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**Time and Space as a Philosophical
Conceptualisation of Human
Existence in James Joyce and
Virginia Woolf's Writings:
A Religious Perspective**

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Dedication

In memory of my mother-in-law,
the purest soul I have ever known.

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Abstract

Abstract

Since the dawn of time, philosophers have been perplexed by various subjects relative to human existence and all surrounding phenomena within the world they occupy. However, they previously detached themselves as humans from the outside world and tried to scrutinise it attempting to provide a simple yet concrete definition of this world which represents the scope of their existence. The present study has opted for the concepts of time and space, as the main defining features of this world, aiming at explaining them from different perspectives to highlight their interrelatedness to human existence and portray which or who is actually responsible for defining the other. A multidisciplinary approach has been used binding philosophy, physics and psychology to reach the objective of the study. An analysis of some works by James Joyce and Virginia Woolf, as prominent figures in the use of the stream of consciousness technique in literature, is put forward to portray the new vision on the notions of time and space which had a significant role in emphasising the importance of the human mind and consciousness. Through the use of a religious perspective along with some physical laws, the results of the study confirmed the subjective vision of these two writers and portrayed that, time and space do define human existence in the physical world, but are defined by the human mind, consciousness and spirit in the abstract world.

Keywords: conception, conceptualisation, human mind, human existence, time and space.

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General Introduction

General Introduction

I see a pattern, but my imagination cannot picture the maker of that pattern. I see a clock, but I cannot envision the clockmaker. The human mind is unable to conceive of the four dimensions, so how can it conceive of a God, before whom a thousand years and a thousand dimensions are as one?

Albert Einstein

Einstein's words assert that it is rather difficult, if not impossible, for the human mind to picture, envision and conceive all concepts and phenomena in this universe. Nonetheless, it is very natural for any human being to raise various questions relative to his/her own existence and essence, not only his existence and essence, but also all the surrounding aspects enveloping his/her being.

The domain of philosophy has always been concerned with raising such questions, the Enlightenment era philosophy, for example, from the time of René Descartes, John Locke, Immanuel Kant and even David Hume, human beings typically observed the world and human experience through the lens of two separate entities; human beings on one side and the world which they impose themselves on, on the other. Implying that, under this philosophy, these are two separate things.

This distinction and separation between humans and the world consist the focal point of most Twentieth century philosophers, as they clearly expressed their disagreement with such vision. They mainly noticed that there is something else of a major importance here, they assumed that when such philosophers, namely Descartes, wanted to explain existence, they actually intended to explain themselves. Thus, what Descartes eventually did, is that he shortened his direct path of existence and subsequently, Descartes' reasoning culminated in the conclusion that the only element providing proof of human existence consists in the fact that humans "think"; it is the

fact that they do have thoughts to start with, therefore they forcibly are something, therefore they are something that thinks.

Yet, twentieth century philosophers were not really convinced by this reasoning, they suggested that, thinking alone cannot be the ultimate proof of human existence. They argued that there has to be something before that, before making such abstraction and reaching the conclusion “I think, therefore I am” there must be something before that. As before thinking, humans have to “be” and this very notion of “being” consists the very first human experience observed.

Martin Heidegger refers to this notion of “being” in his work *Being and Time* (1927) as “Dasein”, a word which he created to refer to the act of “being” before “thought”. Heidegger clearly rejected most prior philosophical claims and more importantly, in his work *Being and Time*, Heidegger refers to being most particularly as being in the world. Very much like the basic rejection of humans and the world as two separate entities, he simply perceived being as something tightly linked to the world, or as something as being hyphenated in the world. This is what he ultimately refers to, in his book, as being-in-the-world (Heidegger, 1996, p. 562), since any human being is impossible to exist without the world, they cannot be two separate things. The world surrounding human beings and their being are closely interlinked and completely necessary for one another.

Indeed, whenever the notion of “world” is mentioned, the notions of “time” and “space” are forcibly implied. Since space consists the scope of human existence and

time is commonly perceived as the defining and controlling feature of human existence.

In the present study, the concepts of time and space have been chosen to be put under scrutiny in order to present the way they are tightly linked to human existence and subsequently define human essence. They are actually presented in such a manner because they represent the world humans have occupied since the creation of this universe.

Since it is assumed that entities, phenomena and concepts in this world may be perceived, defined and interpreted in many different ways, any entity in this world has basically two definitions, an objective and a subjective, a physical and a metaphysical, a natural and an individual. Similarly, time and space, two entities fundamental to the definition of the human life on Earth have many conceptualisations, conceptions and definitions.

Even though it is commonly assumed that from ancient times, nothing in this physical world has changed, the size of the globe has always been the same since the creation of this universe; for example, when Earth turns around itself to make a day or when it turns around the sun to make a year, it is still the same Earth. Distance has not changed either. However, when one speaks about time, a year for instance, a child does not perceive it the same way as an old man does. These two categories of human beings do not have the same perception of the same amount of time. So, what is the real nature of time? And What is the real nature of space?

Space and time, two concepts with their infiniteness, their limitations, and their limits have been intriguing people for millennia. With different names but very close meanings as the Oxford English Dictionary defines them: Time is “a space or extent of time” while space is defined as “denoting time or duration”. These two definitions of concepts are closely related to each other since the congruity between them reached its realm during the beginning of the twentieth century with the concept of “space-time in physics and mathematics”. Before Albert Einstein and Hermann Minkowski’s conception of space-time, the two concepts were perceived as separate but interrelated entities. The Enlightenment resulted in new perceptions of the concepts space and time to match its mastering of scientific thought, empiricism and logic. However, before centuries, time and space were perceived as a horizontal continuous stream just as a flowing river, even though they might be calculated (one minute, one hour, a day, a year) these were just a kind of a consensus among human beings to better organize their lives, but if one could ask at that time how was time or space perceived, anyone would say that it was an unconscious feeling that is sensed through waiting for example or through moving in space. (Emery, 2020)

Greek philosophers used to believe that the universe is infinite, time is not real, rather a concept, a measure and even a pure illusion. Later, Parmenides argued that humans’ perception of the concept or idea of “reality” is strongly dependent on the actual existence of “here” and “now” because such notions of past and future are actually just imaginary, thus unreal. Heraclitus, maintained that time is real indeed and even represents the essence of reality. Plato evoked the idea that time came into

existence simultaneously with the Creator's creation of the heavens. (what is time?, 2018)

Aristotle came with a different perspective, asserting that time consists purely in being a measurement of change, an entity which cannot exist alone and independently, an entity which strongly depends on succession of events and change, in addition to that, it needs a soul to count the movements and changes, he also claimed that even if space is finite, time is not, since it is continuous, neither discrete nor atomistic, rather resembling to a large extent a line which can be divided and subdivided in a continuous infinite process. Aristotle is considered to be the first who demonstrated the famous paradox on the existence of time, developed and reviewed later by St. Augustine, suggesting the idea that, if time embraces two types of non-existence, the past represented as the "no-longer" and the future described as the "not-yet", separated by the void of the brief vanishing "now", how can humans insist on the reality of time? (what is time?, 2018)

Moreover, Aristotle completely rejected the notion of "void" and disagreed with the mere idea of "empty space" as a possible extension devoid of any material content. He conceived space as a kind of container enveloping the body and without the existence of material objects, the existence of space would be impossible. The notion of simple "vacuum" or void does not exist and any imaginable space must be filled with at least a hypothetical material named "ether". The universe embracing the Sun, Moon and all the planets with all the celestial spheres is actually composed of this hypothetical component. Aristotle's conception of space is mostly local, related and

dependent to a large extent on the existence of bodies, which is in turn essentially crucial to the existence of space. (what is time?, 2018)

St. Augustine defending the beliefs of the currently known “Presentism” investigated and expressed his opinions on the concept of time in mainly two of his works, *The City of God* and *The Confessions*, these two works include the most noticeable arguments related to his views on time and eternity, as he also discussed the question of whether time existed before the universe was created. The way he described the human experience in relation to the passage of time and the eternity of time is indeed very interesting, he stressed and discerned the difference between the very presence of time as a means for measuring the rate of experienced events and eternity itself. He argued that, while the extension of time from past to present to future is actually something experienced by human beings consciously through the very happening of the different events, eternity in its turn represents a fixed moment that embraces all at once, past, present and future.

Who shall hold it and fix it so that it may come to rest for a little; and then, by degrees, glimpse the glory of that eternity which abides forever; and then, comparing eternity with the temporal process in which nothing abides, they may see that they are incommensurable? They would see that a long time does not become long, except from the many separate events that occur in its passage, which cannot be simultaneous. In the Eternal, on the other hand, nothing passes away, but the whole is simultaneously present. But no temporal process is wholly simultaneous. Therefore, let it see that all time past is forced to move on by the incoming future; that all the future follows from the past; and that all, past and future, is created and issues out of that which is forever present. (St. Augustine, p.252)

Through such an argument, Augustine has established the divine presence as being, what is currently known in contemporary terminology, a space-like state. Further on, he attempted to answer the question related to “existence” before the creation of the universe and the earth, or, in other words, whether the notion of time used to exist or

not, his answer was that, time did not even exist before the creation of the universe, as he said: “For thou madest that very time itself, and periods could not pass by before thou madest the whole temporal procession. But if there was no time *before* heaven and earth, how, then, can it be asked, “What wast thou doing then?” For there was no “then” when there was no time” (St. Augustine, 253)

This answer has actually been provided later on by many theories in contemporary cosmology. Throughout his book, Augustine also suggested that eternity consists in a “still” moment that is mainly motionless, which is certainly not an infinite extension of time, but rather the utterly entire and full absence of time. This issue has later been developed by the Muslim philosopher and thinker Abu-Hamid Al Ghazali through the use of an analogy of space and time and the interaction between the “before” and the “after” in comparison to the “above” and the “below”, interchanging time and space dimensions, he convincingly proved the existence of time before the creation of the universe (Al-Ghazali, 1093/2000). St. Augustine actually defended the beliefs of the currently known “Presentism” believing in the reality of what is present only. Arguing that memory “past” and expectation “future” can actually interact, he supported a subjective view on time and said that time does not exist in reality but does exist in the human mind’s approval of reality. (Emery, 2020)

In a similar vein, the Middle Ages was a time characterised by the common agreement among philosophers that the concept of time is closely related to God’s creation of the universe. During the early Middle Ages, both Muslim and Christian philosophers have attempted to fuse the ideas of Aristotle into their theology. However, they did grapple with his assumption that time was infinite and finally reached

the conclusion that, time was surely finite in nature. The overall perspective held that time will reach a definite end with the end of the world, in the end of times, or as commonly known the cataclysm of the apocalypse. (Dowden B. , 2019)

Later on, scholars of the Fourteenth Century held such traditionalists' view of time as a flow or stream much similar to rivers or moving water, which implies a continuum, regular and inevitable passing of hours, days and years. (Dowden B. , 2019)

Though the situation was not really the same in the field of literature, as it was not until the renaissance period that the emphasis on the concept of time started to appear. Among the most common themes in literature of this period was the theme of “mutability”, especially in the sonnets where a particular distinguishing power forces everything to undergo a continuous change. Shakespeare’s sonnets contain such examples and many of his plays do as well. This theme of “mutability” may also be discerned in Milton’s writings, emphasising the changes perceived in nature, as he implemented his view of time as means of measurement of the durations, Milton was one of those philosophers holding the view that time has only one dimension, presented as a kind of a linear line extending from an infinite past to an infinite future, the assertion which has later on been supported by Seventeenth Century scientists such as Isaac Newton.

Accordingly, the perception and conception of the multiple natural phenomena in this universe is really crucial to the human understanding. The philosopher René Decartes (1596-1650) argued that understanding exists only in the mind and doubts the fact that experience is produced through corporeal sense perception. Decartes’ views of time and space reflect this importance of the human mind, he suggests that

space is infinite and unlimited and that time is the tool by which human mind accounts for duration. (what is time?, 2018)

Quite similarly, scientist Isaac Newton's (1642-1727) theories of mechanics stand for the ideals of absolute time and space. Because of the movement of the earth, human beings forcibly depend on "relative time" though the notion of "an absolute time" exists out of this relativity. Hence, absolute space also exists since objects can certainly move in relation to each other, but "space" itself cannot be in motion. (what is time?, 2018)

In 1766, German writer Gatthold Ephraim Lessing's *Lacoon* connected the enlightenment sensibilities of Newton and Décartes to media theory. Lessing suggested that pictorial representation (such as drawing and painting) should look for and make progress toward spatial purity and that poetry must represent time, or at least the changing and evolving moment. Lessing's differentiation between art as privileged portrayal of both space and time, and these divisions of time and space as theoretical absolutes in the enlightenment project, were undermined in the beginning of the twentieth century by Albert Einstein's theory of relativity of 1905 and 1916, and Hermann Minkowski's detailing of a non-Euclidean geometric space. (Dowden B. , 2019)

In 1781, Immanuel Kant published *The Critique of Pure Reason* one of the most influential works in philosophy, in which he developed new ideas on the nature of space and time and attempted to solve the problem posed by David Hume regarding human knowledge of the relation of cause and effect. From here starts a new way of thinking about human existence and its perception of time and space; which means that: first, not all human beings have the same perception or conceptualization of time

and space and second and more importantly, the questions these two philosophers raised led to the outstanding discoveries of the twentieth century initiated mainly by Max Planck who originated the quantum theory which revolutionized human understanding of the non-continuous flow of any material, frequency, light, time and space. This discovery has completely changed humans' perception of the abstract entities such as time. This is highly reflected in the literature of the era.

The 18th century writers, for example, gave rise to the Classicism literary movement, developing a spatial sense of time caused them to perceive the past as a container for all past events or as a history leading and contributing to the development of the present. However, with the subsequent rise of the Romantic Age, writers turned their emphasis on portraying both history and the development of human life. Thus, continuity and the present's relation with the past were mirrored in the literature of the Romantic Age. The best example in this trend may be William Wordsworth, who conveyed his perspective on the natural continuum in his poems, mainly "Tintern Abbey" and "Peele castle".

At the dawn of the twentieth century, Albert Einstein brought a new vision in physics, stating that time and space are relative to each person. They are continuous just within the coordinate system in which they are operating. Subsequently, various types of "space-time" are conceptually conceivable outside of the "space-time" experience of individuals. Likewise, German mathematician Herman Minkowski published *Space and Time*, a work that sets a four-dimensional space, with time as the fourth dimension. Minkowski consisted a major influence on Einstein's revision of the theory of relativity and the further meaning and definition of his own concept of "space-

time” as a single and undividable entity instead of two separate entities. (Dowden B., 2018)

Einstein’s modernised view had a major impact on all twentieth century thinkers, philosophers, scientists and writers, as the century has been invaded by impressive new beliefs and thoughts emphasising the human conception and interpretation of phenomena and experiences. The French philosopher for example, Jean-Paul Sartre, is widely known as the representative figure of existentialism as he is renowned as one of the prominent existentialist writers having a major contribution to the flourishing of existentialist aesthetics and literature. Actually, even if existentialism is generally identified with the French tradition, its origin dates back to more ancient German philosophy, from Immanuel Kant to Martin Heidegger and the Danish writer Soren Kierkegaard. With the development of existentialism both in theory and practice, its realm became intertwined with some other philosophers’ views, namely Karl Marx, Friedrich Nietzsche and Henri Bergson, whose thoughts clearly overlapped with existential philosophy to a certain extent.

In *Being and Time* (1927), Martin Heidegger’s conception of the human came in contrast with the Rationalist philosophers, such as Descartes, who conceived human existence as thinking principally “I think therefore I am”.

The Cartesian philosophy actually incites existentialism to proceed through the uncertain dualities emerging from a basic dualism of mind and body. The main leader of rationalism in the Renaissance was René Descartes who put the “*cogito*” (reason or common sense) under scrutiny where one needs to differentiate between the “self-that-is and the self that observes the self-that-is” (Carruth, 2000). From this duality, a

large number of other dualities emerged like: being and becoming, knowing and doing, objective and subjective.

Actually, the real essence of existentialism lies on its elemental drive which has to be explained against the historical background of the 19th and 20th centuries. The Age of Reason as the forerunner of movements of the coming years developed the theory of reason and emphasised concepts of freedom and religious tolerance. It impacted to a large extent the thinking of coming generations and had an immense effect on the development of philosophy, sociology and political science. As a response, modernism and existentialism embraced a rather anti-rational and anti-mechanical meaning of life. However, modernist and existentialist thinkers were still confused regarding the absolute enigma of the definitions of human nature and meaning of human existence and life on earth provided by the age of Enlightenment. The early 20th century intellectuals faced a prominent universal issue which emerged from the collapse of religious tradition and the rise of liberal bourgeoisie and social revolution. Moreover, they were the first to declare the religious disintegration, since both the Industrial Revolution and the First World War entailed a noticeable loss of faith in religion especially among the working class. Religion was no more perceived as the perfect infallible system providing guidance, meaning and aim to human nature. Europe at that time witnessed a split into two main spheres: the separation between revived theology and philosophical positivism, which stimulated and fostered the development of a philosophy looking for life's true essence. This epitomises the practice of existential philosophy, whose thinkers very soon realised that in order to reach the basic truths related to human nature, they had to surpass the mere notion of

reinterpreting the world. Nevertheless, existentialism is indeed criticised for its appealing to subjectivity, as it is certainly incorrect to presume that existentialism evolved from subjectivity. On the contrary, the ultimate essence of existentialism consists in the complete redefinition of the world.

During the same period, new psychologist views came into being with the prominent works of William James, Sigmund Freud and Carl Jung who brought original new insights to the human mind activity entailing new perspectives, through their impact on the literary writers and on the human conception of the world.

Marcel Proust, James Joyce and Virginia Woolf emerged as prominent figures in literature since they had renewed the literature of their time. They broke the tradition in their writings by using the technique of the manipulation of time and space, they did not respect the chronological order in their recounting as they used the association of ideas and flashback. The present thesis will devote a chapter to analyse their major works, namely; Joyce's masterpiece "Ulysses", that is known for the use of the Stream of Consciousness technique as well as the Interior Monologue (the two techniques are mostly known for their timelessness) that truly and accurately portray the stream of thought experienced by the characters and the writer sometimes.

The Stream of Consciousness technique is highly considered to be timeless, simply because some scholars believe that the concept of time is lost and their evidence is that while recounting in a non-chronological order, the reader may be lost in both time and space, which means that a confusion concerning which action happened first and where, will occur.

In this regard, when one asks about the real nature of time, it is possible to have different answers from different points of view, conceptions; one might get full explanations from a scientific perspective, but what is far more important than that is: How do human beings perceive time? From one part, this may be strongly influenced by the religion one believes in, for example, in monotheistic religions like Islam, people perceive time as the force that defines human existence in both the worldly, temporary life and the eternal life of the Hereafter. Another crucial aspect in this monotheistic religion is “Organisation” as Islam has ensured to set time in order to organize people and the best example consists in the five prayers that Muslims must perform at very precise moments a day.

The relativity of time and space was announced more than 1400 years ago in the Qur’an and the concepts have been described in various verses: “To Him ascend the angels and the spirit in a day the measure of which is fifty thousand years” (Al-Ma’arij/The Stairs of Ascent,4). “He regulates all affairs from the heaven to the earth. Then they ascend to him in a day, the measure of which is a thousand years as you count” (As-Sajdah/The Prostration, 5).

In addition to this religious aspect, it is of a major importance to consider the different relationships between “Time”, “Space”, and “human beings”, which implies the analysis of the essence of human being, the essence of space and the essence of time and what does relate or separate them.

The present research aims at providing a detailed explanation of the notions of time and space from both the past and recent currents of thought, and showing how

these concepts were differently perceived by human beings and portrayed in literature and some religious texts.

The investigation on the conceptualization of time and space has been developed through the centuries by many scholars. However, these scholars such as Decartes, Hume, Kant, Newton, Einstein, Minkowski, and others, concentrated their analysis on the human conception of these concepts while this study, besides its investigation on the nature of the two concepts and the way they are conceived and portrayed by human beings in their different writings, it seeks to explore the way these concepts are portrayed by God (in the Islamic religion) in addition to establishing a correlation between these portrayals and the human conception and essence.

Through this study, it will be portrayed that Time is a natural and a supernatural force; it is an abstract and a concrete entity at the same time. To prove this, the research will proceed with the use of physics, literature and religion with psychology to show that time is a double-faced coin.

The study aims to answer the following questions:

- 1- How do human beings in general perceive time and space? And who/which is actually defining the other; humans defining time and space or time and space defining humans?
- 2- Do the different perceptions and definitions from the various fields of study impact humans' thoughts and compel them to act or make choices in a specific way?
- 3- Is human existence with all experiences controlled by these two concepts?

- 4- How are the concepts of time and space represented in literature? In James Joyce and Virginia Woolf's writings in particular?
- 5- How are the concepts of time and space represented in religious texts?

The core of the present research consists in providing a clear image on the relationship between time and space and human existence. However, before starting to explain the notions of time and space, there is a need to highlight the fact that readers expect a simple question to be answered. For what purpose has this thesis been developed? It is rather difficult to answer rightly though this may be easier at the end of this work. However, it is simpler to say what this study does not intend to be. It is certainly no physical course of elementary facts and theories, neither does it intend to present a one and only explanation of the two main phenomena that are principally time and space.

The principle purpose of this research is rather to sketch in broad outline the attempts of the human mind to find some answers or solutions to very crucial questions. Is the nature of phenomena perceived by the human eye the same as what it really is in reality? Do the conceptions made by human beings correspond better to the world of ideas "metaphysics" or to the world of phenomena "physics"?

Scientists and especially physicians have tried to show the existence of some active forces which compel science to invent ideas that better correspond to the reality of this world and then develop them more so that they will make more sense by using and mainly starting with the experiments.

Time is very familiar to the human mind, yet poorly known. Human beings experience it within themselves, even though, because of different coincidental

circumstances, they lose the perception of external objects and their arrangement in space. It is true that humans sometimes lose the feeling that time is running. This is what happens generally in sleep, even if a succession of events sometimes invades the human mind in the strong emotions of the dream. This is what happens to any human being more surely after a serious accident, so that the person's family or friends must inform them of what has happened. In both cases, the absence of the time consciousness is temporary, and the time elapsed is more or less easily restored in the total course of human existence. Therefore, human beings know that they do not escape time, even if they are lucky enough to escape naturally from the monotony and boredom of its pure experience.

They are, therefore, caught in the sequence of events, of which they are not only aware and reminded, but that they can also extend by an intellectual representation, either in the direction of the past where they locate their birth, or in the direction of the future where they locate their death. Thus, they become aware of the dissymmetry between the past and the future, demonstrated in the difference between the certain memory and the uncertain expectation. They are not only aware of the extensive aspect of time, but also of this strange cleavage between the past and the future that is manifesting itself in the present moment and which makes them say that time runs and that is impossible to retain it. Although different philosophies contribute to make people know this temporal dimension of their existence in its various aspects, which is different from the spatial condition in that they can represent time by a single line, they sometimes hesitate in the choice between two representations of time; the first makes them look at the events that have occurred as if they were moving away in the

past, but this representation, which seems adequate to represent the immediate past, clashes with the intangibility of the distant past and the improbability of attributing it to any movement. The second representation, which seems to suit all situations and generate no difficulty, consists in looking at the present moment as moving towards the future on the ideal line indefinitely extended through time. They can scarcely learn more about this temporal condition by the mere play of their ordinary experience, their reflection, and their imagination.

Considering the fact that all of these philosophers and physicists were working on how to solve the problem of human perception and conception of time and space, means that this was the main concern of all kinds of scholars whether the ones working with abstract or the others working with concrete entities and that also means that this question could be found in scientific, literary, psychological and even religious texts. The reason why the present research aims at unveiling the different conceptions and investigations regarding the concepts of time and space from multiple different perspectives, starting with the main currents of thought, philosophy and physics to the human mind scientific study, namely psychology, along with the conceptualisation of these notions through literature, to conclude with the religious or spiritual perspective through Islamic thinking.

The present research will use a multidisciplinary approach to answer its questions, starting with some explanations from physics and philosophy, to provide a concrete definition of the concepts. Later, some psycholinguistic theories will be used in the second chapter, since Bakhtinian chronotope focused on the importance of temporal and spatial dimensions that are artistically expressed in literature.

Moreover, some literary theories will also be used to portray how writers imagined and portrayed time and space in their works, these theories consist in Narratology and Psychoanalysis.

The present thesis will be divided into four chapters:

The first chapter entitled *The Great Mystery Story*, is a literature review which mainly gives an overview on the theories about time and space. First, from a natural perspective, explaining them using physics and mathematics. Second, from a metaphysical perspective, using philosophy to portray the human conception of time and space throughout history, along with some examples from literature.

The second chapter entitled *Human Conception of Time and Space* presents the conception and conceptualisation of the two concepts through language, using psychological theories, humans need to understand why do they perceive time and space differently and why are they explained differently. An example from French literature is provided at the end to portray the modern vision of the twentieth century on the notion of time.

The third chapter analyses the concepts of time and space in twentieth century literary writings. James Joyce and Virginia Woolf's works are chosen to scrutinise the way these writers changed the human perception of the notion of time, to say whether time was really lost or just hidden within the subconscious in the stream of consciousness technique.

The fourth chapter displays the way the notions of time and space are presented in the Arabic language, through the Holy Qur'an and the Noble Hadith, to later present a correlation between the religious perspective, through the scientific

interpretation of some verses from the Qur'an, and the philosophical one, through the existentialist thought of some modern twentieth century thinkers, using some examples from the literary works chosen in this study, James Joyce and Virginia Woolf's writings.



