Faculdade de Design,
Tecnologia e Comunicação
Universidade Europeia

2023

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"Cartographers's Odyssey" A short animated film about the neurobiologic journey of the Self within a Conscience and its role as an agent within socio-cultural regulation.

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“A Odisseia do Cartógrafo” uma curta metragem de animação sobre a viagem neuroscientífica do “Eu” na consciencia e o seu papel dentro da regulação Sócio-Cultural.

Projeto apresentado ao IADE - Faculdade de Design, Tecnologia e Comunicação da Universidade Europeia, para cumprimento dos requisitos necessários à obtenção do grau de Mestre em Design e Cultura Visual realizada sob a orientação científica do Doutor Rodrigo Morais, professor auxiliar de IADE e do Doutor Carlo Turri, professor auxiliar do IADE

. Agradecimentos

Special thanks for everyone that helped me throughout this project. A special thanks to my all my friends that helped build my project, but a special thanks to Federico Leong that provided a key help to the final product and thank you to Tomás Mateus that helped me create the story when I was at my most blocked stage. Thanks to João Flecha and Filipa Oliveira co-workers at the graphic arts department in IADE creative university, that provided help mastering the silk-screen printing technique and motivated throughout the process. Thank you to my family that supported me and believe in me despite it taking longer than expected, thank you to my grandfather, José Víctor Correia that gave me love for philosophy and provided key concepts that I was able to use in the hypotheses of this project. A gigantic thank you to my mom, that was my number one fan throughout the process and helped me review the final paper. Last but not least, a special thanks to me, it was not an easy process and I am proud of what I did. And thanks to my cat, shiva for the company.

palavras-chave O “eu”; Consciência; Mente; Semiótica de Peirce; Fenomenologia; Animação; Serigrafia; Animação Exprimental; Cultura Visual

resumo Este projeto tenta encontrar pontos de ligação entre duas teorias sobre o “Eu” na consciencia. Uma sob a perspectiva neurocientífica e a segunda segundo a semiótica de Peirce. Nas ligações entre estas duas teorias, este projeto expõe as suas ressonâncias e complementaridades. Ambos possuem espírito inquisitivo ao se aproximarem de um mistério, ambos utilizam estruturas triádicas de forma semelhante; e a maneira como eles descrevem o “Eu”, não como uma coisa, mas sim como um processo, um diálogo entre nossas realidades internas e externas, entre nossos hábitos e mudanças de hábitos. Cada “Eu” contribui para a regulação sociocultural nas comunidades, e ao mesmo tempo, este coletivo de “Eu’s” funciona como extensão das capacidades da mente. Com essas conclusões, este projeto se propõe a utilizar o conhecimento teórico sobre essas teorias e tentar traduzi-lo numa narrativa visual, no formato de um curta-metragem de animação experimental. A vertente experimental procurará encontrar uma colaboração entre a animação digital e a técnica de serigrafia. A capacidade de produzir em série várias impressão, cada uma com varias diferentes texturas inesperadas e usar isso em animação *stop-motion* forneceu resultados interessantes que deram ao processo de serigrafia uma nova vida. Outra metodologia importante abordada foi o processo de tradução que utiliza ferramentas da semiótica de Peirce para poder traduzir qualquer linguagem em visual. Com essas ferramentas, as teorias do “Eu” foram traduzidas com sucesso numa narrativa visual. Uma história sobre um astronauta (o eu) em sua nave, viajando pelo universo interior da consciência com o único objetivo de entender seu propósito dentro deste espaço aparentemente infinito.

Keywords The Self; Conscience; Mind; Peircean Semiotics; Phenomenology; Animation; Silk-screen printing; Experimental Animation; Visual Culture

abstract This project attempts to bridge a connection between two accounts theories of the self. One from a neuroscientific perspective and the second according to Peircean semiotics. At the intersections of these two theories this project exposes their resonance and complementarities. They both have inquisitive spirits when approaching a mystery, they both utilize triadic structures in similar ways; and the way they describe the self, not as a thing, but instead a process, a dialogue between our interior and external realities, between our habits and habit changes. Each self contributes to socio-cultural regulation of communities of selves, and similarly, this collective of selves' functions as extension of the capacities of the mind. With these conclusions, this project proposes to utilize the theoretical knowledge about these theories and attempt to translate it a visual narrative, in the format of an experimental animated short film. The experimental aspect will seek to find a collaboration between the digital animation and silk-screen printing technique. The capabilities of producing a series of one print all with different unexpected textures and using this in frame-by-frame stop animation provided interesting results of silk-screen process gaining life. Another important methodology approached was the translation process that utilizes semiotic tools to be able to translate a language into a visual one. With these tools, the theories of the self were successfully translated into a visual narrative. A story about an astronaut (the self) in its ship, traveling the inner universe of consciousness with the sole goal of understanding its purpose within this seemingly infinite space.

Introduction

Consciousness and the sense of self are one biology's and philosophy's most debated phenomena, this is, the mind's capacity of having an owner. Through the means of technology and human experience, the gradual accumulation of research and access to information has provided the notion of the self with a plethora of perspectives and accounts. The last century has ignited new ways of looking and understanding "a thing" that for a long time, to many, has been an unknowable reality. In the literature review, two different innovative approaches of the self are reviewed- namely theoretical accounts by António Damásio and Vincent Colapietro – in the end, the goal is to try to connect how the two distinct perspectives follow complementary ways of thinking and of tackling the same problem. Although these theories lack factuality, their power resides in their openness to logical, creative and imaginative reasoning..

After the revision of literature is complete, the goal is then to use the hypothesis formulated in the literature review as a basis for a visual narrative in the format of an experimental animated short film. The purpose of this film is to first explore and assess the usage of Peircean semiotics as a tool for the translation of a theoretical language to a visual language. Additionally, to justify the technical approach, an evaluation of experimental animation's capability of exploring unconventional materials to transmit unique messages and expressions of the creativity of the self.

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Chapter 1: Literature Review

1. Consciousness

Damásio considers that one of the most fascinating spectacles of human biology is the wonder of consciousness or the ownership of the mind: The mere existence of a protagonist (the self) inside and outside our minds, an agent capable of action and reaction (Damásio, 2014).

To understand what conscience is or can be, a revision will be made of António Damásio's theories in the book *"The Self Comes to mind: the Construction of the Conscious Brains"* (2014) where the author breaks down a working definition of conscience and the sense of self. These theories inquire into the mysteries that in the past century impeded many from interrogating the mechanisms and origins of the human conscience, with all its trials and tribulations. According to Damásio's theory the author says the primary features of conscious minds are:

> The fact that the myriad contents displayed in my mind, regardless of how vivid or well ordered, connected with me, the proprietor of my mind, through invisible strings that brought those contents together in the forward-moving feast we call self; and, no less important, the fact that the connection was felt. There was a feelingness to the experience of the connected me. (2014, p.13)

Damásio (2014) first considers that without conscience, gifted with a subjective perspective, we could not know that we exist, who we are and would be unable to make sense of what is presented in our thoughts, considering that:

> Had subjectivity not begun, even if very modestly at first, in living creatures far simpler than we are, memory and reasoning are not likely to have expanded in the prodigious way they did, and the evolutionary road for language and the elaborate human version of consciousness we now possess would not have been paved. Creativity would not have flourished. There would have been no song, no painting, and no literature. Love would never have been love, just sex. Friendship would have been mere cooperative convenience. Pain would never have become suffering—not a bad thing, come to think of it—but an equivocal advantage given that pleasure would not have become bliss either. Had subjectivity not made its radical appearance, there would have been no knowing and no one to take notice, and consequently there

> would have been no history of what creatures did through the ages, no culture at all. (2014, p.14)

Conscience is accessible and guaranteed to all human beings, but understanding this phenomenon is not an easy task. As a starting point, according to Damásio, it is crucial to ask what exactly is conscience and what is it made of? Prior to answering this, the author suggests questioning if it is all built in the brain and if so, how does the brain alone build the mind? Damásio responds:

> The fact that no one sees the minds of others, conscious or not, is especially mysterious. We can observe their bodies and their actions, what they do or say or write, and we can make informed guesses about what they think. But we cannot observe their minds, and only we ourselves can observe ours, from the inside, and through a rather narrow window. (2014, p.14)

Regarding the mystery the author adds that:

> ...to say that conscious minds are mysterious—and on the face of it they are—is different from saying that the mystery is insoluble. It is different from saying that we shall never be able to understand how a living organism endowed with a brain develops a conscious mind. (Damásio, 2014, p.15)

Thus, Damásio's (2014) goal is to understand how living organisms with brains develop conscious minds. The authors main goals are: How does the brain construct a mind? And how does the brain become conscious? The author recognizes that these questions are still left unanswered and are still complex to consider all the factors and investigations that result in a definitive answer. However, given the advances in the area, new conjectures can bring to light new bodies of hypothesis (Damásio, 2014).

1.1. The Purposes of Consciousness

Damásio makes headway on the matter by analysing two important precursor studies. The first is the origin of feelings and the second are the mechanisms for the construction of a self. One line of thinking that was key to the author's development was William James's consideration that the self is an entity that is so discreet that the contents of the mind dominate conscience, putting into question if the self is always present when we are conscious (James apud Damásio, 2014, p.16).

With this question Damásio responds to this by stating that "There is indeed a self, but it is a process, not a thing and the process is always present when we are presumed to be conscious." (2014, p.17). The author then further dissects the study of the self process into two points of view that correspond to distinct levels in the operation of the conscious mind:

From the first point of view, the self-as-object is as an observer which apprehends certain dynamic objects[1] . which according to Damásio are: "…constituted by certain workings of minds, certain traits of behaviour, and a certain history of life." (2014, p.17). Secondly, from the point of view of the self-as-a-knower, it functions as a centre to our experiences. This is what allows us to reflect on our own perceptions. These two points of view correspond to two phases of evolutionary development for the self. The self-as-a-knower being originated on the self-as-object (Damásio, 2014).

Damásio agrees with James' statement that the self-as-object is:

> …the material me, was the sum total of all that a man could call his—"not only his body and his psychic powers, but his clothes and his wife and children, his ancestors and friends, his reputation and works, his lands and horses, and yacht and bank account." (James apud Damásio, 2014, p.17)

What allows the self to know what belongs to it is due to fact the perception of these dynamic objects generate emotions and feelings which operate in the organism at what the Damásio identifies as somatic markers. Whenever we apprehend something that belongs to our self, these markers trigger and these feelings allow us to differentiate the self and the non-self. They are, in a way, feelings of knowing. The self-as-object is then defined by Damásio as "… a dynamic collection of integrated neural processes, centred on the representation of the living body, which finds expression in a dynamic collection of integrated mental processes." (2014, p.17).

On the other hand, when Damásio then describes the self-as-a-knower as

> "The self-as-subject, as knower, as the "I," is a more elusive presence, far less collected in mental or biological terms than the me, more dispersed, often dissolved in the stream of consciousness (…)We can

[1] Dynamic objects used in this context refers to the objects of the mind, this term will refer to something different in later chapters.

> imagine that the self-as-subject-and-knower is stacked, so to speak, on top of the self-as-object, as a new layer of neural processes giving rise to yet another layer of mental processing." (2014, p.17)

Damásio emphasises its significance as a crucial turning point in biological evolution. According to the author the mere presence of images flowing through this stream is not enough to define it; without this self, the mind remains unconscious and for the brain to become conscious it requires a new property, subjectivity. Thus, these traces of subjectivity are the presence of feelings (somatic markers) attached in the images that run through the mind. (Damásio, 2014) Damásio then says that the purpose of consciousness is not in its role of creating images in our heads, nor in the nature of the basics of the regulation of the mind, instead the author concludes that subjectivity is its key purpose.

> The decisive step is making the images ours, making them belong to their rightful owners, the singular, perfectly bounded organisms in which they emerge. In the perspective of evolution and in the perspective of one's life history, the knower came in steps: the protoself and its primordial feelings; the action-driven core self; and finally the autobiographical self, which incorporates social and spiritual dimensions. (2014, p.18)

According to Damásio (2014) for the mind to become conscious in a brain, a sort of knower or an 'experiencer' must be generated in it, the result is the subjective self. The author considered it crucial to acknowledge that: "A mind unwitnessed by a self protagonist is still a mind. However, given that the self is our only natural means to know the mind, we are entirely dependent on the self's presence, capabilities, and limits." (Damásio, 2014, p.20). The author also adds that in terms of biological evolution, the mind's simple mental processes preceded the self processes. The classification of the stages of the evolution and gradual appearance of the self will be dissected in later chapters.

Before advancing with further explanations, it is crucial to outline the purpose of understanding the conscious mind, other than satisfying the curiosities of human nature. Understanding the practical significance that inquiry into this subject can bring to our daily lives, Damásio (2014) considers that we ought to first understand the circumstances

in which conscious minds appeared in the history of biological evolution. The author argues that:

> At first glance, after acknowledging the self as our entry into knowledge, it may appear paradoxical, not to mention ungrateful, to question its reliability. And yet that is the situation. Except for the direct window that the self opens into our pains and pleasures, the information it provides must be questioned, most certainly when the information pertains to its very nature. The good news, however, is that the self also has made reason and scientific observation possible, and reason and science, in turn, have been gradually correcting the misleading intuitions prompted by the unaided self. (Damásio, 2014, p.20)

Therefore, Damásio believes in the need to consider that neural mechanisms reveal that our selves are not always sound and in control of all our decisions, but at the same time the author allows the rejection of the idea that our ability of deliberating consciously is a myth. Other possible advantages that the understanding of the mechanisms of the self can bring are: "Elucidating conscious as well as nonconscious mind processes increases the possibility of fortifying our deliberative powers." (Damásio, 2014, p.32). In relation to the capacities of the self, the author also adds:

> Armed with reflexive deliberation and scientific tools, an understanding of the neural construction of conscious minds also adds a welcome dimension to the task of investigating the development and shaping of cultures, the ultimate product of collectives of conscious minds. As humans debate the benefits or perils of cultural trends, and of developments such as the digital revolution, it may help to be informed about how our flexible brains create consciousness. (Damásio, 2014, p.32)

Damásio recognizes that in understanding that "Throughout the evolution of mammals, especially primates, minds become ever more complex, memory and reasoning expanding notably, and the self processes enlarge their scope." (2014, p.30). Damásio adds that "In an extraordinary leap, homeostasis acquires an extension into the sociocultural space." (2014, p.30). This regulation at the level of society and culture is an exploration of the notion that Damásio introduced as socio-cultural homeostasis which will be analysed in a later chapter.

1.2. The Mystery of Consciousness

Prior to understanding these mechanisms, it is valuable to first consider some misleading ideas that circle around consciousness. In Damásio's opinion something that can provoke this fear of understanding consciousness is the fact that:

> The self permits a view of the mind, but the view is clouded. The aspects of the self that permit us to formulate interpretations about our existence and about the world are still evolving, certainly at the cultural level and, likely, at the biological level as well. (2014, p.20)

In relation to the mystery, Damásio adds that:

> Under the circumstances, it is not surprising that the mind appears to have a nonphysical nature and that its phenomena appear to belong to another category… Viewing the mind as a nonphysical phenomenon, discontinuous with the biology that creates and sustains it, is responsible for placing the mind outside the laws of physics, a discrimination to which other brain phenomena are not usually subject. (2014, p.20)

The mystery stems from the incomplete knowledge of biology, physics and even with the advances in the fields of neurobiology and the brain, but Damásio believes that: "...the possibility of explaining mind and consciousness parsimoniously, within the confines of neurobiology as currently conceived, remains open; it should not be abandoned unless the technical and theoretical resources of neurobiology are exhausted, an unlikely prospect at the moment." (2014 p.32). Furthermore, even if it lacks materiality, the author does not consider it to be a reason to abandon inquiry of the unaided self. Even when theories are not always what they seem, the path of inquiry always shows more progress than accepting it as an unsolvable problem (Damásio, 2014).

To properly form a theory, Damásio (2014) revisits some already existing discoveries of the mind, one which the author considers is agreed upon is that behind every conscious mind exists an unconscious mind, but strangely what is commonly disregarded is the fact that long before consciousness was created, life required the aid of unconscious processes. With these regards, Damásio considers fundamental that to study consciousness, one needs to look back to the origins of life and look at how the self process came to be introduced in the mind. To do this, Damásio will first consider some already established studies of the conscious mind (Damásio, 2014).

1.3. Damásio's fourth perspective

In the last decades, advancements of technology, science and psychology have contributed to reveal increasingly about the functioning of the brain. According to Damásio progress in neuroscience, has been mainly contributed with three combining perspectives that have shed light on the possibility unveiling the mystery, the author refers they are: (1) The direct-witness perspective (the private and individual workings of the conscious mind); (2) the behavioural perspective (observation of action and reactions of the human minds); (3) the brain perspective (the cerebral functioning of the brain of a conscious or unconscious mind). Though resourceful, Damásio considers that:

> Evidence from these three perspectives, even when intelligently aligned, is usually not enough to generate a smooth transition across the three kinds of phenomena—introspective, first-person inspection; external behaviors; and brain events. In particular, there appears to be a major gap between the evidence from first-person introspection and the evidence from brain events. (2014, p.23)

Damásio's theory brings an innovative and inquiring formulation of a fourth perspective, one that considers a new view on the history of conscious minds. This perspective, according to the author, is "…the idea of turning life regulation into the support and justification of self and consciousness, and that idea suggested a path into this new perspective: a search for antecedents of self and consciousness in the evolutionary past." (Damásio, 2014, p.22). Therefore, it needs evolutionary biological and neurobiological facts:

> It requires us to consider early living organisms first, then gradually move across evolutionary history toward current organisms. It requires us to note incremental modifications of nervous systems and link them to the incremental emergence of, respectively, behaviour, mind, and self. (Damásio, 2014, p.22).

This tracing of the narrative of the emergence of conscious minds demands the author to take into consideration the acknowledgment that mental events are resonant with certain kinds of brain events, or in the Damásio's words "...the mental events correspond to certain states of brain circuits... Some neural patterns are simultaneously mental images. When some other neural patterns generate a rich enough self process subject, the images can become known." *(2014, p.22)* The author then concludes that subjectivity is

not required to have mental states, but only for them to be known privately by the self. (Damásio, 2014)

As its subjects, Damásio has gathered his theories on the basis of studies on neurological patients with focal brain damage in order to know what affects consciousness, and with aid of the new technologies like functional neuroimaging and neurophysiological recordings. Briefly explained, they are able to reveal images of the activity of the active brain, without the need to open the head up with surgery. (Damásio, 2014)

This review will not be explaining too in depth these considerations, but more to contextualise the basis of Damásio's theories. What is crucial to know is that today, scientists, to a certain extent, can digitally reconstruct active brains in computers. They can construct maps of neural connections/pathways of the nervous system and study the active brain. The capacity to study the spectacle of the brain's activity has never before been observable to humans and with this exponential growing knowledge of the mind brings us every time closer to a proper understanding of our being's how's and why's.

It is with these advancements that allows Damásio to propose a new theory and presents an innovative account of the self that asks us to consider "…a view from the past, and from within, literally an imagined view of a brain caught in the state of containing a conscious mind. To be sure, this is a conjectural, hypothetical view." (2014, p.22). However, he believes that to understand the mind-self-body-brain problem we must be contemptuous with theoretical approximation rather than complete explanations.

It might be tempting to regard the hypothesised equivalence of mind events to certain brain events as a crude reduction of the complex to the simple. This would be a false impression, however, given that neurobiological phenomena are immensely complex to begin with, the explanatory reductions involved here are not from the complex to the simple but rather from the extremely complex to the slightly less so. (2014, p.23)

Another possible aspect in which Damásio's theories can go under scrutiny is the fact that interpreting "…the proposed brain-mind equivalence as a neglect of the role of culture in the generation of the mind or as a downgrading of the role of individual effort

in the shaping of the mind." (2014, p.23), in which the author explains more thoroughly in the concept of socio-cultural regulation, which will be explained in later part, but essentially it presents that culture is a product of the fully realised self to extend its capacities at the level of socio-cultural systems. For now, what is important to recognize is that:

> …countless creatures for millions of years have had active minds happening in their brains, but only after those brains developed a protagonist capable of bearing witness did consciousness begin, in the strict sense, and only after those brains developed language did it become widely known that minds did exist. The witness is the something extra that reveals the presence of implicit brain events we call mental. Understanding how the brain produces that something extra, the protagonist we carry around and call self, or me, or I, is an important goal of the neurobiology of consciousness. (2014, p.23)

These benefits are not uniquely for neurobiology, but to open debate in all other fields in culture like "Justice systems, economic and political organisations, the arts, medicine, and technology are examples of the new devices of regulation."*(*Damásio, 2014, p.30) in which the human agent is active participant, bringing any individual to understand the ways humans are hardwired to function as organism within their social and cultural existence.

1.4.Prior definitions

To properly explain the mind, Damásio (2014) claims the need to introduce some prior definitions. To properly explain the mind and the framework proposed by Damásio, the author claims the need to introduce some prior definitions. The first is that:

> Organisms make minds out of the activity of special cells known as neurons. (..) They are sensitive to changes around them; they are excitable (an interesting property they share with muscle cells)... neurons can send signals to other cells—other neurons, muscle cells—often quite far away. Neurons are largely concentrated in a central nervous system (the brain, for short), but they send signals to the organism's body, as well as to the outside world, and they receive signals from both. (2014, p.23)

Damásio then adds that says

> The number of neurons in each human brain is on the order of billions, and the synaptic contacts that the neurons make among themselves

> number in the trillions. Neurons are organized in small microscopic circuits, whose combination constitutes progressively larger circuits, which in turn form networks or systems. (2014, p.24)

The author further claims that the mind process is composed from this organisation forming the process of the mind. The activity in these systems creates momentary patterns and they "represent things and events located outside the brain, either in the body or in the external world, but some patterns also represent the brain's own processing of other patterns." (2014, p.24) They are representative patterns and Damásio claims "The term map applies to all those representational patterns, some of which are coarse, while others are very refined, some concrete, others abstract." (2014, p.24) and finally concludes that "Those maps are experienced as images in our minds, and the term image refers not just to the visual kind but to images of any sense origin such as auditory, visceral, tactile, and so forth." (2014, p.24).

Damásio's (2014) establishes that the proposed theory will function as a framework that "…needs to break down the phenomenon of consciousness in components amenable to neuroscience research. The result is two researchable domains, namely, mind processes and self processes." (2014, p.25). The self processes are further decomposed into subtypes, in which Damásio states that it offers "…two advantages: presuming and investigating consciousness in species that are likely to have self processes albeit less elaborate; and creating a bridge between the high levels of self and the sociocultural space in which humans operate." *(2014, p.25).*

1.5. The processes of the Mind

To understand consciousness, we must first define what are the basic ingredients of the conscious mind and according to Damásio they are the state of wakefulness and the flow of mental images.

Damásio refers that the state of wakefulness is analogous to a state of awareness and it is based on the action specific centres of the nervous system (hypothalamus, the brainstem and the cerebral cortex). Damásio considers that the most important aspect of wakefulness is when "vigilance is either diminished (producing sleep) or enhanced (producing wakefulness)." (2014, p.143). In summary, Damásio describes that these

operations in the nuclei of the state of wakefulness operate distinct aspects of our homeostatic regulation, from the hormonal operations to our biological values "...determining signal and degree of emotional responses to a situation as well as how awake and alert we are to be." (Damásio, 2014, p.143).

On the flow of mental images, Damásio refers as

> Images are certainly the source of the objects-to-be-known in the conscious mind, whether the objects are out in the world (external to the body) or inside the body (like my painful elbow or the finger you burned inadvertently). Images come in all sensory varieties, not just visual, and they pertain to any object or action being processed in the brain, actually present or being recalled, concrete as well as abstract. (2014, p.144)

Damásio's (2014) hypothesis says that conscious minds arise from the relationship created between the images generated by the organism (body) and the objects-to-be-known (exterior objects). The author then states that

> All three components are made of images. The object to be known is mapped as an image. So is the organism, although its images are special. As for the knowledge that constitutes a self state and permits the emergence of subjectivity, it too is made of images. (2014, p.144)

This aggregation of images and their juxtapositions, are "The entire fabric of a conscious mind is created from the same cloth — images generated by the brain's map-making abilities.*"* (Damásio, 2014, p.144).

Damásio (2014) distinguishes them, describing images used to illustrate the objects-to-be-known the result from the mapping operations of external senses. The images related to the organism represent the body's interior and the aspects of the body in action, these image "…are felt, spontaneously and naturally, from the get-go, prior to any other operation involved in the building of consciousness." (2014, p.144); the last images are images those "...describe the relationship between organism and object draw on both kinds of images…" (2014, p.144). These last images are what generate the subjective experience of the self, because their combination creates a third result, a unique perspective.

The experiencing of these images and the state of wakefulness are what allows the ownership of the mind. To understand this, Damásio's states that we need to investigate

how the self process came to be by seeing the conscious mind from the perspective of biological evolution.

1.6. The Self processes

Following Damásio's (2014) framework, to understand consciousness, we need to investigate two domains. The mind process was explored in the latter chapter and now the self processes will be considered.

1.6.1. The Protoself

The first steppingstone to understand in accordance with the author is "...the notion that the body is a foundation of the conscious mind... the most stable aspects of body function are represented in the brain, in the form of maps, thereby contributing images to the mind." (Damásio, 2014, p.26). Damásio then explains that these images "...constitutes the protoself, which foreshadows the self to be." (2014, p.26); The author notes that these parts of the brain that map these images are the oldest and are shared amongst other species. Damásio emphasises that the

> …are not merely about the body. They are literally and inextricably attached to the body. Specifically, they are attached to the parts of the body that bombard the brain with their signals, at all times, only to be bombarded back by the brain and, by doing so, creating a resonant loop. This resonant loop is perpetual, broken only by brain disease or death. (Damásio, 2014, p.26)

Damásio describes: "In light of these facts, the body is best conceived as the rock on which the protoself is built, while the protoself is the pivot around which the conscious mind turns." (2014, p.26) The body provides the organism with what Damásio describes as the

> … first and most elementary product of the protoself is primordial feelings, which occur spontaneously and continuously whenever one is awake. They provide a direct experience of one's own living body, wordless, unadorned, and connected to nothing but sheer existence. These primordial feelings reflect the current state of the body along varied dimensions, for example, along the scale that ranges from pleasure to pain, and they originate at the level of the brain stem rather than the cerebral cortex. All feelings of emotion are complex musical variations on primordial feelings. (2014, 26-7)

Primordial feelings produce either pain or pleasure in what Damásio calls body events that ".... are also mapped in a brain that at no instant is separated from its body." (2014, p.27) Thus the author classifies these as special kinds of images that are produced by the "...obligate body-brain interaction…" (2014, p.27) and denotes these to be the first images to be generated by the brain to introduce manifestations of sentience. Damásio recognizes the importance of this product because it connects all other images to feelings because

> ...in addition to holding a unique relationship to the body, the brain-stem machinery responsible for making the kinds of images we call feelings is capable of richly mixing signals from the body and thus creating complex states with the special and novel properties of feeling rather than mere slavish maps of the body. (2014, p.27)

Damásio considers interoception (images of the body) as the "...suitable source for the relative invariance required to establish some sort of stable scaffolding for what will eventually constitute the self." (2014, p.149). Damásio acknowledges that the self is a singular process and primordial feelings can serve as a biological basis to find the possibility of singularity. The protoself supplies the self a foundation for continuity. It serves as a platform that registers the alterations caused by the interaction of the organism with all that surrounds it. All alterations are registered in comparison with the actual state of the protoself, allowing us to have the sense that we are presently the same self that we were seconds or years ago. (Damásio, 2014)

1.6.2. The Core Self

The next steppingstone for conscious minds, Damásio reveals that it

> …begin when self comes to mind when brains add a self process to the mind mix... The self is built in distinct steps grounded on the protoself. The first step is the generation of primordial feelings, the elementary feelings of existence that spring spontaneously from the protoself. Next is the core self. The core self is about action—specifically, about a relationship between the organism and the object. (2014, p.27)

The author considers that the core self is what we can relate to because its images are what to us appears in the present moment through what the mind is experiencing through the organism's senses. Damásio determines that the conscious mind appears due

to the fact that at this level "...unfolds in a sequence of images that describe an object engaging the protoself and modifying that protoself, including its primordial feelings." (2014, p.27).

The protoself is constantly affected by the sensory processing of a perceived object. This is, for the objects to be mapped, the body must adapt in suitable ways. The changes in the protoself initiate a chain of events that ignites the creation of the core self, this is according Damásio "...by linking the modified protoself to the object that caused the modification, an object that has now been hallmarked by feeling and enhanced by attention." (Damásio, 2014)

This process of relating the affected organism to the object that has been made salient is what, according to Damásio (2014), portrays in the mind the fact that there is a protagonist to whom certain events occur and "Within the narrative of the moment, it must protagonize." (2014, p.155). The author recognizes that this is not always intensely felt but subtly suggested in the material. The plain mind process is now introduced with a series of images: images of the organism; images of the object-related emotional response; and images of the momentarily causative object being made salient. (Damásio, 2014)

1.6.3. The Autobiographical Self

The last step is the autobiographical self and according to Damásio (2014) is "...defined in terms of biographical knowledge pertaining to the past as well as the anticipated future... The multiple images whose ensemble defines a biography generate pulses of core self whose aggregate constitutes an autobiographical self." (2014, p.27).

Using Damásio's definition, the autobiographical self "are autobiographies made conscious." (2014, p.161). This self, according to the author, encompasses all our memorized history, both recent and remote. Our social experiences, our wishes and desires that can invoke the most refined emotional experiences. Damásio says

> While the core self pulses away relentlessly, always "online," from hint halfhinted to blatant presence, the autobiographical self leads a double life. On the one hand, it can be overt, making up the conscious mind at its grandest and most human; on the other, it can lie dormant, its myriad components waiting their turn to become active. (2014, p.161)

This unconscious role, according to Damásio, is where:

> Some frames of the recollection are dropped on the mind's cutting-room floor, others are restored and enhanced, and others still are so deftly combined either by our wants or by the vagaries of chance that they create new scenes that were never shot. That is how, as years pass, our own history is subtly rewritten. (2014, p.161)

In conclusion, the framework designates that the self processes are made up of three selves that operate in the conscious mind. Damásio demonstrates that "The protoself with its primordial feelings, and the core self, constitute a 'material me'. The autobiographical self, whose higher reaches embrace all aspects of one's social persona, constitute a 'social me' and a 'spiritual me.'" (2014, p.28).

