the field of linguistics over the past century, it has become fundamentally understood and accepted that there exists a very close relation between language and culture. In the 1920s, different anthropologists from England and North America began to study and pay attention in a deeper manner to this relationship. Many of them noted that the meaning of words were highly dependent of given context and real-life situations within a speech community. Throughout many of these studies and analyses many different kinds of approaches have been applied to what the relationship between language, society and culture is. This anthropological approach to the study of language and culture sets a solid groundwork in the history of linguistic evolution and literature. Not only scholars in the field of linguistics but also many well-known contemporary authors of science fiction and dystopian literatures have placed their attention in this matter. Many experts from both literary and anthropological sides have agreed that it is likely that social structures may influence both behavior of individuals and linguistic structures.

However, in this paper we will be focusing in the opposite view that has been used in numerous works of fiction as an either main role or secondary plot device; the idea that those linguistic structures and/or behaviors may either determine or heavily influence social structures and relationships. This view is popularly known within the academia as the ‘Whorfian Hypothesis’ or ‘Linguistic Relativity’, which suggests that the view of the world reality is affected by the structure of the language people use, making human perception relative and strongly linked to language. This idea has proved to be an interesting vehicle for science fiction writers, especially those focusing on dystopian environments in which language and society play a determining role. Accordingly, this view suggests that the cultural requirements of a certain community and its language influence how the language is used and why certain chunks of speech and vocabulary are the way they are. Thus, making remarkable the close relationship between language and culture, where you can not understand one

without extensive knowledge of the other. Namely, we can use as an exemplification George Orwell's dystopian science fiction novel *1984*, where this concept is presented in the form of 'Newspeak', a linguistic tool created by the author in which this fictional language is used as a substitution of today's English in order to shape and control citizen's thinking with a limited lexicon.

Likewise, we will be taking into consideration for the analysis of the selected stories the approach taken by French sociologist Pierre Bourdieu. In this case, his writings deal with the existing relation between language and power, as it is undeniable that language plays an important and relevant role within the political sphere and the hierarchical positions of societies. For instance, as English is now recognized as global lingua franca, it could be discussed that its native speakers have certainly acquired an implicit advantage in terms of worldwide communication, whereas the speakers of other languages will always have to keep up with the language in order to rival their opportunities. In essence, for Bourdieu language has the power to define, that is, to establish meaning and henceforth to decide and prescribe what is to be considered legitimate and rightful. To put it differently, language has the power of determining the truth, thus making language a tool that could be subject to manipulation by the ones in higher positions of the social scale.

We will see how the selected novels use these concepts and ideas to develop their plots and how important the role of language is within their stories, as all of them put in the spotlight the influence that language has in the behavior of their characters and the society in which they are submerged. Moreover, we will be examining the uses and applications of these hypotheses and the growth and evolution of both whorfian and symbolic power notions and implications throughout those stories.

2. OBJECTIVES AND METHODOLOGY

The present research study aims to study the genre of science fiction from a critical, sociological and linguistic dimension, to demonstrate its complexity and contribute to its recognition beyond its function as entertainment. Moreover, we will also focus on how this genre has the ability to analyze societies from a different perspective that can also prove to be

relevant in reality, whether in science fiction, or specifically in dystopias. These representations, though fictional, are substantially backed by linguistic concepts and sociological principles, and their background and theoretical support are well crafted and meticulously chosen by their authors. This sub-genre reveals questions, concerns and fears that societies have had throughout the history and these stories are just but a mirror of those concerns that exemplify the challenges that language and society display at the present moment in our multilingual reality. In short, the main goal of this research is to provide an introductory approach to relevant concepts within the fields of linguistics and culture by using as supporting agent the chosen science fiction novels.

With this in mind, the increasing interests in ICTs may undoubtedly lead to greater technological developments. Science fiction tends to establish its stories within the walls of those futuristic technological improvements. However, we will see how this does not always suppose a proportional progress on social or moral grounds since, in some cases, those technological upgrades seem to be reinforcing questionable treatments of social rights, privacy, and freedom, which may weaken people as a society. When approaching this research, we have proposed a qualitative methodology in which we will differentiate two phases. The first will be dedicated to the development and unfolding of necessary theoretical concepts in which both the chosen novels and this thesis are based. The next step will be to relate these theoretical concepts with three science fiction novels that use linguistics and the relationship between language and culture as plot device to carry out the main analysis and interpretation of those ideas as shown in the novels.

For the choice of novels, which is the base of our research, the genre provides a wide range of works from contemporary authors that showcase the elements that were of main interest, language and society. Many well-known authors such as George Orwell, Ray Bradbury or J.R.R. Tolkien had already presented the fiction genre with interesting and innovative approaches to linguistic concepts and as such, served us of inspiration. In fact, Orwell's famous novel *1984* bears many similarities with the works we will analyze, since they deal with near future dystopian societies in which its citizens have their rights compromised. This research has heavily been influenced by the work of professor Myra Edward Barnes on her pioneer PhD dissertation *Linguistics and Language in Science Fiction-*

Fantasy (1975). On this text, the author examines the imaginary languages that have been created by many science fiction writers, where she explores the utilization of linguistics in plot design and as literary device, taking a look at it as a tool of literary criticism. Barnes brings special attention to both utopian and dystopian texts, taking a look at the approach on language proposed by Sapir and Whorf on their linguistic theory that language controls how we perceive the world. Likewise, the work of professor Walter E. Meyers on science fiction criticism supposes an essential cornerstone of this research, for his book *Aliens and Linguists: Language Study and Science Fiction* (1980) is of utmost important influence on this field. Like the works Barnes and Meyers analyze, the chosen texts for this study use a device known as *glossopoeia*, as a tool to exhibit how language can be used by dictatorial regimes to exert control over the population. The artificial languages created by the authors play a major role in all the novels that we will be dealing with. We ended up choosing those works that showed the best potential to carry out the best possible understanding of the concepts presented in the theoretical framework, so they could be as close as possible to contemporary concerns. These chosen novels are *Native Tongue* (Suzette Haden Elgin, 1984), *Story of Your Life and Others* (Ted Chiang, 2002), and *The Languages of Pao* (Jack Vance, 1958), which revolve around the clash of different stratum of their futuristic societies, where language is placed at the nucleus of the text.

As secondary sources, we began with the use of bibliography that dealt with science fiction and dystopia in a broad way to consider the definition and frame the basic concepts of the subgenre. Once these general ideas were settled, we looked beyond the genre in order to get information in papers examining some of the more specific issues related with sociolinguistics, language, and culture, which suppose the core bibliographical references used in the theoretical framework. Finally, we must mention that the use of magazine articles and essays presented on virtual platforms such as *JSTOR*, *LION*, and *academia.edu* have been a fundamental source in this research, since they have allowed us to reach more specific documents dedicated to the analysis of the novels given here and to much needed linguistic theories and concepts related to these works.

3. THEORETICAL FRAMEWORK

3.1. The Sapir-Whorf Hypothesis

The hypothesis of linguistic relativity, also known as the Sapir-Whorf hypothesis, is a principle formulated in the 1930s by anthropological linguists Edward Sapir and Benjamin Lee Whorf, that suggests that, somehow, the language spoken by individuals influences and shapes their thoughts. According to Whorf (1965), the “real world” is to a large extent unconsciously built up on the language habits of the group (p.160). This theory of linguistic relativity, although it has been heavily disputed by linguists ever since it was first formulated by Sapir and Whorf, has proven to serve as guidance in many language-related theories that would be considered more accurate later on. For one thing, even if their proposed notions of linguistic relativism have been rejected by scholars, it has been agreed that language portrays a crucial part in how our reality is constructed and in how each individual’s worldview bends. Furthermore, the premise that the correlation between language and culture can influence and determine how reality is perceived has influenced science fiction writers all over the world, as the futuristic environments showcased in this genre often include interactions between human and alien cultures, where the authors often rely on fictional languages, a phenomenon known as ‘glossopoeia’. For instance, internationally praised novels and TV adaptations such as *The Lord of The Rings* (J.R.R. Tolkien, 1954), *Star Trek* (Gene Roddenberry, 1960), or *1984* (George Orwell, 1949) have been presented with well-built glossopoeias in the form of Elvish, Klingon, and Newspeak respectively. The literary use of fictional languages that can shape thought is known as Whorfianism (Noletto & Lopes, 2020).