Chapter One: The Great Mystery Story

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Introduction

“In Imagination there exists the perfect mystery story”

■ Albert Einstein & Leopold Infeld, *The Evolution of Physics*.

Generally, in literature, while reading any story, just by taking into consideration the clues given by the author and following the plot, one can form his/her own theory and guess the conclusion before the end of the book. But humans can liken themselves as literature readers to scientists; those who observe the natural phenomena first and then give their own theories. However, this may seem to be impossible, because; first, the scientist goes through many and different stages to arrive to a more or less convincing theory. Moreover, this scientist cannot even be sure that his theory or solution is final as it is said by Einstein: “We are still far from a complete solution, if, indeed, such a thing exists at all”. (Einstein & Infeld, 1938, p.4)

In addition to that, the scientist needs to collect the necessary data and find the solution for himself contrary to the literary reader who may be impatient and go to the end of the book and read the ending or the conclusion. So, the scientist is an investigator who tries to collect all the clues and make an understandable and coherent explanation of them in relation to their context which is nature with the help of his creativity only.

I. Time, Space and Science

The different attempts to explain the natural phenomena are as early as human thought itself. However, they improved three hundred years ago with Galileo and Newton who developed the techniques and methods of finding and analysing clues.

The physics that was born with the dynamics of Galileo is characterized by the fact that it gives to time the status of a fundamental physical quantity and no longer derived, as in Aristotle.

In the fall of a body, the speed reached is not proportional to the space travelled but to the time elapsed since the beginning of the fall, and the space travelled becomes, consequently, proportional to the square of the time. By this analysis of the accelerated movement, time lost its status as a secondary entity and no longer depended, for its measurement, on a declared privileged movement. All astronomy was to be upset. It is already no longer a pure kinematics with Kepler, because the role attracting the Sun relative to the planets is recognized there. But it is Newton who makes astronomy take a decisive step by integrating it into its mechanics. Einstein and Infeld explain this mechanics which is based on some simple ideas which are exposed at the beginning of the *Principles of Natural Philosophy* (1687), they may be explained as following:

I.1 Motion and Velocity

The basic elements that launched the study and analysis of physics are Velocity and Motion. Thus, to understand physics and arrive to a full explanation of time and space, one must start defining and explaining what velocity and motion are, and then highlight the difference between them. (Einstein & Infeld, 1938, p.6)

Physically speaking, motion is the fact that an object changes its position over a period of time. Mathematically speaking, it is delineated in terms of displacement, distance, velocity, acceleration, time, and speed. Motion of a body is seen by fixing a frame of reference to an observer and estimating the change in position of the body in respect to that frame.

If the place or location of a body is not changing regarding a given point of reference, one can say that the body is at rest, immobile, unmoving, stationary, motionless or, if one might use the physical language, the body is said to have constant time invariant position.

Albert Einstein and Leopold Infeld explained, in their book *The Evolution of Physics* (1938), that “motion” is defined by the force acted upon a certain object, that is, it is impossible for the object’s motion to change unless it is acted upon by a force and here, the concept of momentum, which is a quantity used for measuring Motion, can be mentioned. Momentum is very closely related to Mass and Velocity; however, the total momentum of all objects is considered as an isolated system, it is not influenced by external forces and does not change with time as described by the law of momentum conservation (one of the most powerful and influencing laws in physics) which suggests that when a collision occurs between two objects in an isolated system the total momentum of the two objects before the collision is equal to the total momentum of the two objects after the collision.

Since there is no absolute frame of reference, one cannot determine or calculate absolute motion. Thus, absolutely everything in this universe is believed to be moving. (Einstein & Infeld, 1938, p.7)

Motion can be applied to objects, bodies, matter particles, radiation, radiation fields, radiation particles, space and its curvature and space-time. Likewise, there also exist motion of shapes and boundaries. So, broadly speaking, the term motion means a constant change in the configuration of a physical framework.

The description of objects' motion, flourished centuries ago and it all started with the description of macroscopic objects, especially astronomical objects like stars, planets and galaxies, using classical mechanics, which is one of the largest and oldest in science and technology and it was all based on Newton's Laws of motion the core of which is the force acted on a body and the motion of that body. Newton's three laws are (Einstein & Infeld, 1938, pp.6-11):

An object/body is either at rest or moving with constant velocity, unless or until it is acted upon by an external force.

- 1- An object/body moves in one specific direction until an external force changes that direction.
- 2- When an object/body exerts a force F on another one (in some cases it isn't moving) the second object acts a force $-F$ on the first one. So, F and $-F$ are equal in magnitude but opposite in direction. Thus, the object which acts F will go backwards.

This analysis of motion, space, and time long reigned over physics and allowed humans to understand the analyses of space and time found in the *Critique of Pure Reason* (1781). In these analyses, Kant makes space and time as forms a priori of sensibility, capable of accommodating the properties that Newton had attributed to the receptacles of physical movements, without endowing them with a metaphysical existence. Without any doubt, Kant intended to escape this alternative that had struck

him and which had been brought to light by the debate between Clarke, the spokesperson of Newton, and Leibniz just before the latter's death (1716). This alternative is as follows: space and time can be considered either as quasi-divine attributes (Newton), or only as orders of coexistence and succession between phenomena (Leibniz)¹.

The velocity of an object or a body is the rate of displacement of its location regarding a frame of reference and is an element and one of the functions of time. Velocity is identical to a specification of an object's speed and direction of motion (e.g. 100 km/h toward the north). Velocity is a key concept in kinematics, the branch of traditional or classical mechanics that defines the motion of objects.

I.2 Vectors and their Need

The physical quantities, whose total specification demands magnitude and direction are called vectors. For example: velocity, displacement, acceleration, force, torque, linear momentum, impulse, angular displacement, elementary surface area, current density (Edwin, 2018).

In one dimensional motion, the direction of an object/body may be described by saying that the object/body is to the right or to the left or is moving up or down. i.e., in one dimensional motion one has the possibility of only two directions.

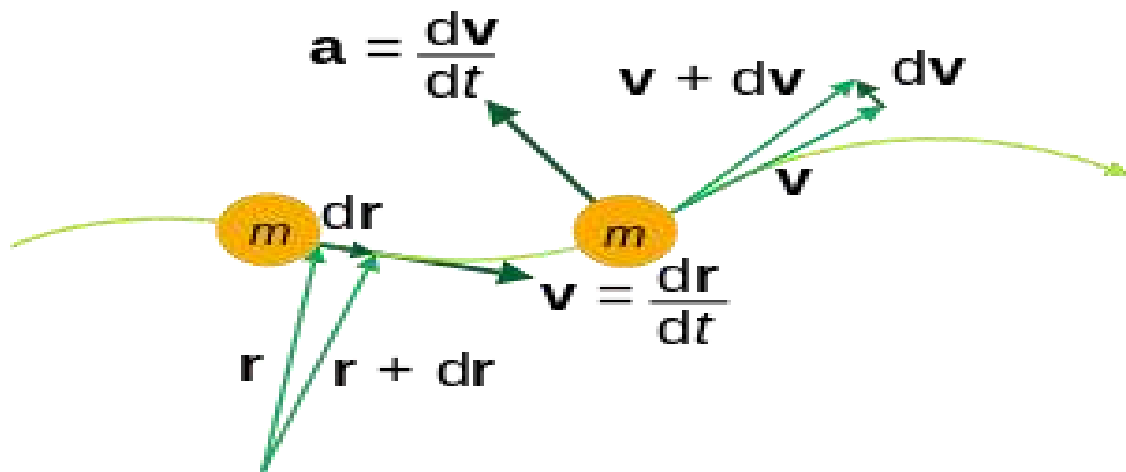
However, in two- and three-dimensional motions, there are numerous directions possible. for example: motion of a particle in a car is two dimensional while in a space it

¹ This point is thoroughly developed in the next part of this chapter.

is three dimensional. Thus, to portray the direction of objects/bodies in these situations a concept is used called the “concept of vectors”.

Figure 1

Kinematic quantities of a classical particle



Note. mass m , position r , velocity v , acceleration a . From: <https://www.quora.com/What-is-a-vector-in-physics>

Humans’ notion of velocity is very probably the same as its scientific definition. It is known that a large displacement in a small amount of time means a large velocity and that velocity has units of distance divided by time, such as miles per hour or kilometres per hour. (Edwin, 2018)

Average velocity is defined to be the change in position divided by the time of travel.

$$V_{avg} = \frac{\Delta x}{\Delta t} = \frac{x_f - x_0}{t_f - t_0}$$

In this equation, V_{avg} is the average velocity; Δx is the displacement, or change in position; x_f and x_0 are the final and starting positions at times t_f and t_0 , respectively.

If the beginning time t_0 is taken to be zero, then the average velocity comes as follows:

$$V_{avg} = \frac{\Delta x}{\Delta t}$$

This definition suggests that velocity is a vector because displacement is a vector. It has both magnitude and direction. The International System of Units (SI) has put for velocity the unit of meters per second or $\frac{m}{s}$, but many other units such as $\frac{km}{hr}$, $\frac{mi}{hr}$, and $\frac{cm}{s}$ are frequently used. One can suppose, for example, that an airplane passenger took 5 seconds to move -4 meters and the negative sign indicates that displacement is toward the back of the plane.

The passenger's average velocity is written as below:

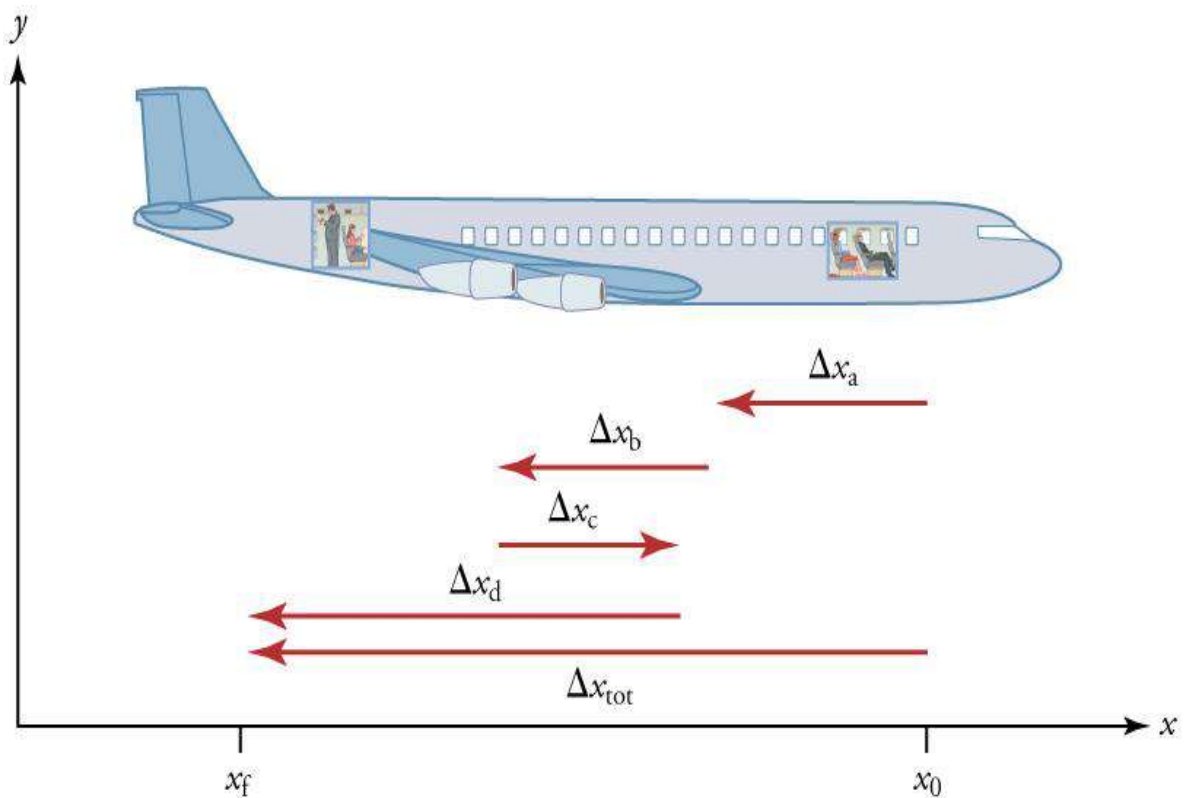
$$V_{avg} = \frac{\Delta x}{\Delta t} = \frac{-4m}{5s} = -0.8 \frac{m}{s}$$

The negative sign indicates the average velocity which is also toward the end part of the plane.

The average velocity of any object does not inform about what happens to it between the starting point and ending point, for example, one cannot tell from average velocity whether the airplane passenger stops for a moment or walks backward before he goes to the back of the plane. To be more precise, one must consider smaller segments of the trip over smaller time intervals. For instance, in **Figure 2**, it is seen that the total trip displacement, Δx_{tot} consists of 4 segments, Δx_a , Δx_b , Δx_c and Δx_d . (Time-Velocity-and-Speed, 2018)

Figure 2

A record of an airplane passenger heading toward the back of the plane.



Note. This detailed record shows smaller segments of the trip. From: <https://www.khanacademy.org/science/physics/one-dimensional-motion/displacement-velocity-time/a/what-is-velocity>

The smaller the time intervals perceived in a motion, the more detailed and precise the information. Carrying this process to its reasonable conclusion, one is left with an imperceptible small interval. Over such an interval, the average velocity becomes the **instantaneous velocity**, or the velocity at a very specific and precise moment. A vehicle's speedometer, for instance, shows the magnitude—but not the direction—of the instantaneous velocity of the vehicle. when Police fine, it's all based on instantaneous velocity, but when calculating how long it can take to get from one place to another on a road trip, what is actually needed is to use average

velocity. **Instantaneous velocity**, V , is simply the average velocity at a specific moment in time or over an imperceptibly small-time interval.

I.3 Light

Light is an electromagnetic wave, consisting of a magnetic field and an electric field oscillating perpendicular to each other in a plane perpendicular to the direction of propagation of the light wave. In vacuum, light travels in a straight line at the speed of light noted c (Lumière, 2018).

I.3.1 The History and Origin of Light and its Speed

a. Exact value

The exact value of the speed of light was fixed in 1983 by the Bureau of Weights and Measures at: $c = 299\,792\,458\text{ m / s}$ or $c = 2.99792458 \times 10^8\text{ m / s}$, using the units of the international system.

It can also be expressed in kilometres per hour by multiplying the value in m / s by 3.6: $c = 1,079,252,848.8\text{ km / h}$ or $c = 1.0792528488 \times 10^9\text{ km / h}$.

This value, which represents a fundamental constant of physics, can be used for calculations requiring a high accuracy. It is also used to define the meter in the international system of units: one meter corresponds to the length travelled in the vacuum by the light during a period of $1/299\,792\,458$ seconds. (Lumière, 2018).

b. Approximate value

For more common calculations, an approximate value in meters per second is used: $c = 3.00 \times 10^8\text{ m / s}$, or in kilometres per hour: $c = 1.08 \times 10^9\text{ km / h}$.

These values each have 3 significant numbers and are of enough accuracy for most calculations involving the speed of light. (Lumière, 2018).

c. Brief Historical Reminder of the Speed of Light

The first conceptions concerning light suppose that it can be either present in a space, or absent, the light would be thus instantaneous, Galileo did not just give his opinions on the shape of the planet Earth! (Barreau, 2005)

The Arabic scholar Alhazen (965-1039) was interested in optics and wrote reference treatises. He was the first to have had the intuition that the appearance of light is not instantaneous, that it had a certain speed of propagation, but he could not prove it.

Galileo (1564-1039) attempted to measure the propagation time of light between two hills using two people a few kilometres away and equipped with clocks. He failed to measure the speed of light (which, in the context of this experiment, takes 10^{-5} seconds to travel the distance previously defined, not measurable at that time), and deduced from the failure of this experiment that the speed of propagation of light is very high.

Cassini (1625-1712) assumed that the irregularity of the movement of Io (a satellite of Jupiter), could come from a delay in the arrival of light from the satellite, (as it takes 10 or 11 minutes for it to cross a distance equal to the radius of the orbit of the Earth).

Römer (1644-1710) explained the gap between eclipses of Io (a satellite of Jupiter) and Cassini's predictions assuming that light has a velocity of propagation. He was the first to give an importance to the speed of light.

Bradley (1693-1762) confirmed Romer's hypothesis and proposed a first estimate of the speed of light at about 10188 times the rotation of the Earth around the

Sun, however, the latter was poorly known. His discovery is linked to the aberration of light, an optical phenomenon that results in the fact that the apparent direction of a light source depends on the speed of the observer.

Fizeau (1819-1896) developed a device that allowed him to evaluate the speed of light. He had sent a ray of light between the commune of Suresnes (Hauts-de-Seine, 92) and Montmartre (Paris). The light passed through a cogwheel, reflected by a mirror, went back through the wheel and finally arrived on a screen. Depending on the speed of the wheel, the light may be obscured or not. This last parameter being known, as well as the interval between two teeth and the exact distance travelled by the light, Fizeau managed to estimate the speed of light at 3.15×10^5 km/s.

Cornu (1841-1902), perfected the device of Fizeau and found a value of $3,004 \times 10^5$ km/s. The measurements carried out later (by Michelson, Newcomb and Perrotin) made it possible to obtain values more and more precise, until arriving to the one used today. (Barreau, 2005)

d. Invariance of the speed of light in a vacuum

In classical mechanics, any speed depends on the reference chosen.

This is however not the case for light (and electromagnetic radiation in general) its speed is invariant. This means that a light propagates at the same speed (c in a vacuum) for an immobile observer compared to its source or for a moving observer. On the contrary, the speed of a sound wave measured by an observer depends on the speed at which the observer moves with respect to the sound source.

A modern test of the invariance of the speed of light was made in 1964 by the Alväger team, a Swedish physicist, at the Proton Synchrotron at CERN (European

Organization for Nuclear Research). This test, based on the flight time technique, consisted in measuring the γ -rays velocity resulting from the disintegration of particles called π^0 neutral pieces, which produce photons while degrading.

The invariance of the speed of light is the basic postulate of the special relativity established by Albert Einstein at the beginning of the Twentieth Century. The speed of propagation of light in the vacuum is invariable regardless of the frequency of the light wave and whatever the Galilean reference considered. (Optics, 2018)

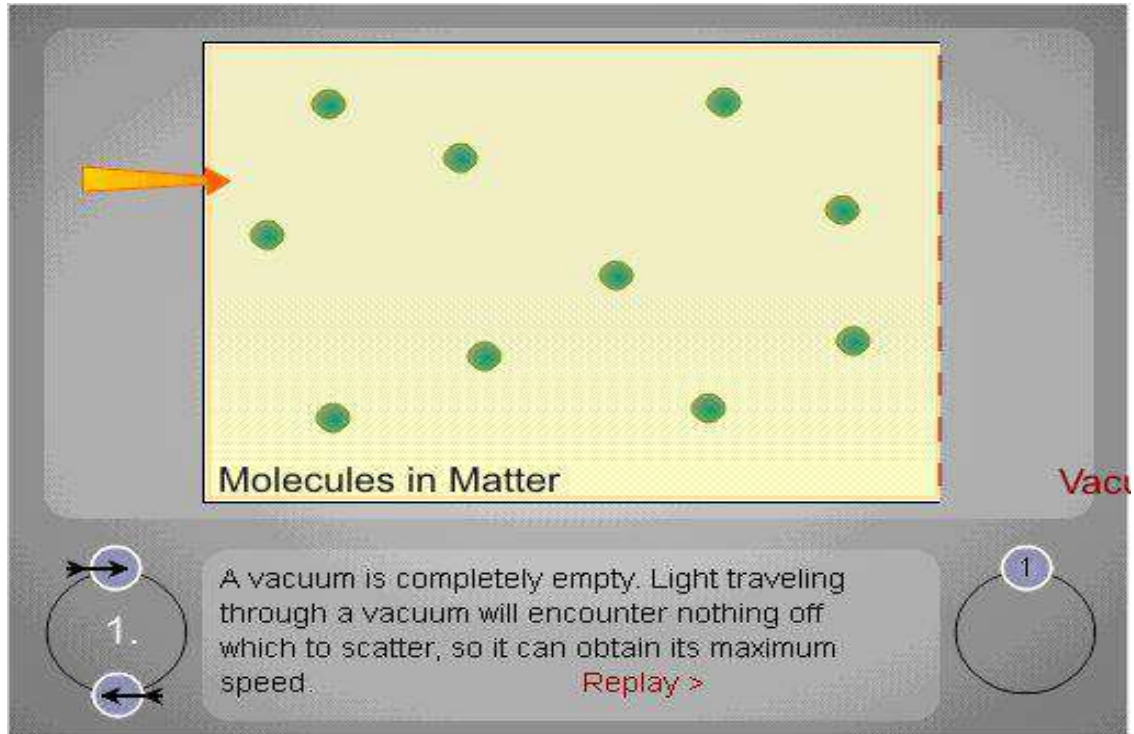
I.3.2 Speed of Light in the Material

In most transparent material media, light propagates at a speed lower than that of vacuum: its velocity depends on the chemical nature of the medium, its density, its concentration (for fluids), but also certain physical items such as (Optics, 2018):

- Temperature,
- Pressure
- or the Wavelength of the Radiation.

The different transparent media are characterized by their refractive index (denoted n). This index without unit is always greater than 1, because it is considered that for the vacuum $n = 1$ and allows to find again how fast the light propagates in a given medium. Indeed, the refractive index (n) of a medium is defined as the ratio of the speed of propagation of light in vacuum (c) by the propagation velocity in this medium (v) is:

$$n = \frac{c}{v} \quad \text{So} \quad v = \frac{c}{n}$$

Figure 3*Speed of Light in Vacuum.*

From: <https://www.rpi.edu/dept/phys/Dept2/APPhys1/optics/optics/node4.html>

Some examples:

Table 1*Speed of Light in the Material.*

Medium	Air	Water	Glass	Diamond
Refractive index (n)	1.00	1.33	1.50	2.42
Speed of light (c)	$3,00 \times 10^8$ m/s	$2,25 \times 10^8$ m/s	$2,00 \times 10^8$ m/s	$1,24 \times 10^8$ m/s

From: <https://www.rpi.edu/dept/phys/Dept2/APPhys1/optics/optics/node4.html>

This passage of light from one medium to another is at the origin of the notions of refraction and reflection of light.

f. Speed or Velocity?

The letter "c" used to express the speed of light derives from the term "celerity". This term globally designates the speed of wave propagation and can be used for light since it is an electromagnetic wave. It involves the transmission of a variation of physical parameters (such as electromagnetic fields, pressure, elongation, etc.), while "speed" refers to a displacement of matter. It is therefore more appropriate to use the term "velocity" than "speed" unless it is a "speed of propagation". The term "velocity" nevertheless remains of a more common use. (speed_distance_time, 2018)

g. Speed, Distance and Time

Like all speeds, the speed of light (c) is defined as the ratio of the distance travelled d (the distance over which there has been propagation) by the propagation time noted Δt , which can be expressed by the relation (speed_distance_time, 2018):

$$c = \frac{d}{\Delta t}$$

Since the speed of light is already known, this relation has no real practical utility.

However, it is possible to use this relationship to express either distance or duration.

• Distance Travelled by Light

$$d = c \times \Delta t$$

• Propagation Time

$$\Delta t = \frac{d}{c}$$

Relationships including the speed of light

The speed of light in a vacuum (c) occurs in many relationships:

- Einstein mass - energy equivalence:

$$E = mc^2$$

Relationship between the frequency (ν) and the wavelength (λ) of an electromagnetic wave:

$$\lambda = \frac{c}{\nu}$$

- Relationship between a measured period (ΔT_m) and the neat period (ΔT_0):

$$\Delta T_m = \frac{\Delta T_0}{\sqrt{1 - \frac{c^2}{v^2}}}$$

The speed of light occurs in most physical concepts expressed in the context of relativistic physics.

h. Faster than Light

Einstein's theory of relativity assumes that no object can reach a speed greater than “ c ” in a vacuum. However, it is possible for an object or particle to exceed the speed of light in a medium other than vacuum.

In this case, the particle produces an intense blue light as it travels at the speed of light, and then forms the tip of a "cone" of blue light when this speed is exceeded, this is known as Cherenkov' effect, named after the researcher who discovered it, which earned him a Nobel Prize in 1958. It is this effect that produces the blue colour that characterizes the cooling pools of nuclear power plants. The blue light of nuclear power

plants is caused by the Cherenkov' effect and certainly not because the colour of water is naturally bleu. Although this phenomenon is currently limited to particles, it is not impossible that humans can one day too, move at the speed of light. (speed_distance_time, 2018)

i. Speed of Light

A little delay is perceived when seeing a flash before hearing it. This is explained by the difference between the speed of light and the speed of sound: the latter has an approximate value of 340 m / s, against 3×10^8 m / s for light. The sound is therefore much slower than light, it is common to observe the lightning before hearing the thunder: the moment when the lightning is visible is really the moment where the lightning crosses the sky, but the moment when the thunder is heard can present a shift.

The further the lightning's point of departure is from the observation point, the greater the time lag. It is also possible to estimate the distance separating us from this flash, by counting the difference between the light and the sound: 3 seconds of time lag are approximately equivalent to 1 km of distance. It is therefore necessary to divide by 3 the time lag counted in order to obtain an estimate in km.

However, it is important to remember that the sound does not spread in vacuum, because it is a mechanical wave, and not electromagnetic like light. It needs a medium to spread. All the sounds produced in the space that can be heard in the movies are false. (speed_distance_time, 2018)

II. Time, Distance and Relativity

Twin brothers, one of them ages faster than the other. Spaceships, their length decreases when they go very fast. Though the two phenomena seem very surprising but fancy becomes a reality when we consider the theory of space-time.