1.7. Damásio's Working Hypothesis

These three levels relate to the ways in which we experience our inner and outer realities and "...normal human consciousness corresponds to a mind process in which all of these self levels operate, offering to a limited number of mind contents a momentary link to a pulse of core self." (Damásio, 2014, p.28). Damásio emphasises that the

> The ultimate consciousness product occurs from those numerous brain sites at the same time and not in one site in particular, much as the performance of a symphonic piece does not come from the work of a single musician or even from a whole section of an orchestra.

Here Damásio (2014) offers an interesting metaphor between how the self process is a form of symphonic piece, which helps visualise the whole. The author comments that one of the strangest aspects of this process:

> …the upper reaches of a consciousness performance is the conspicuous absence of a conductor before the performance begins, although, as the performance unfolds, a conductor comes into being. For all intents and purposes, a conductor is now leading the orchestra, although the performance has created the conductor—the self—not the other way around. The conductor is cobbled together by feelings and by a narrative brain device, although this fact does not make the conductor any less real. The conductor undeniably exists in our minds, and nothing is gained by dismissing it as an illusion. (Damásio, 2014, p.28)

The ensemble of consciousness is an extraordinarily complex system that organises and operates using various systems from the brain sites to the body's regulation "all

harmoniously stitched together, in ceaseless forward motion, interruptible only by sleep, anaesthesia, brain dysfunction, or death." (Damásio, 2014, p.29)

In the framework that Damásio (2014) proposes, the regulation and safekeeping of life is the most important purpose of our biological value and we share this with all other living organisms. "Biological value naturally guides and colours, so to speak, almost everything that happens inside our very minded, very conscious brains. Biological value has the status of a principle." (Damásio, 2014, p.29). Damásio explains that it is with this purpose that the brain structures and mechanisms were formed and influenced to achieve their levels of complexity. It works through the simple release of chemical molecules that regulates the reward and punishment of the organisms' purposes or the elaborated regulation of social emotions and sophisticated reasoning that has pushed the evolution of the brain to arrive at the fully developed mechanisms of human consciousness. The self emerges within this regulation of life, also known as homeostasis, as the organism's adaptive capability. (Damásio, 2014)

The construction of consciousness is a quite complex process, resulting in additions and subtractions of brain mechanisms along the history of biological evolution. Damásio's theory comes in two parts.

The first part, Damásio (2014) defines that consciousness requires the creation of a self within an awake mind. The self serves as a focusing of the mind on the material organism that it inhabits. The mind's components of wakefulness and flow of mental images are indispensable for the introduction of a self.

The second part focuses on breaking down the proposal that the self is built in stages. These processes, according to Damásio (2014), considered from an evolutionary point of view, only occur once minds and wakefulness are established as basic brain operations. These processes provide the organism with images of the internal and external worlds that are especially efficient in orienting and organising minds, constantly increasing the chances of survival and well-being. Damásio recognized that this process provided a gradual improvement that started

> …around the protoself and become oriented by the homeostatic requirements of the organism. Then the devices of reward and

> punishment and drives and motivations, which had been shaping the life process in earlier stages of evolution, help with the development of complex emotions. Then social intelligence begins to be flexible. The eventual presence of the core self is followed by an expansion of mental processing space, of conventional memory and recall, of working memory, and of reasoning. Life regulation focuses on a gradually more well-defined individual. Eventually the autobiographical self emerges, and with its arrival the regulation of life changes radically. (Damásio, p.216)

While in its earlier stages, Damásio (2014) recognizes that the self processes did not establish consciousness in its entirety, only with the introduction of the more complex relationship between the protoself and the core self - was subjectivity consequently formed - the brain's capability to present organisms with a personalised adapting skills making each individual species more apt to act and react to its environments. Even later in evolution, more complex structures were created in the brain to accumulate memory of the individual organism and their environments. Not only were memories stored in the brain but they were also capable of being recorded externally in the instruments of cultures. Damásio recognizes how "Consciousness in the fullest sense of the term emerged after such knowledge was categorized, symbolized in varied forms (including recursive language), and manipulated by imagination and reason." (Damásio, 2014, p.140).

Damásio (2014) explains how the distinct stages of the evolution of the self process – mind, conscious mind, and conscious minds capable of producing culture appeared in this sequence, but the author emphasises that this is not the end of the journey.

> That should not leave the impression, however, that when minds acquired selves, they stopped evolving as minds or that selves eventually stopped evolving. On the contrary, the evolutionary process continued (and continues), possibly enriched and accelerated by the pressures created by self- knowledge, and there is no end in sight. The ongoing digital revolution, the globalisation of cultural information, and the coming of the age of empathy are pressures likely to lead to structural modifications of mind and self, by which I mean modifications of the very brain processes that shape the mind and self. (Damásio, 2014, p.140)

Society and culture are extensions of the self's capacities; therefore, the complex collective of self's tends to behave like much like an organism. Just like the organic organism' homeostasis regulates the wellbeing and survival of its own self, this process

tends to also start working among these collectives. The next chapter will explain this process introduced by Damásio (2016).

1.8. Sociocultural Homeostasis

Damásio (2014) states that the appearance of neurons marked the evolution of life drastically due to their characteristic of being "carriers of signals, processing devices capable of transmitting messages and receiving them." (2014, p.215) The author recognizes that with their proliferation in living organisms, their capability to organise themselves into complex circuits and networks allowed for the representation of information in the organism and their capacity to communicate with other cells and affect their functions. Damásio suggests that these characteristics are probably because they are "…exquisitely dependent on nutrients as all body cells are…" (2014, p.215). Nervous systems inside organisms developed the complex role "as managers of life and curators of biological value, assisted at first by unbrained dispositions but eventually by images, that is, minds." (2014, p. 216). The author says that this incremental improvement in life regulation of earlier phases of species provided them with minded behaviour. In the human species the arrival of the rich self process provided the mind with capacities for flexibility and creativity in life regulation. Once this self emerged, a radical change in the nature of life was hallmarked. (Damásio, 2014) In fact, Damásio says

> If nature can be regarded as indifferent, careless, and unconscionable, then human consciousness creates the possibility of questioning nature's ways. The emergence of human consciousness is associated with evolutionary developments in brain, behavior, and mind that ultimately lead to the creation of culture, a radical novelty in the sweep of natural history. (2014, p.216).

Thus, Damásio (2014) notes that the appearance of neurons and conscious brains were grand deviations from the natural laws and ways of nature. The emergence of self-reflective behaviour opens a new rebellious force in nature that gradually perfected itself and regulated its own path in biological evolution. The author recognized that the introduction of the rebellious path of human existence was all based on the acquisition of

the act of thinking through knowledge. Damásio theorises that it was only when the self was

> complex enough to reveal a fuller picture of the human condition, once living organisms could learn that pain and loss were at stake but so were pleasure and flourishing and folly, once there were questions to be asked about the human past and the human future, once imagination could show how possibly to reduce suffering, minimize loss, and increase the probability of happiness and fancy. (2014, p.217)

Damásio (2014) brings forth the notion that the autobiographical self is what enables us to use memorised information to monitor and operate various parts of our lives. The conscious mind, armed with the complex levels of the selves, operates

> …on the basis of knowledge etched in brain circuits and in external records of stone, clay, or paper, humans become capable of hitching their individual biological needs to the accumulated sapience. Thus begins a long process of inquiry, reflection, and response, expressed throughout recorded human history in myths, religions, the arts, and various structures invented to govern social behavior—constructed morality, justice systems, economics, politics, science, and technology.

Damásio states that these are the instruments for creating culture and its evolving status opens new ways of homeostasis that can work at the level of society and culture.

Damásio says the consequences of reflective self was the "This systematic discovery of the drama of human existence and of its possible compensations…" (2014, p.219) What Damásio notes here is a bridge that connects the purpose of culture as extensions of consciousness, not only working at the level of individuals, but at the level of the human species as a whole, as a society. Reflective consciousness "...improved the revelation of existence but allowed conscious individuals to begin interpreting the condition and taking action." (Damásio, 2014, p.220). Damásio proposes that cultural development had the same drive of the automated homeostasis through its ability

> ...to respond to a detection of imbalance in the life process, and they seek to correct it within the constraints of human biology and of the physical and social environment… The cultural devices created in response to the imbalance aimed at restoring the equilibrium of individuals and of the group" (Damásio, 2014, p.220)

This regulation of imbalances of social and cultural parameters, is what Damásio (2014) calls sociocultural homeostasis. This conscious reflection and planning of action

introduced new ways for humans to govern their lives and even improve individuals' regular homeostasis. Not only did their chances of survival improve, but also

> The imagined, dreamed-of, anticipated well-being has become an active motivator of human action. Sociocultural homeostasis was added on as a new functional layer of life management, but biological homeostasis remained. Armed with conscious reflection, organisms whose evolutionary design. (Damásio, 2014, p.220)

In Damásio's (2014) opinion, we can observe socio-cultural homeostasis in action through

> "The dramatic reduction of violence along with the increase in tolerante... Neither would the gradual transition from coercive power to the power of persuasion that hallmarks advanced social and political systems, their failures notwithstanding." (Damásio, 2014, p.30)

When delineating the difference between basic and socio-cultural homeostasis, Damásio (2014) refers that the first operates mostly at unconscious levels of the mind and is established in our genomes; while the second is controlled by a collective of guided, reflected minds, that are more volatile and prone to change. The former "…is a somewhat fragile work in progress, responsible for much of human drama, folly, and hope." (Damásio, 2014, p.31)

Damásio (2014) recognizes that these two levels of homeostasis operate together as biological values, even if they are separated billions of years of evolution and Damásio explains that they have the same goal, but socio-cultural homeostasis differentiates itself by deliberately giving priority to well-being over survival. These two ways of managing life are continuously present in human minds and are in constant dialogue with each other. With this dialogue what starts to happen is that the various socio-cultural aspects "...over multiple generations, cultural developments lead to changes in the genome." (Damásio, 2014, p.31)

For Damásio (2014) cultures end up being the product of the collective efforts of human consciences over many generations, some efforts are more able than others. Sociocultural development requires brains that are already formatted by previous cultural effects. In Damásio's opinion This process of "...connecting personhood to biology is a ceaseless source of awe and respect for anything human" (2014, p.32)

Therefore, Damásio's (2014) recognized that (2014, p.33)

> ...naturalizing the mind may solve one mystery but only to raise the curtain on other mysteries quietly awaiting their turn. Placing the construction of conscious minds in the history of biology and culture opens the way to reconciling traditional humanism and modern science, so that when neuroscience explores human experience into the strange worlds of brain physiology and genetics, human dignity is not only retained but reaffirmed. (Damásio, 2014, p.33)

In Damásio's (2014) view, studying the human consciousness comes with imperfections of its own nature, but it also comes with appraisal applicable to it, with all its creations and discoveries. For Damásio understanding where conscience came from opens *"*...a life worth living. Understanding how it comes about can only strengthen that worth." (2014, p.33)

Damásio asks "Does knowing about how the brain works matter at all for how we live our lives?" he responds saying: "I believe it matters very much, all the more so if, besides knowing who we presently are, we care at all for what we may become." (2014, p.33)

Damásio's theories bring a fresh and new perspective to the experience of the self. His theory constructs a form of narrative or chronology to understand the sequence of evolutionary events that created the complex self. Regarding narrative storytelling Damásio adds

> Individuals and groups whose brains made them capable of inventing or using such narratives to improve themselves and the societies they lived in became successful enough for the architectural traits of those brains to be selected, individually and groupwise, and for their frequency to increase over generations. (2014, p.221)

In the next chapter a study of Peirce's pragmatic philosophy will show a potential connection between Peirce's phenomenological categories and Damásio breaking down the self processes. They both follow a resonant triadic relationship, and eventually a connection or complementarity can be traced between the theories. Furthermore, the goal of the next chapter is to introduce and review some concepts in Peirce's philosophical thinking. Then next a review of the semiotic account of the self in Peirce's work by

Vincent Colapietro (1989). The semiotic account of the self seems to complement Damásio's (2014) concept of sociocultural homeostasis. The last chapter of the literature review will bridge these two theories and seek to analyse their complementarity.

2. Charles Sanders Peirce and the semiotic perspective

To study Peirce's philosophy and Peircean semiotics, the usage of the Collected Papers[2] will be referenced, but since the author's style of writing can be quite dense and complex, therefore the works by two authors that further developed his philosophy will be more practical in this overview. The works this review will be referring are Santaella's "*O que é a semiótica?" (2017)*[3] and Nöth & Santaella's *"Introdução à semiótica: passo a passo para compreender os signos e a significação", (2017)*[4]. These two texts will serve as introductory guides to expose Peirce's philosophy and semiotics in a more simple and direct way.

Nöth & Santaella define semiotics as *"...a ciência dos sistemas e dos processos sígnicos na cultura e na natureza."* (2017, p.7).[5] The authors refer to it as the general science of languages, not in the sense of mother tongues or spoken language, but in the sense of all that can classify as mediators from transmitting meaning. Our experience is filled with visual, sound and verbal cues that are constantly caught by our attention and processed as signs and, in semiotics, the term language refers to the multiplicity of intricate forms of communication and signification. In the exterior reality we are flooded with this wide variety of languages that fills our lives with messages and information waiting to be translated. More specifically, Santaella (2017) says that all cultural phenomena only work in culture because it positions itself as a language or as signifying practices. The author recognizes that this happens with the constant alteration of signals

[2] Collected paper. Digital edition.
[3] Translation: "What is Semiotics" (2017)
[4] Translation: "Introduction to semiotics: Step by step to understanding signs and signification" (2017)
[5] Translation: "as the science of systems and processes of meaning in culture and nature"

(any stimuli that is emitted by the world and recognized by our senses) into signs (products of conscience). Its main unit of analysis being the sign.

In the work of its founder Charles Sanders Peirce the notion of the sign "…is something which stands to somebody for something in some respect or capacity…" (CP 2.228, c.1897). The standing for something refers to the representation of an object in our minds.

Santaella's (2017) realises that to study and speculate about signs is a fundamental characteristic of the human species and culture. All living organism's survivability is dependent on their capabilities of using signs to communicate and be informed. There would be no life if signs wouldn't exist, but signs are not uniquely man-made. All of nature works with a basis of signs, but the means of transmission depend on the senses that the species specialises in. Human communication works primarily at the level of sound signals with its visual transposition as written words, though we also have access to interpret signs using our other senses. (Santaella, 2017)

Nöth & Santaella describe that Peircean semiotics distinguishes itself from other forms of semiotics by saying that signs can be cognitions, thoughts and ideas; not only found in exterior signs. The fact that all ideas are signs and life is a series of ideas, according to the author proves that even the human being can be considered a sign (Nöth & Santaella, 2017). The authors emphasise how Peirce's conception of the sign rejects the separation of semiotics into two spheres: external phenomena in the form of signs that transmit a message; and the internal phenomena that are not conventional signs but are significations in the mind (Nöth & Santaella, 2017).

Santaella (2001) acknowledges that to better understand Peirce, we need to start with his analysis of the sciences and to accept the intention to use semiotics as a tool. More specifically, to substitute the notion of evidence with the broad conception of representation and sign.

Peirce, throughout his life, studied and explored a plethora of fields of science and philosophy to systemize a division of the sciences and their relationships with each other, but his passion was most dedicated to logic and more specifically, to the logic of sciences.

Semiotics is only a part inside this large system of classification and yet he uses it as the spinal cord for his investigations (Santaella, 2017).

To have a better understanding where semiotics is situated, Santaella traces where logic and semiotics fits in Peirce's classification of sciences. The division considers three types of science practices: (1) science of discovery; (2) science of review (directed towards digesting and divulging discoveries to form new forms of philosophies of science); and (3) practical sciences. The science of discovery is further divided into: (1) mathematics, (2) philosophy and (3) idioscopy/special sciences. (Santaella, 2017)

Mathematics is observational and studies what is and not possible. Philosophy is a positive science; aiming to discover what is true but is limited by truth that can be inferred from common experience. Idioscopy embraces all the special sciences which are occupied with the gradual accumulation of new facts. This last classification of special sciences, imports principles from mathematics and philosophy. (CP 1.188, c.1897)

Philosophy is also further dissected into (1) phenomenology as what presents itself to the mind at any time; (2) normative sciences distinguish what ought or not to be; and (3) metaphysics, that seeks to account for the universe of mind and matter (CP 1.188, c.1897).

Normative sciences bases itself on phenomenology and is divided into: (1) esthetics as the science of ideals or the study of what is objectively admirable. ; (2) ethics as the science of right and wrong, being the theory of self-control or deliberate conduct; and (3) finally, logic or semiotics as the study of self-controlled and deliberate thought and appeals to ethics for its principles and draws from phenomenology and mathematics and in Peirce's words: "All thought being performed by means of signs, logic may be regarded as the science of the general laws of signs" (CP 1.188, c.1897).

Peirce refers that the normative sciences based on Phenomenology are part of a triad that seeks to refine and develop signs that seek the truths of ideals (logic and semiotics), of the beautiful (Esthetics) and the good (Ethics) (CP. 1.575 c.1897).

> According to this view, esthetics, practices, and logic form one distinctly marked whole, one separate department of heuretic science; and the question here precisely the lines of separation between them are

> to be drawn is quite secondary. It is clear, however, that esthetics relates to feeling, practices to action, logic to thought. (CP. 1.574, c.1897)

In relation to the significance of what Peirce called the normative sciences, Colapietro (1989) also recognizes that individually, their division is aesthetics, ethics and logic, but collectively, the task of these sciences is to discover:

> …how Feeling, Conduct, and Thought, ought to be controlled supposing them to be subject in a measure, and only in a measure, to self-control, exercised by means of self-criticism, and purposive formation of habit, as common sense tells us they are in a measure controllable (Peirce apud Colapietro, 1989, p.xviii).

Santaella (2017) alerts to a special question regarding Peirce's way of thinking. Emphasising on the postulation that just like the material universe, the universe of the mind is in constant expansion. This expansion of the universe of the mind is founded on dialectical logic, since all human thought generates products that can materially affect the universe, at the same time, being affected by it. It is worth mentioning that Peirce's theory of logic proposes a rigorous generalisation but comes in the form of an evolving and provisional theory, subject to revision and metamorphosis (Peirce apud Santaella, 2017, p.5).

Santaella (2017) defines phenomena as something that happens without judgement, in the open and free from presumptions; it may be real or not. With this stature, the author recognizes that Peirce's phenomenology looks to shed light to some categories of phenomena that break down the basic elements and characteristics of any type of experience. Pierce's direct study of phenomena allows the discrimination of their differences and proposes a general theory that creates vast and vague classifications but helps categorise any phenomena in more general terms.

Nöth & Santaella (2017) recognize that the multiplicity of phenomena that presents itself to our perception and cognition has, throughout history, been attempted to be categorised into elementary categories. Peirce attempts the same by breaking down all phenomena into three universal modes of being, which he called Firstness, Secondness and Thirdness. Utilising the works by Santaella (2017) and Nöth & Santaella *(2017)* as more simplified introductory texts to Peirce´s modes of being.

2.1.Firstness

Firstness is the category of phenomena that are considered independent of everything else. They are phenomena of mere possibilities of existence and not occurrences. These appear in our perception immediately; they are unrelated to any prior experience. It is the category of feeling without reflection nor restrictions. Undistinguishable and independent, spontaneous and original. It is the vague feeling of a colour, of a taste, joys or even a musical note. (Nöth & Santaella, 2017, p.37)

Santaella (2017) says that for conscience, firstness manifests as a pure quality of feeling, being free from analysis or description. This is what colours our conscience but at the same it is inaccessible to our immediate conscience, without our attention ruining its innocence and fragility. Santaella describes

> To that extent, the first (firstness) is present and immediate, so as not to be second to a representation. It is fresh and new because, if old, it is already a second from its former state. He is a beginner, original, spontaneous and free, because otherwise he would be a second in relation to a cause. It precedes all synthesis and all differentiation; it has no units and no parts. It cannot be articulately thought of; affirm it and it has already lost all its characteristic innocence, because affirmations always imply the negation of something else. Stop to think about him and he's already flown. (201v7, p.9)

Santaella (2017) takes into consideration that the qualities of feelings are always present in our minds at every moment even when not perceptible, they are attached to every phenomena that occurs in our minds. Filling our lives with possibilities of these instances of feeling in its most pure form. Without the interception of self-control, allowing for feeling to naturally act without our awareness taking over.

2.2.Secondness

Secondness begins when a first phenomena relates to another phenomena. It has a dual nature and is the category of fact, of the here and now, of action and reaction, force and resistance - of the real. Secondness appears to us in facts like relationships, compulsions, effects, dependencies and interdependencies, negations, occurrences, realities and results. (Nöth & Santaella, 2017)

Santaella (2017) explains that for Peirce, this type of experience is what relates the world of the senses to the real material world. It is the arena of everyday experience, where we are faced with external facts and obstacles that are beyond our manipulation and control. The fact that we are alive and existing means that at every instance, conscience is reacting to the world around us. The facts are brute forces, it manipulates and resists in our inner universe as undeniable occurrences. While firstness only relates to qualities that are mere parts of phenomena, the qualities together form the factuality of existence in Secondness, where qualities are forced together to create a material object. Santaella says:

> ... let it be clear that our reactions to reality, living and physical interactions with the materiality of things and of the other, are already constituted in sign responses to the world, material marks perceptible in greater or lesser degree than our historical and social existence, circumstantial and singular leaves as footprints, traces of our existence… Acting, reacting, interacting and doing are striking, concrete ways and materials of telling the world, dialogic interaction, at the action of man with his historicity." (2017, p.10)

2.3. Thirdness

Santaella (2017) addresses that while Peirce´s firstness is the category of experience in its qualitative state, in its freshness, unrepeatable originality and liberty; and Secondness is a category that accounts for experience in its factual state, action and reaction in its most binary form, without mediation, reason or law. Finally, thirdness comes as an intellectual synthesis of a first and a second. It relates to experience made intelligibly by thinking through signs in which we interpret the world.

The simplest idea of thirdness is that of a sign or representation. It speaks to the way that symbolic beings are positioned in the world. The sign is the irrefutable mediator between us and phenomena, working at the level of perception. It is the act of translating an object of perception to a judgement of our perception. The interpretative power between conscience and what is being perceived. (Santaella, 2017, 11)

In synthesis, Santaella (2017) describes thirdness as the act of interpretation through the translation of thought into another thought in an uninterrupted fashion. Because the sign is in a triadic relationship, its action can be bilateral, on one side it represents what

the actual object it represents; on the other side, it is directed to the mind of the conscience perceiving the object, where the sign catalyses a process of sign translations. Thirdness is the category that we, as symbolic beings, experience the trials and tribulations of life. It provides us with direct experience in its most palpable form but at the same time it is a means for being able to understand, transform and affect the world around us. Santaella describes thirdness as:

> Man only knows the world because, in some way, he represents it and he only interprets this representation in another representation, which Peirce calls interpretant of the first one. Hence the sign is a thing whose knowledge depends on the sign, that is, what is represented by the sign. Hence, for us, the sign is a first, the object a second and the interpretant a third. In order to know and to know himself, man becomes a sign and only interprets these signs by translating them into other signs. (Santaella, 2017, 11)

Thirdness is the category of the general, its main phenomenon is continuity as the mediation of a third between the first and the second. This is also the category of semiosis, the study of signs, where it works with representation, communication, laws, rules, necessities, habits and synthesis. (Nöth & Santaella, 2017, p.38)

2.4. Triadic relationship of Semiosis

In Nöth & Santaella (2017) they describe that the continuity of semiosis is formed by a triadic relationship: (1) the first is the sign or *representamen* which relates to (2) a second, the object which will determine (3) a third, which is the interpretant. Peirce refers to this by stating:

> A sign, or representamen, is something which stands to somebody for something in some respect or capacity. It addresses somebody, that is, creates in the mind of that person an equivalent sign, or perhaps a more developed sign. That sign which it creates I call the interpretant of the first sign. The sign stands for something, its object. It stands for that object, not in all respects, but in reference to a sort of idea, which I have sometimes called the ground of the representamen. (CP 2.228, c.1897)

Nöth & Santaella (2017) explain that Peirce's sign is not a class of things, but rather, an element in a process. Semiosis is the process where a sign has a cognitive impact over an interpretant. The authors emphasise that Peircean semiotics does not define itself purely as the study of signs, but instead on the process of possible semiosis. Anything that

exhibits this way of functioning fits into the so-called general theory that Peirce forms. They accentuate that Peircean semiotics does not limit itself with human reality, it has the potential to work even with animals, plants, bacteria, etc.

Santaella (2017) clarifies Peirce's conception of the sign as something that represents something (the object), and it only works as a sign when it can represent or substitute the object using something different from it. The object is not the sign, but the sign can represent it in some form or capacity. The sign, therefore, represents the object to some interpreter which in its mind stands for something else (a sign or quasi-sign) that is not directly related to the object, but through mediation of the sign. She also emphasises that the notion of interpretant is a relational process created in the mind of a possible interpreter. The sign, in the mind of the interpretant, produces other signs that translate the signification of the original sign. Figure (1) visualises the triad with all its

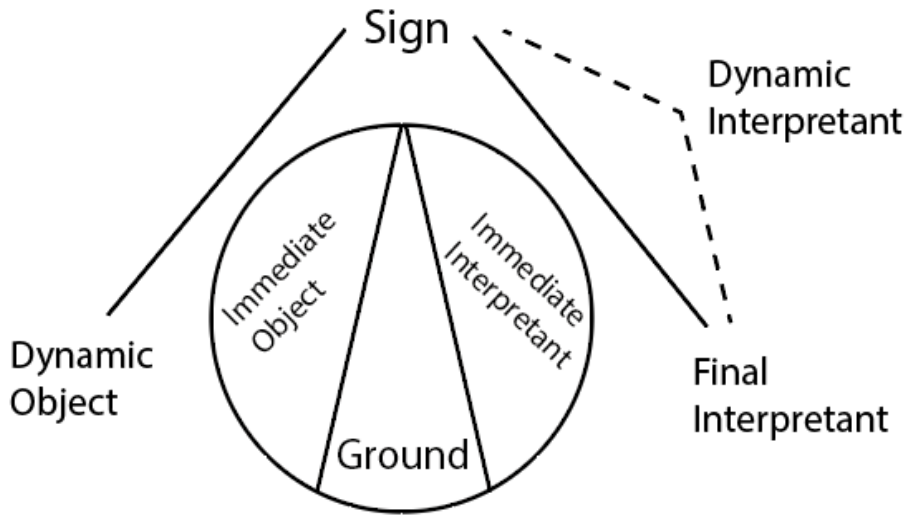

Figure 1: Vizualization of the triadic relationship and all its

constituents.Santaella (2013) considers that in this triad the object can be divided into two types and the interpretant into three subtypes. The immediate object (the object of the sign) represents in some way or manner the dynamic object (what the signs tries to represent/substitute). The immediate interpretant consists in the universe of possibilities that the sign can produce in the mind of the interpretant. The dynamic interpretant is

what the sign effectively produces in each mind singularly, but what it produces depends on the nature of the sign. The final interpretant is the goal of any sign trying to transmit its dynamic object fully. It is where the sign does not solely react differently in every mind, but when all minds are able to interpret the same representation. This final interpretant is unachievable, it is the goal the sign itself tries to reach, but is unable, given that there is no such thing as a collective interpretation. Every interpretant will react differently to any type of sign (Santaella, 2017, p.12-13).

Santaella (2017) clarifies that Peirce gives importance to:

> Percebendo que o signo não é uma coisa monolítica, mas um complexo de relações, que retenhamos em nossa rotina mental essa sutis diferenciações entre as partes do signo, para que possamos passar para as principais classificações de signos onde essas relações serão retomadas com vistas a uma maior elucidação. (Peirce apud Santaella, 2017, 13)[6]

Santaella (2017) considers that in this triadic relationship, each part portrays an element in the sign process. Peirce further developed a more elaborate typology based on the characteristics of the phenomenology of signs, the classification is divided into three triads. Nöth & Santaella (2017) analyse Peirce's classification and consider the most important triads, (1) the sign in relation to itself; (2) the sign in relation to the object; (3) the sign in relation to the interpretant. It is important to consider that what Peirce describes, is a system where a classification can include signs of other classes. This principle is derived from the three universal categories. A sign which works in thirdness can include signs with characteristics of firstness and Secondness; one that works in Secondness can include signs in firstness but will not work vice-versa.

Santaella (2017) revises Peirce´s classification in simple manner, she starts with triad relating to the sign itself, in its mode of being or appearance, it can be: (1) the sign as mere quality (quali-sign); (2) the sign as an existent (sin-sign); (3) the sign as a law (legi-sign).

[6] Translation: Realising that the sign is not a monolithic thing, but a complex of relationships, let us retain in our mental routine these subtle differences between the parts of the sign, so that we can move on to the main classifications of signs where these relationships will be resumed with a view to a further elucidation.

Nöth and Santaella (2017) help further describe these classifications. The quali-sign is a sign that works as a quality in its purest form, it represents nothing but itself. It can be colour, a smell, or even a sound that provokes pleasure or discomfort. Signs embodied in materiality work as concrete existents. They are singular signs (sin-signs) and are something or an event that exists in the moment spontaneously, but they have the character of causing shock or being unique. In the third class, legi-signs work as signs from the point of view of general laws. It is not a singular object, but a sign that there is a general agreement of what it means. Each word of a language is a legi-sign, when articulated in a particular sentence, it becomes singular, and therefore a sin-sign (Nöth & Santaella, 2017, p 49-50).