Nevertheless, it must be stated that the Sapir-Whorf theory is known in two versions, the strong hypothesis or linguistic determinism, and the weak hypothesis or linguistic relativity. However, Sapir and Whorf did not explicitly specify an exact code or maxims that comply with this hypothesis. In 1921, Sapir suggested that language and thought influence one another, making language a “prepared road” (p. 15). While Whorf (1956) noted that we dissect the universe along lines laid down by our native languages (p. 213), suggesting that words are the ones that influence and regulate how individuals conceive the concepts of

reality. In essence, these “strong” and “weak” versions of this hypothesis do not refer to the extent to which they are accepted by scholars and academia, but to the scope to which language is thought to influence human behavior and the process of thought.

All the chosen novels for our practical analysis heavily rely on either version of the Sapir-Whorf hypothesis, and use linguistics as their primary plot apparatus. In all these stories, it is demonstrated how language is far from neutral when interactions between cultures are presented, suggesting that discourse describes but one specific encoded view of a distinct social context. American linguist Charles F. Hockett (1968) argues that human beings have struggled through history with the limitations of language, and that speech habits are revised to accommodate cultural changes (p. 132). Moreover, the fact that authors like Chiang use glossopoeia in their stories in order to question reality and morals, makes the influence of the Sapir-Whorf theory unquestionable, since most sci-fi novels presenting an alien language-engaging scenario acquire this whorfian-like view of the relation between language and reality, allowing it to accentuate the degree to which new language systems from one side, that were unknown up until that point, can alter the perception of reality of the other end. As Pinker (1995) noted:

Once you begin to look at language not as the ineffable essence of human uniqueness but as a biological adaptation to communicate information, it is no longer as tempting to see language as an insidious shaper of thought, and, we shall see, it is not (p. 19).

Professor Csicsery-Ronay (2008) claims that the glossopoeias used in fiction, what he calls “science fictional neology”, operate between two areas: the semantic modifications of words and sentences that remain familiar in structure and form but have acquired new meaning by being influenced with imaginary social conditions; and the construction of new words that have no connection to pre-existing languages (p. 18). That is to say, the unequivocal nature of those neologisms does not revolve around social changes in usage, but it does in how they arouse those imaginary differences of culture and consciousness. In the case of Orwell’s Newspeak, it is a derivation of English, meant to stay comprehensible, but on other occasions the alien language results completely incongruous. Accordingly, an individual’s consciousness only allows a choice between one or another track, where a conscious choice must spring from the entity of the reciprocal relations itself. Hence, it must entirely unite the indeterminacy of the alternative to be chosen with the determinacy of the

decision, since the sheer mix of known doubt with unknown certainty would make it predetermined (Janew, 2009).

3.2. Bourdieu's Symbolic Power and Language

As Sapir and Whorf deemed that the power of language could be considered to control reality, they were convinced that the differences between languages went beyond how they are arranged syntactically, and consequently be linked to a strong disparity in the way of thinking (Deutscher, 2010). By the same token, French sociologist Pierre Bourdieu (1982) introduced the concept of “symbolic power”, to refer to actions that are attributed with discriminatory implications like racism, gender discrimination, and hierarchical dominance. This phenomenon is seen to be caused by the obliviousness carried by power relations within the social matrix, which affects to fields like linguistics. That is to say, language can be used and manipulated by system institutions and individual relations in order to set individual's status inside a social hierarchy. For instance, Bourdieu voices in the very beginning of *Language and Symbolic Power* (1991):

although it is legitimate to treat social relations as symbolic interactions, one must not forget that linguistic exchanges are also relations of symbolic power in which the power relations between speakers or their respective groups are actualized (p. 37).

Thus, social interactions utter pre-established socio-historical positions defined by a capital of resources, that have circulated and been distributed in an unequal manner, from where individuals speak. This leads to situations in which using certain words or specific accents and expressions in a language could be seen as either superior or inferior, depending on what has been assigned to them historically and socially. Subsequently, communicative resources are socioculturally intoxicated with hierarchical undertones. As a result, it is suggested that language has the power of defining meaning, and as such, to decide what is and what is not legitimate. Objectification and the simple process of naming something is seen to have an effect of prescription and restraint, since something previously free of all prejudice is now biased and subject of control from whoever group of individuals regulate the language.

Therefore, symbolic power makes those who control language the ones that will develop into the predominant ruling class, making language subject to be used as an agent to

regulate the system of social structures. Bourdieu's idea is centered around the implication that social values are learned through biased standards in which language is just another category, along with religion, art, and ethnicity, through which the dominant class control social stratification (Bourdieu, 1991). Related to this idea, feminist Julia Kristeva (1974) pointed out to the idea that language encodes masculinist attitudes and values that contribute to women discrimination in society, which is basically the premise of Elgin's *Native Tongue*. Similarly, Bourdieu's symbolic power alludes that this type of biased encoding imposes a view of the social world on groups as a whole through principles of division, which establishes a general agreement about meaning and the identity of those groups. Linguist Eugene Nida (1982), when summarizing some intrinsic features of vocabulary in relation to semantic, translating, and cultural studies, stated that words are sometimes "idiomatically-governed" and "culturally-specific" (p. 161). In fact, she describes five types of sub-culture that we should pay attention to, especially when dealing with cross-cultural communication: ecological culture, linguistic culture, religious culture, material culture, and social culture. In essence, not only language and its structure can influence thought, like Sapir and Whorf suggested, but also the power wielded to language by the dominant classes of its users heavily impels individuals' and groups of individuals' cognition.

For instance, if we go back to the *Newspeak* example set by George Orwell in 1984, its objective was to brainwash people with the belief that if the language did not have specific terms to convey dissatisfaction or disapproval of the system, citizens would not think of those ideas and grow so used to that situation, where they ignore reality is being imposed upon them.

Don't you see that the whole aim of Newspeak is to narrow the range of thought? In the end we shall make thoughtcrime literally impossible, because there will be no words in which to express it. Every concept that can ever be needed will be expressed by exactly one word, with its meaning rigidly defined and all its subsidiary meanings rubbed out and forgotten (Orwell, 1949, p. 49).

All things considered, from Bourdieu's point of view it can be certainly perceptible how strong words can be. Nowadays, people are seeking to stop others from using what they consider offensive, sexist, and racist vocabulary. Chiefly, political correctness often requires people to use certain expressions, which comes to show how certain language elements are

meant to set levels on what is being said and how it must be said if you belong to a certain segment of a social group. Therefore, according to this approach, language is an unreliable tool if used to describe reality, since it can distort and limit our thoughts, and so it could blind us in the process of exploring further concepts outside our immediate reach that are better suited to define our reality in a more complete or accurate manner. After all, this “language issue” becomes rather complicated when something is built into language that is not just a word instead of a way of thinking, since most words can be more or less translated from one language to another, but you cannot translate the cultural implications that words have acquired through history. For instance, psycholinguist Dan I. Slobin (2010) pointed out that in some languages, when talking about something you know, you have to use a verbal form that indicates "I know this because I myself experienced it", or another that says, "I know this because somebody told me about it but I didn't experience it", or even, "I know this because I came to that conclusion from inference". If you have to do that every time you make any statement, you must question whether it influences the way you think about the validity of your statements.