Hyperspace, spatio-temporal distortions or fourth dimension these mysterious words proliferate in science fiction works. Maybe humans just have not really taken them seriously. Yet, these concepts come from one of the most important scientific discoveries ever made, dating back to 1905. That year, with great insights and mathematical verifications, a very young theorist named Albert Einstein threw a huge cobblestone in the pond of physics. It shows that humans' most fundamental physical concepts, space and time, as they perceive them, are only appearances. (Einstein & Infeld, *The Evolution of Physics*, 1938, p. 186)

II.1 Absolute and Relative

At the beginning of the century, space was considered as the immaterial container of things/objects or materials. It is identical to itself from one end to the other of the cosmos, so that a cord measuring one meter long in London is always one meter long if it is transported to the bottom of the Universe; space is considered as an absolute invariant. Another essential feature is that space has three dimensions; mathematically, it means that an object located in space uses three numbers (height, width, depth) (Gill, 2019).

However, time is made of moments that succeed each other, each of them corresponding to a precise state of the Universe. It has only one dimension, since it only takes one number and one to express the duration of an event, two minutes, for

example, for reading this page and nothing can alter its immutable course. All the distances, the durations remain constant.

So, an event that lasts two minutes in London also lasts two minutes as the clock is in New York, Timbuktu or anywhere else in the cosmos, whether one is on a train, plane or on a station, whether it is noon or 2 pm Time cannot be influenced by space and vice versa: taken separately, they are both absolute invariants.

But when these two entities are combined, when calculating speed (distance travelled divided by the time taken to go through it), everything changes. Velocities are relative, that is, their measurement depends on the circumstances of the experiment. They differ according to the observers. One can take the example of a T.G.V., traveling at 200km / h compared to a stationary observer at the edge of the track. The T.G.V. will be stationary (0km / h) compared to a passenger of a second train moving parallel to the first at the same speed and it will even seem to go at 500km / h for the passenger of a train arriving in the opposite direction at 300km / h ($500\text{km} / \text{h} = 300\text{km} / \text{h} + 200\text{km} / \text{h}$). Briefly speaking, velocities are relative, but durations and length measurements are absolute. (Gill, 2019)

II.2 Time Dilation and Space-time

What are the consequences on time of such a phenomenon? Since $c = d / t$ (with d for distance and t for time), if d decreases by 15%, t must increase in the same proportions. A second for the spaceship's passengers lasts 1.15 seconds for the observer left on Earth (much more if the ship is even faster). The latter sees the clocks turn very slowly. On the contrary, the captain of the ultrafast machine watches the outer clocks beating at full speed and when the spaceship eventually returns to Earth,

observers can be surprised to see that the captain and his crew seem much younger than themselves. (Time-dilation, 2018)

Actually, this phenomenon of time dilation truly occurs. It was verified in the 1960s by synchronizing two extremely accurate atomic clocks, and then boarding one of them aboard a NASA plane moving at a very high speed. Back on Earth, the traveling clock was a fraction of a second behind the clock on earth (fortunately, all these relativistic phenomena do not appear in everyday life because they do become measurable only at very high relative speeds).

Why does space and time vary with the speed of travel or displacement? To solve this mystery, there is a need to revise these concepts which are well anchored in human consciousness, and to consider the fact that Man, so slow in his movements, cannot perceive directly and clearly. It is only at this point that one can understand the paradoxical phenomena predicted by Einstein. (Space-time, 2018)

Two thousand and five hundred years ago, Plato had already known that if Man reasons in conditions where his perception is limited in size, the deep understanding of phenomena escapes him. Plato takes the example of prisoners chained since birth in a cavern so that they cannot move, or even turn their heads: they only see the wall of the cave in front of them in which they perceive various shadows (two-dimensional, 2D) which represent their "reality". They are totally unaware that these shadows are produced by three-dimensional objects and that the reality is that, free men behind them, come and go in front of a fire. This myth shows that phenomena considered incomprehensible by creatures having access to a world of n dimensions only become luminous if they realize that they are immersed in a world of $n + 1$ dimensions.

To describe the essence of the “Einsteinian” phenomena that, Hermann Minkowski, working with Albert Einstein, of whom he had been a teacher, chased the three-dimensional conception of space separated from time in 1908. He imagined a mathematical framework with four geometric dimensions within which space and time are confused and in which this world is immersed: it is space-time (time becoming a full-fledged dimension, beside those of space, the fourth dimension). (Space-time, 2018)

Just as Plato’s slaves are incapable of designing a cylinder or a sphere, since they only have access to projections of these objects, human consciousness cannot perceive any four-dimensional object as such. However, it gives humans access to two aspects of each 4D object; on the one hand, its projection on the axis of time, which is called duration and on the other hand, its projection onto ordinary three-dimensional space, which is identified with the (3D) shape of the object. In fact, Einstein’s ultrafast ship does not really reduce size, humans only have the impression that things are happening this way because they only have access to a 3D projection of this object.

II.3 Einstein’s Theory

In the years that followed, the new concept of spacetime was even richer than anyone could imagine. Thanks to the latter, in 1913, Einstein was able to found a new theory of general gravitation. The researcher discovered that massive bodies, such as the Earth, the Sun and other stars, act on this spatio-temporal frame (which contains them). Because of their mass, they distort it, deform it, and bend it locally, just like heavy balls placed on the safety net of the trapeze artists (though this is only a metaphor, the net has only two dimensions, space-time has four). Send a ball to the surface

of the net. Since it is flat, the ball rolls at a constant speed, but as soon as it reaches one of the deformations dug by a massive object, it is obliged to follow the curvature by accelerating, and falls into the hollow. The more the ball is massive, the deeper the hollow, the faster the ball accelerates. (Einstein's Relativity, 2018)

Once his theory was published, Einstein was confronted with the hostility of his colleagues, but he retorted that his hypothesis was “too good to be false”. The future proved him right; in 1919, during a solar eclipse, researchers actually measured that luminary deviates the light rays emitted by a distant star, the mass of a star curved so well space time. It was a real triumph. The new theory is called the theory of general relativity, as opposed to the theory of special relativity of 1905 which concerns only constant speed movements. It has never been denied, on the contrary. Dozens of gravitational mirages, due to the deviation of light by celestial bodies, have been discovered in recent years. Experiments have indeed shown that an extremely precise atomic clock, placed at the top of a skyscraper, beats slightly faster than an identical clock left at ground level, where the gravitation is stronger and therefore the spatio-temporal deformation slightly more pronounced than in altitude. Nowadays, whether they are studying relativistic particles or black holes, sending probes to the other end of the solar system, or telecommunication satellites in orbit around the Earth, physicists absolutely cannot do without the two "Einsteinian" theories of space-time. (Einstein's Relativity, 2018)

III. Quanta

Louis De Broglie (1924); argues that the introduction of quanta in physics goes back to the work done in 1900 by Max Planck on the radiation of the black body at

thermal equilibrium. A heated cavity emits electromagnetic radiation (light) immediately absorbed by the walls. To account for the light spectrum by the theoretical calculation of emission and absorption energy exchanges (dE), Planck had to assume that these exchanges are discontinuous and proportional to the frequencies (ν) of the luminous radiation: $dE = nh\nu$

n : is a full number

h : is the quantum of actions that soon appeared as one of the fundamental constants of nature (Planck constant)

ν : is the frequency of light (De Broglie, 1924).

III.1 Continuity and Discontinuity of Time and Space

Ian Stewart (1992) defined continuity as the appearance that is caused when the discontinuities are small enough in relation to the resolving power and sufficiently close to the spaces considered in the action so that they are not sensitive to the observer, whether the observer is human or material. It can be considered that material "observes" other materials, that is, perceives and interacts with them. It must then be admitted that material is limited in this perception for the interaction time. This time leaves the material only a limited opportunity to measure its environment. If it does not have enough time to "feel" the irregularities, the discontinuities, it is said that there is continuity and it would be impossible to use such interaction to perceive that this is not true. On the other hand, if one probes the same material or the same action using a material having a longer interaction time or with a phenomenon having more energy, which allows to go more precisely in time it will always be found that,

basically, everything is discontinuous: material, energy, space, time, motion, evolution, the particle of mass, the particle of radiation, vacuum.

Discontinuity is the mode of transformation and movement of material. Moving from immobility and stability to change and activity cannot be done gradually but brutally, even if it is not instantaneous. The setting in motion is a phenomenon that requires its own time. The activity cannot be endless. There is a need for relaxation time. There is therefore a break before and after any activity. This means that the dynamics are discontinuities, breaks, shocks, brutal movements. Instantaneity does not exist because nothing can happen in zero time. Discontinuity should not be confused with immediate action because nothing immediate exists. It takes time to get into action; there is a maximum time during which the action can last and it always takes a time of relaxation. So, the interaction time is not made of instants without duration (Stewart, 1992).

He also claimed that, continuity could only exist if it was possible for infinitely small things to happen in one area of reality, or another. It could only exist if spaces of time, length, energy or other were joined, glued to each other. Physics has shown that two materials can never touch each other, that there will always be an empty space between them. Continuity presumes that there is no contradiction between two materials, which does not correspond to what humans observe of material. When a particle is approached more and more of another, it is noticed that there is successively; attraction then repulsion, then again attraction then repulsion and this without end progressively as the distance decreases. However, the repulsion will increase constantly, till the approach becomes impossible unless its energy as it is making the

couple of two particles explode in radiation. There has never been and there will never be contact between them. The continuity of material is impossible. Quantum physics has renounced, at the fundamental level, continuous trajectories for particles. This means that continuity of movement is not possible.

Quantum physicists thus express it in scientific language:

Quantum mechanics has in fact been invented so that each stable physical system has a fundamental state of energy minimum. Pauli's argument is as follows: if the time operator existed, it would have a continuous spectrum. Now, the time operator, obeying the canonical commutation relation, would also be the generator of energy translations. This leads then that the Hamiltonian operator would also have a continuous spectrum, in contradiction with the fact that the energy of any stable physical system must be bounded inferiorly.

It should be noted that quantum physicists, far from being satisfied with this lack of continuity, fought to the end to return to continuity but in vain. Planck did all he could to abandon his hypothesis of discontinuity and physicists like Kramers and Slater developed a final model that could save continuity in physics. Einstein announced to the first Solvay physics council of 1911: "These discontinuities that make Planck's theory so difficult to accept seem to really exist in nature". (Kormos Barkan, 1993)

III.2 Time and Space Continuum

The continuity of time is no longer proven. Etienne Klein explains in *The Time, its Course and its Arrow*, conference for the University of all knowledge, how the

continuity of time is more a cultural prejudice due to the difficulty of defining a discrete time than a result of the experience:

Throughout its history, physics has considered that space is a continuum, which means that it is possible to consider portions of lengths as small as you want, without ever reaching a limit. The point, which corresponds to an infinite number of divisions, remains however out of reach, but one can come closer to it continuously. The fact that it is possible to consider minute or even zero lengths gives rise to enormous difficulties, for example when one is interested in the electric field produced by an electric charge, as an electron, at the distance r of it. This field, varying as 1 divided by r squared, becomes infinite when the distance r vanishes. Such divergences or singularities lead to mathematical difficulties that physicists try to avoid in different ways. ... We can evoke the so-called renormalization procedure. This consists of eliminating all the infinite quantities that appear in the calculations by deducting from them a small number of quantities themselves infinite, so as to obtain a finite result. One last, more daring, track is to imagine that the space itself could be discrete, that is to say, structured according to a network, whose mesh, finite and non-zero, would represent a minimum distance below which it would be impossible to descend. ... This allows to consider spatial structures that have a discontinuous character but do not break fundamental symmetries. ... The usual properties of space being restored to the scales of the usual physics, it is only below a certain scale that the effects of this geometry appear. This scale, which could be the so-called Planck scale (10 power minus 35 meters), would represent a limit to the divisibility of space. But let's go back to time. Physicists suppose it to consist of instants which succeed one another in a continuous structure. These moments play for the time the same role as the point for space. They are just as inaccessible to perception. ... The idea of a discontinuous time, of an atomicity of the duration, is sometimes evoked ... The impossibility of observing the moments does not go in any case against the idea of a continuous time, in the same way that the absence of a truly punctual object does not go against the possibility of a continuous space. (Klein, 2018)

This last remark shows that the continuum, according to scientific philosophers and scientists, remains a firmly anchored prejudice even when it has no basis, Klein affirms. Why do humans need to conceive a discontinuous time? First, basically, there is a quantum reason. A zero time requires infinite energy. The infinitely small objects had to be expelled from quantum physics by renormalization which means that zeros

must be dismissed to also remove infinities that do not exist in the observation of the real. humans have even been able to calculate a space limit of duration which is Planck's time. So, they tend to think that time could be quantified. However, and this is essential, as it is explained above, no experience can be realized in a null or infinitely small time. Consequently, such a zero time would never appear in natural phenomena or in experiments.

Time itself ceases to appear as a continuous addition of successive instants. One can indeed believe that the long time is a sum of short time spaces. This is suitable for regular dynamics, without large discontinuities, not considering short time intervals, such as the movement of macroscopic bodies. This is no longer appropriate in quantum physics. By passing at short times, the laws change, the objects are not the same anymore. Where there was nothing (the vacuum seen from the macroscopic point of view), appear myriads of virtual particles. The whole world can appear in a sufficiently short time, also called the time of the Big Bang, which one must not see as the creation of the universe but as the minimum time and as the maximum energy. The time of the Big Bang is only the last known threshold beyond which one can speak of material, even if virtual, does not have any sense.

The notion of long-time intervals consisting of a sum of short intervals becomes obsolete. In short times, great energies can appear and disappear, which is not the case in long times. Time completely changes image with respect to the two representations commonly known: the cycle and the straight line. Vacuum has shown that the fundamental time is disordered. It is based on nonlinear oscillations of polar particles' pairs (like: electron and positron) which is chaotic. The ordered time is an emergence within

a whole of a very large number of durable particles and it is constantly being created and self-destructed within the quantum vacuum.

Continuity is often an appearance that is provided to us by the reconstruction of reality by our brain. It is said that our mind fills the holes. It will be remembered that this is the cause of a number of optical phenomena called illusions. This is the illusion of the continuous.

However, the consciousness itself is not continuous according to Raymond, 1992, as cited in (King, 2018): “The flow of our consciousness is not to be considered as a permanent continuous change but rather as a succession of stable states. ... Numerous data from experimental psychology and human neurophysiology support this “quantum” aspect of our conscious states”.

The objective time is the time that scientists hold. In physics, in technical disciplines, there is no place for subjectivity but the consequence is that science cannot explain everything, since it cannot take into account duration. Bergson therefore rises against the claim of some scientists to analyse everything and understand everything about man and society through science. Bergson thus condemns scientism but also all forms of social determinism, such as the positivism of Auguste Comte, or the historicism of the Germans. (Henri Bergson, *le temps et la durée*, 2018)

Bergson points out the mistake of applying the methods of the natural sciences, which can reveal analogies, cycles, and eternal new beginnings, to the sciences of Man, who is confronted with the dynamics of subjectivity. As a mathematician, Bergson denounces the misuse of mathematics in social sciences (Henri Bergson, *le temps et la durée*, 2018). Bergson’s thoughts will be thoroughly examined in the second chapter.

IV. Time and Space from a Metaphysical Perspective

Time is a concept universally known and dealt with every day. However, poorly defined, since scholars did not succeed in putting a single and one, precise and convincing definition. Some of the short and abrupt definitions from online sources come as:

- What clocks measure (attr. to physicists Albert Einstein, Donald Ivey, and others)
- What prevents everything from happening at once (physicist John Wheeler and others)
- A linear continuum of instants (philosopher Adolf Grünbaum)
- A certain period during which something is done (Medical Dictionary)
- A continuum that lacks spatial dimensions (Encyclopaedia Britannica)

Each of these definitions may seem concise and exact though none of them gives a sound and satisfactory explanation about the true nature of time. (Time, 2018)

Different dictionaries have defined time in multiple ways, the following ones are gathered from websites, (what is time?, 2018):

- The indefinite continued progress of existence and events in the past, present and future regarded as a whole (Oxford Dictionary)
- A nonspatial continuum that is measured in terms of events which succeed one another from past through present to future. (Merriam-Webster Dictionary)
- The measured or measurable period during which an action, process or condition exists or continues (Merriam-Webster Dictionary)
- The continuous passage of existence in which events pass from a state of potentiality in the future, through the present, to a state of finality in the past. (The World English Dictionary)
- A continuous, measurable quantity in which events occur in a sequence proceeding from the past through the present to the future (Science Dictionary)
- The dimension of the physical universe that orders the sequence of events at a given place (McGraw-Hill Encyclopedia of Science and Technology)
- A non-spatial system in which events appear to happen in irreversible succession (WordSmyth Dictionary)
- The inevitable progression into the future with the passing of present events into the past (Wiktionary)

- The indefinite continued progress of existence and events in the past, present, and future regarded as a whole (Google).

The abstract concept called “time” is moving towards someplace, normally from the past to the future, though the World English Dictionary suggests the opposite, with future to past. Time is a pivotal element of reality, as it is characterized as being a continuum. In every definition some type of the Latin *continēre*: “to hold together” is used, from which continued, continuous, and continuum are derived. Motion has always been a centre segment of time and every definition contains a motion element, regardless of whether it is to succeed, advance, progress or pass. Succeed originates from the Latin: *sub*: near; *cedere*: to go. Progress originates from Latin *progratus*, of *progradi*: *pro*: forward, *gradi*: to go. Pass, the action word or verb, means to move, continue, or go. Generally, time's definitions uncover it as a moving concept that holds presence or reality together.

Another approach of perceiving time is as the sum of three separate components: the past, the present and the future. (what is time?, 2018)

The past may be determined as those happenings or events which happened before a given point in time, happenings which are mostly viewed as fixed and permanent. It tends to be gotten to through memory or, since the appearance of composed or written language, recorded history. The study of the past, specifically as it is related to humans, is called history.

The present might be looked at as the time related with the events apparent straightforwardly and for the first time; which means not as a memory from the past or as a thought, consideration or expectation for the future. It is similar in meaning to “now”, and is the timeframe situated between the past and the future. Exactly how

long this timeframe the present embodies, however, relies upon the specific situation or context, and can fluctuate from an imperceptible or durationless moment to a day to an entire age, contingent upon how it is being used. (what is time?, 2018)

The future is the uncertain timespan after the present moment. It is the section of the anticipated course of events that is foreseen to happen, and might be considered as possibly interminable in its degree, or as circumscribed and limited, contingent upon the context. While some people may consider the future as fixed and prearranged, most consider it to be basically obscure (and maybe mysterious), and open to various conceivable outcomes and changes. The investigation of hypothesizing conceivable, plausible and favoured prospects and perspectives is called futurology. (what is time?, 2018)

IV.1 Philosophical and Literary Readings of Time and Space

The history of philosophers and metaphysicists has always been full of arguments over the issue of what is timeless. This vital issue involves controversial inquiries about timeless truths, God in the different religions, timeless laws of nature, spatial geometry and numbers, but surely every existing thing would be timeless, without the existence of time.

Accordingly, creating a solid philosophical theory of time, a theory which would provide answers to the wide range of such philosophical issues, has been a central concern for outstanding philosophers from ancient ages. Since most of these issues are closely related to each other, it is logical to expect one issue's resolution to have deep impact and implications for another.

Philosophers have been investigating the question of time even before Aristotle.

All existing living creatures, except humans, live in a continual present, without making any distinction of past, present and future. Therefore, humans' consciousness of time is among the most prominent distinguishing features of humankind and one of the characteristics that separates humans from animals. The reason why, unsurprisingly, from ancient times, philosophers, scholars and theologians have been grappling on the true nature of time. Raising various questions such as: Does time have a substance? If so, what is it? How can humans be sure that time truly exist? Does it really have a beginning and an end? Does it consist of a straight line or a circle? (Dowden B. , 2019)

Yet, most researchers and philosophers agree that time is continuous; in the way that humans do not experience it as stopping and starting. Also, on the fact that it has an intrinsic direction or order, because of the general agreement among humans that events progress from past to present to future. In addition to the agreement that time is objective not subjective, and certainly independent of humans' conscious experience, which is muchly confirmed by the universal agreement on the order of time of the majority of events, whether psychological or physical, as well as the very fact that numerous physical processes hold consistent time relations to one another, as for the rotation of the earth, for example, or the frequency of oscillation of a pendulum. Still, varying opinions and approaches to the question on the real nature of time have been displayed over the centuries. (Dowden B. , 2019)

In this part, a brief historical account on the different philosophical opinions is put forward:

IV.1.1 Time and Space in Ancient Greece

Early Greek philosophers mainly believed that the universe, equating it with time itself, was/is infinite without any beginning or end. The philosopher, Antiphon, in the fifth century BC, claimed that time is not real “hypostasis” but rather a concept “noêma” or even a measure “metron”. In the same epoch, Parmenides perceived time and motion as a mere illusion, since, according to him all change is impossible and illusory, very similar to Buddhist thought. Later, Parmenides argued that reality was dependent on the actual existence of “here” and “now” and the notions of past and future are unreal and imaginary. Heraclitus, a near-contemporary of Parmenides, however, strongly insisted that time is actually real and consists of the very essence of reality (Dainton, *Temporal Consciousness*, 2019)

In the next century, Plato affirmed that time has been created by the Creator simultaneously with the creation of the heavens. Though, attempting to add a scientific touch to his argument, Plato defined time in relation to the period of motion of the heavenly bodies. He has been aware of the so-called concept of the “Great Year” as well, a full cycle of the equinoxes around the ecliptic². The Pythagoreans with some Stoic philosophers, such as Chrysippus perceived this cycle as the end of time essentially, after which world history is assumed to start repeating itself over and over in an endless repetitive process. (Dainton, *Temporal Consciousness*, 2019)

Aristotle, Plato’s student, perceived time as a main characteristic of movement, or as something dependent incapable of existing on its own but rather relative to the

² The return of the planets and the “fixed stars” to their original relative positions, a process that takes about 25,800 years.

motions of things. He named time as “the numeration of continuous movement” or “the number of changes in respect of before and after”. Aristotle suggested that time is merely a measurement of change, thus incapable of existing without some type of succession or change, besides its requirement of the presence of a soul able to “number” the movement. (Dainton, Temporal Consciousness, 2019)

Even if he perceived time as being mainly a measure of change, he highlighted and insisted on the fact that it does not equal change and the two concepts cannot be perceived or used interchangeably, since change can occur faster or slower. Aristotle also assumed that, even if space was finite, time was not, and that the universe has always and will always exist. In addition to that, he argued that time was continuous, neither discrete nor atomistic just like a line which can be divided and sub-divided for evermore. (Dainton B. , 2018)

Aristotle was the first to sketch the famous paradox on the existence of time, reviewed by St. Augustine many centuries later, stating that; if time basically involves two types of non-existence, namely, the past or the “no-longer” and the future “not yet”, separated by some void or the periodic vanishing present “now”, how shall humans assume that time is actually existing?

The Christian theologian St. Augustine, fourth-fifth century, most assumingly thought deeper over the nature of time than his preceding philosophers, though his deep thoughts remained incomplete and ambiguous. St. Augustine accurately epitomised the experience of most humans, mirroring the earlier suggestions of the Neoplatonist Plotinus, when he declared: “What then is time? If no one asks me, I know;

if I wish to explain it to one that asks, I know not". (Dainton, *Temporal Consciousness*, 2019)

IV.1.2 St. Augustine and Time

The very close relationship between immediate experience and a periodic present has a long and special pedigree. In his introduction to his *Lectures on the Consciousness of Internal Time*, Husserl claims: "The analysis of time-consciousness is an ancient burden for descriptive psychology and epistemology. The first thinker who sensed profoundly the enormous difficulties inherent in this analysis, and who struggled with them almost to despair, was Augustine". (Husserl, 1991, p. 3)

Regardless of whether Augustine was the first to deal with such matters, his works in *The Confessions* have guided him into embracing a position that is regarded as representing the Cinematic Model of conception explained later in the "Time and Consciousness" part. Augustine endorsed the doctrine of the currently known "Presentism" as he claimed that only what is present is real:

What now is clear and plain, that neither things to come or past are. Nor is it properly said, "there be three times, past present and to come:" yet perchance it might be properly said, "there be three times: a present of things past, a present of things present, and a present of things future." For these three do exist in some sort, in the soul, but elsewhere do I not see them; present of things past, memory; present of things present, sight; present of things future, expectation (Gale, 1968).

As for Augustine it was obvious as well that the present has to be completely without any duration and that humans' perception is limited to what is present, as Gale puts it: "that only can be seen, which is" (Gale, 1968, p.43). One might immediately conclude that humans can perceive and experience things that are in the periodic instantaneous present only.

Augustine added that if humans' consciousness is attached to the momentary present, how can it be possible for humans to know as much as they do about the duration of events they live? His main suggestion to solve this problem consists in the fact that, in effect, memory and expectation can interact.

Augustine was only able to conclude that time consisted in some type of a "distention" of the mind allowing humans to simultaneously understand and store the past in memory, the present by attention and the future through expectation. He also supported a subjective perspective on time, claiming that time is nothing in reality but only exists in the mind's approval of reality. (Gale, 1968, p.43)

The Middle Ages was a time in which Christian philosophers opted for the reconciliation between the concept of time and God's creation of the universe.