Each of these three base variations of the sign itself can relate to its object in a second trichotomy which Nöth & Santaella (2017) agree with Peirce considering it the most important division of signs. Its three elements are determined given the three fundamental categories of being, they are: (1) the icon, which corresponds the type of relation a qualisign has with its object; (2) the index, which is the relation of the sin-sign with the object; (3) finally, the symbol, that happens with the relation of a legi-sign with the object.

The icon is a sign whose signifying quality comes merely from the object's qualities. Iconicity comes from comparative power by similarity of qualities. It works through: "...abstract relationships and structural homologies." (Nöth & Santaella, 2017, p.54). The authors mention that another important characteristic of icons is that it works as a relationship based on resemblance of qualities between sign and object and not from any ontological relationship between two phenomena. Examples of icons are images, diagrams and metaphors. The index is a sign that has a physical or existent connection with its object in space and time. It creates dialectical relationships, here and now of the sign and its object. These said relationships can have the character of causality, spatiality and temporality. The index is connected physically to the object, although the interpretative mind has nothing to do with this connection. This type of sign presents similarity not directly to the object but indicates its presence spatially or temporally. At last, symbols are signs that work in relation to the object depending on social or cultural

conventions, therefore are categorised as mediators of thirdness like habits, rules and laws situated in the relationship between sign and object. Every symbol works at the level of legi-signs and examples are words, phrases, books and other conventional signs like banners, insignias, tickets, religious beliefs or receipts (Nöth & Santaella, 2017, p.50-6). Santaella (2017) adds that symbols, by convention or collective pact, are signs related to the objects that do not belong to anything, but to a class of common knowledge stored in culture. The object represented by the symbol is as general as the symbol itself, therefore, they function as triadic signs in its most pure form, because they always carry in the traces of iconicity and indexicality. They always catalyse in the mind of the interpretant a cascade of sign relations and translations. Santaella remarks that:

> ...o símbolo, por sua vez, faz deslanchar a remessa de signo a signo, remessa esta que só não é para nós infinita, porque nosso pensamento, de uma forma ou de outra, em maior ou menor grau, está inexoravelmente preso aos limites da abóbada ideológica, ou seja, das representações de mundo que nossa historicidade nos impõe. (Santaella, 2017, p.15)[7]

Finally, from the point of view of the sign in relation to the interpretant, the sign in itself and in relation to the object will trigger in the mind of the interpretant a further subdivision of signs. Nöth & Santaella (2017) review this triad: (1) rheme, as the experience of signs as mere possibilities; (2) dicent, as an experience of a sign as a preposition; (3) argument, as a rational or logical experience of a sign. The rheme comes as a sign that is neither true, nor false, it looks for qualitative possibilities, its objects cause in the mind of the interpretants indeterminate interpretations, open to all possibilities. The dicent works in the mind of the interpretant as concrete prepositions that can either be true or false. It is a sign of existential reality, where it works as a vehicle that brings forth information of a reality. The argument works mostly as a sign that brings forth a rational discourse. It is a sign of a law; it uses signs as premises to arrive at a conclusion that tends to be true (Nöth & Santaella, 2017, p.58-60).

[7] Translation: The symbol, in turn, triggers the transfer from sign to sign, a transfer that is not infinite for us only, because our thought, in one way or another, to a greater or lesser degree, is inexorably tied to the limits of the ideological vault, that is, of the representations of the world that our historicity imposes on us.

Peirce distinguished three different relations the sign has with itself, with the object and the interpretant. These trichotomies can be combined to form a total of nine subclasses. At this point, Nöth & Santaella (2017) explain that in these combinations there are rules and restrictions. Signs do not happen in their pure state, they are always mixing, and signs can have traces of various subtypes. What happens is a dominance of a category over the others. Each sign then needs to be evaluated given the three types of trichotomies. However, the total of possible combinations is 10, because some combinations are contradictory; for example, signs expressed firstness cannot combine with signs expressed in Secondness; signs in Secondness can only combine with Secondness and firstness; signs in thirdness contain elements of firstness, Secondness and thirdness. Santaella (2017) notes that with these combinations, the three triads form a general and elementary field which are rarely found in their pure states in any form of language, always interconnected and mixed. Santaella adds that in Peirce's classification of subtypes of signs:

> O que cumpre reter é que as tríades peirceanas funcionam como uma espécie de grande mapa, rigorosamente lógico, que pode nos prestar enorme auxílio para o reconhecimento do território dos signos, para discriminar as principais diferenças entre signos, para aumentar nossa capacidade de apreensão da natureza de cada tipo de signo. Como teoria científica, a Semiótica de Peirce criou conceitos e dispositivos de indagação que nos permitem descrever, analisar e interpretar linguagens. Como tal, os conceitos são instrumentos para o pensamento, lentes para o olhar, amplificadores para a escuta. Portanto, não podem, por si mesmos, substituir a atividade de leitura e desvendamento da realidade. São instrumentos que, quando seriamente decifrados e eficazmente empregados, nos auxiliam nessa atividade. Sozinhos não podem executá-la para nós. (2017, p.15)[8]

With these tools to interpret languages, the capacity to translate any type of language to any other type is possible. These tools will later serve as essential instruments to create

[8] Translation: What should be kept in mind is that Peirce's triads work as a kind of great map, rigorously logical, which can provide us with enormous help in recognizing the territory of signs, in discriminating the main differences between signs, in increasing our ability to apprehend nature of each type of sign. As a scientific theory, Peirce's Semiotics created concepts and inquiry devices that allow us to describe, analyse and interpret languages. As such, concepts are instruments for thinking, lenses for looking, amplifiers for listening. Therefore, they cannot, by themselves, replace the activity of reading and unveiling reality. They are instruments that, when seriously deciphered and effectively employed, help us in this activity. Alone they cannot perform it for us.

a connection between the scientific theory of Damásio (2014) and to Colapietro's (1989) review of Peirce's account to the self.

3. Peirce's account of the Self

Pierce's theories systemize a way of how consciences interpret different types of phenomena using signs. As we saw with Damásio (2014), consciences are inevitably connected to the sense of self. For minds to be conscious, they require the feeling of ownership of said conscience, which is what he denotes as the subjective experience. Colapietro (1989) recognizes that Peirce to some extent, also implies an articulated view of the self and the role of subjectivity, but to many the view remains implicit and to some this view has been an unsatisfactory account. However, Vincent Colapietro in the book "Peirce's Approach to the Self, A Semiotic Perspective on Human Subjectivity" (1989) aims to present the innovative approach that Peirce left in his general theory of signs, and eventually trace the points of intersection it has with Damásio's theories of the self.

Before explaining Colapietro's (1989) account, it is crucial to consider that what Peirce writes about the self, points out to the direction in which he would take, yet Colapietro recognizes that regarding Peirce's view on the self is not an easy task. The author mentions that the difficulty stems from the way he wrote and philosophised, but that we should take in consideration the Peircean ideal of "...cooperative inquiry (...). No doubt, strong historical and cultural factors contribute to the individualistic and antagonistic character of philosophical discourse; even so, historical and cultural forces also prompt philosophy to become a more communal and cooperative endeavour." (1989, p.xv).

Colapietro is aware that Peirce's philosophy aims to be both scientific and systematic, especially with his classification of the sciences as a map for paths of inquiry and their intersections. The author recognizes that the characteristic of opening fields of inquiry is what gives power to Peircean writings (Colapietro, 1989).

In relation to the significance of what Peirce called the normative sciences, Colapietro (1989) quotes Peirce's unpublished manuscripts in the Houghton Library at

Harvard University, where the author recognizes that individually, their division is aesthetics, ethics and logic, but collectively, the task of these sciences is to discover:

> …how Feeling, Conduct, and Thought, ought to be controlled supposing them to be subject in a measure, and only in a measure, to self-control, exercised by means of self-criticism, and purposive formation of habit, as common sense tells us they are in a measure controllable (Peirce apud Colapietro, 1989, p.xviii).

Colapietro concurs that any theory of signs needs to follow the purpose of making ideas clear and topics such as agency and autonomy are crucial to put into question, since subjective experience is the epicentre of our lives and biological evolution.

Colapietro (1989) acknowledges that Peirce's general theory of signs, as long as it uses normative reasoning, achieves a practical understanding of human agency. The agents in this case are: "beings who possess the power to exercise real, although limited, control over the course of their conduct." (Colapietro, 1989, p.xxiii). Colapietro adds that one of the most crucial axioms in which Peirce delves in is the disapproval of the cartesian starting point, placing the agents "flesh-and-blood actors who are continuously redefining themselves through their give-and take relationships with both the natural world and each other." (Peirce apud Colapietro, 1989, p.xix).

For this next part Colapietro´s (1989) studies will be reviewed and his appreciation for how Peirce implied the element of the self and subjectivity in his work, will be presented. The first chapter begins by first clarifying that what Peirce proposed with his general theory of signs, is a semiotic perspective in which the reality of the mind is seen as a form of semiosis. "Accordingly, signs are not to be explained by reference to some occult and intrinsically private power called 'mind,' but the mind itself is to be explained in terms of those manifest and inherently intersubjective processes called semiosis." (Colapietro, 1989, p.xx). Colapietro concludes that the generality of Peirce's theory points out the explicit denial that signs exist independent of their interpretation. The world of our experience is already a realm of meaning. He paraphrases Peirce in saying that the whole of the cosmos is a perfusion of signs. Semiosis has a bigger purpose than representation, it works as a process of mediation between the world and the interpreter.

The second chapter focuses on opening a debate with a position defended by Eco in "A Theory of Semiotics" (1979). Eco defends that Peirce's general theory of Signs, cannot take into consideration the concrete user of signs - the self. That semiotics should not deal with subjectivity. Colapietro counter debates that:

> One of my objectives in this chapter is to show that, although a general, formal theory of signs necessarily abstracts from the concrete, historical participants in semiosis, such a theory nonetheless yields an array of concepts that are indispensable for an understanding of subjectivity. (1989, xx)

Colapietro's argument that a faithful interpretation of Peircean semiotics contains the sign-user inside the scope of sign-theory, is a subjectivist approach. Colapietro outlines Peirce's semiotic account of human subjectivity and refers that semiosis is a form of dialogue or conversation, where the self is both the listener and the speaker: "... a source from whom discourse flows and a being to whom discourse is addressed." (1989, p.38) Therefore, the self can both act and affect the interpretants, but is also a source from which others acted upon and affected it. Consequently, the subject is a medium through which other forces and self's speak. This fact about the subject, according to Colapietro, demands a rethinking of Eco´s position on the self as a source of thought, action, feeling and dreams (Colapietro, 1989).

Colapietro (1989) notes that since Peirce's general theory of signs is not initially formulated without any explicit reference to a subjective user of signs. The author knowingly wants to respect that Peirce's theories need to be free for inquiry and cannot be blocked by arguments that state that something cannot be known. Later in the semiotic investigations, the author explored some implications that in the general theory of signs can give us a better understanding of the concrete subject of semiosis. Colapietro recognizes that Peirce was unable to delve more into this and that further development is needed to supply a set of categories that will explore the structure of subjectivity. Colapietro states: "Semiotics does not render us blind to subjectivity; rather it reveals human subjects in their deepest character; that is, not only as users of signs but also as themselves processes and products of semiosis" (1989, p.47).

This path that Peirce proposed is what Colapietro (1989) seeks to follow and the theories can expose "...our ability to read ourselves as products, processes, and sources

of semioses." (1989, p.47). Peirce's suggestion leads Colapietro to see the relationship between semiotics and psychology (the experimental study of the mind). This is where Peirce's semiotic approach to subjectivity is delineated. Colapietro's reasoning will be described to arrive at the author's conclusions on the manner. What gives importance to Colapietro's reasoning is the path the author makes to draw these conclusions. (Colapietro, 1989) This path exposes Peirce's semiotic thinking in application to the self, consciousness and other characteristics in the journey, which by effect offers a new way of looking at how humans work with regards to its capacities, development and error-making and his being as communicative agent.

3.1. Peircean Semiotics and the Experimental Studies of the Mind

Firstly, Colapietro concurs with Peirce that the study of signs is not a branch of psychology, an understanding of the varieties and nature of semiosis does not imply any particular workings of the human mind, but the opposite is true: "While the experimental study of the mind is essentially dependent upon the general theory of signs, semiotics is only incidentally dependent upon psychology." (1989, p.50). Since Semiotics is a coenoscopic science, therefore for psychology, it provides vague yet practical indubitable truths about the nature of the mind. Colapietro refers to Peirce saying that the most important of these truths is that the mind is itself a process of semiosis - a sign in the process of development. (Peirce apud Colapietro, 1989, p.52). As a normative discipline, semiotics provides psychology with various cognitive workings in consciousness. Cognitions can be every type of phenomena that appears in our conscience such as emotions, passions, any exercise of will or dreams. Colapietro refers to these manifestations of consciousness being inserted clearly against a background of norms. These norms are how we translate and apprehend the meanings behind the sign processes.

Therefore, for Colapietro (1989) explanatory, idioscopic science of psychology draws from the normative, coenoscopic science of semiotics. He then tries to reverse and see what semiotics can provide for psychology. Colapietro regards some of Peirce's conceptions of psychology and its purpose. For Peirce, psychology is the study of the mind, not consciousness exclusively (Peirce apud Colapietro, 1989, p.54). One of the most

important remarks the author makes is that the mind's purpose is purposiveness, it does not act blindly, but pursues purposes. Colapietro argues that an organism can pursue blindly and inflexibly in the case of some species, but it can also seek its goals in conscious and flexible manners. Colapietro then suggests: "... that consciousness is a special accompaniment, and not a ubiquitous feature, of purposive behavior." (1989, p.55) So, for Peirce, in the definition of the mind's purposiveness, there is room for consciousness as something more than a by-product. Our inner conscience can influence our outward conduct and it can be a factor in our formation of habits. It is also important to notice that for Peirce, inward actions that are not manifested outwardly can also influence the formation of habits. (Peirce apud Colapietro, 1989, p.56)

Colapietro (1989) then reconceives psychology in light of semiotics, where it organises itself based on the nature and varieties of signs. First, Colapietro uses Peirce's definition of the sign as something "which stands to someone for something in some respect of capacity" (CP 2.228, c.1897); Colapietro (1989) highlights the object as to designate that for which the signs stand for; the 'ground' for the manner from which the sign stands for the object; and finally, the interpretant as the impact the sign has on some other. Any interpretant can work as a sign, and in complex cases of semiosis a creation of a series of interpretants. Within this series, it is useful to differentiate the initial and ultimate logical interpretants. The initial are the first conjectures that an organism makes when faced with a difficulty, where they take form in outward exertions or imaginary experiments.

These conjectures can source from any external impediment or even one in the realm of the imagination, minds often have the capacity to consciously impose difficulties on themselves. (Colapietro, 1989, 57). With these difficulties, the organism gains a purpose, and with a purpose the consciousness becomes heightened. It alarms the organism that its actions are against its purpose. In the conflict between the organism's exertions and expectations, the initial interpretants are not always the most competent to solve hazardous situations, and this is where Colapietro says the element of drama is introduced. The author quotes Dewey stating that "Every case of consciousness is dramatic; [and] drama is an enhancement of the conditions of consciousness" (Dewey

apud Colapietro, 1989, p.58). The ultimate interpretants are some general pattern of coping mechanisms that results from a series of struggles that was generated by the difficulty, here the final interpretant is a habit. A series of initial interpretants contribute to the establishment of a final logical interpretant (Colapietro, 1989).

With these new interpretations of how psychology can benefit from semiotics, Colapietro (1989) states that this proves Peirce's statement claiming that the signs a person uses, is the constitute sum total of that person (Peirce apud Colapietro, 1989, 58) and Colapietro concludes that:

> If the organism is an instrument of thought, and if all thought is some form of semiosis, then the organism is first and foremost a medium—it is the means through which the self expresses itself to the world; it is also, though less immediately, the medium through which the world expresses itself to the self. The organism is not something in which the self is located; in Peirce's own image, we are not shut up in a box of flesh and blood (7.591 [c. 1867]). The organism is the means through which the self is able to address and be addressed by some other. (1989, 58)

Here the embodied self is what Peirce calls a perfect sign. Colapietro (1989) refers to an unpublished manuscript where Peirce considers the perfect sign as one that is

> ...perpetually being acted upon by its object, from which it is perpetually receiving the accretions of new signs… the perfect sign never ceases to undergo change [of spontaneous sort] (Peirce apud Colapietro, 1989, 58).

This opening of psychology as a special application of the general theory of signs to phenomena, specifically the purposive behaviour of organisms, opens a new road of inquiry for the author to further develop on Peirce´s account to the self.

3.2. Peirce´s Account of the Self

Before Colapietro (1989) starts delineating an account, the author recognizes that this is a mere outline of the development of Peirce's account to the self. Given the complexity of the matter, Colapietro stresses that this introduction will serve as a catalyst for students of Peirce to further develop these views.

Colapietro starts with a negative characteristic of the self defined by Peirce: "The individual man, since his separate existence is manifested only by ignorance and error, so

far as he is anything apart from his fellows, and from what he and they are to be, is only a negation." (Peirce apud Colapietro, 1989, p.62). In some exchange of letters between William James and Peirce, Colapietro adds substantial remarks about the nature of the self. In this dialogue James's position is that the self is in absolute insulation by law. That personal minds are absolutely isolated from others and each mind will keep its thoughts to itself. In response to this, Peirce's Position is that: "... although there is a private dimension to human consciousness, this dimension possesses neither the importance nor the scope that James grants it." (Peirce apud Colapietro, 1989, p.62). Another remark James makes is that our thoughts are owned by our self's, that is, we can never truly get to know any isolated existence of the mind, but for Peirce this is anti-nominalistic and denies the existence of personality or the self.

According to Colapietro (1989), for Peirce we must approach the self with a doctrine of continuity (synechism), where one considers everything to be continuous. It prevents the view that mental and physical are different from each other; and of treating the self as exclusive of others, the life of a self is always attached to other selves. Synechism requires us to consider both our relationships with other private self's and look at the relation with the divine self (a self in development with the sum total of our interactions and affections it is made up of) as part of our identity. Colapietro endorses Peirce's idea that communication from mind to mind works through this continuity of being.

With these first characterizations of the individual self, Colapietro (1989) notices that commentators were still unsatisfied with Peirce's account, especially because of the tension between the account of the self and the doctrine of self-control; additionaly Peirce's theory of the self was scattered around. Considering this, Colapietro emphasises that there is a distinction between the self as an interpreting subject and the self as an interpreted object:

> As an interpreting subject, the self must be distinguishable from any actual process of sign interpretation; that is, the self must be able to distinguish itself and, thereby, to distance itself from the stream of signs that at any moment of its existence uses the self as a medium. As an interpreted object, the self is one with the process of semiosis (the self is in this sense the sign in the course of its development). What this implies, at minimum, is that if the self is a semiotic process, it is a complex type of such a process, one in which there is ramification and

> also one in which the various branches of the process act on one another. (1989, p.66)

With this information, we need to review some key ideas before understanding the self-as-semiosis. Growth and communicability are crucial aspects to consider before undertaking the task of explaining this account of the self.

3.2.1. Growth and Communicability

In Peirce's theory of the self, the relevance of the phenomenological categories is crucial, Colapietro (1989) quotes a paper by Muoio saying that Peirce's system of the person as a being is limitless, its meaning is fully realised in his continuity within a community. Colapietro argues that this agrees with Peirce's notion that the nature of thought exhibits characteristics of growth. This developmental aspect of the self as not something uniquely private but influenceable by other selves is a crucial aspect of the human being. In the development of thought, Colapietro outlines various moments scattered in Peirce's texts, but in order to simplify, he concludes the most important notions in his inquiry are: in the process of the growth from a child to an adult, an important stepping stone for the self is the discovery of the private world being something apart from the real external world of the self and simultaneously the discovery of error. Colapietro says "The recognition of something private, the awareness of error appears, and error can be explained only by supposing a self that is fallible" (1989, p.73). The author says that it is when the child starts working as an acting and communicative organism that it starts to gain the level of self-consciousness. This partly happens because the child learns to communicate with others using language. Therefore, the moment when the organism becomes a vehicle for thoughts that flow through the self. Colapietro emphasises that in Peirce's definition of the self "...that it is always, in principle, possible for the self to become one with some other: This possibility belongs to the essence of selflhood" (1989, p.74).

Colapietro (1989) comes to this notion that the essence of selfhood is communicability. With this the author raises the question, if the innermost self is only a

reflection of its social relations, or do we have a self that is apart from all its relations with others, a so-called self in itself apart from all else. This considers a self in firstness, in its uniqueness and qualitative wholeness. The author argues that it cannot account for the self in its entirety or its essence. Although Peirce refused to consider that the self in itself, is private and unknowable, he grants it communicability, without the destruction of uniqueness. Colapietro writes: "The self is truly something unique and irreducible in itself, but what it is in itself is only revealed or, more accurately realised through its relations to others." (1989, p.74). The author adds that for the self to function as an agent with self-control, it must be more than a focus of error and ignorance; it must also be a place of purpose and power.

3.2.2. Personality

When regarding what personality is to Peirce, Colapietro (1989) defines it as a coordinator or connector of ideas. The individual personality is not discrete but a continuous being. To experience personality in its fullness, one cannot apprehend it in an instant, it needs to be lived in time. Colapietro says "Persons are always simultaneously who they have been, who they are now, and something other and far more than this." (1989, p.76). Colapietro concludes that death is so tragic because "in all his life long no son of Adam has ever fully manifested what there was in him" (Peirce apud Colapietro, 1989, 76).

Colapietro (1989) emphasises that for Peirce, the open-ended future is an essential element of the individual personality. The future commits to the possibility of pursuing purposes different from the ones being pursued in the present. If not for this element, there would be no space for growth, and therefore no personality. The author points out that predetermined purposes can happen, but also spontaneous processes. The spontaneous creation of new purposes, according to Colapietro is the true purpose of the very essence of life, and it is achieved by coordinated activity in individuated selves. Colapietro asserts that "This characterization of the self, thus, makes reference to the future essential to its mode of being: To be a self is to be in process of becoming a self, a process that is never

complete" (1989, p.77). The author compares this to the way a sign cut off from its future interpretants is denied of realising its purpose. In conclusion, the self as sign, needs this connection with its future, but also its association with other selves. This is what constitutes the developing identity of any self.

3.2.3. The Self-as-Semiosis

The individual self cannot achieve its essence if it works in a private sphere, it can only fully complete itself if it functions as a communicative agent. Quoting Colapietro "The solitary self is the illusory self, a being who has its basis in selfishness; the communicative self is the authentic self, a being who has its roots in agape." (1989, p.79). This communicative self, according to Peirce, is in direct communication with other selves, and experiences other selves, to a certain extent, the same way in which one is conscious of itself. When in direct communication, the self will experience the other as self, an analogous centre for purpose and power. Colapietro contends that this awareness extends consciousness to what was referred before as the divine self. A medium from which thoughts flow and transform, with the tendency to grow and develop with purpose, with the special openness of the self to accept other selves. (Colapietro, 1989)

Before further developing the theory of the self, Colapietro (1989) seeks to give some simplified definitions of some important presuppositions. These concerning some notions in Peirce's account to the self, these are: (1) individual, (2) substance, (3) organism and (4) mind:

An individual in a strict sense is that which is reacting against some other in a singular moment. In an extended sense, they are a kind of continuum of reactions. (Colapietro,1989)

The definition of substance is analogous to that of the individual in the extended sense, as an existent thing, in continuity of reactions that works with regularity of behaviour. (Colapietro,1989)

Organisms are forms of organic substances, they're structures allow and require growth. For Peirce the embodiment is essential for the process of semiosis, and since the self itself is also a sign, the mind cannot be reduced to the body, though it requires some form of embodiment

and it can have an impact on the development of semiosis. The human body itself is a distinct type of embodiment that has innate dispositions. Peirce points that the organism's most important social instinct is communication, but also gives importance to our being as imaginative creatures. The physical organism is essential to human selfhood. Colapietro here resumes that:

> An individual substance qua individual is a continuity of reactions, while qua substance is an enduring network of interpenetrating habits. Among such networks of habits we find organisms, beings in which spontaneity and growth are manifestly present. Individual organic substances provide the proximate ontological basis for the semiotic life of personal selves. (1989, p.88)

The fact that the self has the nature of a sign means it lives a certain semiotic life that requires both a conscious and substantial life. The abstraction of the self as a semiotic process should not hide the fact that self is an enduring agency with the body providing that continuity. (Colapietro,1989)

Colapietro (1989) notes that for Peirce, the mind and the self is a process of semiosis but distinguishes that the self is a distinct kind of mindful agent, one that is capable of self-consciousness, self-criticism and self-control. Colapietro remarks that Peirce notes that for the mind to be capable of evolving into an autonomous self it must be composed of three powers: (1) the first is composed of feelings, of being or becoming aware of anything; (2) the second consists of power of action, to acting upon something; (3) the third is the power of taking habits and also getting rid of them. A mind capable of evolving into a self requires to feel, to act and to learn. This learning is the acquisition of new habits, which allows the possibility of growth. Being conscious ensures that a maintenance of unity of a self is continuous thanks to the mind's capacity to feel, that holds together habits in unison. (Colapietro,1989)

With these definitions traced, it is clear that, for Colapietro (1989), the mind and body designate two aspects of the same thing. The author emphasises a definition by Peirce that the mind can act through either the reaction-machine (body) as the mindful agent which is subject to constant regularity and the symbol-creator (mind) a mindful agent which is open to innovation. Our network of habits lies between these two substances, these habits are the drives for action of the true nature of the self. Colapietro says:

> This innermost core is embodied in a human organism, and this organism is a substance in the old, Aristotelean sense of thing. Moreover, this organism is nothing less than a mechanism for

> reactions, a source of instincts, a medium for semiosis, and a basis for the acquisition of habits. (1989, p.90)

Colapietro (1989) finalises Peirce's account of the self, reinforcing the idea that the self is a sign in the process of development. In its essence, the self is a being in an intrapersonal dialogue that has a larger context, an interpersonal dialogue. In the latter type of dialogue is where intimate union among different selves is comparable to individual beings themselves. In this dialogue, we need to review what Peirce brought together with his views: (1) the insight that it is that the self is future oriented; (2) the personal self is developmental, it pursues purposes where these purposes are innovated; (3) lastly, the self, most importantly, is a process in which a species of meaning is evolving.

Colapietro (1989) observes that Peirce's account of the self is not only a centre of purpose, but also a centre for power. The distinction between force and power is also essential to understand. The author notes that by power, Peirce means the creative power of reasonableness (capability to exerts attractive ideals). While blind will is a type of force, self-control is a type of power. In the dialogue with ourselves or even with others, is the place where we open ourselves to these attractive ideals. Colapietro refers to the means in which these dialogues work:

> The "first thing to remember" is that the thinking of an individual person always assumes a dialogical form, whereas the "second thing to remember" is that a dialogue involving several individuals may assume a personal status—it may generate a community of such importance and intimacy that the several become one. (1989, p.92)

These dialogues are two roles of one indivisible individual. Colapietro (1989) refers that Peirce gave names to these roles. (1) the critical self represents a person's habits; (2) and the innovative self, which persuades the critical self and challenges its habits. In this dialogue the self can only realise itself, if it exerts self-control. The surrender of ideals of the critical self and be open to new more attractive ideals. Colapietro adds: "The higher ideals take possession of us rather than we of them. In fact, Peirce maintained the realisation of the self demanded a series of acts by which the self surrenders itself to ever more inclusive ideals." (1989, p.96). The author explains that this surrendering of the ego to the powers of nature is what brings the individual to be able to exert self-control. By surrendering to higher ideals, the self can become an agent where it generates continuous growth of concrete reasonableness. Throughout life, these ideals exert power on an individual and the relationship between ideals and what is actual is made efficient. Therefore, Colapietro concludes that for Peirce the self as a semiotic process works as:

“as an agent through whom the ideal of reasonableness becomes more concretely embodied in habits and institutions, in individual character and social context.” (1989, p.97)

3.3. The Role of Inwardness

After delineating the account, Colapietro (1989) seeks to explore two other important dimensions of the self, that of inwardness and autonomy. The author considers that Peirce was against subjectivism, the idea that everyone experiences his mind only privately or inwardly. Arguing that each individual has immediate access to the contents of its mind and only external and mediated access to the mind of others. There is a difference between how we know ourselves and how we come to know of others. Peirce’s argument against subjectivism, claims that we are not imprisoned by the realm of our own subjectivity. For him, to understand inwardness, we need to start from the outward to examine the inward, from the public to the private to understand the difference between the inner realm of imagination and that of actuality.

Another important remark made by Colapietro (1989), is that Peirce did not consider the mind to be uniquely located in the organism. Instead, like the process of semiosis in development, it is transcendent of all its instances. The author then concludes that the mind-as-semiosis is not confined to any particular location (body).

Peirce insisted that this does not deny the importance of inwardness, nor consider the private world to be insular. Instead, Peirce states that inwardness is ruled by a law of interprenetrability between minds, where our inner worlds are subject to be one with others. (Colapietro, 1989)

To understand how inwardness and autonomy are related to the mind, Colapietro (1989) present three essential notions in Peirce’s semiotic interpretation of human conscience, they are: (1) the first and most important is that mental phenomena are a form of signs in development, and in this process the most important factors are: (a) firstly, to interpret the mind with semiosis, is that to understand the inward manifestations, we need to start with the outward manifestations ; The phenomena of the mind, especially those that are thoughts are to be understood as outward manifestations. These manifestations need to be open to criticism and control, therefore are signs; (b) since manifestations are signs, and a substance represents the totality of its phenomenal manifestations. Therefore, he can identify the mind with semiosis;

(2) the second notion is that the interpretant is the final outcome of a sign, the final logical interpretant is one that has a habit-changing nature. The formation of habits finalises a process of semiosis and creates an ultimate logical interpretant of an intellectual concept; (3) The last notion, is that human beings can exert control over their body, but also over their habits, the capacity for self-control over a person conduct with a background of norms and ideals. For Peirce, this last instance is what distinguishes a mind as rational.

