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Semiotic and Temporal Relativity in *Arrival*

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Semiotic and Temporal Relativity in *Arrival*

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I. INTRODUCTION

Outside the representation of hostile aliens, super-intelligent computers, and peak human capabilities, it is rare to have a popular blockbuster exploring combinations of semiotic relativity, cognitive neuroscience, and humane narrative. In most cases, science fiction films, in general, try to explore elements of "fear and reasons" (Melvin and Matthews 51) as a guaranteed success for blockbusters. The sales are never dry for alien films. It is quite rare to find films that are out of commercialized film marketing stunts for those unseeingly "casual visitors" or aliens who usually almost in every film come to our planet uninviting. Before the 1950s, most sci-fi films were centered on a rogue philosophical attitude of attack and kill. It was until in the late 1950s as asserted by Melvin and Matthews that the 'outside visitors' were not as hostile and determined to annihilate sort of entities (49). As Larry Niven claims that the idea of accepting these other earthly creatures has rooted genes in our systems and "meeting aliens has been a normal thing for humankind (17)." *The War of the Worlds* by H.G. Wells is one of the popular and major champions of the 'alien terror' and the casual hostile 'others' resulted in a massive panic in an 'actual hoax' in 1938 ("War of the Worlds: Behind the 1938 Radio Show Panic"). The seminal point of projecting "alienness" alludes to the fact that, apart from being in the realm of high fantasy, the conceptualization of aliens in movies can be seen as 'manufactured' commodities every year.

In his attempt to comprehend aliens as found in films, Schelde said that,

Most, however, does not deal with space travel or space aliens; most [films] deal with the disasters

wrought here on Earth by the very tools humans used to kill the folklore monsters, namely, technology and science. Science grew out of myth and magic, which are, after all, attempts at explaining how the world functions. Science is simply a more efficient, more sophisticated and testable model of the world and the way it functions than is magic or myth or, for that matter, religion. But science and technology, like magic, are not just theories about the universe; they are prescriptions for how humans can get the greatest benefit from interacting with nature. And science shares another feature with magic: it has, or seems to have, mysterious and thus potentially dangerous properties (4-5).

It is quite evident that the consideration of aliens derived by audiences' utmost curiosity and also the narrative and the language of film has grown up to a certain point that can be as tempting as well as a blatant provocation towards content-consumption fetish. Aliens are made to appear as our default arch enemies yet they apparently have greater sales values in film merchandise.

Arrival is a 2016 science fiction film by Denis Villeneuve about an alien visit to earth, adopted from the short story titled "Story of Your Life" by Ted Chiang. This film emphasizes that language research is as important as the typical scientific research like physics or mathematics ("Making Language Research Less Alien: The Science of Arrival"). Language plays a big part in the film apart from the visitation of the aliens. The lead character, Dr. Louise Banks is the linguistics professor with the task to decipher the language of the aliens named as Heptapods. The ideas and the "logocentric" language have partially drawn inspiration from the Sapir-Whorf hypothesis which suggests that language can actually put an impact on the thought process; however, the theory is partly being fictionalized for better suitability with the film. Mostly, the philosophy of composition of *Arrival* suggests the representation of semiotic and temporal relativity. Language in this movie along with time dilation between future and present eludes to the fact that the alien language is circular which contains time and action in the same frame. Understanding the Heptapod language is altogether a different experience with time and space hence the linguistic relativity seems a fit for analysis for this film. The alien language, in the film, has two modules: the aural (Heptapod A) and the semiotic (Heptapod B) ("Jessica Coon: Linguistic Consultant on Arrival" 21). The film deals with an idea of singularity that the apparent symbolic language usually

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rewires the thought process of the lead character. Moreover, the science of *Arrival* is an attempt to retell Descartes' famous idea, "Cogito, ergo sum" which simply means, "I think, therefore I am" and that sets apart a question which refers to as: "Does one actually for instance become Spanish simply by stating that, "I think [in Spanish]. Therefore, I am [Spanish]?" (*Arrival*, Translation and the Sapir Whorf Hypothesis"). The film does not try to untangle these linguistic confusions rather it puts emphasis on time and its relation to language. This paper is an attempt to bridge a relation between the idea that time combined with semiotic reality is one of the seminal understandings that this film provokes. It will also endorse the point that a film such as *Arrival* expands a version of reality that the role of language is not merely for communicative purposes but it encompasses more symbolic elements than we ever thought it would be.