4. PRACTICAL ANALYSIS

4.1. Ted Chiang's *Story of Your Life*

As the Sapir-Whorf hypothesis proposes, learned linguistic structures affect how the brain perceives and processes the environment, meaning that learned cultural and linguistic conventions affect how we perceive reality. Extensive research on the principles proposed in this hypothesis has been made through time, where cultural conceptions on colors and time have been examined. Some research showed how cultures that have the same word for different colours, or that present no past or future tense, perceive reality. On this same note, Ted Chiang's *Story of Your Life* presents us with a case that deeply deals with this phenomenon of linguistic relativity. We will here analyze the connections that this science fiction story has with concepts like glossopoeia and whorfianism, which have already been presented in our theoretical framework.

Chiang's writing presents us with an invented language used by alien visitors, named "Heptapod B", which is apparently very strongly related to how those beings perceive reality. Consequently, the glossopoeia found in the form of "Heptapod B" establishes a very marked guiding line on the story's plot. Furthermore, it is important to bear in mind that this analysis has also been influenced by the film adaptation directed by Denis Villeneuve in 2016 *Arrival*, which is based on this text and further develops and illustrates concepts that are key to understand its plot and linguistic analysis.

The narrative of this story focuses on linguist Louise Banks, a university professor who is contacted by the government in order to try and decipher the communication method of the alien visitors known as the Heptapods. As Louise further examines and develops a method to translate their graphic form of communication, she begins to understand Heptapod B, which causes her to perceive time and reality in a cyclic way. It is clear that here the author constructs an artificial language that projects Sapir-Whorf hypothesis that individual's ability to perceive the world is influenced by the linguistic structure that we learn. As Cheyne (2008) suggests, samples of alien speech in science fiction texts allow authors to reach the reader on different levels, where the created language within the text serves to make noticeable the separation from contemporary humans; and where the utterances produced by the extraterrestrial beings defy the norms of the language in which the text is written (p. 392). In this case, *Story of Your Life* perfectly illustrates this idea, where Ted Chiang does not really invest a great deal of effort in the construction of the glossopoeia itself in order for it to simulate a real language, unlike Tolkien did with Elvish. Rather than that, his focus is set on raising more philosophical topics. In this case, the author's main goal is communicating with the reader in order to make them picture the metaphors and allegories that he wants the "aliens" to represent (Noletto & Lopes, 2020). Hence, as we will see as a common agreement among these science fiction narratives, Chiang's does not really care about the story being faithful to the presently accepted linguistic rationale, but about convincingly conveying its philosophical message to the readers.

Accordingly, the Heptapod B glossopoeia is utilized to question reality and morals, not to design and mastermind an appealing language. This writing wants to emphasize the extent to which a given new learned language and its cognitive system can affect our perception of

reality (Malmgrem, 1993). This concept can be illustrated with some language examples from American and Australian natives that were already studied by Sapir and Whorf and might be considered as an inspiration for Chiang's glossopoeia. In the case of "*Hopílavayi*", an Uto-Aztecan language spoken by natives in Arizona's northeast area that was deeply studied by Sapir in his research about linguistic determinism, the language does not have forms that are equivalent to English's tenses. However, Hopi has an array of forms that make it possible to talk about different durations of time from a strict speaker perspective. Similarly, the "Guguyimidjir" language of Australian aborigines of North Queensland, has extensive language modes that refer to spatial relations, which allows them to perfectly and thoroughly locate themselves no matter where they are, served by their perception of cardinal points, without even having specific words for left and right (Deustcher, 2010). Likewise, Heptapod B portrays a language that resembles a mechanism that is suited to enable the learner the same perception of reality that the Heptapods have, full of symbolism. In fact, talking about symbols, it seems rather odd that the alien beings named as "Heptapods" (from Ancient Greek *ἑπτὰ* /*heptá*/, "seven"; and *ποδός* /*podós*/, genitive singular of *πούς*, "foot, leg") in the novel, are equipped with seven limbs, while life beings on our planet are mostly presented with pair number of extremities. So it could be possible that this could be related to the linguistic theory surrounding the plot in order to give the aliens a pre-set sense of peculiarity on their life form that points to their language being unique as well, far from usual human understanding of things. On the other hand, some Mayan concepts may also be considered as an influence for Chiang's novel, as their numerology lays on individuals who are born in the seventh day the capability of seeing backwards and forward in time (Johnson, 2009), similar to how the Heptapods perceive reality in a cyclic manner, as it is later discovered by Louise.

Furthermore, the Heptapods' vocal apparatus allows them to, according to Chiang's description in the novel, produce sounds comparable to a wet dog shaking the water out of its fur (p. 119)¹. This "spoken language" is labeled in the novel as 'Heptapod A'. Consequently, as those were unpronounceable sounds for the human vocal system, Louise mainly uses recordings in order to address to the Heptapods. However, she later realizes that learning and analyzing the written system of the Heptapod language is way more viable for communication

1 All excerpts quoted in this part of the practical analysis have been extracted from the edition of the book published in 2020 by Picador Publishing Company, UK; *Stories of Your Life and Others*, written by Ted Chiang and first published in *Starlight 2* (1998).

purposes. With this in mind, Louise attempts to register and identify different sets of graphemes from the Heptapods's language prints that she might use to form utterances of her own. At first, that "writing system" did not seem to make things easier, as Louise states that "it didn't appear to be writing at all; it looked more like a bunch of intricate graphic designs" (p. 129). The Heptapods graphic language is then, in contrast to their phonological language, labeled as 'Heptapod B', as they realize that their writing constitutes a completely separate language from their speech (p. 132). Louise also suggests that each 'semagram' (as she tags the heptapod graphs) corresponds to a written word in human languages, as they were meaningful on their own and, in combination with other semagrams, could form endless statements. Later on she describes the writing language in a more analytical sense in this part of the novel:

The 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. There was certainly no way to slice out subject and predicate pairings to make a sentence or a paragraph (p. 134).

Eventually, she observes that the Heptapod B employs a 'semasiographic' system, that is a non-phonetic based technique of written symbols used to communicate information without necessary intervention of any form of speech. The peculiarity of this system is that it follows a non-linear order, but rather follows a circular shape, as Cheyne (2008) refers to as performative language that they use to actualize. In fact, earlier in the story the writing is described as something that goes beyond simple pictography, where Louise Banks says about it that:

[...] in their written language, however, a noun is identified as a subject or object based on the orientation of its logogram relative to that of the verb. [...] When 'heptapod' is integrated with 'hears' with parallel strokes, it means that they are doing the hearing [...] and when they are combined with perpendicular strokes, it means that they are being heard (p. 131).

As they perceive reality in a cyclic way, their language is likewise braced by the same frame, which seems to allow the Heptapods to envisage past and future. This does not suggest that Heptapods can read minds, but they can predict what the transmitter end will say as long as they actually say it, since otherwise there would not be anything to predict, for the action would not be validated unless it is uttered. Subsequently, their writing being formed of

continuous circling shapes means that Heptapods must know how the entire utterance will be arranged before writing it. Although the novel does not include any visual representation, the Denis Villeneuve's film adaptation 'Arrival' recreates it in a very memorable and striking way that perfectly illustrates what Chiang's text wants to convey.