IV.1.3 Time in the Middle Ages

During the early Middle Ages, both Muslim and Christian philosophers have attempted to fuse the ideas of Aristotle into their theology, however, they did grapple with his assumption that time was infinite. The presumably first Christian philosopher to have contradicted with a solid argument this ancient Greek notion of infinite past was John Philoponus in the Sixth Century. His opinion was also expanded and institutionalised by Christian scholars of the Eleventh to Thirteenth Century, like Thomas Aquinas and St. Bonaventure, in addition to Muslim philosophers like Al-Kindi and Al-Ghazali (what is time?, 2018).

Thus, time was surely finite in nature, this assumption was known as "temporal finitism". The overall perspective held that time will reach a definite end with the end of the world, in the end of times, or as commonly known the cataclysm of the apocalypse.

The Italian theologian, Thomas Aquinas, during the Thirteenth Century, strongly objected to Aristotle's claim of infinite time, as he asserted that, although theoretically, the universe could have existed infinitely in the past, it actually did not, because it began with God's creation of the earth a finite time ago. He even warned that humans' imagination cannot always be fully trusted to analyse the nature of things or phenomena. (what is time?, 2018)

Other Thirteenth Century philosophers, such as Henry of Ghent and Giles of Rome better discerned the concept of the continuum of time actually existing in reality and not just as a mind-dependent concept; still, it can only be determined into earlier and later spheres by the mind.

The French mathematician of the fourteenth century, Nicole Oresme, may be the first to have tried to approach time from a mathematical and scientific angle. His main question consisted in whether the celestial motions of the Sun, Moon and planets are proportional, whether there is an exact time interval of which the day, month and year are all precise integer multiples. Oresme implied that a creator of the universe may have perfectly arranged things so, though he reached the conclusion that no two celestial motions are truly proportional, thus there is nothing as exact time interval. (what is time?, 2018)

In literature, the images expressing such traditionalists' perspective on time the best, consist in those including moving water, like rivers and streams. As moving water implies a continuing, stable and inevitable passing of hours, days, months and years. A selection from Thomas Carlyle holds the conventional image of the time flow:

That great mystery of time, were there no other; the illimitable, silent, never-resting thing called time, rolling, rushing on, swift, silent, like an all-

embracing ocean tide, on which we and all the universe swim like exhalations, like apparitions which are, and then are not: this is for ever very literally a miracle; a thing to strike us dumb,- for we have no word to speak about it.

However, in literature, it was not until the renaissance era that any real emphasis on time appeared. Portraying the large technical and scientific changes which the renaissance life witnessed. One of the most dominating themes in the literature of this period was “mutability”. Especially in the sonnet sequences, where time played the role of the agent of mutability, a noticeable force causing everything to go through constant change. Shakespeare’s Sonnet CXV is a symbol of the sonnet tradition based on the “mutability” theme:

But reckoning Time, whose million’d accidents
 Creep in ‘Twixt vows, and change decrees of kings,
 Tan sacred beauty, blunt the sharp’st intents,
 Divert strong minds to the course of altering things; (Sonnet CXV, s.d.)

In the majority of Shakespeare’s plays, time symbolises a heartless agent in life’s journey, destructive for both nature and individuals, as suggested by the following passage from *Pericles*, Time’s the king of men:

He is both their parent, and he is their grave.
 And gives them what he will and not what they crave. (II, iii) (Shakespeare).

This theme of “mutability is apparent as well in many pastoral elegies, like Milton’s “*Lucidas*”, implementing the same focus on the changes in nature. Moreover, Milton was also interested in time as a measure of duration in “*Paradise Lost*” and opted for the traditional view of time as a regular means. Like many other traditional philosophers and writers, Milton perceived time as having only one dimension, a linear order from an infinite extending past to an infinite extending future. This claim has later been supported by the scientific theories of the Seventeenth Century, mainly by Isaac Newton.

Philosophers and writers, in fact, are unable to detach themselves from their environment, as they certainly cannot help being influenced and most frequently inspired by the different occurrences in the fields of science or art.

In the Early Modern Period, two conflicting philosophical positions regarding time were promoted by Sir Isaac Newton and Gottfried Leibniz.

After a quite long pause, during the Seventeenth and Eighteenth Century, the Age of Enlightenment or Age of Reason came into existence giving birth to a new focus on the real nature of time a question which became a point of philosophical contention. René Descartes, embraced a mystical view that, even if one of the characteristics of any material body is temporal extension, it has no basic ability for temporal endurance. Yet, God, through his continuous process, effectively maintains and recreates the body at every successive moment. Thus, time is a type of continuous process of recreation by God. (Dainton, Temporal Consciousness, 2018)

On the other hand, the two main contradictory schools of thought on this issue during this period are sometimes referred to as Realism and Anti-Realism or Absolute and Relational.

IV.1.4 Realist and Anti-Realist Views on Time and Space

The Realist perspective, pioneered by Sir Isaac Newton along with his friends Isaac Barrow and Samuel Clarke, affirmed that time is a main constituent of the basic structure of the universe and that it should be perceived as dimension in events happen in sequence, a perspective often referred to as Newtonian time.

Newton has made a noteworthy declaration as he suggested that, the concept of “absolute time” exists apart and independently of any observer; movements and

evolutions at a regular pace throughout the universe, are hard to sense if not completely imperceptible, and can only be understood through mathematics. Hence, time is an entity fully-fledged and human beings as well as all creatures and objects in the universe, are only occupying it temporarily. Notwithstanding, Newton clarified, that humans are only capable to perceive what he named “relative time” which is a type of measurement of observable objects in motion, such as the moon or the sun, from which humans can deduce the passage of time. (what is time?, 2018)

On the other hand, Newton’s rival Gottfried Leibniz strongly believed that time does not, in any case, refer to any flowing dimension actually, and that both objects and events move through in one way or another. Yet, this anti-realist perception of time suggests that it is purely a suitable intellectual concept, just like space and number, that enables humans to order in sequence and compare events. Hence, it is assumed that time cannot have any meaning without the presence of events and objects with which it may interact or relate to, the reason why this view is often referred to as “relational time”, leading to the very concept that, in a real sense, the events occurring actually themselves represent time. (Dowden B. , 2018)

Without any doubt, time seems to be a really abstract concept; however, if one thinks of a specific moment in time, all what may come to the human mind is an event that happened at that precise moment, it is clearly impossible for human beings to point to or at least describe the moment itself. Thus, according to this perspective, time and space are the mere product of the way humans represent objects to themselves, since they are only capable of discerning events or objects the way they appear to them. During the years 1715 and 1716, Clarke and Leibniz presented a thorough

public correspondence debating over the respectively relational or absolute characteristics of time and space.

The German philosopher, Immanuel Kant, described, in his book *The Critique of Pure Reason* (1788), space and time as “a priori” notions fundamental for allowing human beings to understand sense experience but certainly not entities neither substances in themselves, as he described them, “phenomenally real” but “noumenally unreal”. He argued that the human mind does actually structure perceptions in a way that space always operates with a Euclidean geometry, just like time always proceeds in a linear structure of a mathematical line. Accordingly, time purely consists of one element of the systematic framework that humans employ to frame their experience, the one they adopt to quantitatively estimate the duration of, or compare the interval between events. Thus, even if seemingly empirically real, Kant confirms that time is “transcendentally ideal” (Kant, 1922).

Even if the Seventeenth and Eighteenth centuries marked the emergence of the modern world with all the remarkable scientific and technological advances, writers, in this period, were still interested in the past as a history leading to the present, instead of a part of the whole. Classicism developed a spatial meaning of time; in the way that the past was perceived as an accumulation of separate events fully-fledged. However, with the subsequent emergence of the Romantic Age, the focus shifted to the value along with the development of human nature concerning the basic unity underlying both the history process and individuals’ growth. Therefore, the sense of continuity and relation to the past was portrayed in the literature of the Age of Romanticism.

William Wordsworth conveys his beliefs regarding natural continuity in his poems, mainly in “Tintern Abbey” and “Peele Castle”, as in both poems, Wordsworth’s going back to a place tends to mention the degree of change throughout that period of time and the degree of his personal growth and continuity. As he wrote in “Peele Castle”:

So pure the sky, so quiet was the air!
So like, so very like, was day to day!
Whene'er I looked, thy Image still was there;
It trembled, but it never passed away (Wordsworth, 2004)

The theme of transcendentalism is portrayed as well in this selection; in a way that, nature can actually produce forces which are able to transcend the damages of time. Transcendentalism surpasses mutability by demolishing the barriers between past, present and future. In an attempt to reach the unity inherent to individuals’ growth from infancy to adulthood.

Wordsworth evolved the living, or human implication of the past, conveying relationships between the past and the present individual, like in “Tintern Abbey” where he wrote: ‘The child is father of the Man’. Wordsworth is considered as one of the first writers who broke the standard rules of plot organisation. The so-called “Spots of Time” as Wordsworth put the name, are scattered all over *The Prelude*, such moments usually announce a catastrophe, supplying the boy in the poem with a visionary insight. *The Prelude* is regarded as the development of a single experience which is the basis for all experience. Wordsworth remembers different places that influenced him in the past and still have a strong impact on his consciousness.

Although Lawrence Sterne has been writing some few years before Wordsworth, he is regarded as an avant-garde writer compared to his contemporaries, especially in

the field of time treatment; modern literature actually owes much to him, as he was the first writer having expanded the moment, by his technique of delving into details and using frequent short digressions, Sterne tried to stretch and lengthen every minute, contrary to the standard plot structure where years of time may be reduced to some few pages, as it may take the reader more time to read about a single event in *Tristram Shandy* than it would take while experiencing the same event in real life.

Sterne aimed to provide a precise and real picture of human life, switching from the focus on outer trappings of fiction, like the plots with a clear beginning, middle and end, to the inner proceeding of the human mind with all its digressions as well as its proper and exceptional structure. The outcome of characterisation in *Tristram Shandy* may be perceived as a freer representation of the individual, renouncing to the traditional standard imposing the chronological succession, Sterne used the technique of time-shift, swinging between the past and the present; at some instances the flow of life in *Tristram Shandy* appears to stop completely (Sterne, 2005).

The emergence of the new theories in science and psychology in the Nineteenth Century have commanded modern thought concerning time and obviously impacted some trends in modern fiction. After the appearance of the theory of quantum mechanics (previously explained in this chapter), scientists felt they had solved the dilemma of time; since time will no longer be seen as an absolute entity. As suggested by Einstein's theory of relativity, the amount of time consumed by any event heavily depends on the observer's frame of reference; meaning that, time is relative, this concept meets the modern writer perception of time.

Actually, many philosophers and physicists support the idea of the relativist perception of time and the physicist Ernst Mach, was among this relativist group. Writing by the end of the Nineteenth Century, Mach claimed that, although the nature of what time and space were relative to was still ambiguous, they remain relative to the “fixed stars” and that if the universe was empty, such concepts would neither exist nor have any meaning at all (Wolters, 1989).

This very concept of relativity has led to the emergence of the idea of **Conventionalism**.

IV.1.5 The Conventionalist Perspective

Humans’ everyday use of time largely depends on “conventionality”. For instance, it is a very normal and logical act for any human being to re-set his/her clock by one hour when crossing a time-zone, and, that it is an arbitrary convention that there are twenty-four hours in a day instead of twenty and sixty seconds in a minute and not ten.

Henri Poincaré, a Nineteenth Century mathematician, physicist and philosopher, strongly believed that convention plays a very crucial role in physics, particularly that space and time geometry is mainly decided by convention, since various geometries may present a set of objects equally well. This concept, known as “conventionalism”, was later adopted by the philosopher of science, Hans Reichenbach, who asserted that the entire structure of relativity depends on what is actually a convention, especially that the speed of light is a constant, although a convention supported by the equations of James Clerk Maxwell as well as the effective testing of Michelson-Morley experiments (Walter, 2008).

The German existentialist, Martin Heidegger, in his 1927 book *Being and Time*, reached the conclusion that, humans do not exist “within” time; however, in very real and intricate way, humans “are” time and the overall structure and concept of time are, in fact, inseparable from the human experience. Moreover, he mentioned that, since humans are able to allow the past to exist in the present through memory, and permit a potential future happening to exist in the present as expectations, thus, humans are not stuck in the simple sequential or linear time, but are able to leave it willingly (Heidegger, 1996). This concept has been largely expanded by Marcel Proust in his masterpiece *A La Recherche Du Temps Perdu*, where he concluded that one can experience and live many types of time at once, and he named it as the “plurality of time” (Proust, *Le Temps retrouvé*).

From the Nineteenth Century on, multiple fields of science, namely anthropology and sociology, started investigating the concept of the past and sensing some significance for the contemporary human being in the patterns of the old and primitive behaviours and beliefs. Freudian psychology has as a main concern, the past shaping and impacting the present.

In a similar vein, Carl Jung, developed his theory of the collective unconscious and subsequently supplied support for the modern writer’s thoughts, regarding cohesion between modern and traditional individuals.

Though Nineteenth century scientists and psychologists have established some new concepts and theories regarding humans’ relationship with the past and with the present, the spread and popularisation of these new attitudes towards time was thanks to the Twentieth Century philosophers and writers. Wilbur. M Urban (1930) stated

that: “the demand that time shall be taken seriously is one of the fundamental notes of modernism” (Urban, 1930). New advances were occurring so rapidly that Man was not able, with any assurance, foresee his future life, even five years in the future, as it will be; not only the future, but also the past and the present, were in a state of flux, Man has, at that time, lost his sense of stability as he was participating in the increased mobility of modern life and in rapid social and economic change. While in the previous centuries, greater change was very little known during the comparatively shorter life of a man, the Twentieth Century man’s life span has clearly doubled; as the change pace has increased in speed, thus, he was confronted each time with the reality of that changing world. Becoming, in this way, more and more conscious of time as the psychomotor of change.

IV.1.6 Modern Philosophy and Time

The philosopher who pioneered much of the debate on time, in the Twentieth Century, was J.M.E. McTaggart, mainly through his work, *The Unreality of Time* (1908), in which he suggested that time is in fact “unreal” because human descriptions of the latter are forcibly whether contradictory, circular or insufficient. McTaggart mentioned that humans perceive the present moment they actually live through as the “only” present time. However, other moments such as, past and future, also at a certain point, either were or will be the present time. In this regard, McTaggart’s thorough analysis later led to multiple productive domains in the modern philosophy of

time, including the tensed³ and tenseless⁴ theories concerning the passage of time (McTaggart, 1908).

According to the Internet Encyclopaedia of Philosophy (Dowden, 2019), philosophers of time are divided into two broad camps on the opposite sides of each other, the A-camp and the B-camp. Advocates of the A-camp suggest that McTaggart's A-theory is the principle way to view time; as they stand for the following beliefs: past events constantly change as time flows they are moving further into the past, this very fact of changing constitutes the only real principle kind of change; whereas, the notion of "now" or the present can be perceived as objectively real, the same as the flow of time, philosophically one should accept whether "presentism" or the growing-past theory⁵; statements and predictions cannot be judged as true or false at the exact time they were uttered; tensed facts are metaphysically essential as opposite to the untensed facts; the metaphysically essential objects are three not four dimensional.

³ The **tensed theory of time** (the **A-theory**), on the other hand, denies that such an argument is valid, and argues that our language has tensed verbs for a good reason, because the past, present and future are very different in quality. The A-theory therefore denies that the past, present and future are equally real, and maintains that the future is not fixed and determinate like the past. A-theorists believe that our ordinary everyday impression of the world as tensed reflects the world as it really is: the passage of time is an objective fact. (The Tensed Theory of Time, 2019)

⁴ The **tenseless theory of time** (also known as the **B-theory**, based on McTaggart's B-series method of ordering events) calls for the elimination of all talk of past, present and future in favour of a tenseless ordering of events using only phrases like "earlier than" or "later than". The argument behind this is that tensed terminology can be adequately replaced with tenseless terminology, e.g. the future-tensed sentence, "we will win the game" can be adequately expressed as, "we do win the game at time *t*, where time *t* happens after the time of this utterance". The future tense has therefore been removed, and the verb phrases "do win" and "happens after" are logically tenseless, even if they are grammatically in the present tense. If this is true, then there is no essential difference between the past, present, and future, all of which are therefore equally real (see the section on Eternalism below), and the passage of time must be merely an illusion of human consciousness. (The Tensed Theory of Time, 2019)

⁵ The **growing block universe theory of time** (or the **growing block view**) suggests that the past and present exist while the future does not.

Advocates of the B-camp refuse most of the A-camp suggestions. They strongly argue that McTaggart's B-theory is the main, basic approach to consider time, as they acknowledge most of these claims: events are never actually subjected to real change, the present cannot be objectively real, neither is time's flow; philosophers should approve eternalism⁶ and the block-universe theory, statements are whether true or false at the exact time they were uttered; untensed facts are more essential than tensed facts; the essential objects are four instead of three dimensional.

Several philosophers attempt to accurately analyse the relationship between ordinary people's beliefs about time and the scientific image of time, that is, time as understood and explained by contemporary science and particularly physics.

The common image, or as called by philosophers the "manifest image" holds these beliefs about time: All events have duration. Time has a direction (from past to future) unlike space. Time is continuous. The past is fixed as opposite to the future. Any two events follow an objective order; one happening before the other or simultaneously. The present exists and is objective, it also divides one's past from their future. The future is unreal and does not exist. The aspects and characteristics of time are independent of the existence or appearance of physical objects.

All of these beliefs are well known to both categories; however, the later beliefs are not considered as a part of the scientific image as they seem contradictory to science.

⁶ Eternalism is the picture of time delivered to us by the special and general theories of relativity. Eternalists hold, roughly, that (i) all times from the big-bang to the heat death of the universe exist equally; (ii) there is nothing metaphysically special about the present (terms like 'present' and 'now' are indexical notions); (iii) the passage of time is not an objective feature of reality. Eternalism is also known as the 'block universe' view, which is meant to suggest a conception of the universe as a four-dimensional spacetime manifold. (Baron, 2019)

A prominent question may be raised; which one of the two images is better for understanding time? The philosopher of time Craig Callendar stated, “Despite its importance, our best science of time suggests that manifest time is more or less rubbish.”

A very popular method in philosophy and metaphysics is to start from the basic beliefs of ordinary people or as it is known the commonsense image and then move on to develop it if solid arguments and reliable observations impose changing it. Though, there is a wide range of opposing opinions about what can be viewed and relied upon as a solid argument.

May disagreements with the theory of relativity be considered as a solid argument?

In his classic work *The Crisis of European Sciences and Transcendental Phenomenology* Edmund Husserl (1970), criticised the scientific image and argued that the theory of relativity is not about real time, even though many philosophers of time disagree with him (Moran, 2011).

Since the Logical Positivists⁷ programme failed in simplifying the meaningfulness of all non-tautological statements to familiar statements about what can be viewed or given in human sense experiences (especially by seeing, hearing and feeling) some would stand for any reduction or simplifying of the scientific image to the commonsense image, however the real relationship between the two remains an open question.

⁷ the logical empiricists wanted to find a natural and important role for logic and mathematics and to find an understanding of philosophy according to which it was part of the scientific enterprise (Logical Empiricism, 2019).

Commenting on the relationship of the two images, Craig Callender, said: In some very loose and coarse-grained sense, manifest time might be called an illusion without any harm done. However, for many of its aspects, it's a bit like calling our impression of a shape an illusion, and that seems wrong (Callender, 2017).

IV.2 Modern Physics and the Emergence of a New Philosophical Thought

Several new approaches to time were launched by the new ideas in modern physics, among them, the Many Worlds Theory of parallel universes.

The very concept of alternative universes and the many-worlds interpretation of quantum mechanics, the one gaining much of the attention currently in modern physics, brings the addition of a completely new dimension to the debate over the nature of time. In a possible infinite number of parallel universes, in the disconnected time streams, some can be circular and others linear; that is, time could diverge in a continuous process or multiple time streams could even branch and combine into one; the laws of causality or succession could be demolished or simply inapplicable.

Even if most modern physicists hold the view that time is real in the same way as space is, Julian Barbour has made an attempt to clearly portray that time exists as an illusion only. In his book *The End of Time* (1999), Barbour argues that the quantum equations of the universe are true only if they can be expressed in a timeless realm containing all possible instances of “now” or momentary arrangement of the universe, Barbour named this realm “platonica”. He also suggests that, if general relativity is to reconcile with quantum mechanics, it would mean that whether time does not exist or it is not vital in nature. He asserts that all that exists, is essentially a vast collection of frozen moments. Each moment has the form of a configuration of the universe.

Each configuration exists as a moment of time. Barbour calls this collection “The heap of moments”. The moments in the heap do not follow each other. There is no order to them. They simply are. In Barbour’s metaphysical portrayal, nothing at all exists except these pure moments of time. (Smolin, 2013)

Both physics and modern analytic philosophy have often considered the very possibility that time may have more than one dimension. The English scholar John G. Bennett has hypothesised a six-dimensional universe, keeping the three known spatial dimensions and adding three time-like dimensions, that he named “time”; the sequential chronological time that humans are familiar with, “eternity”: timeless or cosmological time, and “hyparxis”: the ableness-to-be as he characterised it. (Dainton B., 2018)

The concept of “imaginary time” is also a concept extracted from quantum mechanics, first introduced by Stephen Hawking in his book, *A Brief History of Time* (1988), it was a way he proposed to avoid the idea of a “singularity” at the very start of the universe, when time starts all of a sudden and all the laws of physics collapse. Hawking assumed that space and imaginary time are actually finite in extent but do not have any limits, in the same way as the two-dimensional surface of a sphere which has no boundary. According to him, imaginary time, is not imaginary suggesting that it is unreal, but only in the sense that it is rather hard to visualise or conceive. It may be much easier to portray it as a line perpendicular to the past-future line of the “real” time, similar to the way imaginary numbers run perpendicular to the real numbers in the complex plane in mathematics. In this regard, “real time” as humans understand it, would still have a beginning, however, the way this universe began at the Big Bang

would be mainly defined by its state in imaginary time. Then, the very beginning of the universe would be represented as a single point, very similar to the North Pole of the Earth, though not a singularity (Dainton B. , 2018).

IV.2.1 Time Travel

Very similar to the movement of an object or person between specific points in space, time travel represents the act of moving between points in time using a hypothetical device named “time machine”. It is a very common concept in philosophy and literature, especially fiction. The notion of “time machine” was actually launched by H. G. Wells’ 1895 novel *The Time Machine*.

“If one made a research grant application to work on time travel it would be dismissed immediately” (Hawking, 2018), writes Stephen Hawking in his book *Brief Answers to the Big Questions*. Hawking’s statement was certainly right, but his very alluding to the possibility of scientifically approaching the serious question related to time travel was of a crucial significance.

Human current understanding is still unable to achieve such a thing. However, Stephen Hawking was very optimistic regarding this issue. Humans’ everyday experience is a very good example of how people, today, take for granted their ability to contact their friends or relatives wherever they are in the world and share with them the experiences of the present moment “now” with no time delay. Even if the signals and waves carrying their voices and images do travel extremely fast, it still takes some determinable finite time for the waves and signals to travel and arrive. This very inability for human beings to reach the “now” of other distant human beings constitutes the core of Einstein’s theories of space and time. Einstein argued humans should

conceive distances in time the same way as they do for distances in space. Nevertheless, it seems quite strange how humans generally answer whenever asked about the distance between two cities “about two hours” for example, meaning that the journey takes that amount of time at a certain average speed (100 km per hour, in this case). This statement is mathematically equivalent to saying that the distance between the two cities is about 200 km. (Millington, 2018)

The physicists Brian Cox and Jeff Forshaw in their book *Why Does $E=mc^2$?* argue: “distance and time can be interchanged using something that has a currency of a speed” (Cox & Forshaw, 2009). The intellectual leap by Einstein consisted in the very assumption that the exchange rate from a time to a distance in a spacetime is universal; it is the speed of light, which represents the fastest any wave or signal can travel, putting clear limits on how soon can humans know what is occurring elsewhere or anywhere in the universe, entailing the notion of “causality” the famous law suggesting that effects always occur after their causes. However, this idea consists a serious problem for the time travel protagonists because of the “grandfather paradox” suggesting that: if one is to travel flying at an extraordinary speed in a spaceship and return to earth, less time would pass for the traveller than it would for anyone he left behind. Those left behind would conclude that the traveller’s life passed as if in slow motion and the traveller would have aged more slowly. The faster the journey is, the slower the clock would tick compared to the clocks on earth. Moreover, if the journey is at the speed of light, the traveller would have returned as if he/she had been frozen in time. (Millington, 2018)

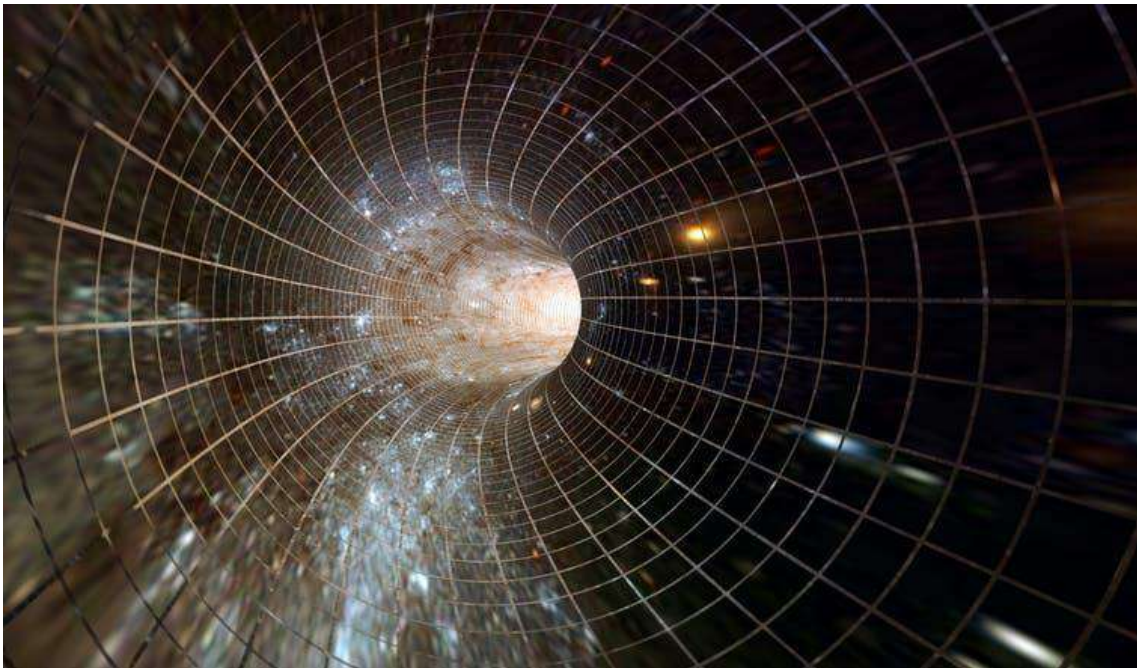
Nevertheless, if one is to travel faster than light, even if this seems impossible it takes infinite energy to make a human being move at the speed of light, let alone faster than that, as time would not only move backwards but also the very notions of forward and backward would lose their meanings for the law of causality would be infringed.