II. VISITATION AND ARRIVALS

Dr. Louise Banks, a linguistics professor is the protagonist and the narrator of *Arrival*. This film explores her experiences and reckonings as both as a linguist and as a mother. At the beginning of the film, we were shown some memories that seem like her past where she gave birth to a daughter; who reaches youth and eventually dies out of some incurable disease. In present at the university, she was interrupted by the news of the arrival of 12 alien ships positioned in different parts of the globe. She returns back to her lonely household captivated by the news. In the wake of these alien arrivals, the government orders a nationwide shutdown that also applies to the university where she works. Banks meets US Army Colonel Weber in her office. He was seeking help from her in deciphering a recording from the alien encounter. Weber asks her to figure out the reason behind the alien visitation from the recordings. She tells them, from her professional perspective that she needs to talk to them in order to get a clear picture of the situation. Colonel Weber however does not seem interested in that proposition.

Later as other experts failed in deciphering the messages, she was transported to the site. She meets the physicist Ian Donnelly en-route who says that he disagrees with her views on language. Donnelly thinks that science is the cornerstone of civilization, not language. While they are having the 'language vs science' debate, Colonel Weber explains to them their mission as to "discover the patterns...and map these patterns to the intended meaning" ("Jessica Coon: Linguistic Consultant on *Arrival*" 21). As they enter the spacecraft from underneath, they are faced with some unknown anti-gravitational mechanism which somehow amused the newest visitors. The aliens are some sort of advanced life forms. It appears as quite a shock for Banks when she finally has a real encounter with the

'Heptapods'. The intriguing thing found in this alien abode is a giant screen that is facing them. The humans also brought a whiteboard to establish a possible communication. As a primary attempt to establish a communication with the 'Heptapods', they write "Human" on the board. The pods consider the human gestures as some sort of language and respond with a circular symbol like "nonlinear orthography (Villeneuve)". From the linguistic relativity perspective words "can prime parts of the brain to work better (The Science Behind)" and *Arrival* tries to be an example of that experiment.

On the next trip, at some point in the conversation, Banks takes off her radiation suit to everybody's surprise and Donnelly follows her. She wrote in the board "Ian" and points at Donnelly. The pods respond by drawing two symbols. It appears that the pods are distinguishable. Donnelly calls them 'Abbott' and 'Costello'. The team goes through a series of back and forth conversations with the aliens which appear to sustain for a month. The purpose of these interviews is to find the answer to the question, "What is the purpose of your visit to Earth?" The communication process between the aliens and the humans appears to be complex with a relatively slow learning graph. The process of learning is long. The civilians and the army seem to be paranoid about the prolonged presence of the pods. There are grudges building inside and outside the army. Meanwhile, China decides to stop all communication with the aliens and go hostile and other nations follow suit. Eventually, every country working on this project together stops communicating with each other and tries to apply their own strategy. The last response the team gets from the aliens is translated into "use weapon". This creates paranoia amid all the concerned.

After hearing the information about using the "weapon", a fraction of the army decides to put a bomb in the alien ship and annihilate the pods. Banks and Donnelly come to the spot asking persistently to enter the spaceship. They feel that the message containing "use weapon" has been misinterpreted. The new language has become a 'hammer' as the aliens become the nails for the humans. When Banks and Donnelly meet the Heptapods, they pull out a lot of symbols on the board and throw both of them out of the ship, protecting them from the blast. The subtle difference and the following misunderstanding between words like 'weapon' and 'tool' create a pandemonium that might have led to disastrous consequences.