Image1: *Arrival* USA 2016. Directed by Denis Villeneuve; Director of Photography: Bradford Young. Retrieved from [//cinemateket-trondheim.no/arkiv/var-2018/arrival/](http://cinemateket-trondheim.no/arkiv/var-2018/arrival/)

In these shots from Denis Villeneuve's *Arrival* we can appreciate the director's portrayal of the circular shapes from Heptapod B logo-graphic communication system. The circular shape and its differentiating attached strokes would compose an utterance from the Heptapods.

In addition, Chiang introduces through Louise the idea that their visual symbols "seemed to be something more than language; they were almost like mandalas" (p.152). It is in this sense remarkable how the Sanskrit word 'mandala' is the word for 'circle' that in their culture represents human life cycles, resembling to what the Heptapod writing represents in the novel, suggesting that for them there might not exist such thing as beginning and end of one's life, but a constant cyclical process (Noletto & Lopes, 2020). In fact, if we go back to the Hopi language example, used by Edward Sapir back in the 1960's to further exemplify his linguistic theory, their approach to time was similar to that of the Heptapods proposed in Chiang's novel, since having no verbal tenses they seem to regard time as a cyclic concept rather than linear. Chiang's reference to this concept of a circular symbolic system used by the Heptapods to communicate might then very well be influenced by Sapir and Whorf ideas of linguistic determinism. On the contrary, human known language systems are known to always follow linear patterns, which could be seen as related to how we perceive time and reality. Human languages most often rely on given structures of SPO (subject, predicate, object), that are perceptible in its order thanks to their disposition on straight line patterns, that make us able to identify those elements and the order in which they are displayed. However, being

circular, Heptapod symbols make for human interpreters hard to know where is the starting point of their utterances, since you have to first understand the whole sequence at once. That meant that Heptapods had to know how the entire sentence would be laid out before it could write the very first stroke. Louise realizes that “strokes in the sentence also traversed several clauses, making them so interconnected that none could be removed without redesigning the entire sentence” (p. 147). This again, is just but a reflection on how the Heptapods perceive time and reality, markedly following the ideas of the Sapir-Whorf hypothesis. For instance, we can observe how from this point on, Chiang starts to introduce what it seems to be pieces of “memories from the future” of a supposed daughter that she still has not given birth to, illustrating how Louise’s mind is starting to shift towards the Heptapods’ cyclical perception of reality as a whole:

I remember when you are fourteen. You’ll come out of your bedroom, a graffiti covered notebook computer in hand, working on a report for school (p. 149).

In addition, as Louise’s physicist coworker Gary seems confused as how Heptapod B works, she tries to illustrate it in terms of “philosophy of physics” that can be seen as closely related from this extract of their conversation:

‘So let’s say the goal of a ray of light is to take the fastest path. How does the light go about doing that?’

‘Well, if I can speak anthropomorphic-projectationally, the light has to examine the possible paths and compute how long each one would take.’

‘And to do that, the ray of light has to know just wheres its destination is. If the destination were somewhere else, the fastest path would be different.’

‘That’s right; the notion of a “fastest path” is meaningless unless there’s a destination specified. And computing how long a given path takes also requires information about what lies along that path.’

[...] I thought to myself, *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 (p. 149).

On the whole, both portrayals of Heptapod language in the novel and in the film adaptation define the aliens as strongly deterministic beings that are defined by a cyclical time perception. This tool Chiang uses illustrates the influence and power that language has on thought and its resultant reflection on culture. At the end, the intention of the author is that

readers realize that, in order to understand the Heptapod B calligraphic designs, one must have somewhat of a simultaneous consciousness able to discern the complexity of their perception of reality and time. Those designs require careful planning by expert calligraphers, since no one could lay out such intricate design at the speed needed for holding a conversation (Chiang, 1998). Once Louise realizes how her thoughts are starting to become affected by her understanding of the Heptapod language, her perception of the real world begins to bend accordingly. At that point in the novel, she starts perceiving reality in a very distinct manner, as she slowly becomes aware and her thoughts are able to work on the Heptapod language, where Louise is seen as breaking the barrier of understanding that separated her from thinking like the Heptapods did. After that, Louise starts to somehow foresee moments of her life that she has not gone through, which makes her realize the full dimension and implications of what she has learned.

Heptapod B was changing the way I thought. For me, thinking typically meant speaking in an internal voice, as my thoughts were phonologically coded. [...] my thoughts were becoming graphically coded (p.151).

This comes to show how, as she becomes proficient in their language, Louise develops the ability of the Heptapods to perceive reality as a cyclical thing, since she seems to “remember the future”. Even at that point, it can be interpreted how Louise cannot become fully immersed in their worldview, as she cannot reach that same level of time perception that the Heptapods show because of how human psyche and culture influence are however deeply rooted in her subconscious. This could mean that Chiang wants to emphasize the different versions of the Sapir-Whorf theory (strong and weak), implying that at the end language cannot fully reshape the process of thought, but it can definitely influence how we perceive certain concepts of reality, by opening new unexplored spaces in our mind and expanding our worldview. Thus, inclining the novel towards the weak version of linguistic relativism.

In brief, we can see that Ted Chiang intended for this story to mirror Sapir-Whorf hypothesis in a way in which the reader could raise their own take on how language might be related to the way we see our world and on how we interact with each other. Louise’s thoughts after becoming more or less fluent in processing Heptapod B may help to further illustrate that idea.

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 (p. 151).

As Pinker (1995) suggested on his book *The Language Instinct*: “language pervades thought, with different languages causing their speakers to construe reality in different ways” (p. 18).

4.2. Suzette Haden Elgin's *Native Tongue*

As we have brought into attention in multiple occasions during this research, George Orwell dystopian novel *1984* supposes an undeniable influence on Elgin's work, and it should not strike as casual that her novel *Native Tongue* was precisely published in the year 1984. This novel is a story about human beings working to translate alien languages in a male-dominated culture where women's lives are highly restricted. Despite the discrepancies that both novels present on ideological grounds, both texts share the dystopian undertones of a near future where citizens' basic rights are heavily compromised, turning their set societies into a cluster of authoritarianism and disgust, where freedom is subject of absolute deprivation. Furthermore, as we have pointed out, both text deal with the already explained phenomenon of the glossopoeia, that is here used as a device that fuels the controlling engines of the higher classes that use language as a tool of subordination and manipulation. In the case of Orwell we briefly presented the case 'Newspeak'. Comparatively, we will be now focusing in the case of 'Láadan', a woman-focused constructed language created by the author of *Native Tongue* in order to put to test how a language specifically aimed to express and voice the views of women could define a culture. Already in the introduction of the book², it is pointed out that Elgin's knowledge about the nature of language is multi-dimensional, as she understands that “language is more than just vocabulary and syntax” (p. 2).

In relation with said glossopoeia, it is worth pointing out that Stockwell (2006) considers that whether the created language is intended for a main thematic purpose, this device plays a significant role in inaugurating the reader's perception of escapism and

2 All excerpts quoted in this part of the practical analysis have been extracted from the edition of the book published in 2019 by Gateway Publishing; *Native Tongue* (S.F. Masterworks), written by Suzette Haden Elgin and first published in 1984.

political observation, meaning that it is defining the differences between the reality of the text and the one of the reader in order to build a climate of empathy and establishing a proper setting. Language in this novel is not something imposed from the top down but an instrument that emerges because women need it (p. 3). In the case of *Native Tongue*, Elgin creates Láadan through the character of Nazareth Chornyak, to be used as women language, constructed on the basis of feminist theories that differ from our known western languages, which can be seen as associated to a strong component of patriarchy. Láadan means literally “the language of those who perceive (Elgin, 1994), as its author perceived that existing human languages are not adequate to express the perceptions of women. Grace, one of the friends of Nazareth, even becomes emotional when she is first introduced to what Láadan supposes for her and the rest of the women:

I cannot imagine it. What that must be like. Not to be always groping, because there aren't any words, while the person you want so desperately to talk to gets tired of waiting and begins talking of something else. To have a language that works, that says what you want to say easily and efficiently. I cannot imagine it. I am too old (p. 268).