IV.2.2 Wormholes

Einstein also claimed that the force of gravity is a consequence of how “mass warps space and time” (Millington, 2018). The more mass is squeezed within a region of space, the more spacetime is curved and the slower the ticking of clocks nearby. If enough mass is squeezed, spacetime becomes so curved that even light cannot avoid its gravitational force leading to the formation of a black hole. If a clock approaches the edge of a black hole it would tick infinitely slowly comparing to the distant ones.

Figure 4

A Wormhole



From:<https://theconversation.com/stephen-hawkings-final-book-suggests-time-travel-may-one-day-be-possible-heres-what-to-make-of-it-106566>

Here comes the major question as to whether it is possible to curve spacetime in the right way to close it on itself again and travel to the past. The answer provided by physics would most probably be positive and the curving needed consists in a traversable wormhole. Though, it is also necessary to produce areas of negative energy density in order to stabilise it even if the 19th century classical physics prevents this, quantum mechanics theory might not; since for quantum mechanics, empty space is not actually empty, but is rather filled with pairs of particles jumping in and out of existence. If there is a possibility of making an area where fewer pairs are allowed to jump in and out than everywhere else, then this area will have negative energy density. However, the challenge of reaching a theory which is consistent binding quantum mechanics with Einstein's theory of gravity remains one of the most important in contemporary theoretical physics. Though a theory called the M-theory has been proposed. The latter requires spacetime to have 11 dimensions: one of time, three of space that humans move in and seven more curled up invisibly small (Millington, 2018).

As to the question of whether time travel is a possibility, humans' current understanding is still unable to concretise it. The theories of Einstein fail to exactly and precisely define the structure of spacetime at infinitely small scales and while nature's laws can often be contradicting humans' everyday experiences as they are always self-consistent. Nevertheless, humans' optimism has put different scenarios imagining various possibilities for timetravel.

In Sciencefiction, the movie *Interstellar*⁸ (2014), for example, is an epic science-fiction movie which is set in a dystopian future where humanity is struggling to survive. It follows a group of astronauts traveling through a wormhole near Saturn, searching a new planet to host mankind. The movie was based on Einstein's general relativity equations, as Kip Thorne said that he: “worked on the equations that would enable tracing of light rays as they traveled through a wormhole or around a black hole—so what you see is based on Einstein's general relativity equations”. (Fisher, 2014) Such a scenario of traveling in time is still unattainable according modern physics, though many scientists and physicists have been very optimistic. However, in the present thesis' fourth chapter, it is explained how more than one thousand and four hundred years ago, the Noble Prophet Muhammad (Peace Be Upon Him) realised this timetravel visiting the future and going back to the present.

V. Time Essence

Aristotle is believed to be the first person to have wondered about the nature of time. When people ask about the true nature of time, they generally expect one of these answers; a metaphysician surely does not want a definition, but rather providing a consistent description of the most important features of time, as well as a sound knowledge of whether it truly exists or not, how it may be reliably discerned, what

⁸ *Interstellar* chronicles the adventures of a group of explorers who make use of a newly discovered wormhole to surpass the limitations on human space travel and conquer the vast distances involved in an interstellar voyage. With our time on Earth coming to an end, a team of explorers undertakes the most important mission in human history; traveling beyond this galaxy to discover whether mankind has a future among the stars (Fisher, 2014).

physical laws describe its nature, and what is it composed of? What is certain about time is that it does not have a causal power.

The Internet Encyclopaedia of Philosophy provided three succinct definitions of time (Dowden B. , 2018):

1. Physical time is what gets displayed on a clock.

This definition may seem insignificant at first but it holds a deeper meaning about the reality of the physical universe that humans live in and that is especially able to have a standard clock. Humans have such an opportunity to possess different means equal to clocks; like rotations of the planet earth and the predictable rate that candles burn at. Clocks are in charge of counting repetitions of regular processes which have the same duration. If it did not follow this order; meaning that if any process would go forward or go backward in the same way, so there would not be any clocks. Metaphysicists argue that time is certainly not just about numbers, but much more, it is what humans attempt to measure using those numbers.

2. According to physics; time is what the time variable t is denoting.

It consists of the time criterion in physical theories that physicists try to investigate so that they can understand the nature of time. The most common theories are the theory of relativity and quantum mechanics.

3. Time's relativity to one clock in one reference frame can be viewed as a line-like structure on groups of simultaneous events as it should have an arrow pointing to the future. The common feature among observers is not time itself but spacetime. That is to say, observers share the interval of spacetime between events but not the notion of the duration between events.

Philosophers regarded these types of definition as very succinct and not meeting their need for a full and satisfactory explanation to tell more about the nature of time; the reason why they tended to explore a realist perspective on the scientific theories.

The philosopher of time Craig Callendar once defined time ironically, defining it as “a big invisible thing that will kill you”, his definition is very accurate indeed since time is an abstract entity which cannot be seen as it is in no way a physical object. When humans use clocks for the purpose of measuring time, this tool is measuring only a physical process within itself and this specific measurement is portrayed as time or duration. Even though the measurement of time using a clock is just to compare one process to another, this clock is actually implicitly measuring time. In other words, physicists suggest that underlying the clocks measurements, there is a hidden truth beyond the clocks that refers immediately to the word “time”. The controversy of this opinion might be explained by the fact that, whatever the nature of time might be, it does not seem to be universal, not perceived equally by all humans, this analysis leads to the theory of relativity, which seems to weaken a key component of the commonsense image of time. (Dowden B. , 2018)

Six other crucial features of time can be stated as follows:

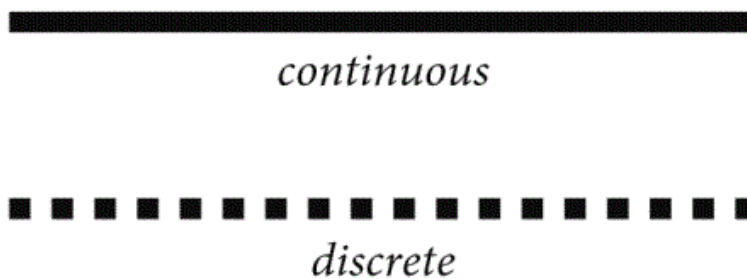
1. When any event happens, time fixes.
2. When any event happens, times fixes its duration.
3. When any event happens, the latter fixes which events happen with simultaneously.
4. When any non-simultaneous events happen, time fixes which one happens first.

5. Time has an arrow, the direction of which is from past to future.
6. Time is not multi-dimensional.

The famous theory of relativity holds the assumption that the first four of these features are all relative, meaning that they may be different in different reference frames. Yet, in one reference frame, all of these are vital features of time.

Figure 5

Time Relativity



From: <https://iep.utm.edu/time/#H10>

Another crucial feature related to time is that it is continuous. The theory of relativity suggests that, according to a specific reference frame, time is continuous since it is locally a linear continuum of absolutely no duration instants, meaning that; time is devoid of any stops, gaps, or restarts, it is rather smooth and any occurring interval of time is considered as a physical model of a part of the real numbers in their usual order. So, each instant conforms with only one real number and vice versa. The majority of physicists suppose that this concept about continuity in the theory of relativity will someday be rebuffed in the theory of quantum gravity, though there is no experiment that proves any weakness in this theory. (Dowden B. , 2018)

Physicists think it is very appropriate to portray instants as points of time, though there is a wide philosophical debate and disagreement about the existence of points of time, as the same debate is maintained about the existence of spatial points. Plato argued: “This queer thing, the instant, ...occupies no time at all...”. Researchers hope for a replacement of instants and points with intervals. (Dowden B. , 2018)

Aristotle defined time as the measure of change. He did not mention space as measuring anything at all, but he highlighted the fact that “time” does not represent change itself because “change” can be faster or slower, which is not the case for time. For example, an apple falling from a tree, it may fall faster or slower but the nature of time does not permit it to be faster or slower. Aristotle reinforced what is now known as the relational theory, while expanding his research about time, he stated: “there is no time apart from change...”. (Dainton, *Temporal Consciousness*, 2019)

Another peculiar explanation was given by René Descartes, who stated that a physical body has the characteristic of extending spatially but no basic internal ability for temporal persistence and that God recreates the body at each instant and that time is one form of this recreation.

Immanuel Kant, in the eighteenth century, suggested that time and space are images projected by the mind on the outer objects-in-themselves; using his terminology, they are forms of human sensible intuition. Time cannot be considered as a characteristic of things-in-themselves. He explained how does the human mind structure the different perceptions so that space constantly has a Euclidean geometry and time gets the structure of the mathematical line. The assumption that Kant has about time as “the form of inner sense” and that it is “an a priori condition of all appearance

whatsoever” can be better explained as implying that humans do not have a direct perception of time but they only have the capability to experience individual events and things in time. Historians shed light on the difference between perceptual space and physical space and argue that Kant was right concerning perceptual space. Even if it can be somehow difficult to have a clear concept of perceptual space. Kant asserts to have known a priori that space adheres to the Euclidean geometry’s principles. (Dainton, *Temporal Consciousness*, 2019)

Most philosophers’ arguments tend to deny the reality of time, they state that humans can see the clock but cannot see time, humans believe in the existence of time because they certainly do believe in the performance of their clocks. Very similarly, they believe in space because they link the concept of space to the arrangement of some objects or entities. Nevertheless, by analogy, it is almost the same as saying that dinosaurs exist nowadays because dinosaurs’ hunters try to find dinosaurs, and because there certainly exist some dinosaur hunters.

Rudolf Carnap (1950), a logical positivist, argued that: “The external questions of the reality of physical space and physical time are pseudo-questions” (Carnap, 1950). According to him, such a question is meaningless because of the impossibility to empirically verify its answer.

Succeeding philosophers have shown their disagreement with Carnap and seriously attempted to answer such kind of questions. Though, most philosophers and physicists claimed that the reasons why they believe that time cannot be real are, as the Internet Encyclopaedia of philosophy ordered and explored them in details, as follows (Dowden B. , 2018):

Time is emergent, some philosophers investigating the concept of time suggest that an emergent time is certainly not a real time. In a similar vein, some metaphysicians like Arthur Eddington and Peter van Inwagen claimed that even objects such as tables and chairs are not real since they emerge from, or constitute the result from the arrangements of elementary particles, they argue that only these particles and their arrangements which are in fact real. The same argument provided by the philosophy of mind is known as “eliminative materialism”, which argues that because the physical facts control and decide on the nature of all facts and since future science will certainly prove that natural mental features like feelings, beliefs and hopes do not participate, in any case, in the explanation of the various mental and physical phenomena; they clearly imply that there are no such entities as feelings, beliefs or hopes.

Yet, assuming that time does actually emerge only from events, spacetime, quantum gravitational field or Barbour’s moment, is it possible to say that time is not real?

Most philosophers and scientists strongly object for these reasons:

Once, scientists were astonished to learn that heat emerges from the molecules’ motion and that the molecule per se has absolutely no heat. Would it not have been incorrect to deduce from this that heat is not real? And when they knew that all objects are basically nothing but a collection of atoms and so objects may be said to emerge from atoms, would it not have been utterly nonsense to say that objects no longer exist? It is already a truth universally acknowledged to claim that time is vital to the human life and extremely useful at the larger scales, scales like the ones of quarks, molecules, mountains and galaxies, that it must be maintained that time is real at these scales at least. The congruity of time not residing below the Planck level with time residing at

a higher level of definition is somehow similar to the congruity of free will not residing at the level of molecular activity with free will residing at a larger-scale of describing human behaviour.

In addition to that, another argument provided to support this claim regarding emergent time sheds the light on the question of the way there could evident concrete support for a theory denying the existence of time as long as assumingly observations actually happen or take place in time and according to causal reasoning, causes happen before their effects.

Because Time is Subjective, obviously, psychological time is subjective, implying that any human sensing of time is regarded as subjective; however, is it possible to suggest that even the time that is sensed subjective? First, there is a need to explain what “subjective” means. In philosophy, if a phenomenon is subjective, it means that it is mind-dependent, or depends on being defined by a mind. A secondary characteristic like “being red” is a subjective characteristic; to be able to reflect light of a specific wavelength is not considered as being subjective. Here, a major question should be asked: Does time come just from human beings or is it rather wholly existent in the external world independent of human beings. From ancient times, this has been one of the major concerns of philosophers of time who have disagreed on the answer.

Aristotle perceived time as a counting of movements; however, he has also put forward the main question of: Does the existence of time require the existence of mind? He did not actually answer his question, claiming that it depends on whether time is the conscious numbering or counting of motions, or it is just the motions’ capability of being numbered where consciousness exists.

On the other hand, St. Augustine embraced a more subjective position, suggesting that time is not real but only resides in the mind's conscious approval of reality. Any human being can notice that a clock constantly ticks in synchrony with other clocks even if no one pays real attention to the clocks themselves. Moreover, time's ability to help in making sense of the main evidence which involves change, persistence and succession of events; and succession involves the order of events in time. Logically, if judgements related to the order of time are really subjective in the same way as judgements of being interesting or not are subjective, it would be miraculous that all human beings agree on the temporal order of many events, for example birth before death or burgeons sprout before the fruits appear or even the order of the seasons in a year. Some philosophers argue that the essence of the objective world along with all its aspects is a theoretical notion within a large conclusion from the most significant explanation of the data got from the various human experiences, resulting to the conclusion that the world is a notion which contains an objective time, a time that is perceived by both human minds, as psychological time, and by the clock as physical time.

A third reason suggests that, because **Time is Merely Conventional**, it might be assumed that time is not real for the simple reason that time only consists in a mathematical construct in humans' basic theories of mathematical physics. It essentially plays an auxiliary mathematical role. In a like manner, the infinite curve of space in the middle of a blackhole is generally regarded as a mere construct of the mathematics found in the general theory of relativity though not to exist in reality.

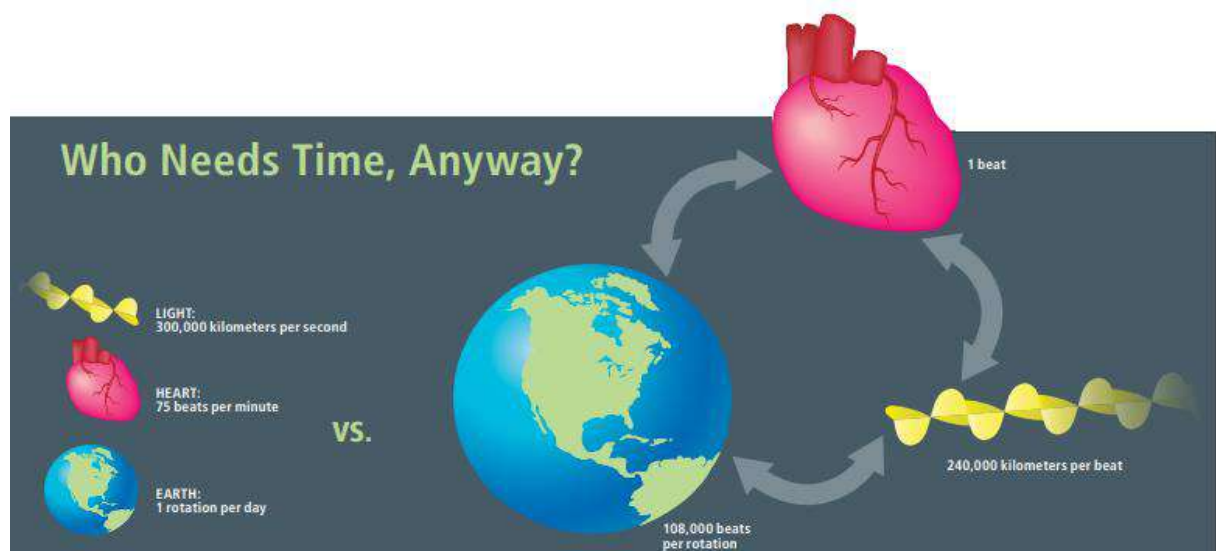
Put in another way, most philosophers tend to agree on the fact that humans have invented the concept of time though some rather assume that time per se has

been invented. Humans have created it as a practical convention, in the same way they invented the coin-shaped metal objects to use them in their transactions as money. Very similarly, money is culturally but not objectively real, for, to exist, it is dependent on the human culture. Unlike gold, the existence of money depends on humans' social relations. So, should the existence of time be compared to money? Or to gold?

Even if it is rather difficult to do so, in the present time, but the human society can dispose of money and get back to barter transactions. In a similar vein, Callender seeks to consider the question: "Who Needs Time Anyway?". Time is a way to describe the pace of motion or change, such as the speed of a light wave, how fast a heart beats, or how frequently a planet spins...but these processes could be related directly to one another without making reference to time" (Callender, June, 2010).

Figure6

Time Conceptualisation of Human Life



Adapted from: Callender, Craig. "Is Time an Illusion?", *Scientific American*, June, 2010, p. 45.

Hence, Callender argues that physicists claim that time has no independent existence but only contributes in making human life easier.

Nonetheless, Dowden (2018) states that there are actually two primary reasons to assume that time is not purely conventional: First, the existence of the endless number of one-way processes in nature consisting in the time's arrow, the existence of which no human choice can affect. Thus, time's arrow represents a key characteristic of time itself.

Dowden's second reason is that there exists in this universe multiple processes the periods of which are constant multiples of each other over time; he explains:

Their periods keep the same constant ratio to each other. For example, the frequency of rotation of the Earth around its axis, relative to the "fixed" stars, is a constant multiple of the frequency of swings of a fixed-length pendulum, which in turn is a constant multiple of the half-life of a specific radioactive uranium isotope, which in turn is a constant multiple of the frequency of a vibrating quartz crystal (Dowden, 2018).

The relationships do not get influenced neither do they change through the passage of time. Even if they do, it is not for a long time and when a deviation occurs, it is rather easy to predict and fix it. Such existence of constant relationships, which cannot undergo any change by convention, allows the system of the physical laws to be much simpler as it also permits humans to get more confidence from the fact that there exists in this universe some natural, convention-free concept such as the time variable in the physical laws.

The fourth argument consists in the fact that **Time is Inconsistent**. Many philosophers such as Parmenides, Zeno, Spinoza, Hegel and Mc Taggart claimed that time is not, in fact, real because of their confusion by the multiple contradictions they have encountered while investigating the human conception of time.

Plato has mainly interpreted Zeno's paradoxes in the way that they show the unreality of any motion or change, arguing that the existence of time depends on the existence of change, then Zeno's paradoxes nullify as well the Greek commonsense that time is real and exists.

Mc Taggart proposed what he called a convincing argument explaining why a single event is able to embrace the intrinsic properties of being a past event, a present event and also a future event in addition to the fact that since these are contrary properties, the human concept of time is actually inconsistent. Thus, Mc Taggart too assumed that time is not real.

F.H. Bradley, the absolute-idealist philosopher, claimed: "Time, like space, has most evidently proved not to be real, but a contradictory appearance.... The problem of change defies solution" (Dowden, 2018). Taking into account the inconsistencies in the human concept of time which Zeno, Mc Taggart, Bradley and other philosophers revealed, most philosophers investigating the concept of time would argue that there is no inconsistency and that the criticism can be treated by explanation or revision of the most relevant concepts.

Dowden's fifth argument suggests that **Scientific Time is Too Different from Ordinary Time**. If one believes that in order for time to be real it requires some features of the commonsense image of time, though it is claimed that science maintains that time does not possess those features, one might assume that science has truly discovered and reached the conclusion that time does not exist. In the mid-20th century, the logician Kurt Gödel held the assumption that time is not real as reported by contemporary physics because the equations of the general theory of relativity acknowledge

physically possible universes where all events precede themselves. Humans can “travel into any region of the past, present and future and back again” (Gödel, as cited in Dowden, 2018).

Gödel assumed that even the possibility for time to be circular should not be allowed, so he argued that if it is assumed that time is the time described by the theory of relativity, then it is not real. The criticism of the theory of relativity provided by Gödel arguing that this theory allows the assumption of circular time, has been analysed by many physicists and philosophers claiming that Gödel should accept the idea that time may have the possibility of being circular even if as a contingent matter it is not circular in the universe and that Gödel has to revise his intuitions regarding what is really fundamental to the concept.

Dowden finally states that the word “time” actually refers to a real and an entity that really exists since the reference helps to analyse, understand, explain and predict phenomena. moreover, there are no other alternative or better ways of doing this. Despite the fact that it remains an open question among physicists regarding the possible existence of time below the Planck scale, the majority argue that time exists at scales above the Planck scale, that it is objective and not subjective, that time is not primarily conventional or a mathematical construct, that any inconsistency in the description of time is purely apparent and that time is actually real regardless of whether it is emergent (Dowden, 2018).

Conclusion

At the beginning of the nineteenth century, non-Euclidean geometries were discovered and Albert Einstein introduced his general theory of relativity arguing that the geometry of humans' spacetime is non-Euclidean, the Kantian assumption that synthetic truths concerning time can be known a priori lost most of its supporters. In the current century, some philosophers still believe in the synthetic a priori knowledge. Nevertheless, the majority of philosophers argue that the human mind has a priori beliefs but not a priori knowledge.

As mentioned at the beginning of the current chapter, at the eve of the twentieth century, the general theory of relativity was created, developed and asserted to suggest that time is very closely related to space; time is an independent dimension of an entity of higher importance named "spacetime". This theory suggests as well the fact that gravity constitutes any distortion of spacetime's geometry. Einstein was the first who discovered and highlighted the intimate connection between space and time or between time and gravity.

In the following chapter, the human conception of time and space will be developed, mainly through psychology, since it is the study of the human mind and through language, as it constitutes a vital means of thoughts' expression.



**Chapter Two : Human Conception
of Time and Space**

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Introduction

There is an immense variation among humans' different perceptions and experiences of time. Since the different aspects related to time; as whether it is absolute or relative, subjective or objective, have been discussed in the previous chapter, this chapter is more concerned with the way individuals experience and perceive time, however things become less definite and concrete.

Time perception may be defined as the subjective experience of humans' attitude towards the passage of time, or the sensed duration of events which may vary considerably among human beings under different circumstances. Despite the fact that physical time is objective, psychological time is subjective and more or less flexible. Physical time is the time acknowledged by human communities, the time that is naturally measured by clocks. On the other hand, for human beings, biological time is indicated by the various internal, balanced cyclic mechanisms like the continuous breathing and regular heartbeats, or even the sleep/wake cycle. It may likewise be apparent through the aging signs. A third type of time, different from the physical and biological time, is the psychological time also called the "subjective" or "phenomenological" time. It is personal time and is best understood as awareness of physical time rather than a type of time, since the scientific image is the product of the attempts of science to understand time. (what is time?, 2018)

There does not exist a scientifically proven evidence that the essence of time is influenced by the presence or absence of any biological phenomenon or mental awareness. That is why actually, physical time is much called "objective time".

I. The Alliance of Science and Psychology

The main reason why human beings believe in the existence of time is that they sense time through various natural phenomena as for example, the change in location (perceiving a leaf fall) which is regarded as a good indicator of the presence of time. Though, even just by imagining a leaf falling, one can still imagine and perceive time. What these confrontations with time have in common is the fact that humans are having more and more experiences and compiling more memories about these experiences. Thus, this compilation of memories strongly supports humans' belief in the presence of time.

Except Husserl, most philosophers suggest that the human ability to imagine other times is a fundamental ingredient in having any consciousness at all. This is clearly perceived when human beings try to use this very ability to imagine other times when they experience a difference between their present attitudes and their present memories of past attitudes. (Dainton, *Temporal Consciousness*, 2019)

In a way, this difference may be interpreted as a proof that the world is changing through time with events succeeding each other.

Psychological time's pace of change or passing from period to another is a very intriguing phenomenon to analyse. After attending a captivating television programme, the human mind directly thinks of where did the time go? It runs. Often, when people are hungry or bored, they say, why is time passing too slowly? A very interesting feature related to the rate of passage of time can be noticed while comparing the experiences of younger to older people. Young people save richer memories because everything is new to them, when they become older, the memories they save

are much less rich since they would have seen it all already. That is the reason behind the older people's saying that a decade passes by much more quickly than it did when they were younger. (what is time?, 2018)

Some people say that time seems to move very slowly when they are terrified. The neuroscientist David Eagleman, argues that "it's a retrospective trick of memory" time seems to move slowly in terrifying events only when the person thinks about it later and not at the time it is happening, simply because memories of the scary event are "laid down so much more densely", Eagleman suggests, it appears to the person, upon their recalling, that their terrifying event took longer time than it really did. For such events, the recalled psychological time is extended compared to the physical time. Another prominent issue consists in explaining the origin and character of human temporal experiences. (what is time?, 2018)

How does the human brain take the input from its sense organs and generate genuine beliefs about the world's temporal relationships? Scholars pursue their investigation on the subject, though till now they could not reach a consensus concerning both the fact that human beings experience temporal phenomena and how they are conscious that they do.