What Banks goes through during her interaction with the aliens is different from any other human experience. Donnelly mentions a theory about rewiring the brain with learning a new language. We can see that Banks has immersed herself into the alien language so much that her reality has been reshaped by the nature

of that language. As a result, her 'rewired' brain gets to perceive all of her past, present and the future in the same frame. For Banks, time remains non-linear. Through her learning of the alien life, she starts to have visions of her future child, whom she will never be able to save.

The alien vessel goes up higher after the attack. The humans lose the access into the vessel. However, Donnelly has a breakthrough; he finds that the twelve alien ships are interconnected as they are probably urging humans to work together. Meanwhile, Banks travels through a transportation device that comes from the craft. She visits the aliens again and learns that Abbot is in "death process." Costello tells Banks that she needs to use 'weapon'. Banks says that she does not understand what "use weapon" actually means. Later, it reveals that by 'weapon' it means that the language of the aliens opens time dimensions. As Banks understands the language, it opens time for her. Costello tells Banks that in three thousand years the Heptapods will need humanity's help. It becomes quite evident that the reason she is seeing the future is also the reason the message has been misrepresented. China and the coalition get ready to attack and the alien ships go vertical either to attack or brace for impact. Banks sees into the future where she meets the Chinese general Shang as he tells her that he has come to the party only to meet her. He thanks her for the phone call that she made to his private number to change his mind. Banks has no clue about what the general is talking about. General Shang at the party gives her his private number. He also tells her that the reason he has called off the war is because of that phone call where Banks told him the dying words of his wife which translates as "In war there are no winners, only widows (Villeneuve)." In the present time, as Banks has access to the information, she steals a satellite phone and calls the Chinese general. Eventually, China calls off the attack and starts sharing all the information with other parties. We see that the purpose of the aliens is now complete as they impart their knowledge of their language to humans. They leave. Next, we see that Donnelly is the father of Hannah, the yet to be born daughter of Banks. It is also fascinating that her name is a palindrome, like a circle. We also see that after knowing the inevitable death of her child and separation with her husband, Banks embraces the future.

III. LINGUISTIC RELATIVITY

The idea that language and thought are intertwined goes back to the classical civilizations, but that reference never came up to the 'mainstream' thought process as fundamental. Some people thought language is sort of a 'veil' that covers up the eternal experience or exposition of truth from human experience. Saint Augustine, for instance, put one step forward into that direction and explained that language

simply levels its own identities into pre-existing concepts (Gumperz and Levinson 1). For Immanuel Kant, language is one of the several tools used by humans to experience the world (Froster 285). In the late 18th and early 19th century, the idea of different national characters that are also known as the "Volksgeist" or "different" ethnic groups were the main force behind German romanticism (Benware 3). In relation to the communal spirit, the idea of the "Weltanschauung" or "world view" came through from the works of Humboldt. The speculation of language, culture, and thought can probably be traced back to the earliest days of philosophy; but the problem that is against the idea of language being the center or determiner of thought has a temporal identity, due to the relation of time and space the language occupies or describes. For instance, a stone can be called a stone whatever or, however, people call it. It has its relation to the fact that whether or not it can be labeled as something or not, the core idea remains the same.

The Sapir-Whorf hypothesis also known as the 'linguistic relativity' principle is the idea that at the center of all varying cultural concepts in sociopolitical categories and imagined/real cultural narratives of different languages tend to differ due to their linguistic differences. Roger Brown has drawn a distinction between weak linguistic activity where thoughts and feelings are limited by language, and on the hind side strong linguistic activity refers to the power of language in determining thought (Gumperz and Levinson 1). The idea of linguistic relativity has been subjected to condensed studies in various fields like anthropological linguistics, psychology, psycholinguistics, neurolinguistics, cognitive science, linguistic anthropology, sociology of language, and philosophy of language. The idea was first introduced in the German Romantic movement where, the notion of "individual thought inspired by language" was found heavily influencing the nationalistic feeling. In the 1960s, the idea of linguistic relativity fell out of favor in the academic establishment owing to Chomsky's theory of universal nature of grammar and thought. This principle was criticized for being not scientifically proven. Later in 1969 study, Brent Berlin and Paul Kay showed that in terms of color terminology there is the existence of universal color terminology hence leaving the Sapir-Whorf hypothesis discredited.