Unlike Orwell did with *Newspeak*, the purpose of the author here is to defamiliarize the language, with the intention of causing an atmosphere of alienation and hostility towards women. Láadan is then used as tool for women to claim their freedom, while Orwell used his glossopoeia to keep people from thinking against the Party, to prevent freedom. According to Elgin, it is a mental decolonization process that transgress psychological boundaries and consequently threatens the socio-cultural rules and patriarchal discourse (Mohr, 2009). Moreover, while *Newspeak* was just but an excuse concept that was not further developed into the novel, Láadan goes one step forward to be considered a proper language, with its own extensive array of vocabulary that might be set side by side with previously mentioned J.R.R.Tolkien's creations, as it is of a more elaborated complexity.

Subsequently, it is undeniable the influence that Sapir-Whorf hypothesis has upon this text. As we have seen, whorfianism suggests that the power held by language can govern our view of reality and influence our thought process. Deutscher (2010) claims that Sapir and Whorf seemed to be certain that the distinctions between languages had to be more than mere syntax discrepancies, and that they ought to result in repercussions that strongly alter our way

of thinking. Similarly, Slobin (1987) suggested that speakers of different languages may be prejudiced to attend to and translate different facets of their experience while speaking, meaning that language influences thought during the process of “speech thought” (thinking for speaking). This idea of linguistic determinism that Whorf proposed can be illustrated in the novel with the following excerpt:

It was a reality from which all joy, all glory, all radiance, had been systematically excluded. And it was from that reality, from that linguistic construct, that the women of Chornyak Barren House were attempting to extrapolate (p. 284).

Coupled with this, it seems obvious that the base in which Láadan is constructed is heavily linked to Bourdieu’s idea presented in the theoretical framework, the symbolic power. Bourdieu (1991) embeds language with the power of defining meaning, and subsequently, to outline what is legitimate, making those of higher social status the ones that control language. In *Native Tongue*, these social structures have fallen in the favor of male dominance, and as such, there is a sector of the population that decides and wields the controlling power. Bourdieu’s view puts forward the idea that not only social values are communicated through language but also learned through designed standards that are hierarchically governed. For instance, in his book *Language and Symbolic Power* (1991), he notes that “the public act of naming, in front of everyone, has the effect of freeing the particularity from the unthought, and even unthinkable” (p. 224). Elgin illustrates this in the introduction of Chapter 24:

It was a time when the seamless fabric of reality had been subjected to an artificial process: dividing it up into dull little parts, each one drearier than the one before. And uniformly dreary, getting drearier and drearier by a man-made rule. As if you drew lines in the air, you perceive, and then devoted your life to behaving as if those air-territories bounded by your lines were real (p. 284).

On this same line, Bourdieu also concludes that language has a heavy component of relationship with group identities. One example that could be set as related to this is what happened in South Korea during the period of Japanese occupation from 1910 until 1945. Under the Japanese control, the use of certain Korean words that referred to very basic concepts and items was either banned or nearly prohibited, and the analogous Japanese words were the ones taking its place instead. The Japanese wanted to deprive the Koreans of their identity by omitting words that designed concepts and items that were very influential and essential in their daily lives.

In the words of the philosopher Friedrich Nietzsche, “knowledge is power”, and consequently, language is then the instrument through which power is conveyed. Similarly, Pinker (1995) puts his interest on the concept of power as well, as he observes that “a common language connects the members of a community into an information-sharing network with formidable collective powers” (p. 16). For instance, this reflects in a very suitable manner what Elgin’s *Laádan* is intended for: for women to communicate their specific needs and concerns, creating their own inner network, safe from the control of the higher strata. In the novel, a poem is presented to illustrate the need for a women-outlined language.

Now, the only song a woman knows is the song she learns at birth,
a sorrowin’ song, with the words all wrong, in the many tongues of Earth.
The things a woman wants to say, the tales she longs to tell...
So nobody listens to what a woman says, except the men of power
who sit and listen right willingly, at a hundred dollars an hour...
Oh, the tongues of Earth don’t lend themselves to the songs a woman
sings!
There’s a whole lot more to a womansong, a whole lot more to learn;
but the words aren’t there in the tongues of Earth, and there’s noplac
else to turn... (p. 264).

Besides, what Pinker suggests is that “people can work in teams, their efforts coordinated by negotiated agreements”, where this can be as dangerous as useful, since, as Bourdieu fears, controlling parts of the high levels of society can agree to terms that favor their social group and discourage the freedom of thought of the lower layers.

It is hard to imagine a life without language, and that is why chances are that when a group of isolated people grow together they will eventually create their own vocabulary and develop very distinctive ideas with nuances that are subject to their shared experiences and the contact with one another. This, coupled with the fact that this society is said to “spend so much of their time sharing the worldview of beings that are not human that they are far too likely to become a little other than human their selves” (p. 14). Even more if that group of people regards their position as inferior and their identity compromised by the groups that are isolating and secluding them from power and freedom. In essence, the environment and

setting that *Native Tongue* presents is a melting pot for a language to shape and bring together a group of people against the governing figures, where symbolic power comes to be a double-edged sword that might turn the tables. The women in this novel are born to translate, they form a community in which each one of them know multiple languages where they are proficient from the very early stages of their childhood. With this in mind, their training makes them more than capable of articulating and define their own language rules, away from the influence of the English of rulers, where they can take back their humanity. For Pinker, however, language is an instinct, since he defends that people know how to talk and do not depend on having any specific education or given guidelines, as long as we have the urge to talk and communicate our thoughts we will succeed on it, and the women in *Native Tongue* have the need to communicate things that they feel are not well enough defined in English.

One of the most relevant imprints that this novel has is that Elgin asserts that the connection between language and social concepts are ever-favoured towards men. She makes that idea certainly clear, declaring that there's no such thing as reality, as we make it up by perceiving stimuli from the environment and making statements about it. Accordingly, people get so used to a specific kind of reality that if what they perceive does not fit the set of statements everybody has agreed to, either the culture has to adjust or they just blank it out (Elgin, 2000). Consequently, the language created in her novel is her trying to adjust this set of statements instead of ignoring the concerns of feminists towards language and culture. In this sense, English, the language of the author and in which the novel's setting is placed, is seen as a faulty language that lacks the elements needed to clear away stereotypes and male-biased reality. On the same note, Suzanne Romaine (1998) comments that gender is inherently a communicative process that is largely constructed through language. For instance, being English a language with more than enough examples of words that are gender-neutral, it is more than clear that the patriarchal nuances of western languages are circumstantial, and so it is up to the speakers to adjust their way of thinking in order to filter those stereotypes.

The linguistic term lexical encoding refers to the way that human beings choose a particular chunk of their world, external or internal, and assign that chunk a surface shape that will be its name; it refers to the process of word making. When we women say "Encoding", with a capital 'E', we mean something a little bit different. We mean the making of a name for a chunk of the world that so far as we know has never been chosen for naming before in any human language, and that has not just suddenly been

made or found or dumped upon your culture. We mean naming a chunk that has around a long time but has never before impressed anyone as sufficiently important to deserve its own name.

Chornyak Barren House, Manual for Beginners, page 71. (p. 22).