Colapietro explains that: "... a rational mind is simply a cognitive mind that is capable of controlling some of its acts of inference and, as a result of the exercise of this capacity, capable of controlling the formation of some of its habits." (1989, p.110) Therefore self-control is the most important aspect of human consciousness. The author recognizes that for Peirce a human person is a semiotic system made up of a collection of outward manifestations transformed and controlled inwardly by the self. (Colapietro, 1989)

Colapietro (1989) concludes that at the highest level of the mind-as-semiosis, the self engages in self-interpretation and self-criticism. This application of self-control on our self-control is what makes human minds a hierarchical network of habits, some habits are due to the exertions of the mind itself in its imaginary experiments and are not always habits formed from brute experience. The former works using power and the latter using force.

Therefore, Colapietro recognizes that Peirce gives an importance to the inner universe, because it is in this very universe that the "plastic inner world" (1989, p.114), the products of imaginary creations of the minds are able to influence the outer reality, then affecting and creating a more rational world. For Peirce, inward reflection is the fundamental instrument of human beings and is only possible because self-control (autonomy) creates and inhibits some of our outward actions. Therefore, this ability to learn the difference between the inner and outer world is pivotal for the dialogue before mentioned, the dialogue between the inner world and outer world. Each of these elements has the capacity to mould each other. This interaction happens from direct action of the outer to the inner world as experience and from the inner's indirect action on the outer world as deliberation through the operation of habits.

Colapietro (1989) concludes that Peirce's account of the self, brings innovative accounts of subjectivity as an intersubjective dialogue, therefore the purpose of human life is the outward communication of mind and the inward control over itself. Thus, Colapietro says:

"To be Human exists in the tension between solitude and solidarity — the tension between the inward depths of the human spirit and the outward expressions of those inward depths." (1989, p.118)

4. Bridging the two notions of the self

The Two theories of the self have been investigated in this study, the first perspective examines, following Damásio's (2014) theories, the self from the point of view of the organism's biological evolution. The second takes Peirce's philosophy of logic, to understand the self as a phenomenon. Colapietro's (1989) work helps break down Peirce's notion of the self as a special type of semiosis. These two theories complement each other, while the former examines the self from the perspective of the organism's biological purpose (regular homeostasis), the latter examines the self with its purpose as the subject in semiosis. the purpose of this study is to connect the practical science of Damásio's hypothesis to philosophy's phenomenology and normative sciences. The two theories have some similarities in the ways they approach inquiry into the self and in their examination, both theories seem to tackle the inquiry with the same type of mentality, being open-ended provisional hypotheses, seeking to open debate about something that for long has been regarded as unsolvable mysteries, too complex to understand.

They both seem to round up analogous conclusions of the self although they approach it from different angles. While Colapietro's account of the self seems to draw explicitly from Peircean phenomenology, Damásio only indirectly implies the modes of being with his deconstruction of how the self was introduced in biological history. They both consider the self to be more than a private process and both remark the importance of the self as a process with an ulterior motive to an insulated monologue. Both theories seem to explain the self as a form of dialogue between the inner and outer realities. This last consideration brings both to the conclusion that the self is more than merely a process benefiting a singular organism. They both give it a higher purpose, as a means for the development of society and culture and the essential tool for human evolution and proliferation.

In this next chapter, the relationships and analogies between these two perspectives with their points of intersection and complementarity will be formulated given certain characteristics. Firstly, an explanation of how both approach their studies with an openness to inquiry and a pragmatic spirit, for formulating innovative interpretations of the self; Secondly, an exposition

of the breaking down of Damásio's notion of the self into a triadic relationship and how it is resonant to Pierce´s phenomenological modes of being: the self in firstness as the protoself; the self in Secondness as the core self; and finally the self in thirdness as the autobiographical self. At the end, a comparable analysis between the purposes of each of the accounts and how each connects the role of the self in society and culture, while highlighting the connection between a biological phenomenon and the regulation of society and culture. Finally, a hypothesis that seeks to create a bridge between the roles of regular and sociocultural homeostasis as instances of a triadic structure.

4.1 Approach to inquiry

Little is known about the conscious mind in action, of its processes and biological mechanisms; to a certain extent we still have incomplete knowledge of biology and physics to formulate substantive theories on the workings of the mind. With recent developments in technology, neuroscience, philosophy and psychology, the veil over this mystery has been lifted to propose new ways of looking at the matter. Damásio (2014) recognized there to be a misleading idea that the mind was outside the laws of physics and biology because of its nonphysical nature. The author argues that even with all its enigmatic stature, progress in neurobiology yields already substantial theoretical and technical material to make the self more intelligible, and further development should not be halted. The focus on prudently inquiring into the matter shows more progress than accepting it as an unsolvable riddle. Damásio seems to take a pragmaticist approach parallel to Peirce's pragmaticism in his general theory of signs.

This openness to inquiry is an essential aspect of Peirce's pragmaticist approach in the general theory of signs. Colapietro recognized that Peirce's spirit of pragmaticism allows the analysis of signs as: "anything that has roots and bears fruits; so, interpreted, it means we must cultivate those dispositions that enable us to regard anything whatsoever as an invitation for interpretation, as an opening for inquiry." (1989, p.23) This approach to how we ought to orient ourselves in the world, is the need for: "... the self-critical and self-controlled cultivation of ever more flexible and refined habits of inquiry and interpretation." (Colapietro, 1989, p.23)

The felt need to understand everything encountered in human experience is essential stature for pragmaticism and Peirce recognized that we must follow what he called the rule of hope which: "...consequently we must reject every philosophy or general conception of the

universe, which could ever lead to the conclusion that any given general fact is an ultimate one" (Peirce apud Colapietro, 1989, 24). Therefore, to see any type of phenomena as the signs of nature is to interpret the world following the rule of hope, a hope of arriving evermore to know the ultimate truth, even knowing that we may never reach it. This position is also taken up by Damásio when confronted with the mystery of consciousness. Colapietro notes that:

> However, this is precisely what it still too often is. Perhaps, if we as philosophers can move toward a Peircean ideal of cooperative inquiry, philosophy will recover—rather than deconstruct —itself. No doubt, strong historical and cultural factors contribute to the individualistic and antagonistic character of philosophical discourse; even so, historical and cultural forces also prompt philosophy to become a more communal and cooperative endeavor. (1989, p.xv)

The power of Peirce's pragmaticist approach to inquiry is to open debate and promote progress rather than be contemptuous with absolute truths and both authors seem to take this approach to their investigations of the self. (Colapietro, 1989)

4.2. The phenomenology in Damásio's breaking down of the self.

Damásio's (2014) hypothesis seeks to define the self from a neurobiological perspective, he seeks to reveal that the neural mechanisms are not always sound and in control, this because before the self was introduced in the mind, organisms were governed by unconscious mechanisms. Therefore, his framework pursues to elucidate that conscious deliberation is not always in control. Our mechanisms are also controlled by the unconscious regulations of our organism, but Damásio believes that illustrating and knowing its narrative can fortify our deliberative power. His subdivision breaks the self from the perspective of the organism into three parts that came in sequence in the history of biological evolution:

The protoself, is a singular process made up of primordial feelings as the biological basis for the possibility of singularity. The act of feeling gives the possibility of existence apart from all else. It also provides a grounding for continuity, giving us the possibility of feeling the ownership of the mind, and of knowing who we presently are, who we were seconds or years ago, and that we will feel the same in the future. It works through what Damásio calls primordial feelings that are the regulators that through neurotransmitters, gives our organism signals of pain and pleasure that determine what we need and avoid. (Damásio, 2014) Therefore the protoself acts in the category of firstness, where it is able to determine the mere possibility of existence,

unrelated to anything else, it acts through feelings without restrictions, and gives us the capacity to feel emotions that are attached to our being.(Nöth & Santaella, 2017) It is the mere quality of existence for the self, and is attached to every moment of our sentience.

The protoself, then allows for the possibility of the second step, the core self. This is when a subjective protagonist is introduced in the process, and where the core self is connected to reality and in the moment it "protagonizes" and allows the core self to exist in relation to something else exterior to it. This self comes to mind through the organism's senses and tells the story of the protoself´s engagements in particular time and space. These engagements then affect, manipulate and communicate with primordial feelings, allowing for an element of continuity in the constant flow of images that runs through the mind. (Damásio, 2014) The core self then acts at the level of Secondness, because it relates the world of mere qualities to the real material world. It is the category of everyday experience, where we are faced with obstacles exterior to us. (Santaella, 2017) These are brute forces that manipulate and resist in the protoself, and help the organism better adapt, act and react to its environments in the here and now.

The formation of the last self allows for the complex mechanism of the well-defined version of a protagonist that is to be dependent on the formation of a core self with the modified primordial feelings of the protoself. It is the level of the self that makes the protagonist's autobiography conscious. The autobiographical self is the last step that allows the self to invoke and filter in the mind memories of the lived past and generate anticipated futures. It does this, by the regular and gradual reworking of the self's memories that organises them to be able to invoke them through its sedimentation of factual dispositions experienced in the core self and the emotional attachments of the protoself. This last level allows the self to group together memories and feelings that are treated as individual objects. It allows a continuous, rational and creative self that has a narrative and is more capable of reacting and acting in the moment to its future through lived experience. (Damásio, 2014) The autobiographical self works in the category of thirdness, because of its capacity to work as an intellectual synthesis between Firstness and Secondness. It makes experience intelligible by thinking through signs, and it is the mediator through which we interpret the world, giving the self the capacity to interpret phenomena through interrupted translations of the signs that the self-perceived throughout his life. (Santaella, 2017) It will allow the self to function as a form of semiosis. To become an agent that

is affected by experience and equivocally able to affect the world. (Colapietro, 1989) This thanks to its autobiographical capacity to group multiple images and resummon them in the core self, with its qualities in the protoself, when needed. (Damásio, 2014)

Without referring to Peirce categories of phenomena, Damásio's breaking down of the self is in complementarity with Peirce's phenomenological categories of being. Though it is noteworthy that phenomena are what presents itself to the mind (CP 1.186, 1986), and what Damásio calls images are phenomena in neurological terms. Through this narrative, the last level of the self, according to Damásio, provided humans with the tools that kickstarted the formation of culture. On top of the role of the self as an addition to conscience for better regulation of homeostasis, the collectives of consciousness formed a new type of homeostasis that works at the level of society and culture. (Damásio, 2014) This initiated a new form of the self that is accounted for in Peirce's notion of the self as a form of semiosis.

4.3. Homeostasis as form of semiosis

Though both Damásio and Colapietro seek to explore the self with the same type of mentality, they approach the problems from two different angles. While Damásio (2014) approaches the self from the organism perspective, Colapietro (1989) seems to tackle the self as an agent more from a sociocultural perspective, and it is at this point that the two theories intersect and have the possibility of complementing each other.

Damásio (2014) breaks down the process of the self to see its purpose from an evolutionary point of view. Damásio's new perspective looks to create a connection between self as a first-person introspection and the self based on evidence of brain events. According to his research the author traces an evolutionary narrative for the biological mechanisms that allowed the creation of the self and consciousness in a singular organism with the regulation of life as its basic principle (homeostasis). His perspective constructs an imagined theory of the self supported by facts from neurobiology, psychology and philosophy. In his framework, he starts by deconstructing what a conscious mind is. Consciousness is the presence of a self, within an awake mind. The self serves as a focus on the mind the organism is situated in. The mind requires a flow of mental images (phenomena) and a state of wakefulness for the self to be introduced. The mental images or the neuronal maps may be a feeling, anything captured by the senses or even a memory of the lived past or the anticipated future.

Damásio (2014) then deconstructs the self into three stages that appeared in order in the history of biological evolution. These three parts of the self - the protoself, the core self and autobiographical self - each produce images that are juxtaposed continuously in the flow of mental images and produce in the mind signs with elements of firstness, secondness or thirdness. The combinations of these images unlock the self's ability to operate with more adaptability and self-control. Apart from its homeostatic purpose, the highest levels of the self (autobiographical self) extend their capability further than the individual's homeostasis. According to Damásio the self process is beyond the regulation and benefit of a singular being, and homeostasis gains a new form: "In an extraordinary leap, homeostasis acquires an extension into the sociocultural space. Justice systems, economic and political organisations, the arts, medicine, and technology are examples of the new devices of regulation." (2014, 44)

To a certain extent cultural developments manifest the same goal of regular homeostasis, that of survivability, but it gains a new scope, the deliberate seeking of well-being. Human lives are managed by an interaction between these two types of homeostasis and Damásio adds:

> ...while the basic variety of homeostasis is an established inheritance, provided by everyone's genome, the sociocultural variety is a somewhat fragile work in progress, responsible for much of human drama, folly, and hope. The interaction between these two kinds of homeostasis is not confined to each individual. There is growing evidence that, over multiple generations, cultural developments lead to changes in the genome. (2014, p. 45)

While Damásio only breaks down the self from the perspective of regular homeostasis, he briefly introduces the workings of sociocultural homeostasis. In the revision of Peirce's notion of subjectivity and the self, Colapietro (1989) accounts from this sociocultural perspective, a self as an extension of a singular organism. It is at this point where one theory ends and the other picks up with similar ideas. Colapietro's account for the self introduces an agent which communicability and self-control are pivotal concepts for the self within a sociocultural sphere. These two elements are the new dimensions of the self that work at what Damásio (2014) calls sociocultural homeostasis. Colapietro's account brings forth a notion of the self as a special type of semiosis between the organism and the outer world. In this mediation the self enters a dialogical role as "... a source from whom discourse flows and a being to whom discourse is addressed." (Colapietro, 1989, p.38). It is within this dialogue between the inner and outer worlds, that consciousness gains a special extra that is the self which pursues purposiveness. It

is with these purposes, that the self as sign is developed to arrive at its final logical interpretant9, through the formation of habits that continuously renewed (Colapietro, 1989).

In this continuous formation of new habits, the self is not only affected by the forces of the outer world but also the inner world through imaginary experiments in the mind, and with this it is able to also affect the outer world and be affected by other selves. The discovery of a child that our inner world is different from the outer world is the self's biggest steppingstone, it is here they learn that the self's inner world is fallible and prone to error. This is also the moment the self starts using its innate ability to communicate with others, Colapietro adds an interesting notion to this idea:

> There are those who believe in their own existence, because its opposite is inconceivable; yet the most balsamic of all the sweets of sweet philosophy is the lesson that personal existence is an illusion and a practical joke. Those that have loved themselves and not their neighbors will find themselves April fools when the great April opens the truth that neither selves nor neighbourselves were anything more than mere vicinities; while the love they would not entertain was the essence of every scent. (1989, p.64-65)

Colapietro argues that this moment is when the self gains the form of a vehicle from where thoughts flow and are transformed in the self's semiotic process. In this communication, the self becomes not only a source of error but also a source of purpose and power, where thoughts are changed and refined by consciousness. This is what gives the self the power of growth, not only of itself, but of transmitting its developed thoughts to other selves in a continuum of reactions that works with regularity of behaviour. This behaviour is expressed through its interaction with others and growth towards a more realised individual. At its ground, the individual's personality has the organism to serve as the epicentre from which everything happens. (Colapietro, 1989)

The self as a mindful agent is capable of self-criticism, self-consciousness and most importantly self-control. For the mind to be able to achieve its autonomous state it requires, according to Peirce, three powers, the ability to feel, to act and to learn.

> The first of these is composed of powers of feelings; or say, of consciousness, or of being, or becoming, aware of anything—three expressions which will here be used as signifying precisely the same thing. The second consists of powers of action, that is to say, of really modifying something. . . The third power consists of powers of taking

[9] It is important to not consider that Peirce did not effectively arrive at this conclusion

> habits, which, by the meaning of the word includes getting rid of them, since . . . in my nomenclature a 'habit' is nothing but a state of 'would-be' realized in any sort of subject that is itself real . . . (Peirce apud Colapietro, 1989, 112)

This is another point of intersection with Damásio (2014), since these three powers are analogous to the three stages of the self traced in his framework. What is important is what Colapietro (1989) notes, is that the acquisition of habits is what allows growth not only for themselves, but at the levels of society and culture- it's the self's ability to feel, that holds together this continuity of habits and habit-change. Colapietro presents the idea that while the body presents a mind being subject to regularity, the higher levels of the self present a mind as a sign-creator that allows it to be a subject to innovation and growth. The self lives in between these two, and it's true essence lies in the dialogue between the two. In comparison with Damásio (2014) the organism regulates regular homeostasis, and the innovative self is a cog in the machinery of sociocultural homeostasis.

This self operating at the latter level, works not only as a centre of purpose, but also a centre of power. This power according to Peirce means creative power of reasonableness, the power of exerting attractive ideals. "The higher ideals take possession of us rather than we of them. In fact, Peirce maintained the realisation of the self demanded a series of acts by which the self surrenders itself to ever more inclusive ideals" (Colapietro,1989, p.96). While force acts through blind-will, self-control acts as a type of power that the self can open itself to these attractive ideals. The individual person's thinking takes the format of dialogue that operates at the level of a singular organism's homeostasis (operates at the level of firstness of the individual apart from all others); and a collective of individuals as a type of dialogue that operates at the level of sociocultural homeostasis (between two or more selves, at the level of secondness) and the dialogue between the two forms of human homeostasis, generates a self that exerts self-control and growth: "as an agent through whom the ideal of reasonableness becomes more concretely embodied in habits and institutions, in individual character and social context." (Colapietro,1989) this last level works at the level of thirdness as bridge between the subjective experience of the individual and the regulation of a collective of individuals, aiming to refine the human self that works as the perfect sign "the perfect sign is perpetually being acted upon by its object, from which it is perpetually receiving the accretions of new signs. In addition, the perfect sign never ceases to undergo change [of a spontaneous sort]" (Peirce apud Colapietro,1989 p.58). This defines the human self as the ultimate level of the self, a self that works "... in the

tension between solitude and solidarity — the tension between the inward depths of the human spirit and the outward expressions of those inward depths." (Colapietro, 1989, p.118). A self that operates with a pragmatic spirit, with the role of hope as the highest peak to which it climbs but knows it will never reach it, yet it climbs.

Chapter 2: Methodology

The goal of this research project is to find a way to visually translate the hypothesis proposed in the literature review into a visual narrative. More specifically, to create an animation of the journey of a self coming into being in its entirety. After researching the two innovative approaches of the self, the purpose is to transform their essence and to present a narrative about the spectacle of the mind and of its protagonist in the format of an animated short movie. To translate a theoretical language to a visual one, Peircean semiotics will be used as the tool for the translation of significations. In summary, the working question for this project is: How can Peircean semiotics be used as a tool to translate the theoretical language of two relevant theories of the self into a visual narrative in the format of an animation?

1. The Purpose of the Hypothesis

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Before explaining the methodology applied within this project, it is useful to delineate the purpose of the hypothesis in the literature review to evaluate if its material can be translated into a narrative format. Throughout the revision, two perspectives of the self were identified and considered. Damásio's (2014) account considers the self (from the perspective of its workings) as a process from the point of view of the organism that emerged throughout biological evolution. Therefore, it considers a narrative-like theory of the self coming into being in its entirety through the history of conscious behaviour. The author identifies this progress explaining the three steps from which each different dimension of the self's works at. What was proposed in the hypothesis is that each of these steps corresponds, to a certain extent, to each of the categories described in Peirce's phenomenological modes of being - the protoself as a form of firstness, the core self as a form of secondness and the autobiographical self as a form of thirdness. With these three stages and their respective phenomenological categories it is possible to achieve a format of putting in parallel the two narratives. The goal of this next chapter is to demonstrate if these theories can supply substantial material to be translated into the format of an animated short film.

It is crucial to highlight Damásio's (2014) notion of how the self's purposebeyond that of regular homeostasis. The author introduces that a new form of homeostasis is also at play and

it has a bigger scope than the individual. The fully realised self has allowed the capacity to work with a type of homeostasis that regulates in the sociocultural sphere - this is what he called the sociocultural homeostasis (Damásio, 2014). Although the author only briefly explained this dimension, the account of the self as a communicative and social agent was further developed by Colapietro's development of Peirce's notion of the self. In the self as a form of semiosis, the author explores the dimension of an agent that works as a medium through which ideas and thoughts are self-controlled and matured to reach a more reasonable and agapistic world. In this theory, the self is a process to which the ideals are reworked and developed to achieve higher levels of attractive reasonableness (Colapietro, 1989).

In Colapietro's (1989) work, the author seeks to demystify that the self is not a private dimension as often believed. To a certain extent, this is true, our thoughts and dwellings are only accessible to the first-person perspective the self has inside our minds, but the author gives it the capacity to be unique and private, but not at the expense of disregarding the element of communicability. For him, the self is only able to understand that the inner reality is fallible and private through the realisation that there exists an outer reality with other selves and that each has their own inner realities. While Damásio explores how biology can explain the subjective experience, Colapietro argues that this subjective experience is actually intersubjective. Colapietro says "The solitary self is the illusory self, a being who has its basis in selfishness; the communicative self is the authentic self, a being who has its roots in agape." (1989, p.79) This notion of the self as a communicative agent is what gives the self the characteristics of following purposes for the continuous growth and development. He adds that the self is not only a centre for purpose, but also a centre for power. This power comes from the dialogical role that breaks the self into two parts of the same thing. A dialogue happens between the self as reaction-machine (critical self) - an organism that is subject to regularity of the forces of the outer world and through it acquires habits and laws; the other part is the self-as-semiosis (innovative self), a symbol-creator - a mind that is subject to innovation and persuades the renovation of habits. It is through this dialogue that self-control is exerted and this species of meaning (self) is in constant evolution and development. The surrendering of the critical self and the openness of the innovative self to more attractive ideals are the self's essence in a community- a vehicle through which more attractive ideals grow to reach more concrete reasonableness, for them then to be embodied in habits, individual characters and sociocultural contexts (Colapietro,1989).

Therefore, the literature review has the capacity to provide substantial material for the translation of theories that delve in the imagination of conceptual ideas. While Damásio's theories provide a narrative format for the story, Colapietro's account provides a protagonist with a search for purposiveness, an explorer of the unknown, a cosmonaut in an infinite space of possibilities and mystery.

This idea of an astronaut travelling alone in space was inspired by a game called No man's sky, 2016 developed and published by Hello Games, in which the player/protagonist is a space explorer that travels alone in a seemingly infinite universe. What is unique about this game is that, in this gigantic procedurally generated universe sandbox, each player will have a different personalised adventure. The journey is set by the player's wants and needs, and each player will experience a different journey.

Therefore, the first objective will be to translate Damásio's theories in analogy with an astronaut travelling the cosmos. Where the journey is of the self seeking its own purpose inside its own inner universe. The organism provides the stage for the mind, where laws act upon according to the workings of regular homeostasis and it is in the mind's flow of images that the self experiences this inner reality.

On the other hand, Colapietro's theories provide the narrative with two voices in a dialogue: the critical self - a compass that guides the self accordingly with its habits, to survive the laws of homeostasis- it functions as a sort of instinctual drive that maintains the continuity of the self, guiding and setting its goals blindly; on the other side, the innovative self is an entity that inhabits this inner universe and is a centre for power and purpose, where despite the compass's guidance, it persuades it to escape its predetermined destiny and seeks to constantly renew and find new purposes. Therefore, these hypotheses have the potential to be translated into a narrative with the adapted theme, just like the cosmos, our inner universe is also filled with unlimited possibilities in a seemingly infinite universe.

The narrative then is of the protagonist facing itself with the mystery of its purpose inside this inner universe. Just like in Damásio's and Colapietro's studies, their goals are to inquire into the complex mystery of what the self is. The objective for the short film is to show the spectacle of the self finding who and what it is, the same way the two author's accounts of the self do the same. Apart from the wonder of a mechanism capable of being conscious of itself, the

conceptual significance this study pursues to achieve is the understanding of the workings of the mind. The perception of how we work and what the self's role is, can be considered when exploring any theoretical field in which human agency is part of. In the case of this study, the project seeks to explore the role that theories of the self can bring to the very visual oriented culture we humans live in. In fact, Damásio mentions that:

> Armed with reflexive deliberation and scientific tools, an understanding of the neural construction of conscious minds also adds a welcome dimension to the task of investigating the development and shaping of cultures, the ultimate product of collectives of conscious minds. As humans debate the benefits or perils of cultural trends, and of developments such as the digital revolution, it may help to be informed about how our flexible brains create consciousness. For example, will the progressive globalization of human consciousness brought on by the digital revolution retain the goals and principles of basic homeostasis, as current sociocultural homeostasis does? Or will it break away from its evolutionary umbilical cord, for better or worse? (Damásio, 2014, p.49)

2. The self's theories and Visual Culture

Regarding the decision of utilizing a visual medium, it is crucial to consider how Mirzoeff (2009) mentions that visual information characterises much of the very postmodern lives we live today. According to him, Visual Culture seeks to interpret and criticise the impacts and effects in which visual events and mediums transmit meanings and information to its spectators. This new interdisciplinary strategy seeks to criticise the importance of image making, the formal aspects of images and the cultural impacts that they can have. The rise of this field is because the postmodern world portrays the fact that human experience is now more visual and visualised than ever before, and with the digital revolution, human consciousness is affected by the globalisation of the visual phenomena. This aspect demands for new means of interpreting the rapid transformation of the dissemination of information from textual to visual representations.

Thus, visual culture can serve as a form of sociocultural self-control, since it seeks to find ways to interpret and find tendencies and habits of representation, questioning their points of resistance and the effects of the visual overloads of information. Therefore, this cultural self-criticism takes the role of type of dialogue analogous to that of the individual self, or as Colapietro mentions "...dialogue involving several individuals may assume a personal status—it

may generate a community of such importance and intimacy that the several become one." (Colapietro, 1989, p.92). This type of self-control where ideals in the format of visual significations are inquired into and the power of attractive reasonableness questions the visual habits and their effects of this postmodern era. Therefore, understanding visual culture as an extension of one of the many mechanisms of sociocultural homeostasis can help us better regulate the rapidity and impactfulness of certain visual trends. Therefore, the critic has the vital role of exposing the understanding of this new strategy of homeostatic behaviour at the level of its effects on individual selves.

Visual Culture then acts as an excellent regulator for the dissemination of information at the level of visual communication, where attractive ideals in the format of visualisations are regulated to understand their impacts and effects, not only at the level of communities, but at the level of individuals within the community. The question of whether certain visual trends can have an impact on the neurobiology of the organisms for better or for worse should be put into consideration, since their impacts can start to have effects on the genomes. Understanding the repercussions that certain visual tendencies have on our biological evolution can make us question the future of homeostatic regulation, and therefore should be a crucial question for Visual Culture. (Damásio, 2014). This because it can inform how future generations will start perceiving themselves and understand that we are highly influenceable beings, but thanks to the self's capacity of self-control and self-criticism, attractive ideals are able to grow and maybe present a more rational world where visual information can be used more accordingly and adaptively.

Therefore, in this postmodern world, the one that creates and disseminates these visual experiences has the role of creating a medium to which thoughts and ideals of the individual selves are transferred from the inner world to the outer world. These visual experiences are unique in the sense that they portray the private perspective of the self and disseminate these experiences in the public domain. These visualities have then the power to present their spectators or other selves with processed meanings that are sources of power and purpose that can impact and affect the inner universes of others. While the artists or creator of visualities has the instinctive capacity to disseminate experience that can either be sourced from the critical self or the innovative self, it is the critics role to exert self-control within the society and

understand if the works are either made up of habits or habit-changes. Hence, any visual medium proposed by a self is an attempt at the process of meaning-making.

3. Animation as medium

As a means for visualising, animation is a powerful and unique visual technology of filmmaking because of its capacity for plasticity and for depicting life and movement. It has two unique properties that distinguish the artform, they are: the illusion of life and metamorphosis. The illusion of life comes from the inputting of life to what is flat or inert, like an image or a model, it does this through the creation of movement to evoke life as opposed to stillness or death, though it is only an illusion created in the frame-by-frame sequences. (Husbands & Ruddell, 2018) The metamorphosis comes from animation's "...ability for an image to literally change into another completely different image, for example, through the evolution of the line, the shift in formations of clay, or the manipulation of objects or environments" (Wells apud Husbands & Ruddell, 2018, p.26). These two characteristics is what makes animation an experience of the constant state of becoming, if it is interrupted, it ceases to show its entirety of what it is in motion. (Husbands & Ruddell, 2018) To a certain extent, this can be comparable to the nature of the characteristic of the mind's flow of mental images, the self experiencing these images can never arrest one single moment. Mental images are always metamorphosing and that is also a characteristic of what gives the experience of the self the certain illusion of life[10] and the self's process of constant state of becoming. (Damásio, 2014) On these accounts, animation has the possibility of closely relating itself to the ceaseless plastic film that our self's experiences in the mind. The decision to use this medium is to explore this analogy of if the frames are the contents of an animation, the flow of mental images are the contents of mind.

Another aspect of animation that can serve as proper justification as an adequate medium to translate the theories of the self is the fact that animation as a technical process offers artists the ability of experimentation and expressive freedom for imaginative visualisation. (Husbands & Ruddell, 2018)

[10] Illusion of life in the sense that our mind simulates the outer reality through mental images that, as mentioned before, are not always reliable or accurate.