Scholars also seek to comprehend which aspects of time human beings experience directly and which they experience indirectly or just deduce. Since there is a duration of time for anything that happens, humans do not have the ability to experience directly or immediately presently happening distant events. Such issue raised some disagreement in the literature about whether humans immediately experience time, however now most of philosophers say humans cannot; a person can certainly

see the watch, but not time itself. Another equally important issue is whether humans directly experience an immediate instantaneous present event as Plato and Aristotle believed, or humans directly experience the “specious present” a present that extends through a period of physical time. Naturally, the main question is: Do present events take more time than the blink of an eye? According to the advocates of the specious present, the estimated duration of a present event is nearly eighty milliseconds for human beings, though it is not yet explained why this estimate and not more or less. There still exists an ongoing debate on the way the instantaneous and specious presents overlap (in the case they do overlap) to shape humans’ unified stream of consciousness. (Dainton, *Temporal Consciousness*, 2019)

An agreement has emerged from the continuous debate among neuroscientists that the brain does actually perform an important role in the process of building a mental scenario of what is occurring beyond the brain. A simple evidence might be taken from human experience of looking at oneself in the mirror; one can never look straightforwardly to both eyes, or seeing their own eyes move, a person finds him/herself glancing from right to left, or vice versa, just to catch a quick glance at the eyes’ movement, but in vain. The human brain is constantly building a continuous story of unmoving eyes. (what is time?, 2018)

Philosophers say that all human beings live in their past, why? Simply because the human brain needs some time to believe what is happening. Humans’ belief or awareness of what is occurring “now” comes later than when the clock indicated it was. According to the information coming from the different sense organs, the brain takes some time to build or reorganise a story of what is currently occurring. This

process of building a story has to wait some milliseconds till the brain collects all the information from the different sense organs. The example of the lightning and thunder can be taken again (previously mentioned in the first chapter), the light arrives to human eyes before the sound of the thunder arrives to the ears; the brain builds a story in which the sight and hearing of the thunder happen simultaneously. This type of subjective synchronising of the visual and audio works for thunder as long as the thunder is less than one hundred feet away. Any farther, the person starts to notice that the sound reaches more slowly. Philosophers of time and psychologists are very curious about humans' mental activity and seek to investigate both; how can aspects in imagination and memory affect a person's temporal experiences and the way a person's temporal experience might be affected by various interventions into a healthy brain. Through his experiments, the neuroscientist David Eagleman, clearly portrayed that under certain circumstances a person might be misled to believe that event A occurred before event B, while actually according to the clock they happened in the opposite order. (what is time?, 2018)

Researchers in the domain of cognitive science, attempt to discover what are the neural mechanisms that contribute to humans' experience of time; such as humans' awareness of change, their ability to predict the future, their sensing of the time's flow, their ability to order events and especially to perceive and correctly estimate durations. An example for this can be put as follows; a person is enclosed within an elevator because of an electrical failure, for a long period of time, simply with memory, the person can remember how long they have been inside that elevator. What determines how long the "long period" is?

Researchers have explored whether they have the ability to accelerate human minds relative to a duration of physical time. If such a possibility is realisable, human beings would become mentally more productive, learn more in a lower amount of time and produce better decisions per fixed amount of physical time. (what is time?, 2018)

Do humans experience the present immediately? It is rather debatable, as it is in any case the same question as whether humans are having an experience at present. Advocates of McTaggart's A-theory answer yes. However, it is easily noticed how different this kind of direct experience would have to be from humans' other immediate experiences. For example, humans are able to directly experience different colours at the same time; as they can experience notes of different pitches. Is it possible to apply the same analogy to time? Is it possible to say that human beings experience both the present time and other times directly? Absolutely not. Hence, the direct experience of the present time is whether inexistent or it is just an exceptional type of immediate experience. However, humans certainly do possess some mental symbol for the notion of "nowness" in their minds that matches with their having the concept of the present, though this does not imply that just by having the concept of love that a person is experiencing love. (Callender C. , 2017) Another example concerning the issue about the relation between time and mind, if everything was to die, events would still exist after these deaths and the stars would pursue shining, but the major question is; would any of these star events exist in the future? For such an intriguing question, "yes" will be the response of the McTaggart's A-theory advocates, while "no" will be the response of McTaggart's B-theory. René Descartes' dualistic philosophy of mind suggests that the mind is not located in space, but rather it is in time. However, the most

famous philosophy of mind rejects dualism and claims that the human mind is inside both space and time due to the human brain functioning.

Finally, do humans have an a priori awareness of time which can be useful for providing a solid foundation for mathematics? The mathematician and philosopher L.E.J. Brouwer asserted this in the early twentieth century. Though many philosophers and mathematicians were uncertain about the reliability of mathematics at that time, as they were worried about the appearance of some contradictions later on within this science. Their concerns appeared when Russel's Paradox⁹ was discovered. As a response, Brouwer tried to locate mathematics in what he considered a more robust and fixed epistemological basis by implying that mathematical notions are accepted only if they can be built from a perfect mathematician's strong and a priori awareness of time, or as Kant named it "an intuition of inner time". Brouwer approved the idea of Kant that arithmetic is the essence of temporal intuition. (Dainton, Temporal Consciousness, 2019)

I.1 Biopsychology

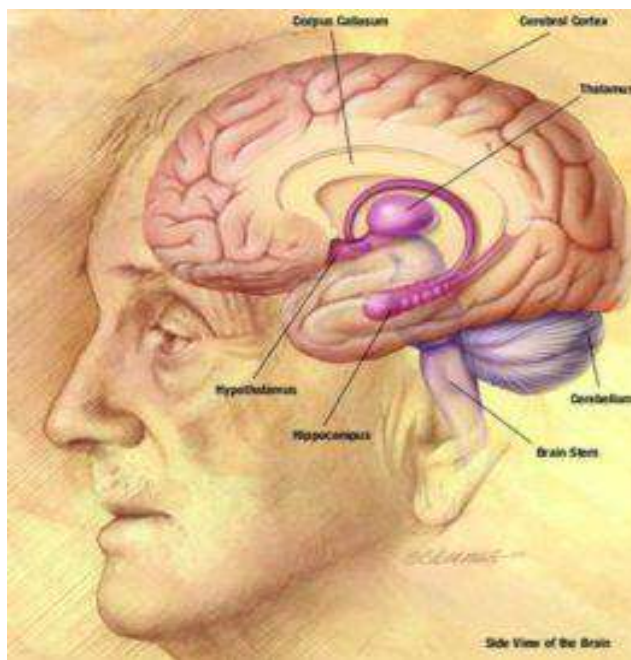
Biopsychology is a field of research within the domains of psychology and neuroscience responsible for analysing the way human brain deals with time and time intervals, as well as the brain's a priori expectation of the events' order and speed, the area of mental chronometry is as well concerned with such analysis. (what is time?, 2018)

⁹ the paradox arises within naïve set theory by considering the set of all sets that are not members of themselves. Such a set appears to be a member of itself if and only if it is not a member of itself. Hence the paradox. (Irvine, 2020)

The construction of the brain is the part primarily responsible for the way human beings sense and perceive time. Figure 7 portrays the essential parts of the brain responsible for the perception of time, such parts include the cerebral cortex¹⁰, cerebellum¹¹ and basal ganglia¹².

Figure 7

Construction of the Brain



From: <http://www.exactlywhatistime.com/psychology-of-time/time-perception/>

¹⁰ the furrowed outer layer of gray matter in the cerebrum of the brain, associated with the higher brain functions, as voluntary movement, coordination of sensory information, learning and memory, and the expression of individuality. (Cerebral Cortex, 2019)

¹¹ a large portion of the brain, serving to coordinate voluntary movements, posture, and balance in humans, being in back of and below the cerebrum and consisting of two lateral lobes and a central lobe. (Cerebellum, 2019)

¹² any of several masses of gray matter in each cerebral hemisphere. (Basal ganglia, 2019)

Since time is not immediately or directly perceived by human beings, time perception becomes essentially a construction of the brain, which can be subjected to manipulation and distortion in various ways¹³. (what is time?, 2018)

Even if the cerebral cortex is frequently thought to be the foundation for conscious experiences, it is rather astonishing that rats, even with their cerebral cortex removed, have the ability to distinguish a five-second interval and a forty-second interval. Hence, a rat's means of feeling time is seemingly dispersed to many places in its brain. Possibly, the human's time sensing is dispersed in a similar way. Notwithstanding, obviously the fact that human beings know about time is specific to human cerebral cortex, because a rat does not realise that it knows, it only has competence without comprehension. A cerebral cortex is needed for such understanding. (what is time?, 2018)

The terms psychobiology and biopsychology may be used interchangeably, they refer to the behavioural neuroscience in which the brain (consisting of the nerves, neurotransmitters, brain circuitry and basic biological processes) is put under scrutiny to investigate the way it works. Though it is often difficult to understand and experience other individuals' perception of time, there exist different techniques in the fields of neuroscience and psychology that allow for the objective study of the phenomenon. (what is time?, 2018)

¹³ A **temporal illusion** is a distortion in the perception of time that occurs for various reasons, such as due to different kinds of stress. In such cases, a person may momentarily perceive time as slowing down, stopping, speeding up, or even running backwards, as the timing and temporal order of events are misperceived. When we say that time slows down, what we actually mean is that our internal clock speeds up, which gives the impression that time in the rest of the world slows down. (Psychology of Time, 2019)

Human organism has an internal sense of time produced by the natural internal biological clock, which is entirely independent of climate, sunlight, or anything from the surrounding environment. The most famous biological clock is the circadian clock¹⁴, which has the role of preserving daily biological rhythms such as organising sleep and the production of hormones. However, there exist other types of peripheral clocks, like those which follow ultradian¹⁵ or infradian¹⁶ rhythms. (what is time?, 2018)

Howard Eichenbaum, a psychologist who performed some experiments on rats with sensory deprivation, revealed that some neurons in the hippocampus¹⁷ region of the brain appear to fire in grouping much like the ticking of a clock. For instance, some of the cells started firing once the rat enters the sensory area, others in the next second, others in the third, others in the fourth, etc. along extended periods, certain cells quit the ticking, some proceed at different times and those which were not firing at the beginning start to fire. Eichenbaum has named these neurons “time cells” very much like the “place cells” which can be found as well in the hippocampus, as some cells mainly respond to distance or location, while others respond to time. Even if

¹⁴ Circadian rhythms are physical, mental, and behavioural changes that follow a daily cycle. They respond primarily to light and darkness in an organism's environment. Sleeping at night and being awake during the day is an example of a light-related circadian rhythm. Circadian rhythms are found in most living things, including animals, plants, and many tiny microbes. The study of circadian rhythms is called chronobiology. https://www.nigms.nih.gov/education/pages/factsheet_circadian_rhythms.aspx 21/07/2019

¹⁵ cycles of less than a day, such as the 90-minute REM sleep cycle, the 4-hour nasal cycle, and the 3-hour cycle of growth hormone production. <http://www.exactlywhatistime.com/psychology-of-time/time-perception/> 21/07/2019

¹⁶ cycles longer than a day, such as the monthly human menstrual cycle, and the annual migration, hibernation or reproduction cycles of certain animals and birds. <http://www.exactlywhatistime.com/psychology-of-time/time-perception/> 21/07/2019

¹⁷ The hippocampus, which is located in the inner (medial) region of the temporal lobe, forms part of the limbic system, which is particularly important in regulating emotional responses. (Hippocampus, 2020)

thought and perception seem to be timeless, they are actually dependent on the speed of neurological processes, for example: the time for action potentials to move the axons of neurons. (what is time?, 2018)

In fact, the brain deals with various types of sensory information, mainly auditory, tactile and visual, at different speeds and with different neural procedures. Though it seems to handle these speed disparities with the aim of achieving a temporally unified picture of the outside world, through the process of temporal binding. For example, if a person touches his/her nose and toes at the same time, the signal from the toes takes longer to arrive at the brain than the signal from the nose, though the person perceives them as if they were occurring simultaneously.

The brain uses the process of integration as well to integrate human sense of time in a fluid experience. This works in the same way to the one in which the brain analyses the sense perceptions of the outside world and puts it in a complete picture, treating all discontinuities and inconsistencies, very similar to the way people perceive a smoothly-moving movie, instead of a series of separate frames or even the way they extract meaning from a heard sentence.

Neuroscientists have also suggested that the human brain waits about 80 milliseconds for all possible relevant input to arrive before a “now” is experienced, very much like the time delay in the broadcasting “live” television or radio. Thus, if the difference in time among various inputs is less than one-tenth of a second, the brain has the capacity to process the different sensory input together. Meaning that, if two images are altered in fast succession, the person is unable to tell which came first and which came second. Or, for example, since television audio and video signals are synchronised to

within one-tenth of a second, people's brains can re-synchronise automatically the signals; any more of a delay and a mis-synchronisation gets to be easily noticed. (what is time?, 2018)

I.2 Chronobiology

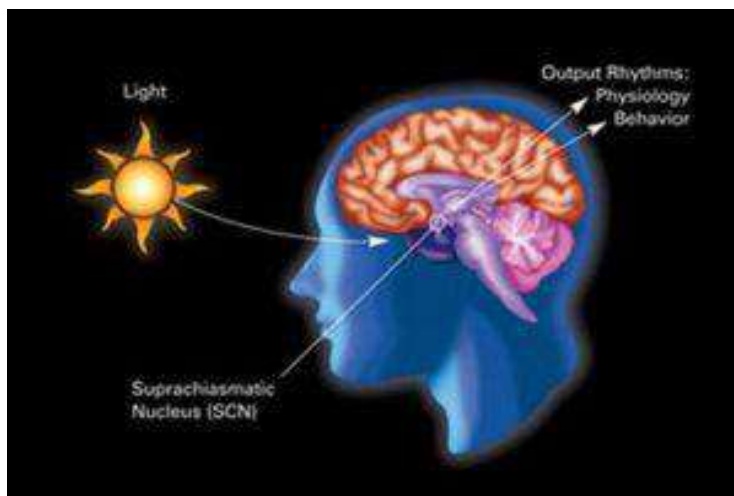
An independent domain of chronobiology has developed in order to analyse humans' awareness and knowledge of such biological rhythms. Within the human brain distortions and misperceptions of time may appear due to various psychological or other causes, these are called temporal illusions. Some common examples may be portrayed in the effects of ageing, psychoactive drugs which influence time perception. (what is time?, 2018)

I.2.1 Biological Clock

The biological clock of the brain is launched by external signals such as the light/dark cycle. Figure 8 portrays the functioning of the biological clock of the brain by the external cues, mainly light and dark cycle.

Figure 8

Biological Clock of the Brain



From: <http://www.exactlywhatistime.com/psychology-of-time/time-perception/>

Human beings possess various metabolic processes¹⁸ within their bodies that resemble to a great extent clocks, for example: the human heart beats or breathing. However, it is scientifically proven that these processes are completely dependent on other (internal or external) stimuli or conditions and not forcibly always regular, for example breathing and heart beats depend strongly on the human's health, emotions and environment. Though within the human body, there are some biological clocks that are independent, self-supporting and very much reliable. (what is time?, 2018)

1.2.2 Peripheral Biological Clocks

Within the human body, there also exist other secondary clocks which perform natural daily activities, like clocks in the liver, kidneys, heart, lungs, pancreas, lymphocytes and in the skin. Most of such secondary biological clocks are independently launched by Zeitgebers¹⁹ such as the meals timing and temperatures instead of the light/dark cycle, though it is the suprachiasmatic nuclei²⁰ part which is in charge of the central coordination and synchronisation. (what is time?, 2018)

Experiences done on mice have recently led to the discovery of another biological clock, which scientists called food-entrainable biological clock, it is not controlled

¹⁸ **Metabolism**, the sum of the chemical reactions that take place within each cell of a living organism and that provide energy for vital processes and for synthesizing new organic material. <https://www.britannica.com/science/metabolism> 15/12/2019

¹⁹ An external stimulus or cue, such as daylight or a regularly repeated occurrence, that serves to regulate an organism's biological clock. <https://medical-dictionary.thefreedictionary.com/zeitgebers> 21/07/2019

²⁰ The suprachiasmatic nucleus (or just *SNC*) is a region of the brain within the *hypothalamus* which uses signals from the eyes to help establish and maintain the biological clock, or *circadian rhythm*. The hypothalamus is a region of the brain generally associated with the *autonomic nervous system* which controls unconscious functions such as heart rate, digestion, and pupil dilation. The suprachiasmatic nucleus lies within hypothalamus, and consists of tens of thousands of neurons. <https://biologydictionary.net/suprachiasmatic-nucleus/> 21/07/2019.

by the suprachiasmatic nuclei and its exact location is not clear yet though it is probable that it is placed in the dorsomedial hypothalamus area of the brain.

Chronobiology, also analyses and longs for the use of the instant cyclic biological rhythms of living organisms as well as their state of being accustomed to external rhythms and cycles. Moreover, scientists have come to a conclusion that a precise timing of most medical treatments coinciding with specific points of time within these cycles has a strong role in enhancing the effectiveness of the treatments. (what is time?, 2018)

In addition to that, the harshness of most diseases is not stable and frequently changes intensity across the 24-hour, for example: Cooper mentioned in her study that: “Adjusting the timing of medication in a recent study damaged 5* fewer healthy cells and was 2* as effective at killing cancerous cells” (Cooper, 2013)

Similarly, sleep deprivation harms the body’s sympathetic nervous system (Scott, 2013), the fact that urges the body to release greater amounts of the hormone adrenaline “This tells the body’s tissues to be prepared to take immediate action,” Twery says. “It makes the heart work harder.” Which leads the body to a greater risk for developing hyperlipidemia, which forcibly leads to heart attacks and strokes. (Scott, 2013)

One of the most apparent applications of chronobiology may be seen in the treatment of some sleep disorders. The use of light therapy²¹ and especially the

²¹ Light therapy is a way to treat seasonal affective disorder (SAD) and certain other conditions by exposure to artificial light. SAD is a type of depression that occurs at a certain time each year, usually in the fall or winter. Light therapy is thought to affect brain chemicals linked to mood and sleep, easing SAD symptoms. Using a light therapy box may also help with other types of depression, sleep disorders

administration of melatonin²² at very specific times of day are used as well as a means of resetting circadian rhythms, affecting ultimately sleep patterns. Chronobiological research has also been very useful and brought valuable help to organize human life, such as diets providing the exact suitable timing of the intake of calories and sodium, best time for work, exercising, eating and even for sleeping.

II. Time, Space and the Linguistic Dimension

In any science, it is very common to use the available theories and standards to conceptualise and explain phenomena. In physics, for example, any object is defined by three dimensions in space, which are length, width and height. Similarly, in linguistics, different theories and concepts are used to decipher sentences and their structures, as well as their meanings, relating them to the way these meanings and symbols have been passed on from generation to another, generating new concepts and thoughts, yet related to the same entities.

The concepts of time and space, which are vital in human life, have been, and will always remain having different conceptualisations and roles in human languages. Therefore, the present part aims at providing some definitions, along with thorough explanations of the concepts of time and space objectively from different scholars' perspectives. The ideation of these concepts in language is treated through the human mental system which, in turn, is explained and developed by cognitive linguistics

and other conditions. Light therapy is also known as bright light therapy or phototherapy. <https://www.mayoclinic.org/tests-procedures/light-therapy/about/pac-20384604>

²² A hormone that is produced by the pineal gland and is intimately involved in regulating the sleeping and waking cycles, among other processes. Some people who have chronic insomnia use melatonin supplements. However, melatonin is not recommended for all patients with sleep problems, so one should consult a physician before taking it. <https://www.medicinenet.com/script/main/art.asp?article-key=11640>

mainly through the conceptual metaphor theory. This theory served as a method to describe the way human beings use different conceptualizations of time and space in the same Language.

It is a truth acknowledged by many human beings that it is rather complicated to fully understand human experience. However, the human development of the large array of sciences, offered interesting approaches which contributed to slightly facilitate this process of understanding. This part aims at providing a detailed scrutiny of the concepts of time and space and describing how the human mind uses language to conceptualise them in multiple distinct ways.

The most common universal forms representing the existence of any matter, namely objects and processes, that have ever existed or will exist in the midst of this infinite universe, are time and space, as they mainly shape the coordination of objects. These objects do not come solely in form of events in the external world, they rather additionally include all feelings and thoughts surrounding human existence.

On the other hand, everything in this world is defined by two main criteria which are extension and duration. Similarly, time and space bear some characteristics and are respectively defined, as:

“the measured or measurable period during which an action, process, or condition exists or continues : DURATION,

b: a nonspatial continuum that is measured in terms of events which succeed one another from past through present to future” (Time, 2020)

Time is also defined as: “a period of time also: its duration- a limited extent in one, two, or three dimensions : DISTANCE, AREA, VOLUME” (Time, 2020)

Space is defined by Encyclopedia Britannica as a boundless, three-dimensional extent in which objects and events occur and have relative position and direction. (Space, 2020)

The Oxford English Dictionary lists a number of meanings to the word space, and rather surprisingly gives the temporal sense of space first, and the “three-dimensional extent” only as second. (Space, 2020)

Thus, time has only one dimension which goes from the past through the present to the future, it is neither repeatable nor reversible. While space has three dimensions: length, breadth and height.

Understanding the nature of these two concepts correctly is closely related to the scientific picture of the world, the reason behind which the present part analyses the human conceptualisation and conception of the two concepts from a linguistically.

II.1 Language and its Study

Language is defined by the Cambridge Dictionary as: “a system of communication consisting of sounds, words, and grammar, or the system of communication used by people in a particular country or type of work” (Language, 2020)

Human beings have the ability to express themselves and communicate with each other. They can exchange knowledge, beliefs, feelings, opinions, declarations, commands, etc through many different ways and means of expression like smile, laughter, yell, shriek, and body language. However, their vital system of communication is language, which can be defined as a system of communication including words the combination of which results in sentences. What makes language a unique phenomenon and a sophisticated means of communication proper to human beings is the

fact that it allowed the transmission of knowledge and experiences from generation to another and from one era to the other. This very type of communication is commonly known among scholars as linguistic communication contrary to the previously mentioned type known as non-linguistic communication.

What makes a very clear distinction between these two types are the language characteristics and the different fields of study within it, as an attempt to understand the procedures and processes of learning/ acquiring a particular language. To succeed in doing so, scholars have divided linguistics, which is mainly defined by the Cambridge Dictionary as the scientific study of the structure and development of language in general or of particular languages, into five main domains, explained by Masaitien (Masaitien, 2009) in her book *Introduction into Linguistics* as:

1. Phonetics, the study of speech sounds characteristics.
2. Phonology, the study of patterning speech sounds in languages.
3. Morphology, the study of the internal structure of words and their information types.
4. Syntax, the study concerned with the structure of sentences.
5. Semantics, the study of the meaning of words and their combination to form meaningful sentences.

Pragmatics, according to the Indiana University Bloomington, emerged in parallel with the philosophical thinking of the early nineteenth century, as it was first introduced by the American philosopher Charles W. Morris, who defined it as: “the study of the relation of signs to interpreters”. However, it is defined in modern linguistics as: “the study of language use in context”. (Pragmatics, 2020)

Stalnaker defines pragmatics as: “the study of deixis (at least in part), implicature, presupposition, speech acts, and aspects of discourse structure.” (Stalnaker, 1972)

Looking at pragmatics from a Cognitive-Philosophical perspective or the Anglo-American pragmatics, it can be said that it examines the “systematic study of meaning by virtue of, or dependent on, the use of language”. It has as its main concern essential topics like implicature, presupposition, speech acts, deixis, and reference.

In other words, Pragmatics is a branch of linguistics that is concerned with language in use and how language is closely related to context in determining meaning. It encompasses fields of language study such as deixis, conversational implicature, text organization, speech act theory and presupposition. It is dependent not only on the linguistic meaning, but also on the context, real-world knowledge and inference in dismissing types of linguistic ambiguities including deixis.

According to the Sil Glossary of Linguistic Terms, Deixis is defined as: reference by means of an expression whose interpretation is relative to the (usually) extralinguistic context of the utterance, such as:

- who is speaking
- the time or place of speaking
- the gestures of the speaker
- the current location in the discourse (Personal Deixis , 2020)

III.2 Deictic Conceptualisation of Person, Time and Space

Deixis is defined by Levinson as: “the single most obvious way in which the relationship between language and context is reflected” (Levinson, 1983) and is

constituting according to Hanks “key points of juncture between grammar and context” (Hanks, 1992)

Since Deixis refers to words, phrases and sentences that cannot be fully understood without the contextual information. It constitutes a crucial subject in the field of pragmatics. It emphasises understanding by means of discerning the “person” speaking or being addressed, the “time” and “place” of speaking and the body language or speech act.

Deixis regards the miscellaneous ways in which language depicts aspects of the context of utterance or speech event in another different way. It mainly deals with ways in which understanding the meaning of an utterance is strongly dependent on the scrutiny of that utterance’s context. Thus, deictic data are to a great extent fundamental in the understanding of utterance.