In the 1980s, a new branch of linguistic relativity scholars found some support in experimental contexts consisting of social and cognitive linguistics. The domain for linguistic relativity, after these experiments, found its home in three types of social conditions namely spatial cognition, social use of language and color perception. In recent days the research mainly focuses on creating a balanced view of linguistic relativity that was most likely to be adopted by linguistics as a non-trivial way of using language in every context

while exploring the plots of the universal factors in language. Some of the current research focused on the ways of experimenting and viewing the ways how language influences thought and also determines our relative nature of language.

Linguistic relativity explains the idea that language influences the thoughts of its speakers. It also makes its subscribers dependent on the worldview and cognitive process. This process according to the hypothesis offers two versions: the strong and the soft version. The strong version propagates the idea that language most certainly determines thought whereas the soft version suggests that linguistics categories and language usages only influence thought and decisions (Hussein 642). It is needless to say that the Sapir-Whorf hypothesis is controversial from its inception. Though this hypothesis has its heated moments but it is not completely a faulty one. Hussein implies that learning a different language not only affects us but also it establishes one of the fundamental questions asked on the plethora of linguistic universalism (Hussein 643). The major understanding that it is quite common in scientific methods that the 'universal' comes only when there is something particular exists in the first place.

IV. SEMIOTIC AND TEMPORAL RELATIVITY IN *ARRIVAL*

From a semiotic understanding, the concept of arrival is two-fold: the first is the literal understanding of arrivals of twelve ships and secondarily the birth of the future child of Banks and Donnelly. These arrivals play a crucial plot in the film. The language shown in the film is called 'logo-gram', meaning only symbols that represent the overall scenario including temporal and linguistic reality. The oral form of the language is not given a focus due to the idea that the Heptapods mostly do not seem to use any larynx; their voice is deep and muffled. Semiotic understanding plays a crucial part in the plot of the film. As Jessica Coon explains, "[T]here is no clear beginning or end to the logograms, and the smoky blobs appear all at once. While Heptapod A—the spoken language—is constrained by time in the same way that our spoken language is, Heptapod B apparently is not." The symbolic exchange in the film is about the perception of time and the effect of language with temporal space as the overall goal of the movie is to discover the patterns and produce a map of the linguistic understanding. The film also endorsed the idea of communication as the Heptapods give away the message "twelve becomes one (Villeneuve)." For instance, the words that almost have started a full-on assault on the aliens, "weapon" and "tool" have been misrepresented but later we find out that these words mean "gift". The non-linear nature of the language of the movie also deals with time. We can see that, the idea of

time as seen through as a process that indicates an asymmetrical space in time. There are representations of predestined understandings like Dr. Bank's yet-to-be-born daughter, her childhood, youth, untimely death, and also Bank's conversation with the Chinese general. This tragedy that is yet to come to the life of Banks and Donnelly also can be partially related to Bayes's theorem which alludes to the fact that the probability of an event based on prior knowledge of separate conditions might be related to that actual event.

For the Heptapods, the semiotics of their language also works as a spatial reality that Banks perceives as a flux of temporal understanding. The Heptapod language moves in circles so as their time, which is spatial and occupies the same space as their semiotic form (Does the Linguistic Theory). In the film, Donnelly tries to understand what Banks feels as he poses a question if the Sapir-Whorf hypothesis has anything to do with what she sees, but Banks disagrees. On the hind side, Jessica Coon, the linguistic expert of the film, feels that the rewiring of the brain by learning a new language is quite a suspicious theory as she says, "I'm trying to think of other sci-fi contexts where there is some kind of created language, George Orwell's *1984* is one example where the government makes up this language that supposed to be really simple as way of mind control...But our human brains seem to be fixated on the kind of language that we have (Relearn the Linguistic World in Arrival)."