Closely relating the process of animation to the experience of the 'plastic inner universe' that Colapietro (1989) mentioned as the fundamental characteristic of the mind's capacity to produce imaginary creations that can influence the outer world to affect and create a more rational world. Animation can be an unlimited art form that can achieve much of what the mind's capabilities can do, through its ability of creating fictional worlds and characters that can evoke the closest visualisations of the subjective experience like ideas, feelings and sensibilities. (Husbands & Ruddell, 2018) The technologies and techniques of animation are also able to recreate much of what the limits of imagination can achieve, this process is unique to animation. "The animation film is utterly unique in its representation of graphic and plastic universes and impossible spaces and in its 'ability' to transcend physical laws which govern our experience." (Buchan apud Husbands & Ruddell, 2018, p.29) The spectators' experience of animation seem to respond to similar stimuli in similar ways, therefore phenomenological approaches to understanding animation seem to address both objective and subjective aspects when engaging with the way animated moving images work. Investigation in the workings of animation reveals that the subjective experience the spectators have, are closely similar and resonant to the animator's subjective reality. (Husbands & Ruddell, apud Dobson et al., 2018)

This asserts that animation is a more than adequate medium to translate the theories of the self's inner reality. This is because types of animation and animated characters seem to resemble aspects of the inner realities representation of the real world and tend to give a more near sensation to the ways in which we engage in imagination and experience our body's feelings. (Husbands & Ruddell, apud Dobson et al., 2018)

Another point in which animation relates to the theories of the mind and self, is the close connection the experiencing animation to that of experiencing memories. Victoria Grace Walden (2018) considers the notion that memories are more related to the state of becoming in which the self experiences the present and the past, rather than simple transmissions of one's lived history. Instead, the authors acknowledge that memory is a networked process in which creativity and logic play a key role. Memory is the experience of the past in the present. It has a fragmentary nature of temporality and affects, in the present, our bodily and sensorial relations to events that have happened. It is not fixed, but rather a fluid process that is constant reworking and development. Apart from this, memory is a creation that is felt and shared with others to develop, even if we tend to consider it as something personal. It is made up of personal,

collective and collaborative experiences with the past and these relate between different agents. (apud Dobson et al., 2018, p.106) It is important to note that: “the past is not preserved but is reconstructed on the basis of the present.'' (Halbwachs aput Walden, apud Dobson et al., 2018, p.106) and media, especially animation, has a key role for the creation of memories in the present as our engagements with the past are mediated.

Walden refers to Marshall McLuhan's notion that media are extensions of human experience (McLuhans aput Walden, apud Dobson et al., 2018, p.106) and Alison Landsberg contribution of the idea that films serve as prosthetics for us to feel emotionally and bodily engaged with the past that we don't know about, nor have witnessed. This brings forth the concept that assembly of memory involves both its organic (self’s) and inorganic agents (media) (Landsberg aput Walden, apud Dobson et al., 2018, p.106) and that it is not only situated in our minds, but in society’s social collaborations. (Walden, aput Dobson et al., 2018)

Therefore, animation can serve as the Autobiographical self’s extension of its capacities to store memory in a sociocultural sphere and its close relationship to the way we experience the self serves a particular connection to its capabilities to extend creativity and imagination. It provides the spectators with intimate knowledge on how others experienced such things as traumas, nostalgias, collective memories and personal identities, which for the self’s personal growth and self-control provides very profound and visceral ideals. Thus, animation is an optimal tool for the translation of the theoretical material proposed in the literature review.

In terms of the type of the animation, this project seeks to appeal to the inquiry-oriented approach, given the pragmaticist spirit of the theories in the literature review. The approach to animation that best fits this characteristic is that of experimental animation. What distinguishes commercial from experimental animation is that the latter sets to explore some distinct formal challenges for the spectator that will serve justice to the translation of theories that seek openness to inquiry and experimentations of the mind. The main difference is that in commercial animation the visual details are less important than the overarching narrative that seeks to convey a message. By contrast, experimental animation seeks to explore more on the visceral dimension, where the films aesthetic appeal is the subject for the animations purpose.

In summary, its main characteristics are to evoke rather than tell, trying not to offer a clear and unambiguous message; the materials of the animation looks to employ the way that

the medium was used; the personal style and the preoccupations of the subjectivity of the artist are more perceptible; and finally the absence of psychologically defined characters (Taberham, apud Dobson et al., 2018, 2018). Therefore, experimental animation looks, by its definition, to be a more flexible attitude that allows for a freer and heterogenous experimentation of conceptual, stylistic, technical and material approaches for animation.

This appeals more to a creative process that involves more exploration, play and discovery to embrace the unexpected surprises of the medium. The role of this approach is to experience unconventional and un-normative approaches, by emphasising the ways in which artists can use various formal techniques to explore creative possibilities and open debate about the habitual perception and cognitive experiences. (Harris et al., 2019)

For this project, the medium will be more aligned with the approach of experimental animation. The aspects that will be considered are the spirit of exploration of the new techniques and the experimentation of unconventional animating materials to give life to something to which normally is still. In terms of narrative, the story is going to be more conventional in the sense that it will align more with commercial animation's overarching story, so that the translation of the narrative with the theories of the hypothesis can offer a clear journey of the steps of the self to arrive to its entire form, but objectively, the goal is to make the story of the self-something ambiguous enough for the spectator to be able to question the nature of the self's purpose.

4. A proposal for a new language/technique

To allude to the dialogic nature of the self, the medium used will also attempt to suggest this dual role between the material bodily self that is subject to exterior forces and the more creative mind self that is able to represent the incorporeal realm of the mind that is subject to exert creative power. Therefore, the duality of analogic techniques contrasted with more digital technical means can relate to this metaphor, thus the substances of the environment will be completed using experimental manual methods and the main characters' animation and other elements using a more conventional digital animation, more specifically Adobe After effects.

In the animation, the inner universe is the stage the organism inhabits, thus it will be represented by an analogic and manual medium. The preposition for this part is to experiment stop-motion animation using silk-screen printing, this because of some characteristics of this printing method, they are:

- Its capacity to form and create various prints from the same stencil, the images produced are susceptible to different forces that happen during the printing process, some examples of this interferences are the of lack ink in certain areas, to drying time, to the undesired mixtures of colours or even due to the force used when rolling the paint on the print. This process involves the printing of different replicas that have the same blueprint, but the results may come out differently than expected. What this creates is a myriad of alternative images that have the same structure but can have unanticipated outcomes. By then sequencing these images, the results from this printing are given life, as they are all put together, when conventionally only some prints are decisively exemplary to the artist's goal. The giving of life to this process can relate to animation's illusion of life and metamorphosis of images.

- On the other hand, this also connects to the theories in the literature review, highlighting one of the self's most important attributes of making errors as an essential characteristic of humans. This emphasises what Colapietro notes that "... with the recognition of something private, the awareness of error appears, and error can be explained only by supposing a self that is fallible" (1989, p.73) Therefore this medium can properly translate the idea that the inner universe is replete with evidences of its fragility and mistakes and its through this characteristic of the inner world's imperfections and fallibility that the self is only able to realise that there exists an exterior reality.

- The act of giving life to this technique is also aligned with the explorative aspect of experimental animation, where the testing of this new material is an innovative approach to un-normative techniques of animation. To understand if this process actually works, an attempt to print a mock-up image to test its capacity to work in a stop-motion animation was tried. The experiment was successful and the effect caused was appealing with its ability to give the idea of instability yet fluidity between frames, just like in the mind, the mental images are always flowing but are never capable of being arrested in the moment.

What follows in the next page is a table examples of the animated images printed and at the end a link to the animated trial that was composed using After effects to sequence the

images with fading in between to transmit more the idea of metamorphosis instead of rigid frame sequencing.

Link to animated test: https://vimeo.com/693091709

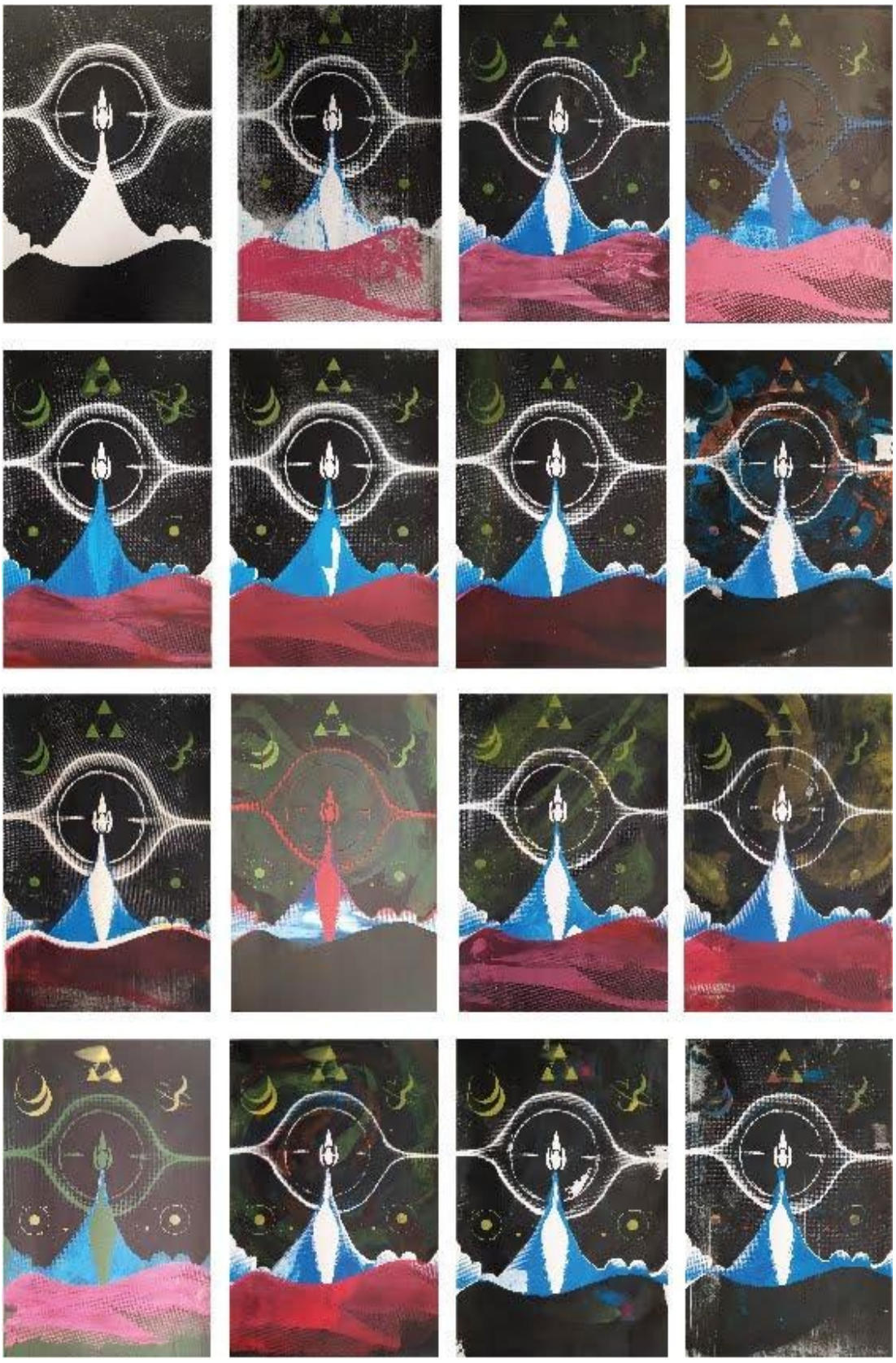

Figure 2: Experimental Animated Silk-screen poster (Samuel Rodeia,2022)

On the other hand, to represent the more creative and imaginative aspect of the mind, a digital medium offers more unlimited possibilities for animation. The main character that moves inside the inner universe is going to be animated on top of the analogue stage using frame-by-frame digital animation, as an entity that can move freely within this space. Digital animation offers a more controlled and perfected animating technique, that its limits are the mind's imagination. The goal is to try to integrate the digital in the manual to offer a contrasting dialogue between the two universes of animation, as a parallel to the two universes the self inhabits.

5. Tools for translation to Visual Language

To properly transform theoretical language to a visual narrative, the usage of Peircean semiotics as a tool to translate different forms of language and thought can be an optimal means. The literature review, in the chapter on logic and semiotics, includes a section where different categories of sign relations with itself, with its object and its interpretants. These triadic relationships provided useful tools for the interpretation of any type of signs that will also be useful in the translation of the narrative for the animation.

To have a more indepth tool the book by Santaella “Matrizes da Linguagem e Pensamento: Sonora, Visual, Verbal: aplicações na hipermídia” (2013)11. The book offers a complex systematisation of the multiplicity of languages and their hybridizations. Santaella presents a theory of three matrices that guide all thought, languages and reason which she bases on Peirce’s theories of signs. The theories present that each type of language - sound, visual and verbal - exist in correlation to the phenomenological modes of being delineated by Peirce - Sound corresponding to Firstness, visual corresponding to secondness and verbal corresponding to thirdness. For the purposes of this project, the visual matrices and their modalities will serve as a tool for structuring visual forms of language given their workings in firstness, secondness and thirdness. To properly give form the three stages of the self delineated in Damásio’s (2014) framework. The structured thesis proposed in Santaella’s (2013) work will provide classification of the review signs of the visual language in order to properly translate the definitions of the

[11] Translation: Matrices of Language and Thought: Sound, Visual, Verbal: application in the hypermedia

three selves into their respective modes of being as proposed in the hypothesis in literature review. The goal is to structure the narrative for the animation in three parts, in each part the protagonist will navigate spaces in the inner universe that have more prominence in their respective modes of being:

1. The first part will seek to introduce the protoself by using non-representative forms of signs, more specifically qualities reduced to themselves unrelated to any form of experience obtained from external visuality. These qualities can represent the protoself's composition of primordial feelings, which is what allows us the possibility for emotions and various sub forms of feelings. This part will represent the self's capability to experience at the level of firstness. This part seeks to make the protagonist; therefore, it will have prominence in the usage of colours, smears, forms, masses, proportions, lights and darkness, movements, rhythms, concentrations of energy and absences, dimensions, volumes, proportions and textures. They are not going to indicate nor represent nothing. There will also be a prominence of music and sound effects. To better understand this part, an exploration of the modalities of non-representative elements can help, the three categories are:

    a) Suchness - Qualities as it is in itself, apart from all else.
    b) Marks of gesture - Qualities manifested as qualities embodied in singular objects. They draw attention to the gestures that gave them origin.
    c) Invariance - Qualities with physical and physiological laws of gesture, these are qualities that start following some rules and order.

2. The second part will be the core self using figurative forms of signs. These elements have a dual nature: they replicate existing objects or visible situations of the external world. They represent physicality, and therefore can be used to translate the workings of the core self where it engages with physical forces exterior to the protagonist, posing real obstacles in a particular time and space. In these forms, a mimesis or illusion of figurative image is equal or similar to the real objects. Therefore, in this part, the core self's ability to simulate the exterior

world through the senses is put at play, it is through these elements that the core self can act and react to its environments. To better understand these categories, they also work at level of three modalities of figurative elements:

a) Figures as qualities - the figure in terms of its qualitative aspects, the way it indicates something outside of it, in its referential, denotative and indexical elements.
b) Figures as a record - Figures closer to indexicality, they refer to existing objects and situations. The figures are singular, existent and individual given a particular space and time.
c) Figures as conventions - Figures inserted in a system of conventions utilized to reproduce the visible, such as perspectives where the construction of rational, constant, homogeneous spaces given certain conventional laws in the ways objects dimensions occupy their positions in relation to the eye.

3. The third part will represent the autobiographical self using representative forms of signs, these also nominated as symbolic. Even when they reproduce visible things, they are only meant to represent something that is not visibly accessible. In terms of the autobiographical self, these relate to objects that mean something given the self's factual and affective meanings stored in his memories. These elements allow for the continuity and individuality of the self's autobiography, putting at stake things that represent something ulterior to its direct representation. For the autobiographical self, a certain symbol may represent something else given its personal history, its habits and habit-changes. Normally the symbol represents something else given cultural conventions, while the self may also interpret these conventions, at the level of the autobiographical self it can work more at the level of memory's conventions. In order to better understand this category, its three modalities will also reveal better the ways in which these elements work.

a) Representation through similarity - they are symbols in the Peircean sense that they are motivated by keeping a link of resemblance with what they

represent. There exists an analogous relationship in appearance or structure. The symbol resembles its object through general laws, established by convention or habits.

b) Representation through figuration (cyphers) - these are symbols that replace the significations of one conventional symbol with another. These signs do not resemble at all their objects, they tend to be singular and individual, but they do not always refer to singular nor general objects, instead they represent enigmatic general ideas.

c) Representations through convention (systems) - These symbols fulfil their representative power without the use of similarity, nor figurative indicatives of the objects. Even if this relationship exists, they represent their objects in function of systemic conventions previously established. They are integrated parts of conventional systems, only being able to represent given functions in their systems.

These modalities will serve as tools to properly build the visual narrative once a script for the story has been developed, they will help to better conceptualise the storyboard and the concept art to properly transmit the separate phases of the self given their prominence in their phenomenological categories. These matrices can serve to visualise the protagonist's experiences in his journey to achieve his purest form. Some of them might be more complicated to implement but having them structured in the methodology will serve as a processual tool to start translating the visual dimensions of the journey of the self.

6. 6) Next steps and review

This section is oriented to review the next steps:

1. The first step will be to prepare a previous study of some mood boards and inspirations that will help understand the origins for the creative decisions.
2. Then briefly present the process of translation of the proposed theories of the self using the tools provided by Santaella.
3. The next step is to develop the analogic part of the project, this being the silk-screen printing. These prints will then be prepared in a frame-by-frame animation. After having these

sequences ready, they will serve as textures that will be present throughout all the digital assets for the animation. This chapter go over the development Then the editing of the final cut was built in Premiere.

4. Once the overall animation is finished, the last steps are the final polishing of the animation, the insertion of music and sound effects, and finally the rendering of it.

Chapter 3: Development

As stated in the last chapter, the next section will explain and summarise the creative development of the proposed project presented in the methodology chapter. The objective proposed for this thesis was to test the viability of using Peircean semiotics as a tool for translating theoretical language into a visual narrative in the format of an animated short film.

The first part is the pre-development, which is divided into three parts: 1) visual research on the theme of science fiction and how it is applied in different mediums; 2) narrative development description using Santaella's matrices of language to properly translate theories of the self into a cohesive visual language; 3) concept/visual language description, seeking to show the conceptualization and sketches of the environment, assets and the storyboard.

1. Visual Research

For the visual research centred on the theme of science fiction, a collection of different artists and animation styles were identified and will serve as a means to understand some older and more contemporary examples that will be used to inspire the style that best suits the proposed storyline. Some of the examples found that served as main inspirations for this thesis project were:

- The concept art for the game No man's sky (2013), developed by Hello games, offers a good Sci-fi theme example and figure 3 shows its game cover. It depicts the cosmos as a colourful pastel universe full of both emptiness and life and it succeeds in transmitting a sense of awe and wonder for the journey of discovery of the unknown. In a similar sense, this thesis project seeks to portray a similar visual style.

Figure 3. The cover art for No Man's Sky, created by Simon Stålenhag (2016)

Figure 5: Some pages from the Concept art from the *No Man's Sky* art book. (Hello Games, 2016)

- Among other artists/illustrators, Jean Giraud (Moebius) (1938-2012) a French, science-fiction and fantasy artist/cartoonist that created surreal and abstract space adventures. Figures 5 and 6 are good examples of the artist's sci-fi landscapes.

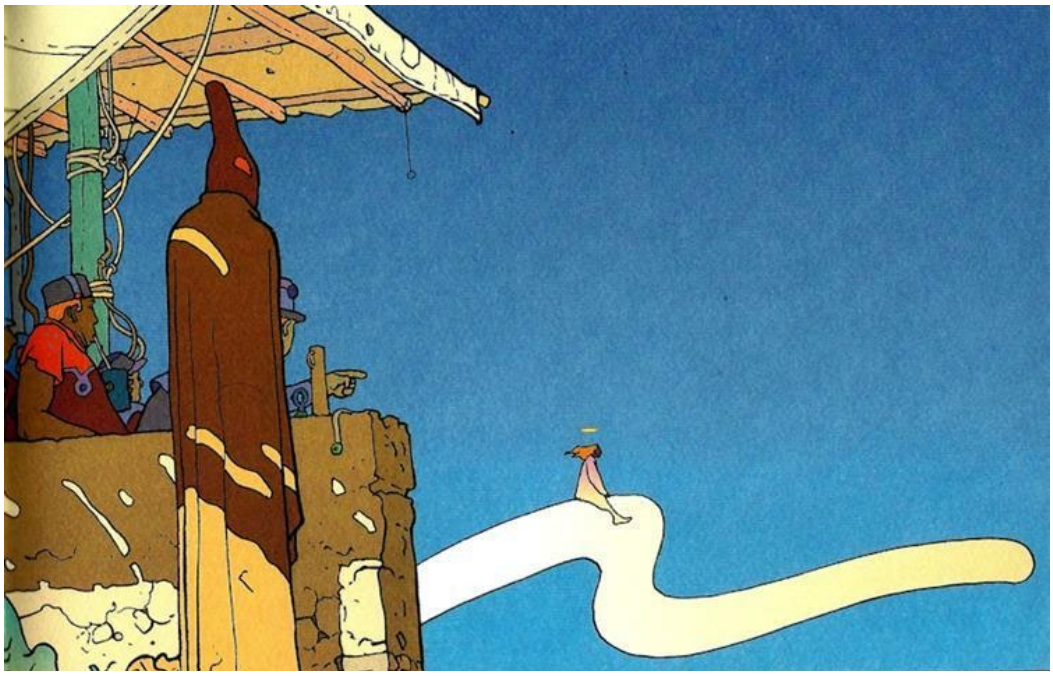

Figure 9: Moebius. (n.d.). [Fantasy landscape with humanoid creatures and giant worm] Retrieved from *https://orano.tumblr.com/post/37145978342/moebius-2-from-2001-ad-stardom-edition-paris*

Figure 7: Moebius. (n.d.). [Fantasy landscape with a colony of humanoid creatures, spaceships and giant crystals in a stary night] Retrieved from https://hero-magazine.com/article/173003/jean-moebius-giraud

- The works by William Roger Dean (1944-), an English landscape painter who is known for his exotic fantasy landscapes which are both fantastical and dreamy-like. Often the composition of his works, the colours and shapes of the landscapes are moody and natural, giving a certain organic sense to these living environments.

Figure 13: *Cruise to the Edge event poster*. (Designed by Roger Dean).

Figure 11: *"Electric Sheep"* album cover. (Designed by Roger Dean).

- In terms of animation, the work by Pendleton Ward and Duncan Trussell The Midnight Gospel (2020), is an exemplary science fiction/surrealist dark comedy animated show. It portrays audio clips from Trussels' podcast with various guests accompanied by animated fantastic adventures of the show's main character in a cosmic fantasy. This animation has the potential to be used as a medium to visualise and transmit complex philosophical concepts in a light and creative way.

Figure 16: A still of the Protagonist falling in the multiverse. (2020). In Midnight Gospel [Television series]. Titmouse, Inc. Retrieved from Netflix.

Figure 15: A still of the Protagonist and death talking. (2020). In Midnight Gospel [Television series]. Titmouse, Inc. Retrieved from Netflix.

- The animated Netflix TV series Love Death + Robots (2019-) also features a short film called The very pulse of the machine (2022). The short film features an astronaut that crashes on IO, one of Jupiter's moons. The story takes her through the journey of accepting her fate, yet she tries, nonetheless. One of the main aspects of this short film that affected the narrative of the proposed project, was the dialogue of the astronaut alone with himself. Although this story follows a more conventional voice over narration, this project's goal is to attempt to present the idea of the self as a dialogue, but mostly using visual cues in the composition of shots and in the progression of the story, instead of through an actual narrated dialogue.

Figure 18: Collection of scenes from the episode "The Very Pulse of the Machine." In Love Death + Robots [Television series]. (2022) Retrieved from Netflix.

The main objective of the visual research phase was to extract relevant concepts represented in the studied examples of the science fiction theme. One of these concepts was the dualistic representation of the emptiness of space and simultaneously, its fullness with the usage of colours, shapes and forces, resembling a psychedelic visual style, or the journey of the mind. The cosmos and consciousness are also comparable subjects in the sense that they both contain seemingly infinite possibilities. Another important aspect is that of the meanings behind the astronaut/cosmonaut, how it implies a spirit which let's go of belief and accepts to be always surprised in face of mystery, this is comparable to the pragmatic spirit of Damásio and Colapietro when faced with the mystery of the self.

2. Narrative

Since this project seeks to create an object that speaks about the experience of the self, it would be appropriate to distinguish one of the main purposes of the object itself. Since the self is the subjective experience of conscience, this next section can be approached in two alternative ways: the first is watching the final movie after reading the next sections, that will go over the translation process, the visual decisions and development of the animation; alternatively, one can watch the final product first and then read about the journey. The former way is more aligned with the goal of this project, which is to leave space for the imagination of the self that experiences the animated movie to interpret the story in their own way.

The following link leads to the animated final product.

https://vimeo.com/user153552019/cartographersodyssey?share=copy

Within this second part of the pre-development phase, the construction of the narrative was developed. This thesis proposes to use Santaella's matrices to translate Damásio's theories of the self into an animated short film. The triadic structure which is the main axis around which the visual language and narrative orbits, will now be described.

The triad present in Damásio's theories show a self that is made up of three process steps that appeared sequentially in the history of biological evolution. These three steps Santealla will help provide a structure for the stages of the story's progression, splitting it into three parts. Each part will present how Santaella's modalities as visual cues that will

be utilised to translate the Damásio's theories of the self visually, corresponding to their respective phenomenological mode of being: the Proto-self and firstness, Core self and Secondness and lastly the Autobiographical self and thirdness. Then, it will be explained how the main plot of each chapter of the narrative was developed:

1. The proto-self and firstness

It will use non-representative elements of Suchness, marks of gesture and invariance. These will represent the matter of the "inner universe" that the protagonist traverses through. These need to be cohesive and always similar so that the idea of continuity of the "inner universe" sustains throughout the narrative. The usage of colours, textures, patterns and movements will correspond to the neural images produced by the proto-self:

a) The colours provide an element of suchness, they stand for the self's primordial feelings or emotions, these qualities are always present and is what fills the inner universe with colour.
b) The marks of gesture will be present through an analogue process, through the usage of textures and patterns printed in silk-screen. This will provide qualities embodied in the singular, where each silk-screen print is different (monotype) and is constantly changing denoting its ephemeral individuality, the smears of ink of each print is indexical of the process and the self that it originated in.
c) Shapes and forms start to develop from the colours and textures combining, forming elements of invariance. These will represent the inner universe's growing complexity of variations of feelings in gradual accumulation. This depth of the inner universe, with acting forces that hold the qualities into the consistent orderly universe of the proto-self. These laws provide a unique stage for the fully realised self to eventually develop, filling the emptiness of the inner universe with substance in the form of shapes, colours, forces and movement.

This first part of the narrative will attempt to represent the proto-self's process, the main setting will be the outer space, or the inner universe consisting of primordial feelings, emotions and its complex variations.

The focus of this inner universe will be the protagonist (the self as an interpreter), who is personified as an entity made of light. This entity resembles an astronaut to express an idea of pioneer or a "beacon of hope". In terms of the triadic relationship of a sign, the entity stands for the interpreter which inhabits the inner universe of phenomena (or in other words, conscience).

In this part, the entity is situated inside a ship. This portrays a container in which the self navigates in. Therefore, it attempts to symbolise the organic body as the physical medium of transportation of the self, providing both shelter and capability to navigate space.

The main process of the proto-self is to survive as much as it can while blindly following its instinctual drives. In the animation this will be represented through a device, a compass always carried by the entity.

The story starts in media res as the entity inside the ship slowly approaches a blackhole, which symbolises death. The compass points towards the black hole and as the entity trifles with the thought of nothingness, it hesitates and diverts from its predetermined destiny. It takes control over its purpose and decides to escape. As it distances itself, the colours and silk screen textures intensify and smoothen Depending on the beat of the editing. The entity's calmness is disturbed by a feeling of anger towards the compass and tosses it. In that moment something changes in the inner universe, it lights up with possibilities and the colours and patterns become more complex and alive.

The entity journeys through different space-scapes[12] until it eventually is faced with a planet. It is in this moment that the first element of Secondness is introduced and the second part of the narrative starts.

2. Core self and secondness

[12] For the purpose of this thesis, the word space-scapes is a mixture of the word space and landscape for lack of a more accurate term.

The second part of the story will accompany the encounter of the entity with an external force in its path, the blue planet.

The core self process includes the mental images simulated inside the inner universe originated from the senses of the exterior world. Its purpose is to situate the proto-self in relation to something else, this confrontation or duality provides the self with elements of action and reaction. It is not only capable of surviving, but now it can also adapt and react to its surroundings. The core self was translated by using figurative elements which are figures as qualities, as records and as a convention:

a) The figures as recorded will be represented by the planet. It will construct the environment of the planet as a figure by sequencing its change of qualities. As the entity experiences the figure, its qualities increasingly reveal themselves to the entity. The planet does not necessarily represent an actual planet, but instead any object that is placed in the focus of the self's senses.
b) Once the entity is on the planet, the journey it embarks in will be depicted using figures as records. The main idea of this modality is to represent an existing object and situation, in the case of this narrative it will be the journey of the entity on the planet to reach a temple. This modality is achieved through the juxtaposition of the planet, the entity and the sky with auroras. These three elements in sequence provide the elements to depict a journey and a moment of communication between the entity and something exterior to it, as it is guided by the lights that lead to the highest peak.
c) Figures as conventions, for this type of modality, the represented space will be a temple, where images will follow the rules of perspective in order to portray an orderly and rational space made up of external human culture constructions.

This part of the story will follow the first direct contact the entity has with something external to it. All its experiences until now have been inside its inner cosmos and it mostly used firstness to translate feelings and more abstract concepts. The second part will attempt to represent the core-self's ability to bring elements of the external universe to the inner.

At first, everything seems barren and simple, as the entity experiences the object, the more its qualities are revealed. The planet starts transforming, mountains rise from the planet and the once flat landscape is now filled with towering peaks. Suddenly the entity's attention is diverted to the auroras, paths of light leading to the tallest peak. The compass follows the direction of the lights. They journey towards the base of the mountain, and at the destination there is a cave entrance that brings them inside a temple. In this constructed environment, lies an altar with a scroll and a pen.