It is assumed that semantics is regarded as a field including all conventional forms of meaning, the reason behind which Levinson supposes that most deictic phenomena are probably considered semantic (Levinson S. , 1995) even if deixis is a sub-field of pragmatics, since it immediately deals with the relationship between the structure of language and the context in which it is being used. According to Levinson, deixis is portrayed as the orientational features of human languages altogether with reference to precise and specific points in time, space as well as the speaking event among interlocutors. Any word characterised by its dependence on deictic clues is referred to as “a deictic” or “a deictic word”. The latter is related to a context, be it linguistic or extralinguistic, for its interpretation. (Levinson S. , 1995)

Levinson stated that: “in linguistics, deixis refers to the phenomenon wherein understanding the meaning of certain words and phrases in an utterance requires contextual information. Words or phrases that require contextual information to convey meaning are deictic”. (Levinson S. , 1995)

Hence, words are called deictic if their denotational meaning changes according to time and/or space even if their semantic meaning is fixed. Any words or phrases requiring contextual information for the delivery of meaning are deictic, like pronouns in the English language.

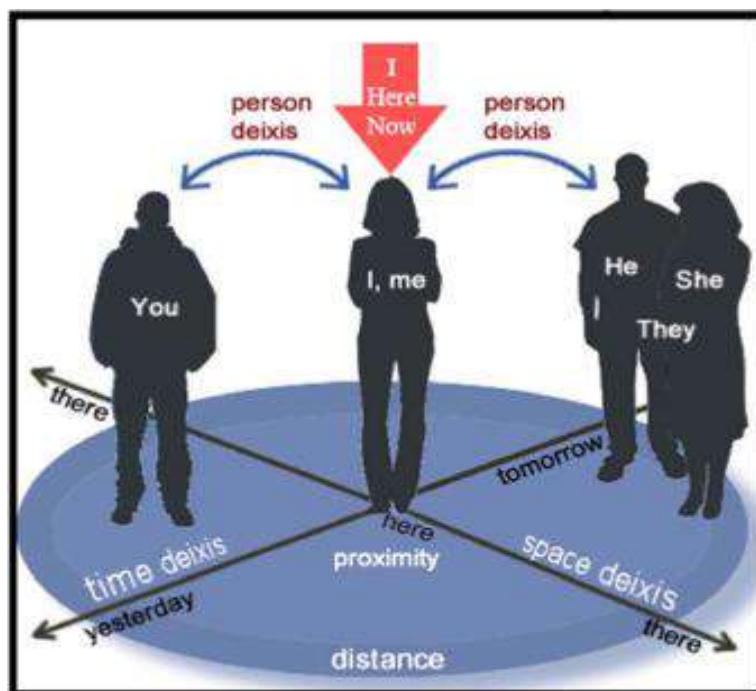
According to Fillmore (Fillmore, 1971) there are three main types of deixis: person deixis, place deixis and time deixis. Later, two types of deixis have been added by Levinson: discourse deixis and social deixis.

The main focus will be on person, time and place, to explain how human language conceptualises time and space.

II.2.1 Deictic conceptualisation of person

Person deixis, usually places an entity with reference to the speaker’s and/or hearer’s position (known as the positional system). First and second Personal pronouns refer to the speaking/hearing speech participants, while third personal pronouns allude to the reported-speech or narrated participant. Though in some other languages, such as French, extra information concerning the referent is encoded, for example, the number of individuals mentioned (singular like: *il*, or plural: *ils*), gender (male: *il*, female: *elle*) and the social status (impersonal: *on*). Person deixis is concerned with correctly identifying the grammatical persons being used to allude to the speaker and the hearer. Figure 9 portrays the main constituents of Person deixis:

Figure 9

Person Deixis

From: <https://www.sciencedirect.com/science/article/pii/S1045926X16300337>

Personal Pronouns: all languages include first-person pronoun and second person pronoun, where the first-person is used by the speech-producer (speaker) to refer to him/herself, the second-person, on the other hand, is used as referring to the person(s) being spoken to (the addressee/the audience). In addition to the two previously mentioned pronouns, there is also, in many languages, the third-person pronoun used to refer to another entity different from the speaker and the addressee, simply because of the fact that this pronoun is not immediately implicated in the utterance, it is not considered deictic. For instance:

It has been raining all night, he said.

Number: the system of pronouns' number varies among languages. The most known and frequently found systems differentiate between the Singular and the

Plural and even sometimes between the Singular, Dual and Plural. The pronouns which need careful consideration are first-person plurals because they surely refer to more than one entity but hold some doubt concerning whether the addressee is included or excluded, as for example in English the pronoun “we” may be ambiguous in some cases as to whether it is including the addressee or not. For instance:

- We felt so scared that I barely believed it was real.

Gender: many languages mark pronouns for gender. In English, for example, gender is distinguished in the third person singular only “he/she”. For example:

He is said to be an icon in his domain.

However, in some other languages gender may be known in first and second pronouns as well, as in Polish:

Pan:you-formal-masculine

pani: you-formal-feminine

Czy pan/pani wi-e?

“Do you know?”

Vocatives: constitute nouns or noun phrases used to address the interlocutor.

They are purely forms of address and do not serve as an argument for the predicate.

For example:

John, you must finish your job.

II.2.2 Deictic Conceptualisation of Space

Spatial deixis concerns the localisation of both speech participants and the events narrated in space. Most languages portray different locations in space with reference to the speaker’s position using a two-term or three-term positional system, implying some proximal or distal interpretations, in English for example, the most frequent words that carry deictic characteristics are demonstrative pronouns, such as:

“this” conveys a meaning that the object is nearer to the speaker, while “that” places the object nearer to the hearer, and “yonder” implies that it is not near any of the two speech participants, and “these/those” for the plurals. Other types of spatial deictic expressions may include adverbs like “here/there” or some specific uses of preposition like “in/on” (in the building, on the roof). However, it remains a difficult task to denote the complete and exact meaning of “here” because it might refer to any type of area, as a room, a city or even a whole country. Whereas, it seems obvious that “there/that/those” locate some object farther than the speaker. For instance: “I’ve got a nice place here, he said, his eyes flashing about restlessly. She’s going to spend lots of week-ends out here this summer. ‘Hold on’, I said, ‘I have to leave you here’ (Fitzgerald, 1993) This example shows that demonstrative pronouns are used to position elements in space clarifying their proximity or distance from the speaker. Still, Huddleston and Pullum suggest that the choice of the demonstrative does not always depend on the position of the speaker. To them, demonstrative pronouns may also invoke “properties of such objects or to actions taking place or other abstract features of the situation of utterance” (Huddleston & Pullum , 2002). In such situation, spatial deixis is considered as an orientation form in speech event and called textual or discourse deixis. Hence, the following are some examples in which “this” and “that” do not actually position an element closer or farther from the speaker;

Example: I totally agree with you, at this point. Or

The case that was preoccupying her.

In this case, “this” and “that” refer to statements previously mentioned by the speaker. These represent a type of metaphorical use of the aspects of time and space,

meaning that the conception shifted from the concrete framework of place to a rather more abstract framework of time.

In all languages, speakers establish frames of reference around themselves. Therefore, there always exist a certain division of space around the speaker which surely entails subsequently a division of time relative to this utterance

II.2.3 Deictic conceptualisation of time

Anderson and Keenan proposed that temporal deixis places the speech event in time through the use of adverbs such as “now, then” or days’ and months’ names like “Saturday, January” (Anderson & Keenan, 1985). Grammatical inflections, most often found in verbs, display temporal deixis as well. It is stated in the literature that it is rather less common to encounter adverbs and demonstratives portraying temporal deixis. Nonetheless, as previously mentioned in the above examples, there exists a certain flow that notions of space turn into notions of time. The reason why some prepositions like “in, on” may also be used in temporal statements, for example, “in time, on time”. So, the prepositions “in, on, at” as well as all prepositional phrases related to time, are also considered as temporal deixis. Moreover, in English not only adverbs or prepositional phrases are means to express temporal deixis, but also tense markers on the verb. In English, two tenses are morphologically shown on verbs, the past and the present, while for the future, the English language uses modal verbs instead of inflections, for example: will, shall and the phrasal modal (be) going to.

I will let you know.

He is going to fix everything.

I shall invite her someday.

The modal “shall” is most commonly used in British English, while American English employs “will”.

Among the various ways to express the future in English, is the use of the present tense for the verb but joining it to an adverb of time is mandatory, for example:

Tomorrow, the train leaves at 8 AM and returns at 6 PM.

The Past Tense represents events that happened and finished at a specific time in the past, like: They completed their project successfully.

The Present Tense, on the other hand, represents a more complicated time marker because of its different interpretations of uses. One of the uses is to indicate a specific time period that ends directly after the utterance. The following example shows how the event is complete immediately after the utterance: Here is the job you always ask for.

The second equally important aspect related to the present tense uses is the expression of habits or events that occur regularly; such as: He reads comic books.

Such different uses and shifts of the present in the English language led some grammarians, namely Quirk, to state that semantically English has a past tense and a non-past tense but no present tense. As a result, in some statements, the verb marker indicates the aspect itself but not the tense because it only mentions a habitual action rather than a point in time. For example:

Occasionally a line of grey cars crawls along an invisible track.

Since aspect²³ considers time as continuous without clarifying a specific point in time, it is not possible for it to be considered as deictic.

²³ The form of a verb that shows how the meaning of that verb is considered in relation to time, typically expressing if an action is complete, repeated or continuous. (aspect, 2020)

In a similar vein, the Present Perfect may replace Past Simple with very little temporal difference, as the English language has grammatically two aspects, namely; the continuous and the perfect. They most frequently operate together to generate various temporal sequences (the perfect, is formed with the auxiliary “to have” in the present or past tense jointly with a participle). The present perfect expresses an event which began in the past but extends to the present and may continue to the future. For instance: By twelve P.m. they have finished their work.

Likewise, the past perfect has exactly the same uses as it indicates an action that started in the past and finished before the starting of another one. For example: They had finished before the guest’s arrival.

Hence, Deixis, Indexicality and Anaphora²⁴ are closely interrelated as the meaning of sentences in language symbolises the strong interface to discourse, syntax, phonology, and conceptual thoughts. The reason why it is the most controversially debated level of mental representation in pertinent disciplines like philosophy, psychology, linguistics and neuroscience, for there remain essential confusion and controversy regarding the nature and essence of the meaning of meaning. The fact that the main task of any neural network, functioning as a cognitive system designed to portray the external world is actually regarded as a biological axiom. Considering the fact that it is a biological axiom, any neural network’ task, functioning as a cognitive system, must have the ability to mirror the external world.

²⁴ Since the word has two different meanings, in this context, what is meant is; the use of a grammatical substitute (such as a pronoun or a pro-verb) to refer to the denotation of a preceding word or group of words. also: the relation between a grammatical substitute and its antecedent. (anaphora, 2020)

Human beliefs and thoughts about the world are driven by the human mind ability to represent the world and not how the world actually is. Contrary to the semantic codes of natural languages, which are full of ambiguities, the innate language of thought is expected to be free of any doubts. (Fodor, 1975; Pinker, 1994) This contradicts the mere idea that a single language, like Swedish, portrays the language of thought. (Whorf, 1956) The argument about the relationship between language and thought or in other words, mental representation of phenomena, is really crucial to understand the functioning of the human language system and hence it is a closely intertwined and interrelated topic.

In the following part, the main focus will be on the mental representations of the two concepts, time and space, in language through the meanings encoded in sentences of the English language.

“We operate with nothing but things which do not exist, with lines, planes, bodies, atoms, divisible time, divisible space – how should explanation even be possible when we first make everything into an image, into our own image!”. (Nietzsche, 1887)

Cognitive linguistics is an interdisciplinary approach to the analysis and study of natural language that began to emerge in the late seventies and kept flourishing since the eighties with the work of George Lakoff and Ronald Langacker focusing on language as an instrument for organising, processing and conveying information. (Langacker & Talmy, n.d.)

A quarter century later, a rich array of research has been developed under the field of cognitive linguistics, though a significant part has focused on syntax and

morphology, most of the research has semantics as its main concern, the reason why cognitive linguistics is tackled in this research.

According to Croft & Cruse, three main hypotheses guide the cognitive linguistic approach to language (Croft & Cruse, 2004) Language is not an autonomous linguistic faculty.

This principle portrays its opposition to generative grammar's famous claim that language is an autonomous or an innate cognitive faculty apart from non-linguistic cognitive abilities.

Grammar is conceptualisation. This hypothesis opposes truth-conditional semantics, in which a semantic metalanguage is assessed according to truth and falsity concerning the real world or more specifically, a prototype of the world.

Knowledge of language emerges from language use. This last principle opposes the reductionist tendencies in both generative grammar and truth-conditional semantics, where fully abstract and general representations of grammatical form and meaning are explored and many grammatical and semantic aspects are ascribed to the periphery.

In Cognitive Linguistics, conceptual metaphors refer to the human mental process of understanding an idea or concept in terms of another conceptual domain. For instance, understanding "value" in terms of "directionality", for example: the price of freedom is rising. Or, understanding "time" in terms of "money", for example: Time is precious. A conceptual domain may be any kind of mental organisation or conceptualisation of human experience. The very fact of regularity among different languages employing the same metaphors, mostly based on perception, has led to the

conclusion which suggests that the mapping among the different conceptual domains totally corresponds to the neural mappings in the brain.

This hypothesis as well as the analysis of its underlying processes was first developed by George Lakoff and Mark Johnson in their work *Metaphors We Live By* in 1980. Other cognitive scientists, such as Gilles Fauconnier, have also investigated subjects within this domain labelling his main studies as “analogy”, conceptual blending” and “ideasthesia” (Fauconnier, 2007).

In effect, not only is human everyday communication shaped by the language of conceptual metaphors, but also is the way human beings understand the different theories. These metaphors are actually omnipresent in communication and humans do not only use them in language but also perceive and act according to them.

Thus, considering the significance of conceptual metaphors for understanding ideas and concepts, whether simple or complex, and giving insights to abstract entities, this theory has been used as a method to investigate the multiple conceptualisations of time and space in human everyday language.

The concepts of space and time are to a great extent fundamental in human life, most frequently occurring together in their applications, every event happening in this world is defined by the space coordinates x, y, z as well as the time coordinate. Space, for example, apart from its importance in physics, it is rather ubiquitous in cognitive linguistics where its existence originated from specific applications in Lakoff and Johnson’s (1980) debate over general models like Langacker’s (1982,1986) space grammar, or Fauconnier’s (1985) theory of mental spaces. Thus, space has not only

been examined and dealt with as a material, physical concept but has also established the basis of reference for temporal and mental conceptualisations.

Lakoff and Johnson (1980) identified spatialization through orientational metaphors as one of three important types similar to structural and ontological metaphors. They actually changed their initial (1980) position in the second (2003) edition in which they suggested that “All metaphors are structural (in that they map structures to structures; all are ontological (in that they create target domain entities); and many are orientational (in that they map orientational image-schemas).” (Lakoff, 1980, p. 264)

Langacker (1982) called his model in his first version “space grammar” his claims and conceptualisations are purely spatial in nature even though he discarded that expression in his later works. (Langacker, 1986, pp. 1-40) However, Fauconnier (1985) does not actually present a precise definition of the nature of a mental space, he argues that mental spaces are partial assemblies that encompass elements and relations which may be called “frames” when arranged together as a package. (Fauconnier, 2007, pp. 351-376) As previously mentioned at the beginning of this part, the Oxford English Dictionary gives a number of meanings to the word “space” but notably starting with the temporal meaning of space in the first place and then mentioning the “three-dimensional extent”. The first meaning, “Denoting time or duration” and the second ‘material’ meaning “Denoting area or extension” in the generalised form, without article.

Hence, space has two major senses: a material and a temporal one, in addition to some minor ones, like, space between letters, personal space and others. Some

meanings (as mentioned in the OED) like, “linear distance” or “superficial area”, are related to each other in that they refer to boundaries and containment with the only difference which is “distance” referring to the extent between two reference points and “area” in more than two reference points.

In fact, space does not have a material existence, though in its material meaning, it is defined relative to objects or rather the relation between objects existing in it. The Encyclopedia Britannica defines space as “a boundless, three-dimensional extent in which objects and events occur and have relative position and direction” and further when Albert Einstein in his article Space-time writes:

It appears that there is no quality contained in our individual primitive sense-experiences that may be designated as spatial. Rather, what is spatial appears to be a sort of order of the material objects of experience. The concept ‘material object’ must therefore be available if concepts concerning space are to be possible. It is the logically primary concept. (Encyclopaedia Britannica)

In this sense, space, extent and distance would not have the possibility to exist without the existence of objects. Moreover, the temporal space is actually not ‘material’ and would not have any possibility of existence either without the continuously changing and moving objects. The OED putting the temporal meaning of space as a first statement clearly indicates that it is possible to conceptualise time in terms of space and in such a case, the concept of space is the original field for the field of time.

The spatial conception of time might be portrayed in the use of spatial prepositions for time expressions, for example, ‘in two minutes’, ‘after one month’, ‘to space meals’ etc. Langacker’s (1999) discussion of the verb ‘go’ confirmed this conceptualisation of time in terms of space, arguing over the future sense of ‘go’ which derives from the original spatial sense. Stating that:

How does this future sense of ‘go’ derive from the original spatial sense? One might suggest that it constitutes a metaphorical extension from the spatial to the temporal domain: rather than moving through space in order to initiate the infinitival process, the subject moves through time. It does seem evident that the notion of path receives a temporal interpretation. (Langacker, Grammar and Conceptualization, 1999, p. 330)

This statement suggests that the concept of space is the source domain for the concept of time. Thus, it is proper to start with language conceptualisation of space first and then the conceptualisation of time.

II.3 Language Conceptualisation of Space

Szwedek (2015), in his chapter Conceptualisation of Space and Time considers space as an abstract, non-material entity and qualifies it as a vacuum, he examines how human beings conceptualise space through language expressions using both abstract and concrete meanings.

The ‘material’ sense may be analysed first using some examples:

In its material ‘extension’ meaning, space functions as the major domain and this might be apparent in some conceptual metaphors and metaphorical expressions. He classifies the different conceptualisations of space as follows (Szwedek, 2009), his explanations are supported by some examples from the Oxford English Dictionary:

Space as an ‘object:

which human beings can make, have, give, possess and share. For example, in:

Make space enough between you.

The room was not that big but a space was found for the guest.

We had very large rooms, a wonderful space, and we were quite successful.

The above examples portray the ‘material’ meaning of space as they refer to space in relation to material objects. Nevertheless, the concept of space being similar to an object loses this material notion moving toward a more personal and social context as in:

During the election, one company gave space to the Democratic Party and the Republican Party, but the main newsreels adhered to the general agreement that space should be given only to the main parties.

The reason why she is being that outgoing is because they gave her space.

The vast spaces of the English poetry.

His great heart had large spaces to hold his beloved ones in.

Too much pollution but just enough space to breathe.

Space for debate.

He needs more empty space in his life.

They need to enlarge the institution's economic space.

Space as an animate object:

That may produce and generate, for instance:

Space may produce new Worlds. (Szwedek, 2009, p.5)

Selling 'space' ... breeds a very different outlook from providing programmes.

No blue space in its outspread ... challenged my emerging head.

Space as a container:

which is in the first place an object, more similar to a box where one can put things into, it may be deep whether closed or open.

“Our Saviour lifting up his eyes beheld ... In ample space under the broadest shade” Milton (1671:339)

The pamphlet has vanished into space. 1873 *Helps Anim. & Mast.* i. (1875)

Even the space left open round the neck may be closed when desirable. 1827

Space has object-like properties:

It may take a small or a large shape, as there may be more or less of it:

The more it is heated, the more space it takes up. 1815 J. Smith *Panorama Sci. & Art.*

With a studied brevity, his system comprehends the greatest variety, in the smallest space. 1774 *Goldsm. Nat. Hist.* (1776) II. 298.

Great and large spaces in wide rooms. 1565 Cooper *Thesaurus s.v. Spatium.*

Some word-synonyms of space like, place and room, as well as prepositional phrases describing place portray similar juncture potential.

Place:

The OED has also analysed the concept of ‘place’ in terms of ‘space’ through explaining it as ‘extension (in two or three directions) providing examples of different metaphorical domains such as the following:

When they were come in the city had not place for them all. [place as an object one can have]. 1628 Hobbes Thucyd. (1822)

She had a special place in his heart.

It is an extreme hot and drie place, bringing foorth no corne at all, but great plenty of dates. [hot and dry are properties of material objects, not of places]. J. Pory tr. Leo's Africa vi. 278

Seest thou, my Soule, ...how he Which fils all place, yet none holds him, doth lye? (place is a container). a 1631 Donne Nativitie.

1655 Stanley Hist. Philos. i. (1701) 7/2 That the World is contained in place. This agrees with the definition of place by space. (place is a container).

In many places were nightingales, Alpes, finches, and wodewales. (place is a container). 1366 Chaucer Rom. Rose 657.

Not staying aboute three or foure dayes in a place, as long as the grasse will serue their Camels. (place is a container). 1613 Purchas Pilgrimage vi. xiii. 534.

The Act expressly declared such betting in any place, (place is a container). 1897 Westm. Gaz. 13 Mar. 5/1.

Room

The Oxford English Dictionary also provided a rather more intricate definition of space, stating that space is “The dimensional extent occupied by a body or lying within certain limits” illustrating this concept by the following examples:

Give ample room, and verge enough The characters of hell to trace. (room as an object that one can give) 1757 Gray Bard.

We must teach him .. that there is room in the wide world for all. (room as an object that exists in the world). 1833 H. Martineau Loom & Luggen ii. i.

The plants .. would then have room to grow out. (room as an object that one can have). 1840 Penny Cycl. XVII. 345/1.

In the edition of 1827 it was diligently revised, and the sense in several instances got into less room. (room is a container). 1830 Wordsw. Let. to Dyce.

Space and Prepositional Phrases

Prepositional phrases denoting space have also received a cognitive interpretation consistent with the analysis of meanings along with the examples presented above. Langacker, in his 1993 paper, analyses the phrase “under the bed (is all dusty)” using the following words:

The search domain is defined as the region to which a locative expression confines its trajectory ... Observe that a phrase like ‘under the bed (is all dusty)’ is construed as naming a spatial region - a type of ‘thing’ - rather than a relationship (a relationship per se can hardly be dusty). Our ability to conceptually reify and refer to the search domain argues strongly for the psychological validity of this notion. (Langacker, 1993)

In this regard, Langacker’s view leaves absolutely no doubt that spatial region or ‘space’ is conceptualised as “a type of thing” portraying that example as an archetype, Langacker simplified or even reduced his interpretation to inanimate objects. Though in earlier examples of this part it is suggested that space can be conceptualised as an animate entity, it also bears many conceptualisations that space can be regarded as an object (whether animate or inanimate).

III.4 Language Conceptualisation of Time

It is previously mentioned that the Oxford English Dictionary explained the meaning of the concept of time in terms of space, even if this notion has become muchly acquainted with among cognitive linguists. For instance, Lyons (Lyons, 1977, p. 718) stated that: “The spatialization of time is so obvious and so pervasive a phenomenon in the grammatical and lexical structure of so many of the world’s languages

that it has been frequently noted, even by scholars who would not think themselves as subscribing to the hypothesis of localism.”

On the other hand, Evans, Bergen and Zinken (Evans & Bergen & Zinken, 2007) in their book *The Cognitive Linguistics Reader* provide the main principles and criteria according to which one can properly understand the different conceptualisations of time in languages, and display these various conceptualisations of time through eight distinct lexical concepts.

According to Evans, in order to fully understand the concept of time from a linguistic perspective and decide whether or not its usage relates to a distinct lexical concept, three main criteria ought to be considered videlicet: meaning, concept elaboration and grammar. That is to say; when a particular usage of time is different concerning meaning or how is the concept developed or structured or even if it describes a different grammatical pattern, then it would mean that it is dealt with a distinct lexical concept for time. (Evans V. , 2004, pp. 733–765)

The Determining Criteria

Three main criteria are to be taken into account to reach the concept’s understanding; they are explained by Evans as follows:

a. The Meaning Criterion

Relates to the way a particular usage of time, in context, highlights a significant distinction in meaning, for instance:

The relationship lasted some time.

The time for a decision is approaching.

In sentence (a), time concerns the notion of duration or an extended temporal elapse. Contrary to sentence (b) where time is about a discrete temporal ‘point’ or

‘moment’. Evidently, these two usages of ‘time’ concern significant distinctions in meaning.

b. The Concept Elaboration Criterion

Concerns the structure of a particular lexical concept, which is mirrored in the essence of the semantic content simultaneously occurring with a particular meaning.

For example:

The relationship lasted a long/short time.

As previously explained in sentence (b) the normal, common way in which the actual ‘moment’ reading is elaborated, concerns “motion” as lexicalised by “is approaching”.

This type of motion event is “Ego-centred” as it is closely related to a contextually understood ego or “perspective point” regarding the motion’s direction. i.e. in sentence (b) it depends on the speaker or some other person that the time for a decision “is approaching”.

c. The Grammatical Criterion

Concerns how the lexical time is encoded. Grammatically speaking, the “duration” reading related to time is encoded as a mass noun; however, the “moment” reading is encoded as a countable noun. Meaning that, while moments of time can be counted, as seconds or minutes, precisely since such entities constitute discrete moments, duration on the other hand cannot be enumerated in the same way and form a mentally un-analysable or uncountable mass. Grammar significantly portrays this distinction.