The alien language in the film works first as a pidgin by imitating the 'to do' sort of actions. However, as the time escalates Banks is forced to bring out a more complex question, "What is your purpose here?" This later one lands as a misunderstood indication of conflict as the aliens reply "to offer weapons' ". We can see how time can be a crucial factor for pidgin to transfer itself in a creole which we see later in one of Bank's visions as she teaches her students the Heptpod language. The relativity in the language refers to one of Lacanian notions—

"As such, the self is cast as identical to the idealizations and identifications of a stage of development before language came into operation, which in turn set up the true basis of the mind – the Symbolic, which is ruled by, indeed identified with, what used to be the unconscious. On such a view the unconscious is understood in terms of a linguistic model. Language is taken to be profoundly important in determining the 'structure' of what we may call persons. On the other hand, the more recent a cognitivist view is anti-psychoanalytical. And while it has rehabilitated the conscious subject as a central element in unpacking the experience of watching film, it has at the same time reduced the conscious spectator to a nexus of perceptual and cognitive capacities and skills by which persons sustain and

negotiate their relations with film and with the world (Pray 52)."

We could see the inner realm of Dr. Banks as she perceives the unpacking of herself while all her present and future mingles in the same environment which she has no control of. The significance of how language plays a crucial part in the film also tells us about some of the propositions like, "what is it about our human brains that makes some types of systems "unlearnable?" (Relearn the Linguistic World in *Arrival*)" It is true for the others in the films as well. Like most of the human characters, they sort of come close to the Heptapod language though none but Banks feels the ripple effect of the time dilation. This is one factor the film fails to mention.

V. CONCLUSION

The linguistic boundary of the film *Arrival* is limited to cinema screen projection so as the narrative. The aliens are projected as symptomatic and semiotic realities of time and place. As interesting as it may sound, the film is quite far from reality, because the idea that language rewires the brain can possibly be impossible owing to the nature of universal grammar. Thinking in the second language, or even dreaming about it takes years to come affront. But the idea that a linguist deals with an unknown creature from space through an unknown language is quite fascinating to look up to. Linguists can appreciate the nature and perspective of *Arrival* as a settlement of an age long dispute: whether language can determine the speakers' thought. This film can provide a solid answer to that dispute; hence it also creates another debate: whether time can change our reality or not as semiotics. Whorf argues in this regard that linguistic relativity is connected to linguistic and cultural determinism (Gumperz and Levinson 614). This view also is supported by Noam Chomsky in one of his interviews as,

...when we talk about language change, what's actually happening is that there's some kind of species changing the mixture of all sorts of dialects and the mix changes over time either because of conquest or some political change or boundaries are drawn in a different place or you know some kind of commercial interchange or whatever the mixture of these things changes over time...you take a look at it a few centuries apart it looks like there's a different language between generations there are usually small changes having to do with other influences from the outside and so on and these things are cumulative sometimes they lead to pretty dramatic changes nothing within a couple of generations the language can have a contained structurally in quite dramatic ways and of course in say lexicon you know the words of the language will that's a different matter altogether

so when technology develops you get a whole new vocabulary (The Concept of Language).

The view of the language is also shared by linguists Guy Deutscher as "habits of speech are cultivated from the earliest age, it is only natural that they can settle into habits of mind that go beyond language itself, affecting your experiences, perceptions, associations, feelings, memories and orientation in the world (Does the language you speak)." The misreading of language is part of linguistic relativity that we lose in terms of learning a new language because of symbolic exchange of meaning. Symbols are mostly cultural codes that have multiple orientations. It is quite evident that *Arrival* as a feature film features more about memory, thought rewiring, love and fortitude of human relationship rather than a human story told through semiotics and linguistics.

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