It is then unavoidable that, if the individuals concerned with these tendencies do not feel like the necessary filters are being applied by the society in order to represent and respect diversity, they look for alternatives in creating new vocabulary or modifying the existent one. Láadan is created on this basis to express the female perspective in a way that it generates an influence on the discourse that shapes social reality. For instance, at the beginning of chapter 20, we find this illustrative excerpt on naming something that has no name thus far, like Nazareth does in the novel:

When you look at another person, what do you see? Two arms, two legs, a face, an assortment of parts. Now, there is a continuous surface of the body, a space that begins with the inside flesh of the fingers and continues over the palm of the hand and up the inner side of the arm to the bends of the elbow. Everyone has that surface. I will name that the “athad” of the person. Imagine the athad please. See it clearly in your mind.

Where there was no athad before, there will always be one now, because you will perceive the athad of every person you look at. And I have made the athad appear... now it exists.

Magic, you perceive, is not something mysterious, not something for witches and sorcerers... magic is quite ordinary and simple. It is simply language (p. 242).

Like this, Láadan makes perceivable things that they saw clearly but were denied by the language-controlled patriarchal reality in which they felt imprisoned. This language characterizes feelings and experiences that are mainly particular to women. According to the text, “it was the concepts themselves, the semantics of the forms that Nazareth was trying to make speakable” (p. 26). That is the case for ‘menstruation’ for example, that Láadan attributes with six different words that describe it with distinct nuances. Similar to how Galician language has more than seventy ways of referring to the rain, as their reality is markedly affected by it. This can be essentially considered to refer to Sapir-Whorf hypothesis once again, where women put together their needs through language. In fact, linguistic

determinism is markedly referenced at the end of Chapter 20: “And then, as more and more little girls acquire Láadan and begin to speak a language that expresses the perceptions of women rather than those of men, reality will begin to change” (p. 250). Incidentally, Láadan presents a neuter pronoun that is used for “he”, “she” and “it” (*be*); as well as a word that can either refer to “woman” and to “person” (*with*). Additionally, they have very precise words for concepts like “pregnancy” and “menopause”. Some other words have come out as a result of women’s needs to cover a variety of emotions and feelings that they considered to not be covered by the languages they knew, meaning that there are new words that refer to concepts that had not been previously named but that women felt the urge to define. As Elgin displays in this fragment of her novel:

[...] there was no word for it in any language she knew, and she wanted to use the right word. Oh! I know... They are héenahal. Such a relief, to have a language with the right words in it! (p. 267).

In essence, this does not mean that the language is strictly restricted to women’s needs, but just intends to underline the female perspective. In other words, Láadan is not a language exclusively thought to be used by women, just one that tries to capture all the undertones perceived by their reality (Noletto & Lopes, 2020). As we have seen in this analysis, the glossopoeia created by Elgin through the story firmly advocates and boosts Bourdieus idea of symbolic power with heavy metaphorical components that support this view. Moreover, the Sapir-Whorf theory is respectively imprinted in the text, as many reality-shaping ideas come forward through the implementation of Láadan in the lives of the female characters of the novel.

4.3. Jack Vance’s *The Languages of Pao*

Vance’s approach in his writing could be seen as a more mechanic style on how he deals with the concept of language creation, since he takes it as something that can be engineered on a large scale and further controlled, refined, and polished on ground level. This is relevant because this way, potential desired changes can be managed and supervised in order to avoid unexpected and undesired alterations of the language. This does not mean that changes want to be completely sidestepped, but quite the opposite. Changes are more than necessary, but within the outlined scheme of regulated variations. This comes to showcase

once again the idea of symbolic power, where those “language engineers” decide the legitimacy of language concepts and structures that must be used in order to make a “correct” use of the language.

On this novel, Pao is a peaceful planet invaded by threatening outsiders that suddenly endanger the harmony of their society. As before these events, Pao is described as a planet with a system of life that minimized social friction, where there were no large wars, no plagues and no disasters. Their inhabitants, the Paonese, are described as simple uncomplicated people without religion or cult. In fact, the Paonese language is described as quoted³:

The language of Pao was derived from Waydalic, but molded into peculiar forms. The Paonese sentence did not so much describe an act as it presented a picture of a situation. There were no verbs, no adjectives; no formal word comparison such as good, better, best. The typical Paonese of all, he must never seem indecisive or uncertain. To do so would break the archetype (p. 1).

Furthermore, from how Paonese is described we can deduce that we are dealing with a polysynthetic language that little verbs and adjectives, but is mainly composed of nouns and temporal markers. Besides, it is said to have no formal comparison, as there are no words for ‘good’, ‘best’, or ‘better’; nor words for ‘integrity’ or ‘justice’. This lack of concepts has obvious whorfian implications, since it suggests that the language engineers that want to manipulate the Paonese people have it easy to avoid introducing concepts that might cause them to feel manipulated, for they cannot evaluate situations in terms of superiority or inferiority.

Through this novel, we can appreciate how its plot is mainly based on the strong version of the Sapir-Whorf theory, known as linguistic determinism, as language structure is presented as having a strong influencing, even controlling, effect on the thought and behavior of Pao’s people. Not only that, but as language in this novel is something concocted by a ruling invading class, we can clearly see the clear implications built into Bourdieu’s approach of symbolic power and language. For instance, it is illustrated in some instances of the text that suggest the exertion of ideals through language:

3 All excerpts quoted in this part of the practical analysis have been extracted from the edition of the book published in 2012 by Spatterlight Press LLC; *The Languages of Pao*, written by Jack Vance and first published in 1958.

Evidently they must change their basic nature. They must discard passivity and easy adjustment to hardship. They must learn truculence and pride and competitiveness. A change of basic psychology. A formidable process that requires a language that meets those expectations (p. 45).

Furthermore, taking into account that Vance's novel was published in 1958, the influence infused by Orwell in his work is undeniable. In his essay *Politics and the English Language* (1946), where Orwell focuses in political language, he suggests that you can distort events and concepts by calling them something else. In other words, you say things in such way that you avoid producing an inner picture of them. Orwell then claims that "if thoughts can corrupt language, language can also corrupt thoughts" (p.11), which is the notion from which *1984*'s Newspeak was born. As it will be shown, Vance hints at this same idea in *The Languages of Pao*, as he presents a scenario with different languages that are molded and tweaked in order to instruct segments of population towards specialized tasks.

Thereupon, the scientists of this neighboring invading world, known as the Breakness, launch over Pao an unsympathetic experiment lead by someone known as Lord Palafox, where they plan to install three class-based type of languages in order to reform their society; a language for technicians, a language infused with aggressive components for a warrior class, and a language tailored with ambitious connotations for merchants. The plan initially succeeds above expectations, as Vance uses this approach linked to symbolic power, manipulation through language on a macro level in order to obtain specific effects on the behavior of the population. Fanchiel, one of the Breakness involved on this plan, describes this whorfian language layout as follows in this fragment:

Each language is a special tool, with a particular capability. It is more than means of communication, it is a system of thought. [...] Think of language as the contour of a watershed, stopping flow in certain directions, channeling it into others. Language controls the mechanism of your mind. When people speak different languages, their minds work differently and they act differently (p. 27).

Here we can see how strongly engraved the Sapir-Whorf hypothesis is on its strong version of linguistic determinism, where the Breakness want to segregate the population by creating social classes that are strictly based on the language that is forced upon them. Vance hints at this whorfian idea as it is stated:

The question arises: does the language provoke or merely reflect the eccentricity? Which came first: The language or the conduct? [...] We must alter the mental framework of the Paonese people, a certain proportion of them at least, which is most easily achieved by altering the language... (p. 57).