The entity inspects the scroll and sees diagrams with cryptic language and drawings that depict the journey up to this point, putting emphasis on the main key visual elements of the narrative. The final drawings contain instructions on how to use the scroll and pen, the rest is blank. This concludes the second part of the narrative and introduces the first element of thirdness and therefore initiating the third part of the story.

3. Autobiographical self and thirdness

The third part will mostly use representative elements to illustrate the autobiographical self's process. This is the last step of the fully realised self and it begins with the appearance of the scroll.

The scroll's symbols reproduce visible things that are not visibly accessible. The scroll and pen are the tools the entity will use to record memories, which are equivalent to the mechanisms of the autobiographical self. It is what allows the self to remember the past and predict the future.

The autobiographical self's neural images are a combination of images from the core self and the protoself and are organised in a complex manner in the memory.

This section will use as a tool for translation the modalities of thirdness which are the representation through similarity, through figuration and finally through convention:

a) Representation through similarity - utilised by the scroll symbols and visual language to translate the self's memories closely linked through resemblance with it is. In the case of the scroll, there are symbols of the black hole, the ship, the entity itself, the planet, the mountains and the temple among other details from the journey.

b) Representation through figuration - These will be utilised to symbolise the direct access the self has to his own private system of meanings. These symbols do not particularly represent anything, but their meaning lies within enigmatic ideas and concepts. The enigmatic language or hieroglyphs in the scroll show the self's capacity for creating a system of meanings that are uniquely attached to the factual and sentimental dimensions of that specific self.

c) Representation through convention - to translate the autobiographical self's capabilities to hold all the stored information of the self in a continuous, organised system of meanings. These meanings are present throughout the development and personal growth of the individual. In the case for this animation, this signification will be presented through the patterns formed throughout the narrative and, condensed into a sequence of the last journey the entity embarks on through the cosmos. This sequence has a system of meanings to represent the passage of time, the trials and tribulations of the journey, and the creation of the self's map (the scroll).

The third part of the narrative will depict the entity's autobiography in a sense that it will condense his journey into a visual sequence of three parts. The first section will represent life and discovery; the sSecond, will depict struggle and conquer; and the third is the conclusion of both achievement and imminent end. Each section will use the same structure to build tension for the finale.

After the sequence ends, the scroll closes and the entity is left in an ominous corner of space. It is faced with a seeming giant eye, this will represent the conclusion of the self, when the self becomes fully realised and the inner universe recognizes its own protagonist in its journey.

Shortly after arriving at this strange sight, the compass lights seem to change to the same light that guided towards the black hole. The ship assumes control and warps the ship to the black hole. At first the entity is surprised and scared, remembering what it originally felt, but as it looks down at the scroll, it reminds it of the journey. This brings

it a peace of mind, it breathes in and accepts the unavoidable fate of his end, this time it lets go peacefully, knowing it travelled far enough.

As the ship enters into the nothingness of the black hole, everything disappears and all that is left in the emptiness is the scroll, or in other words the self's map. Containing the systems of meanings that developed throughout the protagonist's journey. Once one dies, all that remains is the record of the ideas and significations that grew within the self.

Since art is a tool for extending the capacity to store memories through translation of these said significations, it allows it to be shareable between different selves. This emphasises what Colapietro proposed in his theories about how the self is a process to which the ideals are reworked and developed to achieve higher levels of attractive reasonableness (Colapietro, 1989).

Now that the main plot is prepared, the next step will be to deepen the explanations of most of the visual decisions made. It is crucial to highlight the key visual decisions during the development, and the main problems faced and their solutions. While showing the development of the sketches, concept art and in the end the storyboard.

3. Concept/Visual Language

This chapter will delve into the creative process of the pre-development by summarising the main visual decisions that were used to prepare the visual narrative. To create a cohesive and consistent explanation with the proposed method of applying the triadic logic, the following chapter will explain these visual decisions in terms of the firstness, secondness and thirdness.

In terms of firstness the main qualities of the visual language are going to be delineated. From the colours to the textures and main shapes used. The elements of the visual language that communicate in secondness are the assets of the animation, therefore the more complex objects that the self encounters in space. Finally, the visual language in thirdness will explore the cohesive system of meanings, from the creation of the scroll and its cryptic language to the development of the typography, the logo and the posters. This last section will also highlight how the overarching element of the triad is constantly present throughout the animation.

Since this project proposes to talk about the self, the visual language should follow its creator's system of meanings, therefore the decisions for the qualitative aspects of the visual language are going to be to a certain extent subjective with the purpose of aiding the theme of self. Albeit it is important to take in consideration the notion of subjectivity of the self is an intersubjective process. Thus, the universe of meanings made by the art maker's self, is actually a product of the ideals grown within its own sociocultural experiences and environments.

Now regarding the visual decisions, starting with the colours. They will be divided with the purpose to distinguish the narrative with its three sections. Appropriately each mode of being will be depicted with prominence of the respective CMYK colour code, with the black being the exception that will be used to represent darkness and lightness as something always present. This decision was also reinforced by the fact that the Cyan, Magenta, Yellow spectrum is used in the silk-screen process to reproduce all the colours of the visual spectrum through the usage of half-tone technique. These colours will also be present in the compass, since it guides the entity through the different stages.

The first part of the story is the proto-self's process and its priority in firstness will utilise magentas and reds to depict the danger and alarming feelings the entity has with its encounter with the black hole.

The second part represents the core self in secondness, and it will be depicted through the dominance of blue and purple tones, this to assist the calmness and tranquillity of the journey on the planet and the temple.

The third part which depicts the autobiographical self and thirdness will initially be represented in yellow and orange colours. Though as the narrative advances, the colours in space get more mixed up which represents the self's feelings turning into complex variations given its lived history. This transmits the message that there is a gradual growth of the richness of the inner universe, depicting a metaphorical playground for ideas to develop and grow.

To transmit the idea of continuity and sameness of the self, a certain unique pattern that repeats throughout the animation should be enough to provide a cohesive and

recognizable uniqueness to the whole. For this animation the chosen depiction for continuity, or sameness in time, is the recurrent patterns of halftone clouds that infest every corner of the universe. This is the very matter of the universe in action, the constant change will be represented with the stop-frame animation of silk screen textures.

Then throughout the narrative, the scenes in the inner cosmos are starting to be filled with laws and rules. Stars being created and destroyed, planets and comets drifting in the emptiness. This emphasises the gradual development of more complex feelings of the self into more singular and unique variations. This complements the idea that the inner universe is in constant expansion of possibilities, since the more the entity journeys through it, the more the universe comes alive.

Now in terms of secondness and the assets or the objects of the narrative, the protagonist was the first to develop. According to Damásio's theories, the self is in some manner the focus of conscience. The protagonist of the narrative of conscience is depicted as an entity being a source of strange light in the inner universe. The entity's form resembles an astronaut/cosmonaut, it is the main source of life in this inner universe being symbolised as a beacon of light - depicted with a glow, with the intent to represent an agent of hope. The pragmatic spirit is also analogous to the spirit of the astronaut's curiosity to challenge the mysteries of the universe. The entity needs to be friendly and welcoming, with the intent so that the spectator creates a positive bond with the character.

Figures 12 and 13 show some sketches of the concepts of the main character.

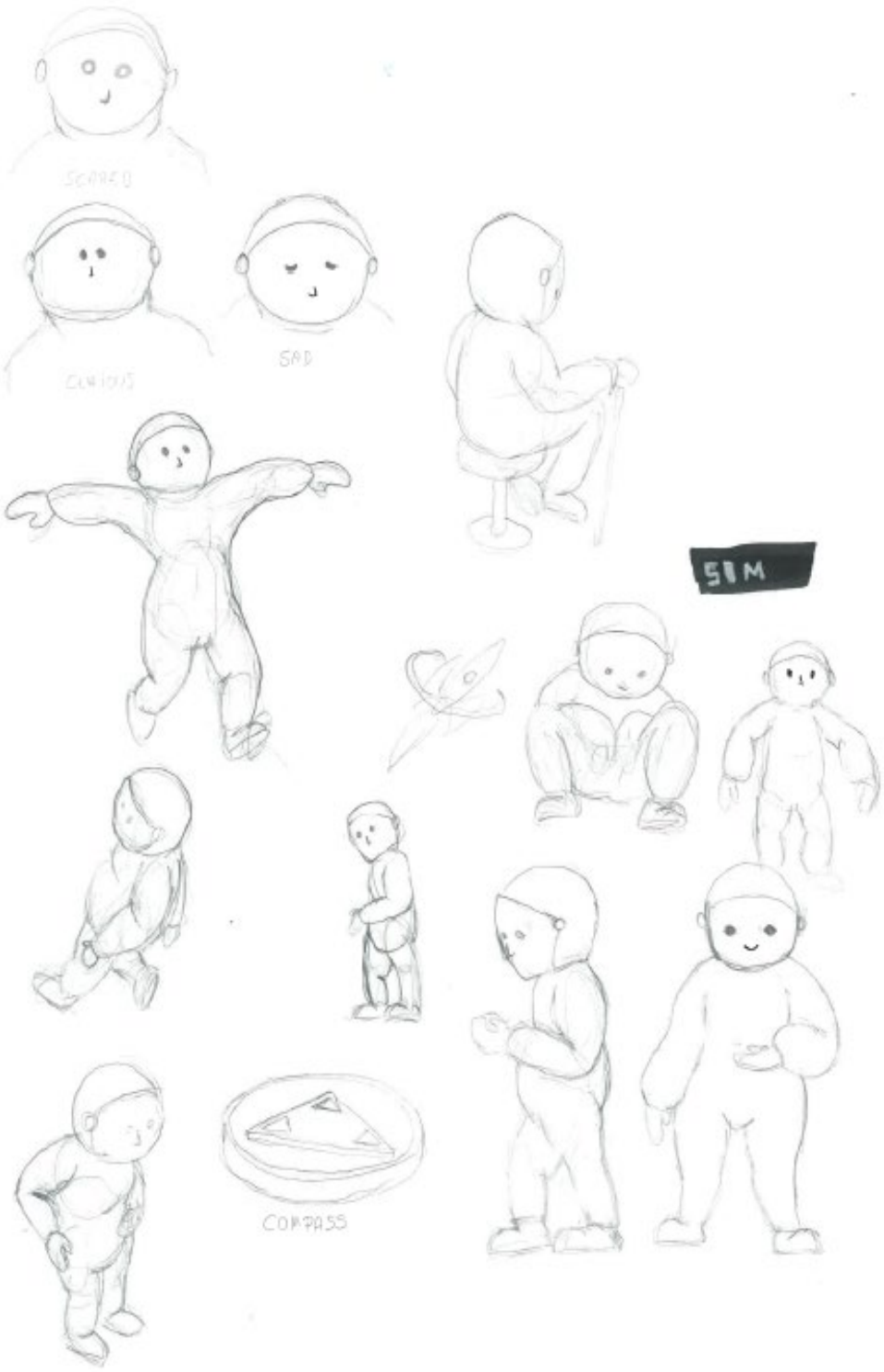

Figure 19: Sketches and concept of Entity 1 (Samuel Rodeia, 2022).

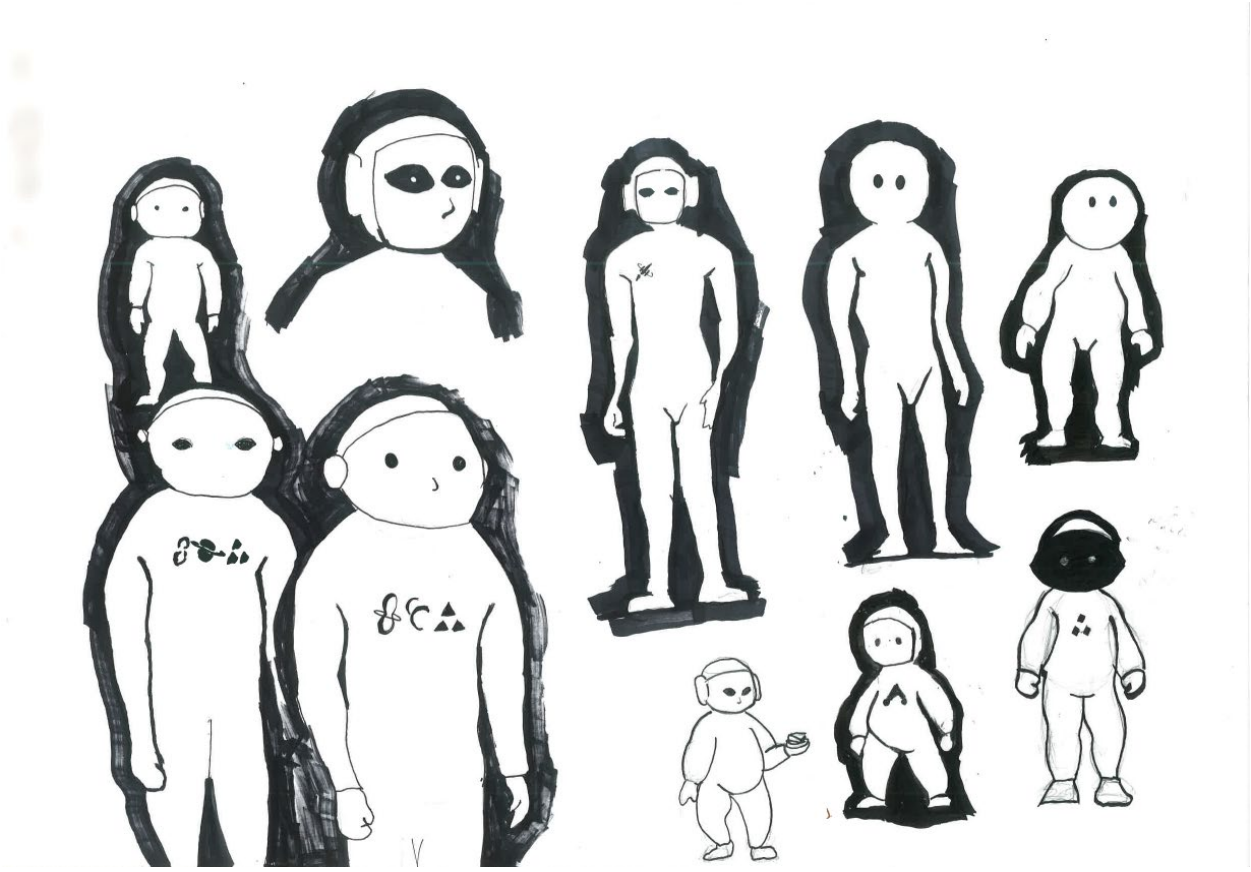

Figure 21: Sketches and concept of Entity 2 (Samuel Rodeia, 2022).

The ship represents the self's organic body, it is made of simple forms, a spherical cockpit, a boxy body and triangular wings. This is another usage of the triadic structure, and the logo stamped on it also seeks to give relevance to the number three.

The ship keeps the entity safe from the void outer space. It is the mode for transportation for the self, the same way the organic body is a ship for a conscience armed with a self.

The ship's metallic surface reflects the textures of space to indicate the presence of firstness and the body reacting to the feelings.

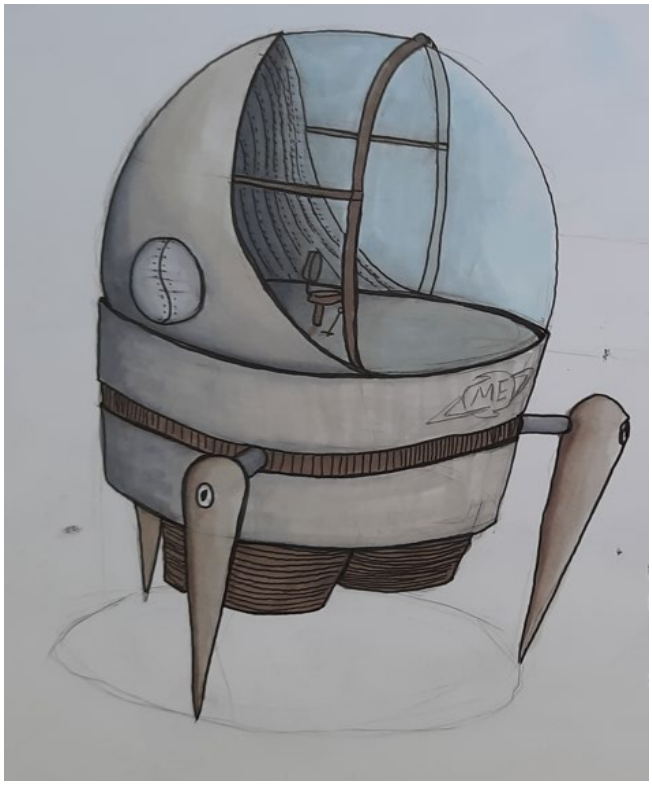

Figure 22: Concept of the Ship (Samuel Rodeia, 2022).

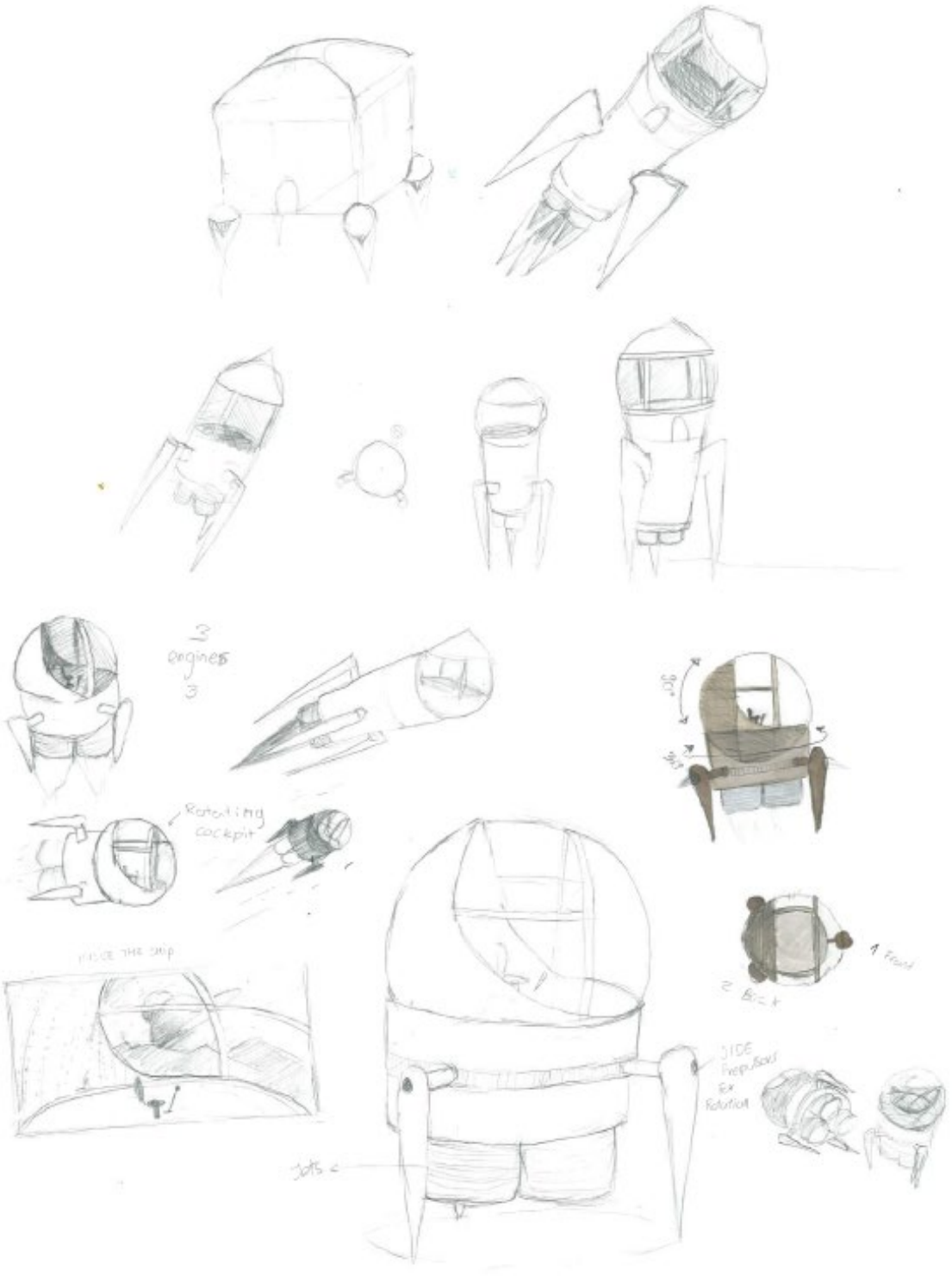

Figure 23:Sketches and concept of the ship (Samuel Rodeia, 2022).

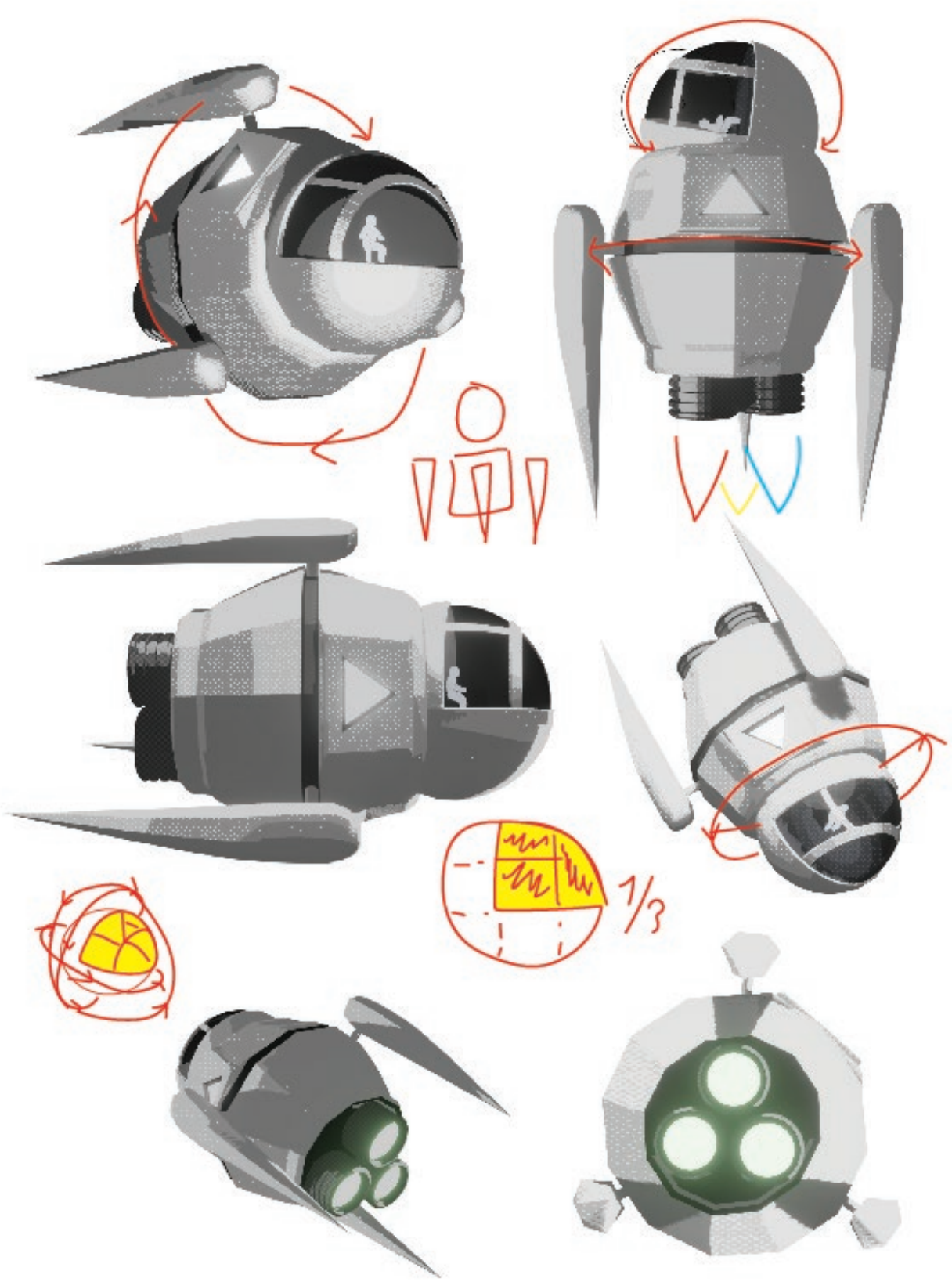

Figure 24: 3D renders of the ship(Samuel Rodeia, 2022).

One of the key aspects that needs to be represented visually is the concept that the self obtains self-control through a dialogue between the critical self that maintains habits and the innovative self that challenges and rethinks those habits. It is this aspect that allows the self to be a meaning in constant evolution and development. This dialogue is represented visually through the relationship between the entity as the innovative self, and the compass being the critical self.

The compass changes as the self advances throughout the different stages of the narrative. Its triangular lights indicate the stage of the self through the usage of the corresponding colours with the phase of mode of being. During the protoself the light is red/magenta, during the core self it is blue and during the autobiographical self it is yellow.

The scroll and pen are also a crucial asset for the story. They are the first moment of thirdness and will introduce a specific type of visual language. Since the subjective system of meanings behind the self are only accessible to the self itself, the symbols being represented in the scroll will contain a cryptic language. This denotes the hiatus between what those meanings mean to the self that owns them and a spectator that is unable to fully experience the same signification.

Some symbols represent figuratively through similarities like the black hole, the entity, the ship, the planet, mountains and the temple. The rest of the symbols are representative through figuration, they are cryptic and signify something only known to the self. These initially were randomly created, but as the scroll developed, some symbols started repeating and gaining meanings. This can be interpreted as the self's journey to become a fully realised self, there is a growing logic to the system to its complex system of meanings.

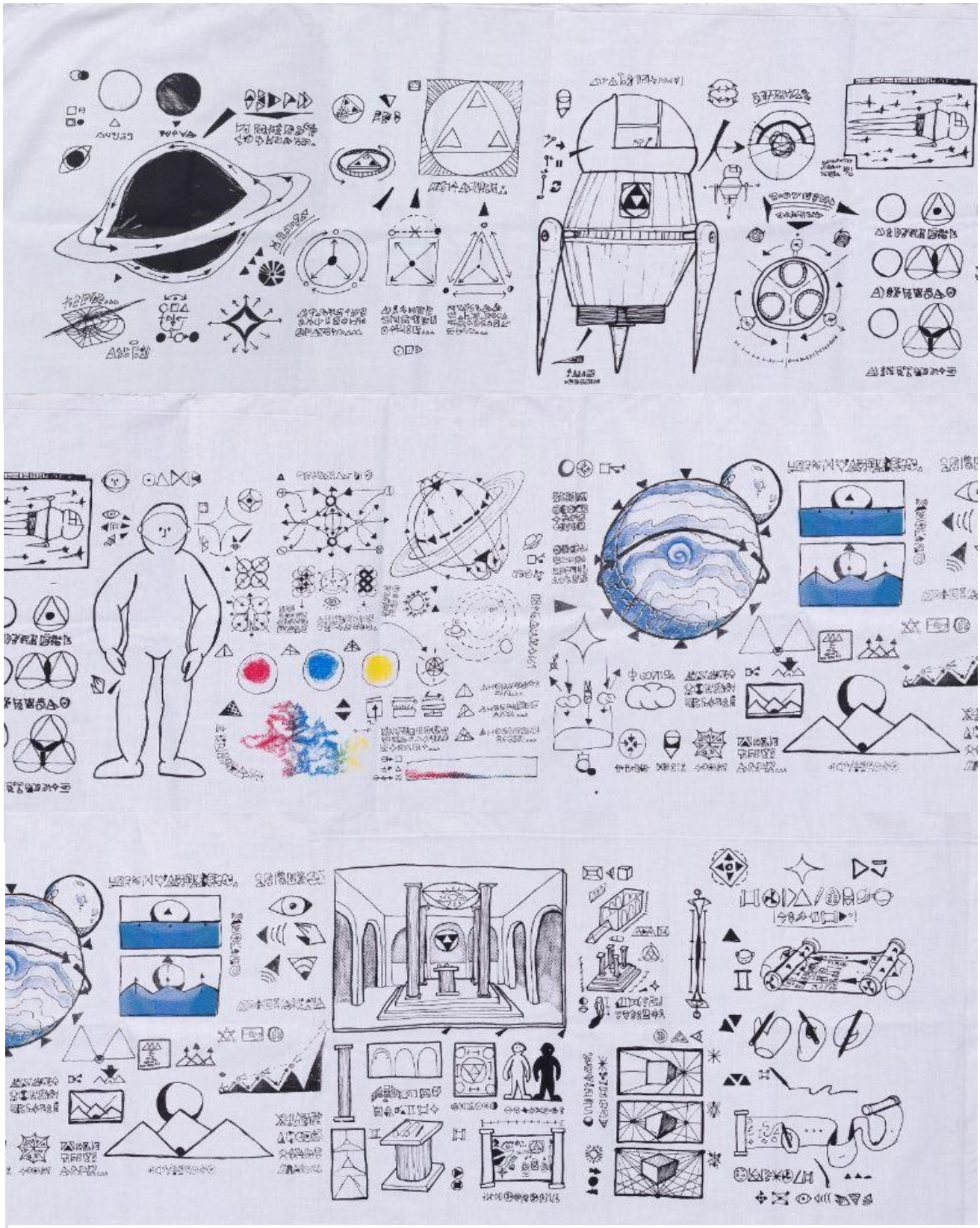

Figure 25: Panoramic of the screen-printed scroll (Samuel Rodeia, 2023).

Finally, the visual language in thirdness will explore the cohesive system of meanings, from the creation of the scroll and its symbols to the development of the typography, the logo and the posters. This last section will also highlight how the overarching element of the triad is constantly present throughout the animation.

Now in terms of the visual language in thirdness, the first thing to be analysed is how the concept was maintained consistently throughout the animation.