The Breakness intend to take out and shape the forged languages, infusing and removing specific ideas from the language in order to make it flow towards specialized tasks. For instance, the Breakness already seem to have set precedents coming from other civilizations, as we can see how the language spoken on anarchist planet Vale is described as having a parallelism with their behavior: “language on Vale is personal improvisation, with the fewest possible conventions. Each individual selects a speech, as you or I might choose the color of our garments” (p. 28). Later on, the Breakness known as Frenchiel suggests to one of the Paonese that now that he has been shown the connection between language and conduct, he will be anxious to learn the language of Breakness, which is described as isolative but unique, as it derived entirely from the speaker, who was the frame of reference upon which the syntax depended. Namely, the pronoun ‘I’ was unnecessary in Breakness, since “the self” was the implicit basis of expression. In fact, Frenchiel tells him that “all of us change as we learn, but you can never become a true man of Breakness. Long ago you were shaped into the Paonese style. But speaking our language, you will understand us” (p. 39).

Therefore, Vance is hinting in this novel at the idea that language is a device that can be adjusted and remodeled to become a sort of virus that can be spread through the population. According to Loponen (2019), linguistics can be a disease, for primitive languages and speech are so impregnated with nationalism and class struggles that they prevent civilizations from ascending to a higher level. In other words, language is like a wild organism that can produce openings on individual’s behavior that might lead to macro-level consequences in society. Subsequently, attempts to manipulate and engineer language like the ones presented in *The Languages of Pao* can easily derive in a subsequent imperialism, even if those were not the initial intentions of the Breakness, as they are described as so self-centered that they lack any sense of empathy. The result of this kind of language manipulations are bound to result in the fragmentation of the society, which could be seen as a redesigned form of colonialism.

If we dig further into this language engineering presented in Vance's novel, we can appreciate what are the intentions that they have for each class-defining language, mutually unintelligible between each other. The intentions are for these languages to be taught to selected portion of Paonese children. This "language engineer", Lord Palafox, infers that "words are tools, and language is a pattern that defines the way the word-tools are used" (p. 33). For this very reason, Palafox sees on the Paonese people the perfect specimens to carry out their experiment because of the nature of their language.

"Paonese is a passive, dispassionate language. It presents the world in two dimensions, without tension or contrast. [...] they ought to be docile, passive, without strong personality development. The new language will have a number of key ideas that will be synonymous; such as pleasure and overcoming a resistance, relaxation and shame-out-wordless and rival" (p. 34).

Accordingly, their language is set to be infused with consistent and logical yet extravagantly complicated grammar, with the idea of obtaining a group of people that, given necessary supplies and facilities, will carry out the consequent industrial development. Thus, the language created for the merchant class was to be a symmetrical language with emphatic number-parsing and elaborate honorifics to teach hypocrisy, and a vocabulary rich in homophones to facilitate ambiguity. Merchant syntax would then be of reflection, reinforcement and alteration, in order to emphasize analogous interchange of human affairs. Furthermore, these languages would contain the proper semantic manipulation where things like 'successful man' would be synonym with 'winner of a fierce contest' for military; 'efficient fabricator' for the technician language; and 'a person irresistibly persuasive' for merchant language. Such influences would impregnate each of those languages, where the different sectors would not act with equal force upon each individual, but on the macro-level it would be decisive. (p. 35).

The notions of whorfianism are not exclusively subject of the languages that are being pressed upon the Paonese, but also quite present in the languages of the outsiders, as Breakness for example is said to include no negativity, but instead having numerous polarities such as 'go' and 'stay'. Furthermore, it was full of words for intellectual manipulation like the one that was taking place there. By contrast, Breakness is described as totally deficient in descriptives of various emotional states, which could be seen as the cause of why they do not

perceive their “linguistic experiment” as a wrong practice, for their language strips them from a sense of empathy. For instance, Vance writes that “common Paonese concepts as ‘anger’, ‘joy’, ‘love’, and ‘grief’, were absent from Breakness vocabulary” (p. 36).

Similar to how Bourdieu attributed language with symbolic power, it is noticeable how Vance’s idea works along those same lines. Bourdieu (1991) comments that the social world can be represented in the form of a multi-dimensional space constructed on the basis of principles of differentiation or distribution constituted by the set of properties active in the social universe under consideration, able to confer force or power on their possessor in that universe (p. 229). In *The Languages of Pao*, this universe is the planet Pao, and that constructed multi-dimensional space is created through language. The differentiation properties given by the Breakness to the language variations are those that Bourdieu sees as able to confer power.

All these languages will make use of semantic assistance. [...] Such influences will pervade each of the languages. Naturally they will not act with equal force upon each individual, but the mass action must be decisive (p. 47).

Bourdieu then goes on to say that individuals and groups of individuals get consequently defined by their relative positions within the created social space, where each of them is confined to a position or a class of neighboring positions. Thus, as Lord Palafox had planned for each group of individuals, one cannot occupy two different positions of the space, for they are specifically designed to be aside from each other. Correspondingly, Bourdieu’s statement on *Language and Symbolic Power* (1991) is that:

“So far as the properties chosen to construct this space are active properties, the space can also be described as a field of forces: in other words, as a set of objective power relations imposed on all those who enter this field, relations which are not reducible to the intentions of individual agents or even to direct interactions between agents” (p. 230).

It seems more than obvious the close relationship that Vance’s plot and Bourdieu’s theory share between each other. The macro-level set properties that are given to the different languages induce that class-differentiation, in which individuals from one group cannot cross away from their imposed status even if they could think of it. This kind of language-induced totalitarianism is used in the novel to create synthetic social classes that are highly

manipulated and completely disjointed. Thus, by isolating the classes from each other, the rulers can protect themselves from potential insurgences in which members from different social branches associate to plot against the appointed order. Not only they cannot communicate, but also their languages are made so they cannot find common interests or concerns. For instance, when Beran tries to convince the warrior class to overthrow the Breakness, they say: “We Valiants do not care to trouble with the details of governing, and this is your one bargaining point, your single usefulness” (p.126); illustrating how they have been so strongly guided towards a sole task that they do not care about politics.

At the end of this novel it can be seen how this language engineering plan backfires, as former paonese leader Beran comes back from his exile infiltrated in the Breakness language instructors. Beran, among with others, creates a language pidgin called Pastiche, that combines all the languages that were designed to segregate the people of Pao into different social groups.

In a jocular moment the students contrived a bastard mish-mash of a language, assembled from scraps of Paonese, Cogitant, Valiant, Technician, Mercantil and Batch, with a syncretic syntax and heterogeneous vocabulary. This patchwork tongue was known as Pastiche (p. 69).

The social divisions then created by Palafox language setup then result on a rebellion against the seize of planet Pao. Finally, the leader and the remaining social groups agree to teach every children in Pao the Pastiche pidgin in order to unite the planet and its people again, all under a common language that is focused towards creating a shared culture, that at the same time has a broad linguistic diversity that the different classes learned under Palafox’s designs. Under this basis, the new population of Pao becomes more open-minded and heads towards a robust and prosperous society.

5. FINAL REMARKS AND CONCLUSIONS

All things considered after this analysis, it is evident that, in the selected literary corpus, language is a crucial element that plays a capital role as a part of a given culture, and that the effect that culture has upon language is equally undeniable and very much inherent to the characteristic features shared by communities and society. The anthropological orientation

to the study of language and culture started in the 20th century by scholars like Sapir and Whorf supposed a key turning point in the linguistic approach to reality perception. Even if the implications of linguistic relativism and linguistic determinism turned out to not be sufficiently verified by linguists and scientist, they settled a very important subject of study that would lead to important advancements and more mature approach, not only within the field, but also in literary fiction. Nonetheless, science fiction authors and their novels beheld much of its importance and significance from a more philosophical perspective, as those imaginative ideas displayed the possibility of reaching for a new way of thinking, both inside and outside the paper.

It is not shocking that many science fiction novels that spotlight invented languages use those socio-cultural approaches for the sake of reality shaping within their narrative framework. This linguistic relative view of the relation that reality and language share has shown to be a creative and useful device that defines how the characters understand and perceive the reality of their world, and how they interact within the setting of their society. New societies and new forms of life are key elements for the genre, and as such, it is likely that language and society will keep having an influence in science fiction literature. Transformed and invented languages suppose a flexible solution in fiction, where those languages are only discernible within the context of the story and its surrounding world. That makes easier for the audience to be introduced to more complex linguistic concepts that otherwise they would not recognize in their own daily communication and interactions. As we have seen, transformed and fictional languages can suggest societal change and make connections to real world cultures and ideas, and that can lead to the questioning of the actual values of our own languages. That makes science fiction linguistics a very powerful tool of potential change of our prototypical and prejudiced view of the world and the language.

In all these analyzed novels, the languages devised by their authors play an immensely meaningful function, that is to support and give agency to the fictional microcosm created inside their narratives in order to pry the reader and their sense of reality perception. The efficacy that this tool brings to the novel as a guiding plot device is regarded as an important point of connection between the fictional world and the reader's reality. These manufactured language systems chiefly have a symbolic function in the sense that the language itself

portraits a relevant notion that is essential for the topic in question. Language in science fiction literature has clearly experienced a steady transition and evolution since it was first put to question in early utopian fictions. This language and culture debate within fiction narratives has evolved more committed to serve as a utility to express concerns of oppression, proposing language as both a tool for control and liberation of the people. This means that, at the end, the moral implications of language control unfold in a bidirectional manner. This only emphasizes even more how important language is for individuals and society, and thus, we must beware of the possible overtones and implications that words have when used in a multi-cultural and multi-diversity context. Not everyone perceives reality the same way, and we must not always settle for what is generally thought to be right or wrong, thereupon, it is our duty to broaden the language as much as needed so we can accommodate the new realities that are developed and discovered through time.

Although the glossopoesis as a central device in science fiction literary texts has significantly reduced in consideration in recent years, their legacy still prevails within the new wave of science fiction films and TV shows like *Avatar* or *Game of Thrones*, where script writers have taken over, aided and inspired by all these 20th century novels. After all, even if language does not entirely define the bounds of reality, along with consciousness and thought processes, it still represents an important aid channel that filters our perception of the real world and the society and communities we live in. Furthermore, the science fiction genre that has flourished in both literature and film, especially the ones developed in this linguistic realm, help us to further expand our vision and broaden the approaches we take towards the growing social and cultural concerns of our modern societies. We can recognize that communities and their members, as representatives of certain specific culture, share sets of political and ethical beliefs that considerably define the way they render the world. It helps us identify, or at least try to recognize, the possible alternative portions of reality that might exist framed around language. In any event, science fiction literature has proved again and again that it sets the basis in which many paradigms have evolved to take place in the real world, in which we must always push further on those ideas that might at first seem unthinkable and unfeasible.

BIBLIOGRAPHY

- Barnes, Myra Edwards (1971). *Linguistics and Languages in Science Fiction-Fantasy*. East Texas State University.
- Bourdieu, Pierre (1991). *Language and Symbolic Power*. Oxford: Polity Press.
- Carroll, John B. (1956). *Language, Thought, and Reality: Selected Writings of Benjamin Lee Whorf*. Cambridge, Mass.: Technology Press of Massachusetts Institute of Technology.
- Chiang, Ted (2020). *Story of Your Life and Others*. Picador Publishing Company, UK.
- Csicsery-Ronay, Istvan (2008). *The Seven Beauties of Science Fiction*. Middletown: Wesleyan University Press.
- Delany, Samuel R. (1977). *The Jewel-Hinged Jaw: Notes on the Language of Science Fiction*. Elizabethtown, NY: Dragon.
- Deutscher, Guy (2010). *Through the Language Glass: Why the World Looks Different in Other Languages*. New York: Metropolitan Books/Henry Holt and Co.
- Elgin, Suzette Haden (1987). *Women's Language and Near Future Science Fiction: A Reply*, in: *Women's Studies* 14: 175-81.
- Elgin, Suzette Haden (2019). *Native Tongue (S.F. Masterworks)*. Gateway Publishing.
- Grace, George W. (1987). *The Linguistic Construction of Reality*. London: Croom Helm.
- Hockett, Charles F. (1968). *Chinese Versus English: An Exploration of the Whorfian Theses (II)*, in: Patrick Gleeson and Nancy Wakefield (eds.). *Language and Culture: A Reader*. Columbus, OH.
- Janew, Claus (2009). *How Consciousness Creates Reality*. CreateSpace Independent Publishing Platform.
- Johnson, Kenneth (2009). The Mayan Philosophy of Numbers. Retrieved May 7, 2021, from http://www.mayaportal.net/blog/ken/mayan_philosophy_of_numbers
- Jones, Ann R. (1984). *Julia Kristeva on Femminity: The Limits of a Semiotic Politics*. Sage Publications, Inc.

- Le Guin, Ursula K. (1979). *Is Gender Necessary?*, in: Susan Wood (ed.). *The Language of the Night: Essays on Fantasy and Science Fiction*. New York: Putnam
- Loponen, Mika (2019). *The Use of Sapir-Whorf Hypothesis in Science Fiction*. University of Helsinki.
- Malmgren, C. (1993). *The languages of science fiction: Samuel Delany's Babel-17*. The Kent State University Press.
- Meyers, Walter E. (1980). *Aliens and Linguistics: Language Study and Science Fiction*. University of Georgia Press.
- Mohr, Dunja M. (2009). *The Tower of Babble? The Role and Function of Fictive Languages in Utopian and Dystopian Fiction*. In book: *Futurescapes: Space in Utopian and Science Fiction Discourses* (pp.225-248). Rodopi Publisher.
- Morrow, William (1994). *Language as Instinct: A Socio-Cultural Perspective (a review essay) The Language Instinct: How the Mind Creates Language by Steven Pinker*. Issues in Applied Linguistics. UCLA.
- Nida, Eugene & Taber, Charles (1982). *The Theory and Practice of Translation*. Brill Publisher.
- Noletto, Israel. A. & Lopes, Sebastiao. A. (2018). *Language and Control - Glossopoesis in Orwell's Nineteen Eighty-four and Elgin's Native Tongue*. Darandina Magazine.
- Orwell, George (1998). *Nineteen Eighty-Four*. London: Penguin Books.
- Orwell, George (1946). *Politics and the English Language*. Retrieved June 16th, 2021, from <http://www.public-library.uk>
- Pinker, Steven (1995). *The Language Instinct: How the Mind Creates Language*. New York University Press.
- Romaine, Suzanne (1998). *Communicating Gender*. New York: Psychology Press.
- Sapir, Edward (1921). *Language: An Introduction to the Study of Speech*. New York: Harcourt, Brace and Company.
- Slobin, Dan (1987). *Thinking for Speaking*. San Francisco: Proceedings of the Berkeley Linguistic Society.

- Stockwell, Peter (2006). *Invented Languages in Literature*. In: *Encyclopedia of Language and Linguistics*. Ed. Keith Brown. 2nd. Oxford: Elsevier.
- Subbiondo, Joseph L. (2005). *Benjamin Lee Whorf's Theory of Language, culture, and consciousness: A critique of western science*. Elsevier Publishing.
- Cheyne, R. (2008). *Created Languages in Science Fiction*. *Science Fiction Studies*. (pp.386-403). Retrieved May 2, 2021, from <http://www.jstor.org/stable/25475175>
- Vance, Jack (2012). *The Languages of Pao*. Spatterlight Press LLC.
- Whorf, Benjamin Lee (1940). *Science and Linguistics*. MIT Technology Review. Retrieved May 15th, 2021, from <https://web.mit.edu>