The first element that seeks to bring together the whole is the constant appearance of the triangle, a symbol that takes on many forms but seeks to represent the triad also in the structure of the narrative and its importance in the hypothesis proposed in the literature review.

Santaella tools were not strictly limited to the respective phase of the story. This means that there are examples of elements of thirdness present in the first and second part of the narrative, but each section is additive. The first part of the narrative has priority of the environment of space which is depicting firstness. The second part is situated all in the planet as the elements of secondness. The third part is about the synthesis of the firstness and secondness, the final sequence is split into three parts each depicting a sequence of three types of images. Each part contains 1) scene in outer space; 2) scene on a planet 3) scene drawing on the scroll. The parts are the corresponding triadic division.

The first part of the narrative is about life, the entity gains a new purpose after finding the scroll.

1) A green dense planet in space and seeks to give an idea of lushness and richness of life, the beginning of the journey full of curiosity.
2) The scenes on the green planet are filled with plants and warm sun, the compass is shown to demonstrate the freedom of the beginning of an adventure.
3) The scroll drawing uses mostly representation through similarity of the two scenes before.

The second part of the narrative is about struggle and conquest.

1) It shows strange forms in a cloudy purple space, to symbolise complex feelings of curiosity, mystery and ominousity.

2) The scenes of the planet show the entity in a blizzard as it climbs a mountain, the winds are strong, yet the entity persists at arriving to the top. This directly suggests struggle and conquest.
3) The scroll scene depicts more through figuration where the elements of struggle and conquer are depicted through symbols and texts that represent the specific

The third part of the narrative seeks to represent both achievement and upcoming closure:

1) The ship is flying over a three-armed galaxy in space that is constantly changing colours. Showing that the entity's inner universe has developed into a whole galaxy of complex feelings.
2) The scene on the planet is in a golden desert, but the feelings are dark. Utilising the composition of the scene to indexically represent a skull. This is supposed to serve as an omen to the upcoming return to the black hole.
3) The scroll scene is the most complex one, it seeks to show the logic involved around the triangle and the triad, this represents the self arriving at the conclusions of understanding its own journey. It is also the same purpose of the theories of the self.

The last scene of the sequence shows the hand of the entity closing the scroll and the next scene shows the ship in a strange place in space. The form in the background seems like an eye or an iris, giving the idea of the inner universe staring back at an entity. This is the conclusion of the journey, the inner universe (conscience) recognizing its own process and journey, The discovery of the self process.

Once the animation was finished in order to complete its visual language, some elements needed to be developed, this is: a title, a logotype for the title, a poster and the various prints done using silkscreen.

The title for the film is Cartographers Odyssey. The cartographer is supposed to represent the entity as the one who will draw the map to the fully realised self. The odyssey according to the Myrriam-Webster13 Online dictionary means "a long wandering or voyage usually marked

[13] Available in https://www.merriam-webster.com/dictionary/odyssey, accessed on 23 of March 2023

by many changes of fortune."(n.d) or "an intellectual or spiritual wandering or quest."(n.d). These definitions fit well with the objective of the animation.

The typography and logotype also need to be part of the same language as the rest of the visual style yet will seek to set itself apart in a more graphic approach. The typography was created with a similar reference to the cryptic language of the scroll with thin and slick lines like a pen and edgy star shapes that seem like sparks of light. The symbol is a conjunction of the infinity sign and the black hole, which are the dualistic nature of the creation of limitless possibilities within a lifetime ending with death.

The poster will introduce the logotype that refers to the entity or the self. Below it, will lie the protagonist looking directly at the spectator as to create a sense of reflection. It will also contain the element of the eye to reinforce the sense of looking at oneself. Figure 18 shows the poster.

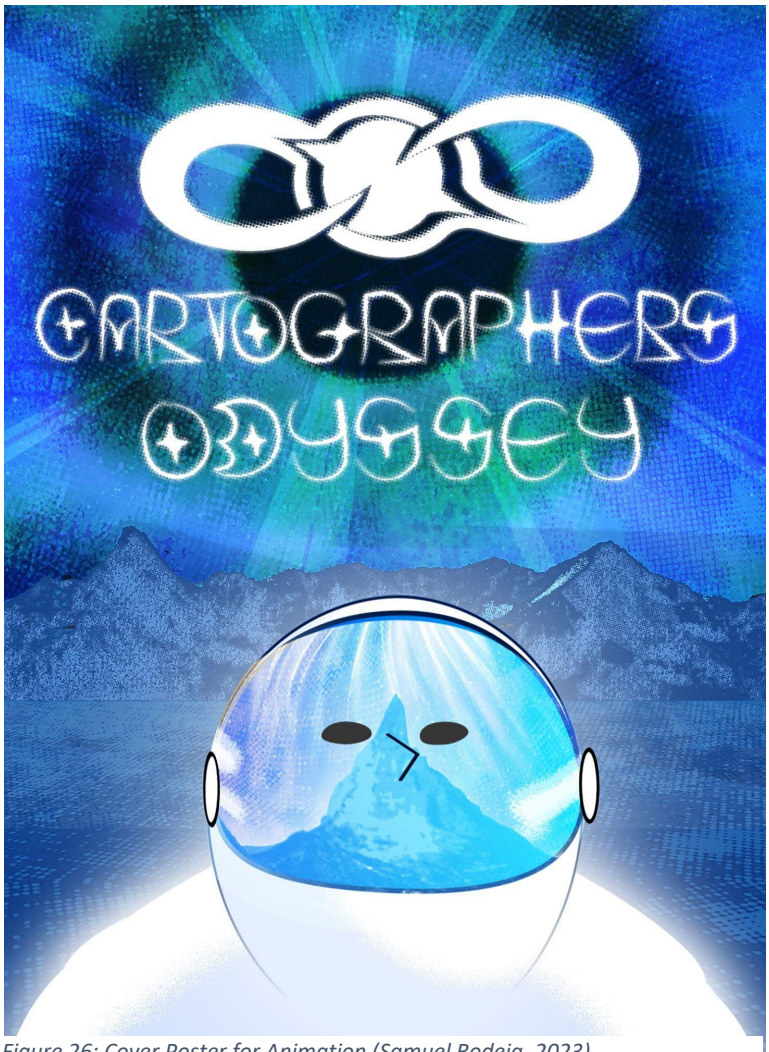

Figure 26: Cover Poster for Animation (Samuel Rodeia, 2023).

4. Storyboard

This section is dedicated to review the storyboard process since it was the first time the narrative would be translated visually. The storyboard was made in a scattered way, this meaning the process of developing it was not made all at the same time, specially the initial story boards are more detailed and complex (figures) Because of a question of spending too much time doing them, as the story progresses the drawings have become more quick sketches and made in a smaller notebook. Their order came together later during the development, but most story frames from the later story are more incomplete than others.

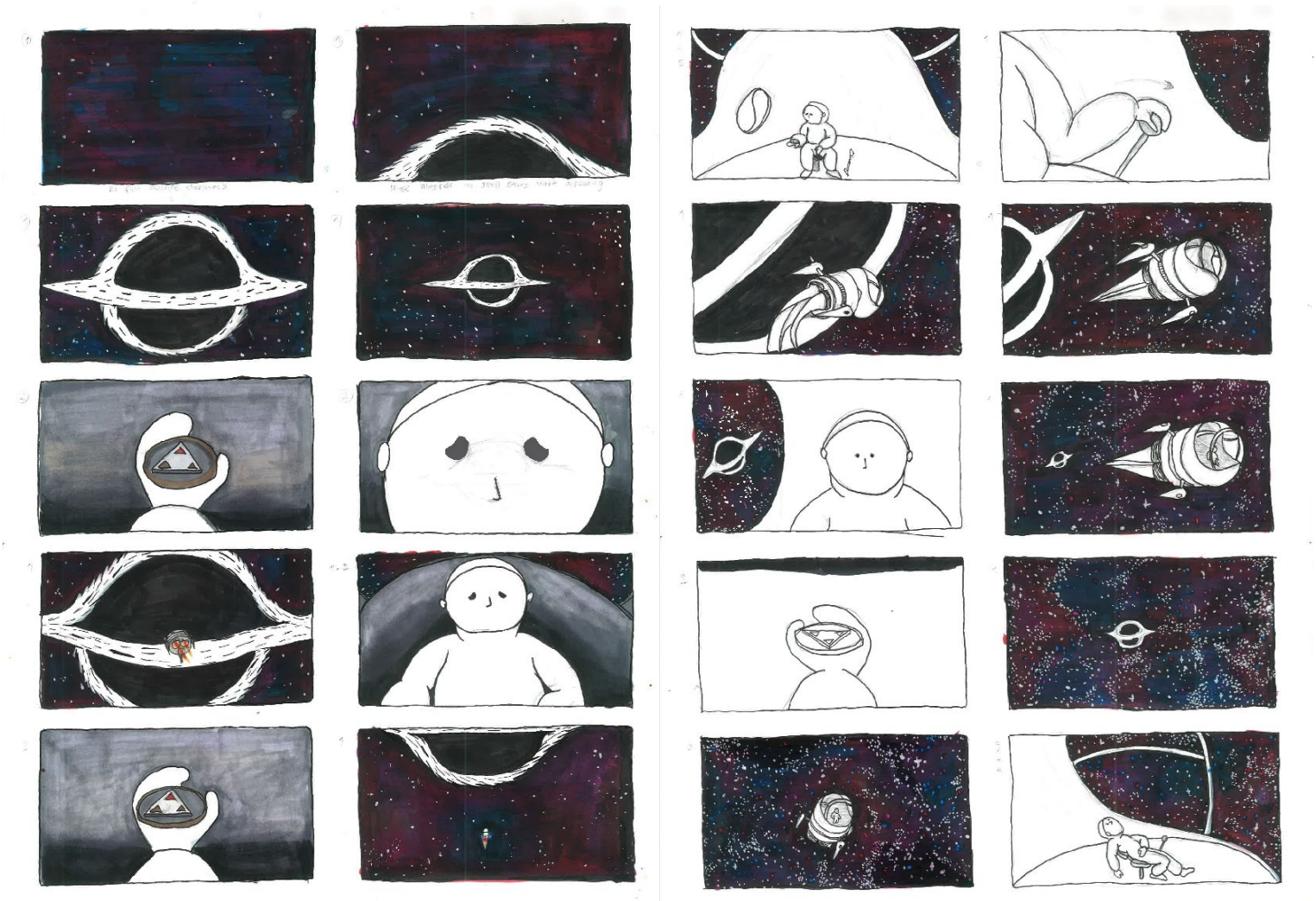

Figure 28: Storyboards 1 and 2 (Samuel Rodeia, 2022).

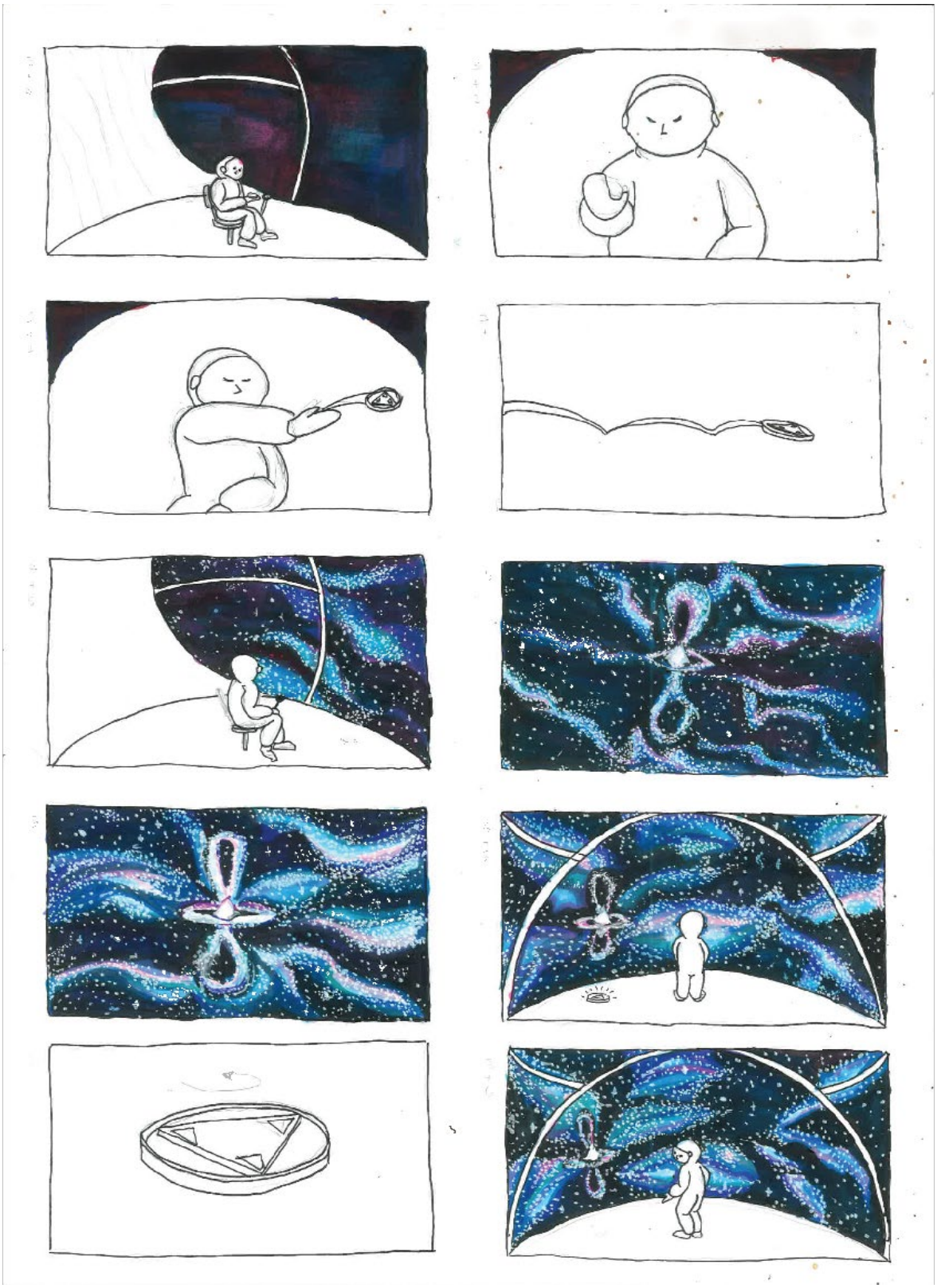

Figure 29: Storyboard 3 (Samuel Rodeia, 2022).

5. Development

Now that the narrative, a cohesive visual style and the storyboard are complete, the development of the animation will be explained. Since this animation was attempted to be done by one single person only, a lot of complications and constraints appeared throughout the process. How these obstacles were overcome will also be included in these next chapters.

The first process of the development was to start with the analogic part, the textures of the film and the attempt to bring silk-screen to life through stop-motion animation. This chapter will go over the steps to produce these textures and the scroll.

After having the material from the textures, the following step was to start producing the assets for the digital part. These chapters will go over the different steps of the digital development: the halftone stop-motion, the asset creation in Adobe Photoshop and Illustrator, the animation process in Adobe After Effects and lastly the compositing in Adobe Premiere. Once the animation development is explained, the last section will go over how the sound was created and post-development occurred. Even if the sound was not the focus of the project, it became a crucial aspect needed for the completion of the animation. This section could not have been done without the help of Frederico Leong, a music enthusiast responsible for the sound-music development.

5.1. Silk-Screen Printing

The first step was to develop the textures, these clouds were created in After effects using the turbulent noise effect and rendered in a 12 frame JPEG sequence.

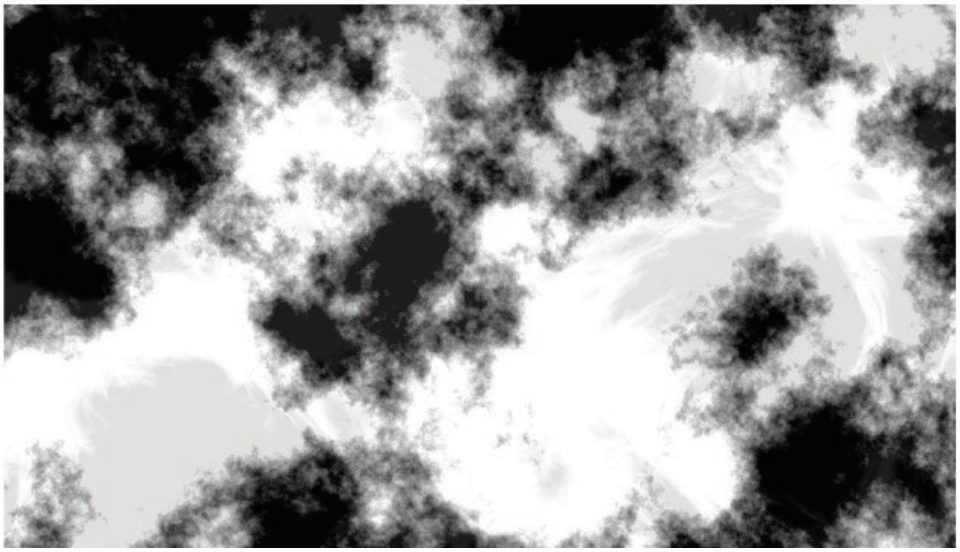

Figure 30:Turbulent noise effect saved as a JPEG image(Samuel Rodeia, 2022).

These 12 frames were then put together in Photoshop and a half-tone filter was applied to the greyscale images of the clouds.

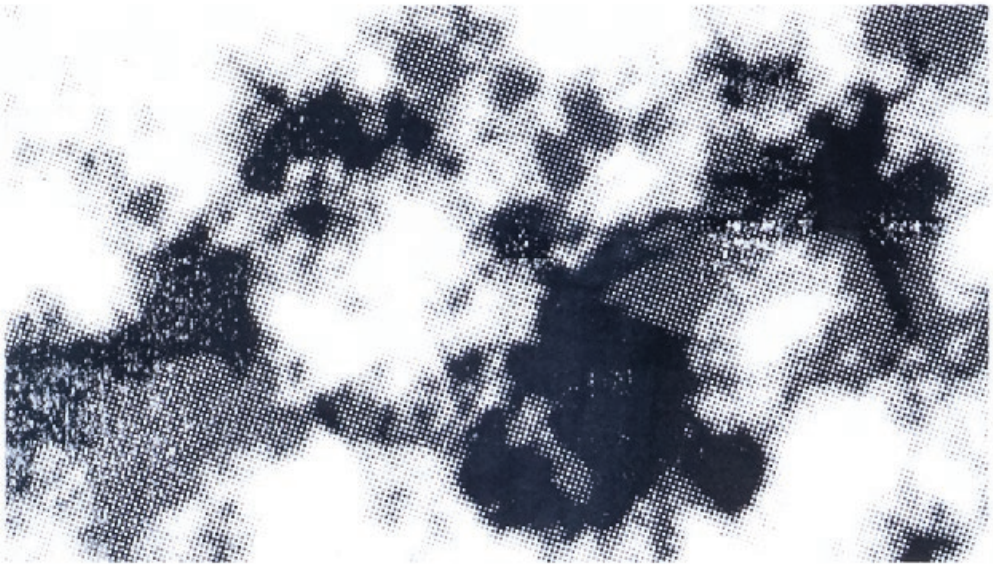

Figure 31: Silk-screen printed square of space-scape 1.1 (Samuel Rodeia, 2022).

Once the halftone images were prepared, the first step in silk-screen printing was to print the matrices on transparent acetate film to form the stencils. The next step was to prepare the screen with emulsion and then expose the screen and the stencil to ultraviolet lights to harden the uncovered areas of the screen and then the stencilled region was removed with water. Once the stencil was ready, the next step was the printing. Each print contained 12 frames of the cloud's sequences. A total of 5 different cloud sequences were used. Each sequence contained between 7 to 8 different prints for a total of 56 prints. In order to make sure that they would all be unique prints (monotypes) the acrylic paint was scattered around the screen too, this gave an unpredictable and spontaneous dimension to the sequences of the textures. Here are examples of two of the sequences:

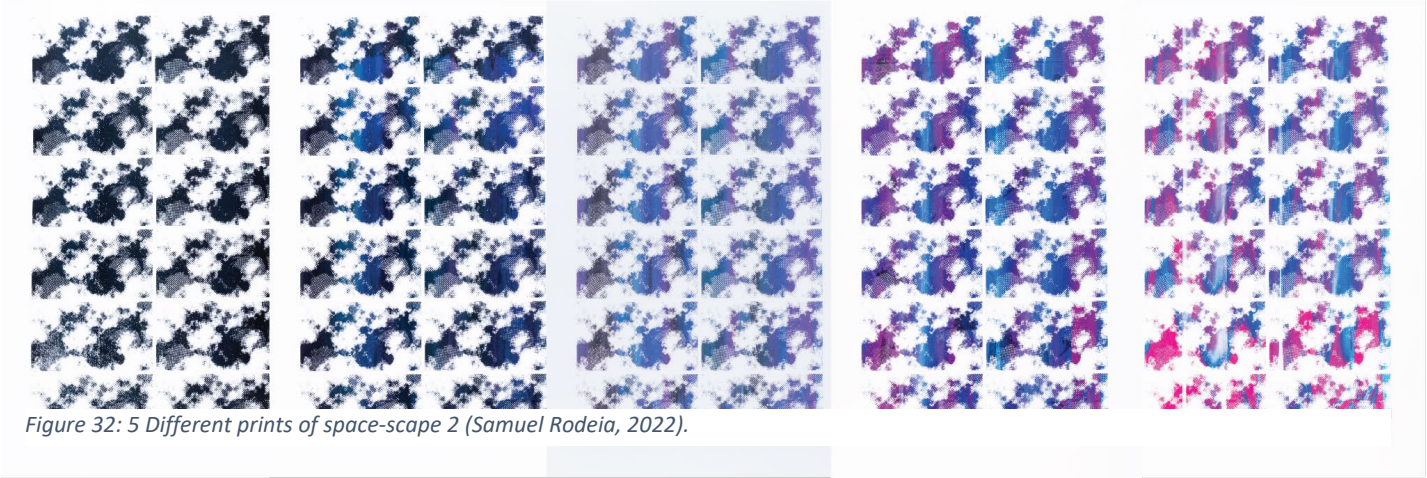

Figure 32: 5 Different prints of space-scape 2 (Samuel Rodeia, 2022).

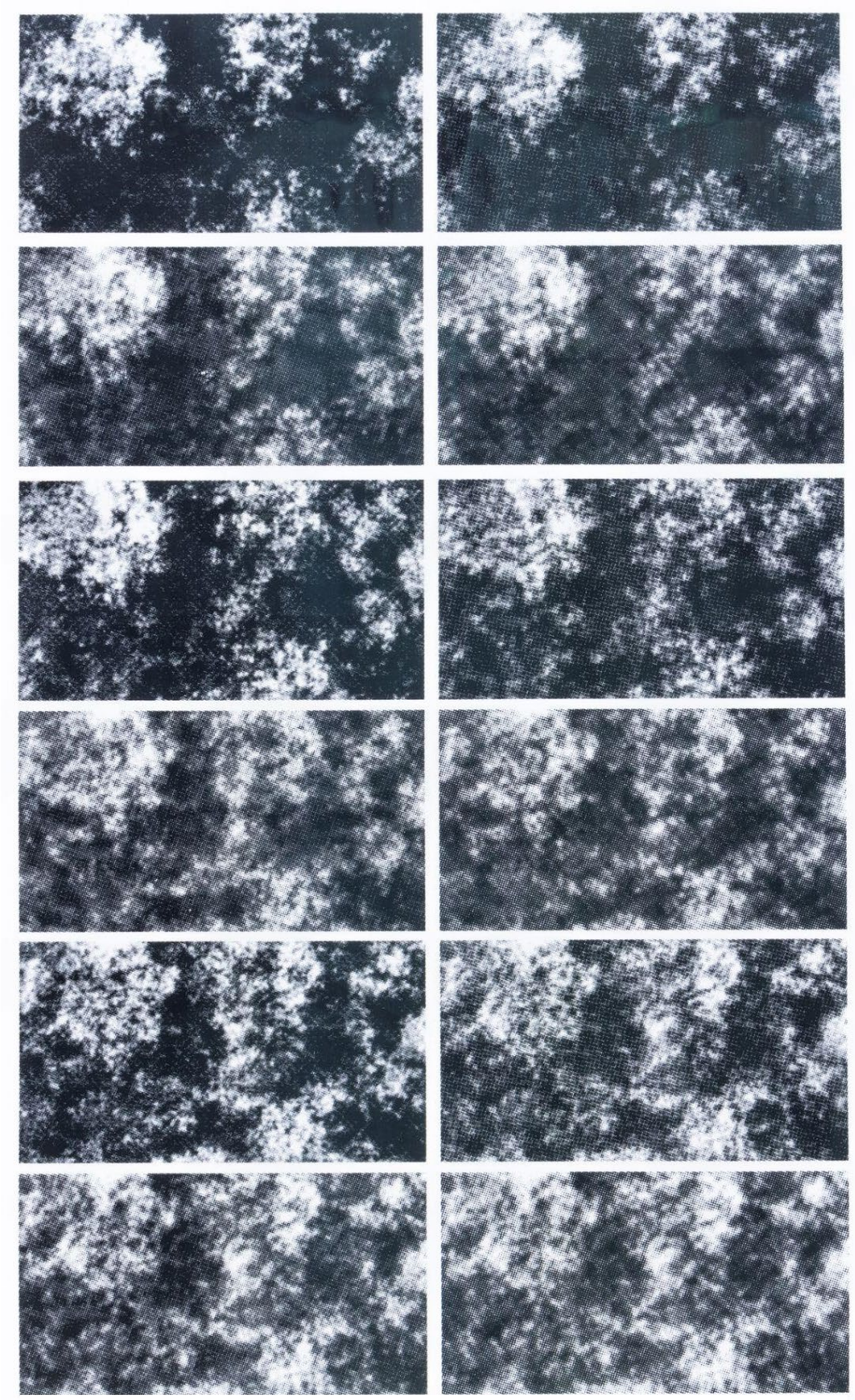

Figure 33: Figure 24: Silk-screen print spacescape 4.1 (Samuel Rodeia, 2022).

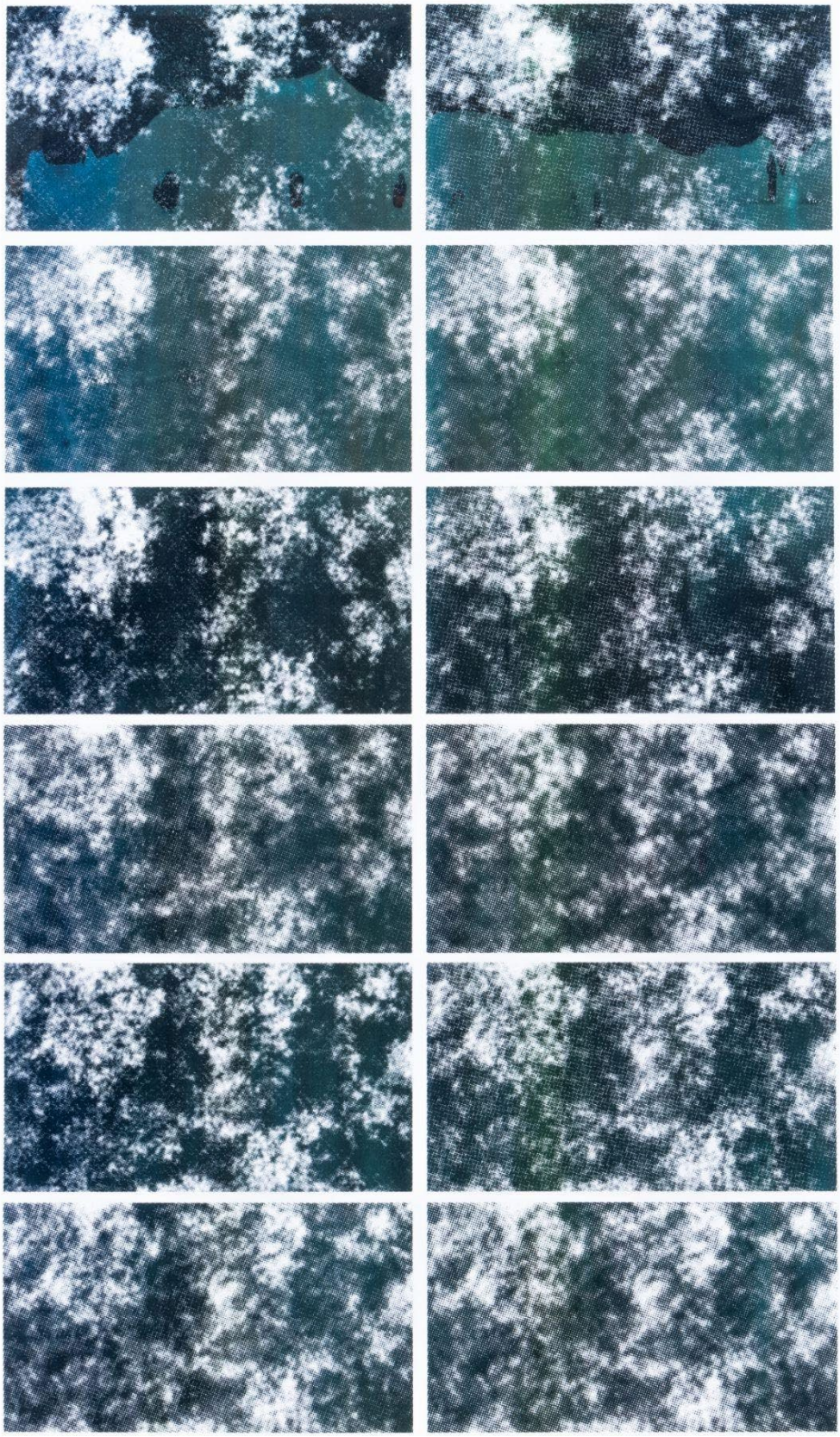

Figure 34: Silk-screen print space-scape 3.4 (Samuel Rodeia, 2022).

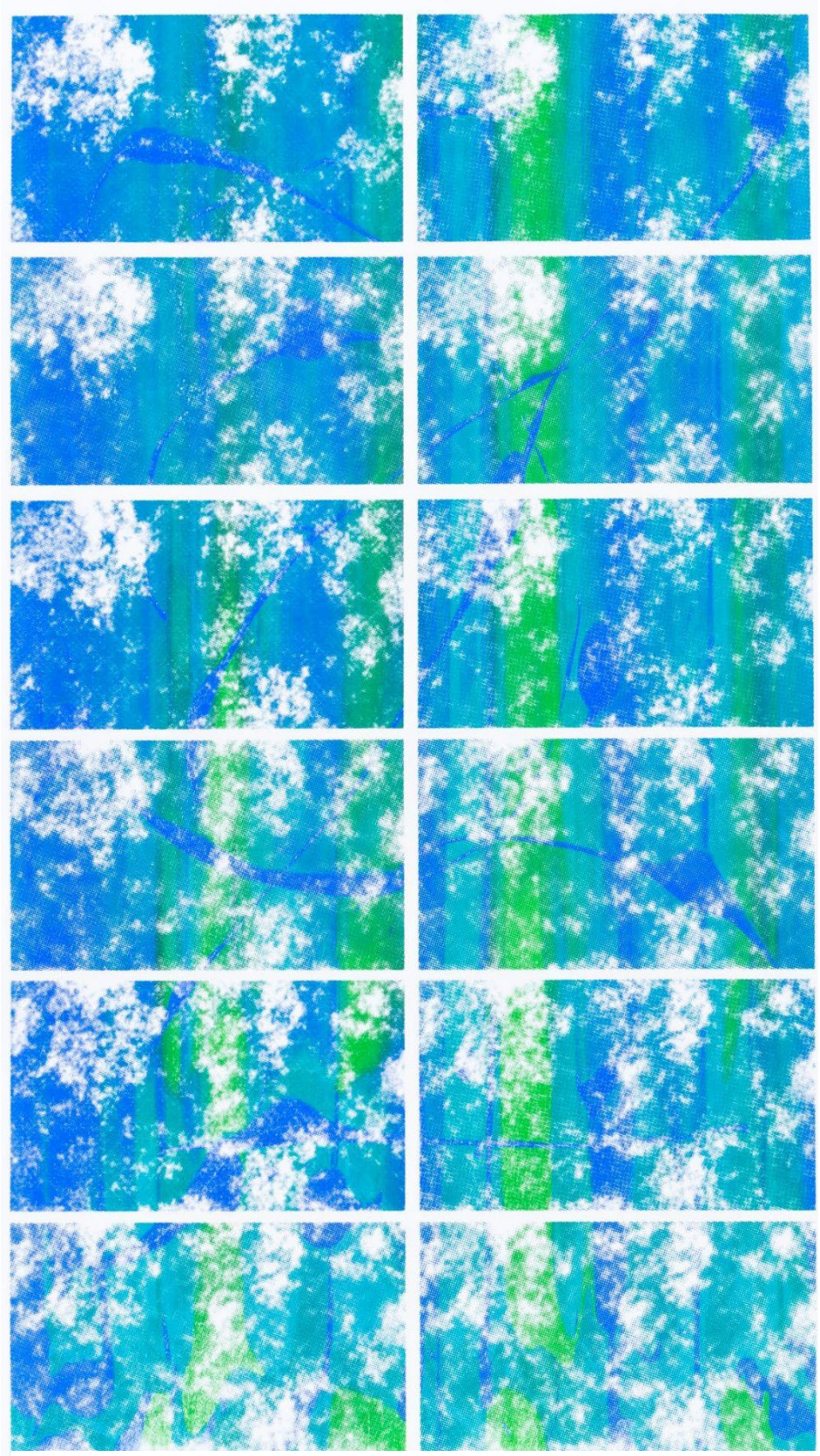

Figure 35: Silk-screen print space-scape 3.6 (Samuel Rodeia, 2022).

Other assets that were printed using silk-screen printing were the mountains, a moon and the scroll. The mountains and planet were all put in one print.

Figure 36: Silk-screen print of mountains 1 (Samuel Rodeia, 2022).

The scroll was printed on cloth sheets to produce a physical version of the scroll as a mock up to bring the animation to the reach of the spectators' sense of touch. The process of the printing of the scroll included first the development of the 6 drawings. They were then digitised and prepared to be printed using the silk-screen technique. Each cloth was printed utilizing 6 different screens that run along the length of the cloths.

Printing on cloth posed its problems as the material is less stable and more unpredictable than paper, given its texture and its weight. The results were not all successful, with their defects being more evident, but at least one came out well. Another situation that was posed by this scroll was how to prepare it digitally given the size of the object. The scroll was 2 metres wide and in order to get a high-quality digital version a special Photoshop tool was used, the photomerge. By taking various close-up images of the scroll and putting them together using photomerge worked on the first try.

This technique was the development of the proposed experimental animation reviewed in the last chapter. This provided a materiality from the external dimension to that of the immaterial universe of the story. The process allowed for a rigid and strict technique to make equal prints, but because of the unpredictability of factors affecting the producer, error became also part of the appeal of those prints. Just like stated in the literature review, error is one the crucial dimensions of the self, without the acceptance of making mistakes, the self would not be able to grow. These mistakes are indexical of the process and of the human that made it. Each monotype is unique and full of those said ‘mistakes’. The fact that it functions as the matter of the inner universe of the visual language of the animation indicates the presence of these ‘mistakes’ as an essential part of the essence of the process of the self.

The next task was to take good photographs of the prints and then prepare the frames for the development of stop-motion. Once the 12 frame sequences were prepared, they would were put together in After Effects. The next section will go over the digital development of the animation.

5.2. Animation process

The first step was to prepare the above mentioned matter of the universe, the silk-screen printed textures. They are the patterns that are presented throughout the animation to maintain a sense of unity of visual language. In total there was a selection of 17 different textures to be used on the digital assets.

The development of the digital assets was mostly done using simple vector shapes made in Illustrator and juxtaposed with the textures in After Effects. Some examples of these assets are: the black hole, the planets, the ground and lights on the planet, the reflections on the visor, the metallic surface of the ship, the temple's walls, the blizzard and in many more places.

The scenes were composed using three criteria of planes: the background, the midground and the foreground. The division of these criteria was also here to allude to the triadic structures presented throughout the development. The planes were put together with After Effect's function to use 2D images in 3D environments to simulate depth with cameras, this is what is commonly referred to as the parallax effect, that fakes perception with solely the utilization of 2D planes in perspective. Additionally, each plane has a function according to its mode of being:

1. the backgrounds are the space-scapes depict the proto-self's images of emotions, constantly present in the existence of this universe.
2. The midgrounds are the assets or the objects of secondness, not exactly the objects themselves, but approximations of the outer reality represented in the inner universe. They are the images the core self provides through the senses.
3. The foregrounds are only of the entity. They evoke thirdness to the process of the autobiographical self. It put the self at point of perspective to experience the images of firstness and secondness simultaneously.

The 12 principles of animation according to The Illusion of Life: Disney Animation (1981) by Ollie Johnston and Frank Thomas provided useful tools for the development of the animation. One of the principles is an important decision before starting an animation. It is the principle of the two approaches to animating, they are straight-head or pose-to-pose animation. Straighthead animation animates each from the beginning to the end, forming a more fluid animation style; the pose-to-pose animation seeks to create a more rigid poses and proportions of the main keyframes and then filling the in-between frames later. This decision was different with animating digitally since both approaches were utilised.

During the initial phase of the development the visual language had not been finalized. Initially, most of the animation was made using straight-head animation, but as the visual language solidified, the animation started being more planned and started interchangeably using the pose-to-pose animation. The transition of a more instinctive and experimental approach to a more logical and planned approach shows a sort of development in both integral parts of a process. This approach is parallel to the journey aspect of the narrative. A procedurally growing universe of meanings, as the self journeys from a simpler and emotional universe to a more complex and rational one.

The next part was to prepare a list of the assets and how to animate each of them:

- The black hole was made using just a 2D circle spinning and a myriad of effects composed in a 3D perspective.

- The entity and its pieces (head, eyes, nose, visor, ears, limbs, torso) were shapes made in Illustrator and then rigged (create a bone structure for the body and then animating as if it was a puppet).

- The inside of the ship is made using shapes and colour gradients to simulate depth of its spherical shape.

- The planets from outer space were created using an After Effects plug-in called VideoCopilot Orb[14] that allows the simulation of planets with some sliders. The texture maps used on the planet were the half-tone texture. One for the planet and another for the clouds. The green planet in the third part of the animation was created the same way.

- The planet environments and the temple's assets were shapes and forms developed and composed in After Effects to create 3D environments. The planets were a mixture between shapes and the halftone textures and the mountains developed with the halftone filters.

- The ship is an exception to the 2D dimension, since it was going to be the most complicated geometry and it needed to do complex movements. Thus, for the sake of simplification, the ship was built in 3D using Blender and then rendered in PNG sequences with transparent backgrounds. In order for the 3D to have a similar language to the rest

[14] Video Copilot. (2020). VC Orb (v1.0.0) [Software]. Video Copilot

of the flatter assets the solution was to apply comic book shader. Shaders in 3D computer graphics are programs to simulate materials with realistic lighting. The comic book shader turns the 3D object and simplifies its colours to a limited number, giving the illusion of a 2D image. Shaders are very customizable, therefore another property that was given to the material of the ship is an illusion of the half-tone filter applied to it. This helped bring a 3D ship into the universe of the visual language.

- The compass was also developed with 2D planes to simulate a 3D object in After Effects.

- The digitised version of the scroll was composed after with 2 cylinders made with 2D planes simulating 3D. The pen is also made the same just with one cylinder and a sharp triangle.

These are all the assets, other assets are just regular shapes with incorporation of the textures (the tree's, the wind, the grass, the desert, the eclipse, etc…).

For the development of the animation, in terms of preparing the beat of story, there were some approaches to the development that revealed to be more problematic during the process. In terms of the editing, creating the proper montage of scenes with the right timings. Normally it is advisable to start by creating an animatic, this is by putting together the principal frames of the animation (like the storyboard) along with the music, and then working on top of that.

The rhythm of the story is an essential part of the storytelling, therefore, as soon as it is finalised, the process of creating the animation becomes much more fluid and faster. This project did not initially follow these principles, but instead, was made with a more straighthead approach. The development of the animation and of the visual language were two simultaneous processes. This raised more issues in practical terms, nonetheless, the way this project was approached should not be seen as necessarily wrong. It was just more time-consuming given that if there was any visual decision changing, in order to maintain cohesiveness, all that had already done needed to be constantly re-edited. During the development this made the initial process slower than what would be desired, but once the visual language had been fully crystallised, the animating process became more efficient and smoother.

In the beginning of the process, the usage of oversized images also caused technical problems with the After Effects program which also slowed the process. Only when the images were reduced in size, did the program start working smoothly.

Every scene was composed and rendered individually in After Effects. These scenes were then edited together in Premier to develop the timings. During the development of this animation, the editing process and the development of the scenes happened without all the scenes being completed. This complicated the process and made the development slower, as there was a lot of going back and forth while taking visual decisions.

As more material was being made, the editing was also suggesting what was needed for the scene and allowed a lot of room for adaptability and creative problem solving. One of these situations happened during the initial stages of the animation, when the computer had technical issues. During this period, there was no access to a computer as it needed to be fixed. This technical constraint obliged the development to tackle a new dimension of the visual language: the only process that could be developed was using analogic tools like the silk-screen printing techniques, pen and paper. It was during this time that the idea for the scroll developed.

5.3. Sound/Post-development

Normally for the development of an animation it is easier to animate on top of the sound and music. This project's auditory language was developed once the animation was almost finished. At first the idea was to improvise with simple sounds to complement the visual language. During the time of development, a friend (Frederico Leong) who sympathised with the project, offered to help on the development of music and sound effects.

One of the key aspects that was missing during the progress of the animation was the translation of the idea of intersubjectivity. In the purpose of the hypothesis, one of the most crucial objectives was to translate the concept that the self is not private, but social and communicative. Until now, the only presence of exterior influences in the project were the lights in the scene on the surface of the planet. The lights' metaphor is that they are an exterior help guiding the entity, but it was missing a depiction of its influence on the self as a whole. In a way, the help from this friend provided those significations through a literal help from the exterior. The inner universe is not only a space for the self to grow, but also a space where ideas can grow. These ideas can come from other inner universes and other journeys. This is, once the project

and the purpose of the thesis were explained, the auditory interpretation provided a different translation process of the same subjects.

During the development of the sound and music, both music producer and the animator were present to make decisions together, to make sure the translation process followed parallel objectives. Though little intervention was needed since the sound producer's first interpretations transmitted the same ideas as the animator envisioned.

The first part of the process was the creation of a musical dimension. The music developed accompanies the emotions of the self therefore it is translated using firstness.

The second thing to add was sound effects, which provided a translation at the level of secondness. The sound effects refer indirectly to an object and not an emotion. Sounds generated in the inner universe through the sense of audition of the external world. Some examples of the sound effects are the white noises that fill in the silences, the wind, fire, the footsteps.

The translation in thirdness of the sound was the final step of the sound development, where the aspect of dialogue was introduced.

At first the idea was to develop the musical language, then fill it with sound effects, and their combination would form thirdness, but once the result of the two was ready, this level of translation was not being appropriately transmitted. The fact that there would be no voices nor narration, yet as the music was being complete, the animation was missing something else. That something else was the voices to give the sense of a dialogue.

To make sure the mystery and inaccessibility of the inner universe were maintained, the dialogue had to be incomprehensible, yet it had to have an indication of being somehow human. The solution proposed by the sound producer was to inverse the voice and apply distortions and autotune to make the speech completely unintelligible gibberish.

This conversation between the entity (innovative self) and the compass (critical self) provides a voice of logic to the self process. This provides the inner universe with the concept of intersubjectivity, as the result requires the literal help from another self. This proved that the ideas were there from the start and were able to develop within the self processes to become ideas of higher 'affective reasonableness'.

Now, the sound also contained a form of simplified version of a triadic structure, but it is important to clarify that this process did not involve much theoretical material. This is because the objective of this thesis was to see if the theories of the self could be translated into a visual language and not an auditory one. In Santella's book "Matrizes da Linguagem e Pensamento: Sonora, Visual, Verbal: aplicações na hipermídia" (2013) she goes more in depth to the complex triadic structures' systematisation of other types of language and their hybridizations. The sound development for this project did not necessarily use the tools provided in this dimension, but nonetheless it attempted to follow Peirce's triadic logic. In the sense that the sound creation was also divided into three parts that seek to transmit their respective modes of being, therefore it departed its process from the same principles as Santella did with the classifications of modalities of visual language.

The film was animated using the straighthead method, therefore, once the semi-final version was complete, the post-development was mostly polishing details and reviewing the project's visual cohesiveness inside its universe of meanings. Since the visual language fermented/crystallised itself during the development there were not a lot of changes needed to be done.

Chapter 4: Conclusions

This next chapter will review the difficulties and obstacles throughout this thesis project and the most important aspects will be more deeply examined. To maintain cohesiveness, the next chapter will also attempt to be structured in three parts, each part will review the conclusions respecting the triadic structure:

1. The first step will be to review the essence of the project through the identification of the material utilised, reflecting on its validity and value for the development of the project.
2. The second step will critique the actual object of the project, reviewing the main technical obstacles and struggles of the process and how they were overcome. Additionally, it will also compare the final product to the initial goals of the project.
3. The third step will be a review of the importance and potential the theoretical hypothesis provides for future investigations. Acknowledging the intersection between two resonant theories that can give us better insight on the functioning of our own selves as acting agents of society and culture.

The most important question in terms of the qualitative substance of this thesis is whether the project is provided with enough theoretical material to respond to its objectives. The initial goal of the project was to expose the connections between two distinct perspectives of the self as reviewed in Chapter 1.

By the end of the first chapter, clear descriptions of Damásio's hypothesis and Peirce's account of the self, following that by revealing the undeniable parallelism of their triadic structures and the comparable pragmaticist spirit of the authors. The first chapter ends by showing how their perspectives of the self are complementary. Damásio's neurobiological perspective provides a hypothetical definition of the self at the level of the biological organism's process. Peirce's semiotic perspective provides a definition of the self as a semiotic process, or an agent with power to exercise limited self-control over its conduct.

As reviewed at end of the literature review, these theories have a plethora of connections and similarities, but one of the most innovative contributions in their theories is how both consider the self's purpose to be beyond the benefiting of the singular organism. Instead, it

extends its role as a means for ideals to grow and reach a more agapeistic world. The self's role is not private, but rather an intersubjective process. In both theories, the authors explain that this subjective experience comes in the format of a dialogue between the inner and outer realities, as Damásio (2016) nominates regular homeostasis and socio-cultural homeostasis, and as Colapietro (1989) refers to the dialogue between the critical self and innovative self.

One of the main hypotheses proposed in this project, is that the so-called socio-cultural homeostasis that Damásio introduces seems to align to the role of Peirce's account of the self-as-semiosis. The former perspective of the self serves as a playground for ideals to experiment in and grow for the benefit of the singular organism (inner universe); the second considers the self from growth of ideals within socio-cultural regulation, a real world where ideals and meaning are shared and developed within communities of selves (outer universe). At the juxtaposition of these two selves, a third is created, and this is where lies the true essence of the self. A balance between the self subject to regularity and habits - singularity and continuity and a self as the centre for purpose and power to exert innovative ideals and growth. What is important to highlight before continuing is the interesting property of how attractive ideals grow within the socio-cultural space and these higher ideals exist moving around our exterior reality, taking control of individual organisms in order to grow.

One of the richest conclusions of literature review is regarding the true essence of the self, this is, how Peirce considers it to be the perfect sign in which he describes it as "…perpetually being acted upon by its object, from which it is perpetually receiving the accretions of new signs... In addition, the perfect sign never ceases to undergo change [of a spontaneous sort]" (Peirce apud Colapietro,1989 p.58). This is resonant to what Damásio considers one of the main misconceptions of the self is "...a process, not a thing and the process is always present when we are presumed to be conscious." (2014, p.17). By regarding the self not as something concrete and fixed, but rather ceaseless process - a journey where not even its destination (death) can erase what it has once set in motion. Every individual self contributes as a possibility for attractive reasonableness to develop. Both affecting and being affected upon by the sociocultural network of selves. One of the most curious qualities of this perfect sign is that it is

never complete and never will be, yet even when faced with such impossible odds, it seems to stubbornly commit itself to climb towards the highest peaks.15

Therefore, this adds plenty of new perspectives that provides substantial material to prove the resonance and complementarity of two theories that talk and visualise from two perspectives the same subject. The structure of these theories requires, to a certain extent, the capacity to formulate imaginary stories and it is crucial to highpoint that they are hypothetical. This meaning that despite the validity of these theories, to a certain extent the mystery of the mind remains, yet this does not mean one needs to face defeat, and by formulating sound and substantial provisional theories, allows one to have a better understanding and acknowledgment of its purpose and functions as a self processes.

Now that we concluded that there is a possibility for an introduction of a new perspective, it needs to be clarified which are the advantages of understanding the processes of the self. Firstly, understanding the how's and why's of how our conscience works helps us have a better understanding over our functioning, conduct, and agency within our own realities. This means that as proposed in the methodology, the subject of visual culture, or the study of the influences and impacts of the very visual-oriented lives we live in, is comparable to an organ of socio-cultural regulation that controls, criticises and innovates habits of seeing and visualising. The creation and reviewing of visualities are extensions for the autobiographical self to expand its own memory within the shared space of communities. These visualities are unique developments of perspective of certain visual patterns and traditions within in a culture. Each visuality is a centre for purpose, but also of power, being able to exert its attractive ideals to other selves so that it constantly progresses. The more visual power16 the visuality has, the more its ideals infatuate its interpreter, they tend to create visual habits and the self's role is to challenge such habits and grow with them, and the one that deals with the realm of the visual has a highly effective tool at its disposal.

[15] This concept of reaching higher peaks is an analogy learned from my grandfather, paraphrasing him refers to the idea that we seek to climb to highest peak, when we reach the highest peak we see an even higher one, where we seemingly senseless climb knowing that we might not reach the highest peak, yet we climb. This is also analogous to the spirit of the myth of sisyphus, where he is condemned to eternally push a boulder up a mountain, to only reach the top and stumble to the bottom, yet he gets up and goes again.

[16] Power in the sense of exerting attractive ideals.

Semiotics signs, and its triadic logic provided a clear and rational way of thinking with logical steps that provide a cohesive skeleton for the construction of the theoretical and practical aspects of the project. It helped organize the development of the animation, the construction of the narrative and even helped organize the text's structure. Additionally, Santaella's (2013) work provided tools to use semiotics to translate different types of languages. In the case of this project, the most essential and practical use of these tools was its capacity to go from the general to the specific, and from the specific to the general, which provided a system of modalities that allowed the deconstruction of the main aspects of the narrative presented in chapter 1.4 and its reconstruction into a visual narrative proposed in the methodology (Chapter 2, section 5).

These tools were extremely useful for the conceptualization of the visual metaphor of the self as an astronaut. Its function to apply different visual modalities to deconstruct meaning was extremely useful for the creation of the visual analogies. Thus, the main goals proposed in the methodology were successfully applied in the final product.

Since this project was approached with an experimental and spontaneous method, the process came with its advantages but also with some difficulties. As mentioned in Chapter 3 section 2, the animation method approached in this project started out as a straighthead animation. This meant that when the animation development started, neither the style, nor the complete plot were finished. This created some difficulties because at the beginning the process was very chaotic and unsure of its direction, new decisions constantly obliged the reworking of previous scenes, making the beginning of the development a less intuitive and more frustrating and unsure process. Nonetheless, it was aligned with the one key properties of the self that created it. Regardless of the rhythm at which the project was developed and the final product became gradually and exponentially more clear and complete. This adapting and growing process was crucial to properly understand some essential concepts about the essence of the self, the fact that it is only able to truly recognizes itself when it understands that it is fallible and more complex than it previously imagined. This is a crucial steppingstone for the recognition of the self of itself, and only through trial and error, were some concepts about the functioning of the self truly understandable,

The biggest obstacle was not having considered how difficult it is to develop a short animation film within the scopes proposed and the time expected to complete. There were some factors that should have been considered from the beginning, like the fact that normally these types of projects require a proper and extensive preparation. The scale of the project was very ambitious given the scope of the proposed project and it problems mostly regarded technical difficulties. Since this was the first experience with dealing with animation, certain technical mistakes slowed down the initial development, such as not paying attention to file sizes when building the project in *After Effects*, causing the program to overheat the computer. This gradually caused the computer to malfunction and eventually turn off for good and therefore it had to be fixed, but the only solution was to replace the old computer since it stopped working. With new equipment the development picked up again and it was possible to work more efficiently and rapidly.

The period the technicians were trying to recover the computer, there was no access to any digital equipment to animate, therefore there was a need for adaptation. During this time, the preparations for the rest of the story was complete, additionally a more refined visual language and concept had been formed to have a better direction to follow and a more concrete visual style. To a certain extent this obstacle allowed for adaptability and unexpected growth, aspects that were crucial for the self that created the project to really experience what it is attempting to explain in this work. Despite the odds and difficulties that were faced, the project was completed with most of the goals proposed in the methodology being properly exposed in the animated project.

The final product properly translates the two accounts of the self into a visual narrative. The main concepts of each stage of the self are properly structured in the narrative respecting their triadic structures. Different visual modalities were used to represent the most important functions of each stage of the self with its prominence in its respective mode of being. The main purposes of the self are introduced in the narrative, including the dialogical role (entity and compass), the struggle between habits and habit changing, the spectacle (or epic journey) of the fully realised self.

The main concepts that presented more difficulties in translating were the aspect of intersubjectivity. During the process there was no clear way of adding the idea of an

exterior subjectivity influencing the inner reality of the entity without the solution being adding more characters. For a project that aimed to show that the self is not a private process, but rather an intersubjective one, there was a lack of visual representation of the self's communicability. The only moment depicted is on the planet with the appearance of the auroras as explained in Chapter 3 section 2. This problem was only later solved in the project with the help from the sound and music producer that introduced a third translation process, giving the project its deserved intersubjectivity. Each language stands for an interpretation of a subjective experience, the project culminates the translation process of a theoretical language into a visual language; and then the visual language with guidance of the theoretical, translated into a sound and music language. While the theoretical language is the most explicit and detailed, the visual is more representative and indicative, and auditory tends to be more evocative and abstract. Consequently, it is essential to acknowledge that the full complexity of meanings is lost in the translation processes. This could be seen as being an oversimplification, or a reduction of the complex to the simple, undermining the grandiosity of the complexity of the theoretical material. To respond, what this project attempted to achieve was anything but simple, instead it seeks to demonstrate the application of the translation process as an intuitive and practical tool given its objective. This project seeks to turn the extremely complex to the slightly less so, to a certain extent, what the neurological system achieved with the self. The self is a product of the highly complex systems of neurons and organs inside the organism, yet to function as a whole and this extreme complexity had to be organized so that it could work cohesively.

The approach of experimental animation was the most pragmaticist approach to animation one could take. It challenges said habits or conventions in animation and seeks to create new paths and new possibilities within the medium. It looks at ways animation can intersect with different universes and creates new universes of meanings at its intersections. The attempt to animate is to give life to something that is inert or dead, with this purpose the utilisation of analogic screen-printing technique with stop-frame animation added a strong backbone to the uniqueness of the project. Just like a self, it requires a body for continuity and the silk-screen patterns indicate the existence and exertion of the body of the self that made it. This decision is what gave substance to the

project, if not for it, the project would risk becoming too digital and silk-screen printing provide a more 'human touch' to the project. The patterns loop throughout the animation, giving a sense of repeating or habit, but at the same time it shows all the prints, even the ones with 'mistakes' which are a crucial aspect for the self process to embrace so it can grow and exert self-control over its conduct, as they are constantly present in the self's journey.

Before finalising the conclusion, it is worth to mention some minor technical issues that were posed during the development of the animation and how they were overcome. Even though *After Effects* provides a wide variety of tools and effects for digital animation, there were still some limitations within its selection. This is where the usage of third-party free plug-ins were used to fill in these missing links. The plug-in's used were by *VideoCopilot Orb* [17], *VideoCopilot Reflect* [18]. these were used to add minor elements to the animation; *Duik Bassel.2* [19] was the most the plug-in that contributed the most to the animation development, enabling the rigging of the main character, allowing it to be manipulated like a puppet. VideoCopilot plug-ins were clean and efficient, but they were only minor adjustments, *Duik Bassel.2'*s is more useful, but complex plug-in. The biggest advantage of it is that it free, but it can be occasionally buggy and heavy for the project file. This made de character's animation feel a bit hard to control and the final results for the animation of the characters ended up seeming a bit stiff and robotic. This takes away from the idea of the entity feeling human and not a robot. Character animation is a whole field of animation and is quite complex to be used in a smooth and realistic way, therefore the final animation still is not at the state that it would have been preferably given the amount of time required to properly achieve the designated goals, nonetheless the final product after the delivery of this project will continue to be worked on, meaning that the product is still in the means of process, potentially one that will constantly grow.

This last section will be dedicated to review the potential this thesis attempts to achieve. This is, what paths of inquiry does this project seek to open? Firstly, it is

[17]Video Copilot. (2020). VC Orb (v1.0.0) [Software]. Video Copilot.
[18]Video Copilot. (2015). VC Reflect (v1.5.3) [Software]. Video Copilot.
[19]Rainbox Laboratory. (2019). Duik Bassel 2 (v16.0.0) [Software]. Rainbox Laboratory.

important to consider that this is an interdisciplinary project, its purpose was to bridge the gap between fields that would otherwise be unrelated. This type of approach seeks to find ways in which research fields start being treated as a being part of the whole. At these intersections, there exist complementarities, these provide new perspectives that can strengthen the development of both fields. It is this interdisciplinary spirit that successfully achieves to find the intersections of complementarity between audiovisual language and neuroscientific theoretical language. With the theoretical analysis of the literature review providing fruitful accounts of the self, its visual adaptation would also be rich with attractive ideals. The visual is particularly captivating for conscience, visual languages transmit ideologies that are not initially apparent. This act can be seen as the act of hiding the complex message behind its beauty, and to a certain extent is comparable to the art of simplification. This project similarly attempts to simplify visually the complexity behind the theories of the self, nonetheless, the theoretical grandiose complexity is not lost, but simply transformed to a different format, a visual one.

Another important portion of the project is its focus on Peircean Semiotics and its potential application for the development of animation. This project also seeks to explore more practical discoveries. The same way theoretical languages can be compared and intersected; the mediums utilized can also be used to complement each other to provide a new perspective for both mediums. This project also achieves this with its approach of experimental animation and silk-screen printing as they contain properties that each medium could take advantage of. Silk-screen printing technique has the potential to produce a series of prints, and if desired each print can be slightly different. This project takes this property as an advantage to facilitate the means for animations need to be filled with series of frames. Since experimental animation seeks to introduce unconventional techniques and materials in its process, this project seeks to exactly prove the possibility complementarity between the two languages to form a third one through their juxtaposition. Silk-screen in frame-by-frame animation provides interesting results that communicate not only the product, but also the process of the self's discovery of the unknown.

In conclusion, this project provides innovative perspectives that complement all the mentioned theories. Their potential is further proven with its application in the creation of the product. The literature review identified possibilities for a course of action, it put into perspective two theories and explored their resonance, the way one communicated with the other. Once these paths were identified, the project was the moment to apply the directed path to explore the validity and value of the hypothesis. Not only does the project prove its potential through the cohesiveness and richness of the visual language constructed at the basis of the theoretical research made in Chapter 1, but it also promises more than it delivers. What this project concludes on a more personal note is that it was never about the perfection of the destination, but rather the mere possibility of the journey.

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