Those criteria, Meaning, Concept Elaboration and Grammatical encoding highlight the difference between the two readings in sentence (a) and (b), for, despite the fact that both sentences are encoded by the lexical form ‘time’, they portray two distinct lexical concepts. Other lexical concepts or senses related to the notion of ‘time’ come as following:

The widely spread and most often used senses are the following:

a. The Duration Sense

As mentioned above in the example sentence (a), the meaning associated with the lexical concept related to the notion of ‘duration’ was understood in terms of length and was grammatically encoded as a mass noun.

In the same regard, the duration sense has two variants, the “temporal compression” and “protracted duration”, for instance:

Time flies when you’re having fun. “temporal compression”

Time drags when you’re bored. “protracted duration”

These two variants concern the phenomenologically genuine experiences in which time “feels” as passing whether incredibly “slowly” or incredibly “quickly”.

The readings of sentence (a), (c), (d) and (e) are all associated with the experience of duration though with slightly different types. However, in addition to the types of duration’s motion events mentioned notably in the examples (c), (d) and (e). the temporal compression is invariably developed in relation to motion events involving whether rapid motion as in:

Time whizzes/speeds/zooms/rushes by when you’re having fun.

Or imperceptible motion as in:

The time has sneaked/tiptoed by/past.

Where has all the time gone.

The time has vanished.

In contrast to the motion events' nature involving the "protracted duration" variant which relate to 'stationariness', like in:

Time seemed to stand still.

Or even extremely slow motion as in the example (e).

Subsequently, the duration sense portrayed in (a), (c) as well as the two variants mentioned in (d), (e) is shared in the same way in terms of the notion of duration per se, as they all describe assessments of temporal magnitude.

Nonetheless, the two variants portrayed in (d), (e) are distinctly different from the examples' meanings in (a) as they are intended for different types of motion events instead of length. In other words, they do not relate to fully distinct meanings, in spite of their differential patterns of concept elaboration. Accordingly, Evans stated that: "I classify the 'temporal compression' and 'protracted duration' variants as SUB-SENSES of the duration sense rather than as distinct senses". (Evans V. , 2004, p. 8)

b. The Moment Sense

Similar to the duration sense, this lexical concept has been mentioned in the example (b). the major characteristics of this lexical concept are represented in its encoding of a discrete temporal 'point', mentioned as some ego-centred motion events essentially lexicalised by verbs such as come, approach, arrive, etc and is grammatically encoded as a countable noun.

c. The Instance Sense

This lexical concept known as ‘time’ is generally termed as the Instance Sense. Here, ‘time’ induces an instance of a specific event, action, process or state instead of an interval as in the previously explained Duration Sense, or a discrete temporal ‘point’ as in the Moment Sense. The following examples present this lexical concept:

1. John improved for the fourth time this season when he reached 64.50 metres.
2. The horse managed to clear the jump five times in a row.

In these two examples, ‘time’ refers to a very specific instance or occurrence of an event, meaning that, if a ‘moment’ reading of ‘time’ is considered for the example (i.1) it would be clear that ‘time’ does not mean that John improved for a fourth consecutive moment or that he only improved on his fourth moment of trying. However, for a ‘duration’ reading, ‘time’ does not mean that it is the improvement itself which lasted for a period of four moments. Instead, it suggests that there were actually four distinct and separate instances of improvement, each instance portrays an improvement over the previous instance of improvement.

d. The Event Sense

The Event Sense refers to a lexical concept where ‘time’ refers to specific boundary events, which constitute particular events signalling the beginning or ending of some more complex event sequences. For instance:

- 1.the young woman’s time (labour) approached.
2. Arsenal saved face with a Thierry Henry leveller five minutes from time after having a jaded, end-of-season look.

The first example shows how ‘time’ describes a particular boundary event, the beginning of childbirth. Whereas in the second example, ‘time’ portrays the end of a game in which the London team equalised five minutes before the end of play. That is to say, ‘time’ in these examples, does not refer to a temporal interval, instance or moment, but to a particular boundary event like the beginning of childbirth or end of a play.

Concerning concept elaboration, the Event Sense resembles the Moment Sense and is developed in terms of ego-centred motion events. For example:

1. His time (death) has arrived.
2. Her time is approaching.

As for grammatical encoding, the Event Sense, this lexical concept cannot occur with any of the articles (definite or indefinite), contrary to the previously considered lexical concepts. Moreover, in subject position, the Event Sense cannot either constitute a “bare” noun, it is rather preceded whether by a possessive noun phrase as in (j.1) or by a pronoun as in (k.1. 2).

e. The Matrix Sense

‘Time’ in the Matrix Sense relates to an absolute, endless entity which has an infinite elapse and is conceptualised as incorporating and involving all other events. Hence, the Matrix Sense proposes an entity, which, rather than depending or being attributed to other events and entities, is assumed to be an independent entity and even a reality apart from the events it subsumes. The following examples portray this notion:

1. Time, of itself, and from its own nature, flows equably without relation to anything external. (Newton)

2. Time flows forever.

Time in these examples concerns a ‘temporal matrix’ serving as a backdrop for other events’ occurrence. This is clearly highlighted in the example (1.1) drawn from Newton’s *Principia Mathematica* in which he successfully established the notion of ‘absolute time’. Newton argues that ‘absolute time’ forms an entity independent of external events contrasting the measurement of the change of events’ rate.

In this regard, ‘time’ is conceived as a manifold containing but independent of events at the same time and since this manifold exists in this world, the passage of time symbolises the infinite entity encompassing all other events.

f. The Agentive Sense

This lexical concept associated to time induces an entity having the ability to affect human beings and their environment, the reason why it is referred to as ‘Agentive Sense’. For example:

1. Time is the great physician. (Benjamin Disraeli)
2. Time is the greatest innovator. (Francis Bacon)
3. Time, the avenger! (Lord Byron)
4. Time has aged me.

In these examples, ‘time’ refers to an entity which has the ability to heal, innovate, steal people’s youth and age them. As this lexical concept is related to changes and effects being wrought, it is distinctly different from the previous senses in terms of meanings related to ‘time’. Accordingly, the Agentive Sense is developed according to acts and/or agents bringing about some kind of change of state.

g. The Measurement-system Sense

This lexical concept suggests a meaning of ‘time’ which portrays a measurement-system. Temporal measurement emerges from the correlation between human beings’

periodic behaviour and their subjective experience of duration. Since periodic behaviour parallels internal temporal experience, it may represent temporality.

Bergson highlighted this point in the following statement:

If I draw my finger across a sheet of paper without looking at it, the motion I perform is, perceived from within, a continuity of consciousness... [which is to say]...duration. If I now open my eyes, I see that my finger is tracing on a sheet of paper a line that is preserved... Now, this line is divisible, measurable. In dividing and measuring it, I can then say, if it suits me, that I am dividing and measuring the duration of the motion that is tracing it out. (Bergson H. , Duration and Simultaneity, (1999[1922]), p. 34)

In other words, physical (whether visual or aural) symbols may be employed to portray or measure the duration with which they are linked. Periodicity is an example of this. Some physical entities and events display periodicity through predictable rhythms and cycles of behaviour which makes them highly useful for measuring the duration with which they are being correlated. This principle bases the concept of a clock.

This Measurement-system Sense is grammatically different for its flexibility as it can take the form of both a mass and a proper noun, contrary to all other senses associated with ‘time’.

h. The Commodity Sense

The final lexical concept concerns the ‘time’ meaning related to the Commodity Sense referring to a valuable entity, which can be traded, exchanged, acquired, etc. as the following examples suggest:

1. Remember that time is money. (Benjamin Franklin)
2. Time has become a scarce commodity. Everyone wants more of it. (The Observer)
3. The sold/bought more advertising time.

In this Sense related to commodity, ‘time’ induces an entity naturally valuable. Thus, ‘time’ represents a commodity having the possibility to be sold and bought and indicates a conceptualisation of an investment generating returns and which may be taxed. The fact that the main principle of this lexical concept is of an entity being of a considerable value, like commodities, serves to elaborate the Commodity Sense. In this sense, it makes this lexical concept very distinct from the other lexical concepts related to ‘time’.

Money represents a noticeable example of valuable commodity and just as human beings can invest spend or budget money, they may as well invest, spend or budget time.

As for the grammatical encoding, similar to the Matrix and Duration Senses, the Commodity Sense is a mass noun. Since the Commodity Sense is subjected to the operation of portion-excerpting, where the mass noun can be limited using a quantifier like “some”. For example:

Can you spare me some time?

It is rather important to note that it is seemingly extremely easy to define those apparently simple concepts, known as time and space. However, language per se with its miscellaneous uses has clearly demonstrated that these two concepts have multiple, different conceptualisations depending on the context they are being used in and the intended meaning. The present part has first provided an explanation of the two concepts along with their relation to language as a theoretical background, to investigate thereafter their different conceptualisations in language using the conceptual metaphor theory and providing a number of examples from both everyday common

language and literary productions, to portray how the human mental system has the ability to produce numerous distinct conceptualisations of the same entity. (Evans V. , 2004)

III. Time and Consciousness

The concepts of time and consciousness are intertwined on many various levels. According to the vantage point of common sense, consciousness seems to fully exist “in” time. If any person hears the clock striking twelve, his/her auditory experience of it doing so occurs as well at twelve (or mostly a few moments later). To watch a movie of 120 minutes culminates in a two-hour stream of both auditory and visual experiences, along with all the accompanying thoughts, feelings and reflections, and this very stream is running synchronously with the playing of the movie (Dainton B. , 2018).

Most frequently, human conscious states appear to happen in the same temporal framework as all other events in the world, even if it is not evident to ascertain their exact timing. However, human consciousness might be located “in” time, there also exist ways where time and temporality are assumed to be manifest “within” consciousness. During the period of watching the two-hour movies, humans generally remain aware of the time period remaining of the two hours, even if they do not pay attention to the plot. They are able to judge or estimate the duration of temporal intervals, especially the short ones, with logical and accurate precision. (Dainton B. , Temporal Consciousness, 2018)

Humans’ sporadic autobiographical memories provide access to their own pasts; such memories permit human beings to preserve their earlier states of consciousness,

as they can be relived, recreated, even if poorly, in the present consciousness. In addition to that, there are some past-oriented emotions, like regret or shame through which the past may impact humans' present feelings, usually in intense ways. On the other hand, even if it seems like there is nothing as such for the future, as there is no future counterpart of memory, humans can still expect or anticipate future events or experience future-oriented emotions, such as fear, hope or disappointment, even these may exert some strong influence on the present state of consciousness.

Temporality is omnipresent in consciousness in a deeper and more intimate way. In the simple ordinary human experience, over brief intervals, humans appear to be truly conscious of temporally extended phenomena like change or succession. When looking at a person greeting another, one does certainly not infer that his arm is moving, meaning he has observed a motionless arm occupying some space. Humans only make such inferences when noticing something unusual happening. However, in this case, one simply notices an arm in motion. (Dainton B. , 2018)

It is always the same process in all sensory procedures. While listening to music, for instance, humans hear every note introducing the following, the tone continuing on from moment to moment. If such temporally extended occurrences feature in humans' instantaneous experience, then one might deduce that humans' awareness is forcibly able to embrace a temporal interval. This might appear very obvious to many humans but in fact it may also appear really problematic. Humans have the ability to remember the past and predict the future, however, they are directly conscious of only what is present. Even though, logically speaking, the present is momentary. Hence, if humans' consciousness is restricted to the present, this very consciousness

must itself lack temporal depth. So, one might conclude that humans' direct consciousness is incapable of encompassing phenomena with temporal extension. This fact leads to a very crucial conundrum; human consciousness seems obliged to extend over time, but it seems awkwardly impossible for it to do so. (Dainton B. , 2018)

III.1 Models of Temporal consciousness

Philosophers grappling with this dilemma, proposed different models on the structure of this type of temporal consciousness. The most known favoured accounts fall into three main models (Dainton B. , 2018):

Cinematic Model: humans' immediate consciousness lacks any significant temporal extension, similar to the contents of which humans are directly conscious, they are closely related to stagnant, motion-free snapshots. Humans' streams of consciousness consist of continuous successions of such momentary states of consciousness. Accordingly, they are very similar to movies consisting of rapid sequences of still images.

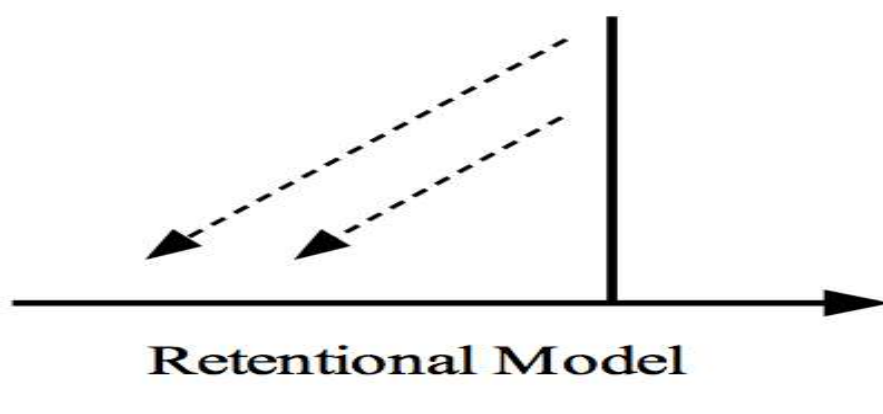
Retentional Model: humans' experience of change or succession happens in episodes of consciousness which are themselves lacking temporal extension, though their contents portray temporally extended intervals and phenomena. Such episodes are of a complex structure, including momentary phases of instantaneous experience, along with retentions of the recent past. Humans' streams of consciousness consist of successions of these momentary states.

Extensional Model: humans' experiencing episodes are themselves temporally extended, hence, they are able of incorporating change and/or persistence in a rather straightforward way. Humans' streams of consciousness consist of successions of those extended "pieces" of experience.

These three models are represented below in figures. In each of the figures, the horizontal line symbolises ordinary clock-time. Even if the Retentional and Cinematic models both proceed in momentary and brief states of consciousness, the thin vertical lines symbolise such states in the figures, these states are very differently interpreted.

Figure 10

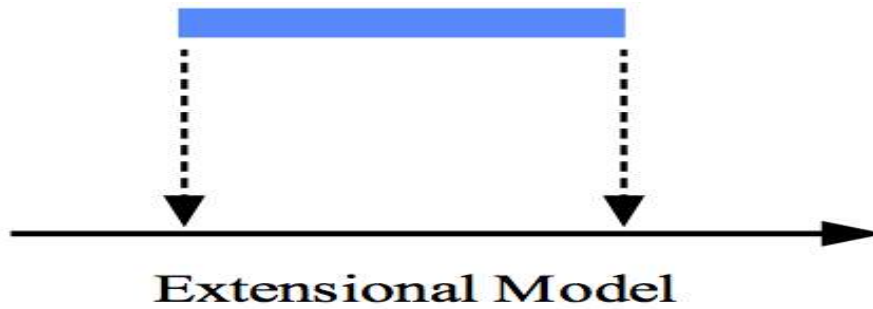
The Retentional Conception of Temporal Consciousness.



Note. In the Retentional Model, the contents seem to have a brief temporal depth, involving experienced change and succession, thus the backward directed arrows are meant to symbolise the way in which the recent past is assumingly “retained” in present consciousness. From: <https://plato.stanford.edu/entries/consciousness-temporal/>

Figure 11

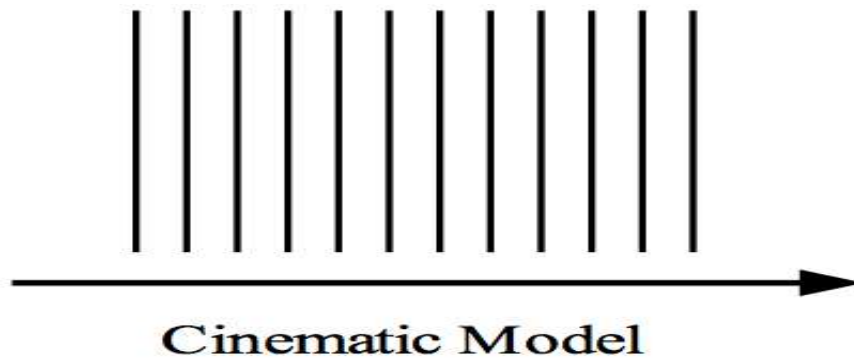
The Extensional Conception of Temporal Consciousness.



From: <https://plato.stanford.edu/entries/consciousness-temporal/>

Figure 12

The Cinematic Conception of Temporal Consciousness.



From: <https://plato.stanford.edu/entries/consciousness-temporal/>

In the Cinematic Model, the momentary contents are only instantaneous, static, containing no discernible motion or change.

William James has written on these matters. He argues that, in order to make sense of humans' temporal experience, one has to distinguish the "strict" or mathematical present, which is durationless, from the form, "experiential" or as he named it "specious present" which possesses a brief duration, sufficient to cope with change

and persistence found in humans' immediate experience. The above mentioned Retentional and Extensional Models can each imply James' approach, though in completely different ways. (Dainton B. , 2018)

To find and confirm the exact truth among the differing accounts concerning the temporal contents of the immediate experience is at the same time intriguing and interesting.

Even though most forms of experience apparently feature succession and persistence, including the most primitive forms; as James characterised infant consciousness as a "blooming, buzzing confusion", it is certainly not easy to understand the way any form of experience may possess such characteristics.

The importance of this debate lies in the fact that each of the accounts regarding temporal awareness has some crucial, very different implications for humans' understanding of the overall structure of consciousness. In the following part, the principle features and motivations of these competing accounts will be explored.

Even if proponents of the three approaches try to elucidate human experience of temporally extended phenomena, there are still some differing opinions over the issue of how to conceive and define this experience, as well as some other related topics. The most significant difference is between those who support the idea that temporally extended phenomena do actually exist in humans' immediate experience and those who refuse it. The main perceptions, although previously mentioned in the first chapter, are explained as follows (Dainton B. , 2018):

- a. Phenomeno-temporal Realism: suggests that change, succession and persistence can be perceived and/or understood directly.

- b. **Phenomeno-temporal Antirealism:** implies that change, succession and persistence cannot be perceived and/or understood directly.

Both the Extensional and Retentional models represent the principle forms of Realism. However, even though some proponents of the Cinematic model adhere to Realism, most of them object. From one part, Anti-realists' main concern is much easier than the one of their counterparts as they are not under any obligation to present a comprehensible account on the way humans' consciousness is able to embrace temporally extended phenomena. From another part, their job may be harder, as they (Anti-realists) are obliged to "save the temporal phenomena": they have to provide reliable analysis and explanation regarding the main issue of why it may seem so natural to argue that humans perceive movement and change when, actually, they do not such a thing. (Dainton B. , 2018)

For Realists, there is a crucial need to discern the difference between the "experience of succession" and the very "succession of experiencings". The first involves a temporal expansion of contents presented together in consciousness, even if in the form of perceived succession instead of simultaneous occurrence of contents. Therefore, both Extensional and Retentional theorists reached the agreement on the idea that a temporal expansion of contents can be understood as a unity.

- c. **The Diachronic Unity Thesis:** simultaneous contents may be experienced together, similarly, contents which may appear to be successive may also be experienced together (or over some short intervals, for example). (Dainton B. , 2018)

Contents that are understood as unified in this sort belong to one specious present. The expression “appear to be successive” is essentially significant. This is important to adjust Retentional specious presents: albeit on a phenomenological level, they appear to have temporal extension, in fact they reside in momentary episodes of experiencing, from an objective perspective. Extensional theorists, on the other hand, perceive specious presents as expanding over a short distance through ordinary clock-time, just as the way they appear to. (Dainton B. , 2018)

III.2 Specious Present

The last decades of the nineteenth century witnessed the Retentional form of Realism also gaining support from Anglophone circles. According to The Stanford Encyclopaedia of Philosophy, James Ward provides an account on the experience of succession in his “Psychology” entry of the Encyclopaedia Britannica (1886), he argues:

In a succession of events, say of sense-impressions A B C D E ... the presence of B means the absence of A and of C, but the presentation of this succession involves the simultaneous presence, in some mode or other, of two or more of the presentations A B C D. In presentation ... all that corresponds to the differences of past, present and future is in consciousness simultaneously. (as cited in, Dainton, Temporal Consciousness, 2018)

The philosopher Shadworth Hodgson in the second chapter of his book *The Metaphysic of Experience* (Hodgson, 1898) provides a detailed phenomenological analysis of the different aspects in hearing a succession of tones C-D, his developed perspective follows along Retentionalist lines, as he suggests: “In this sequence, when we are actually hearing D, we are actually not hearing but remembering C ... the content of C being now continued, but with less vividness, into the portion of the process occupied by D thereby becoming a representation of C which is no longer heard as a presentation.” (Hodgson, 1898, p.70-72)

William James has cited both philosophers, Ward and Hodgson, in his chapter *The Perception of Time* in his book *Principles of Psychology*.

The “specious present” entered the vocabulary of these two philosophers by virtue of James’ discussion. (James, 1890) James acknowledged E.R. Clay both for the term as well as the fact of recognizing that the “sensible present” has duration, he then has quoted him:

The relation of experience to time has not been profoundly studied. Its objects are given as being of the present, but the part of time referred to by the datum is a very different thing from the conterminus of the past and the future which philosophy denotes by the name Present. The present to which the datum refers is really a part of the past – a recent past – delusively given as being a time that intervenes between the past and the future. Let it be named the specious present, and let the past, that is given as being the past, be known as the obvious past. All the notes of a bar of a song seem to the listener to be contained in the present. All the changes of place of a meteor seem to the beholder to be contained in the present. At the instant of the termination of such series, no part of the time measured by them seems to be a past. (James, 1890, p.1407)

Though, it is not really clear from the above quotation the way Clay has construed the specious present, sure, it must have some clear duration, enough to imply the seeing of a shooting star, therefore its distinction from the strict mathematical or durationless present. James commented that this is “an altogether ideal abstraction, not only never realised in sense, but probably never even conceived of by those unaccustomed to philosophic meditation” (James, 1890, p.1407). According to James, there exists only one present with experiential reality, which is the specious present: “the original paragon and prototype of all conceived times is the specious present, the short duration of which we are immediately and incessantly sensible” (James, 1890 p.1438). In other instances, he explores more details and argues about the constituent of this short duration:

The practically cognized present is no knife-edge, but a saddle-back, with a certain breadth of its own on which we sit perched, and from which we look in two directions into time. The unit of composition of our perception of time is a duration, with a bow and a stern, as it were – a rearward – and a forward-looking end. It is only as parts of this duration-block that the relation of succession of one end to the other is perceived. We do not first feel one end and then feel the other after it, and from the perception of the succession infer an interval of time between, but we seem to feel the interval of time as a whole, with its two ends embedded in it. (James, 1890, p.1408)

German psychologists have had major roles in such debates, among them, William Stern (1871-1938). Stern published an article on temporal experience *Psychische Präsenzzeit* or *Mental Presence-Time* in 1897. It has only been discussed by Husserl, in a cursory manner, until very recently Stern's smart and creative work on this topic has been broadly overlooked. The reason why his work is largely considered of a great importance is the fact that he was one of the pioneers and defenders of the previously mentioned Extensional approach to temporal experience. (Dainton, William Stern's "Psychische Präsenzzeit", 2017)

III.3 Presence-Time

Stern has started his article *Mental Presence-Time* mentioning that psychology needs to tackle complex unities and proposed a criterion for genuine contrary to fictitious conscious unity: it exists when mental contents are immediately apprehended as belonging or occurring together (Dainton, William Stern's "Psychische Präsenzzeit", 2017). He adds that recent psychological theorising has frequently proceeded from the supposition that phenomenal unity is constrained in a particular way: only instantaneous and simultaneous contents can be apprehended together. Stern suggests that humans jettison this constraint on unity:

That only those contents can belong to a whole of consciousness that exist together and are simultaneously present at any given time and, therefore,

that an ideal cross-section at any given moment in the life of the soul would have to contain every element belong to that whole of consciousness is a dogma, which, in a more or less veiled form, determines numerous psychological reflections. I consider this dogma, at least in this generalized form, to be false. I believe that there are instances when an apprehension first comes into being on the basis of temporally extended content of consciousness, in such a manner that every part of this content exists in an insoluble connection with every other part. It is only in this and through this connection that the characteristic resulting act can be produced without, however it being the case that every part has to exist simultaneously, or as an after-duration. Indeed, under certain circumstances “nonsimultaneity” can be the necessary pre-condition for a resulting apprehension. In these instances, a momentary “cross-section through the life of the soul” is revealed to be an artificial unity, comparable, for example, to the way in which an individual point on the surface-section of a microscope slide often does not allow us to recognize correctly what ... we have in view. It appears to me unjustified to take apart such a distinctive content of consciousness and dissect it into artificial elements simply because it is not completed in a moment ... (Dainton, William Stern's “Psychische Präsenzzeit”, 2017)

It is actually very obvious that James’ “specious present” and Stern’s “presence-time” do share many similarities, as they both are supposed to allude to the brief temporal window through which humans are immediately aware of change and persistence; though they are very different in one way, since Stern regarded this window in an Extentionalist way, extending over a brief interval of time. James, on the other hand, adhered to Ward and Hodgson subscribing to the Retentional interpretation.

Even if the analysis provided by Hodgson on the experience of a “sequence” of tones is very obviously Retentionalist in essence, his words in the course of his study on the fact of experiencing a single C-tone in the metaphysic clarifies that his position may be more complex. Hodgson emphasises that no matter how brief the C-tone might be, it must have some experienced duration, therefore, it will imply an experienced transition between earlier and later phases, albeit these are really difficult to

determine in introspection. Even if these elementary durations will feature retentions as well, they constitute a different kind:

It is implied in the term empirical, as applied to any portion of experience, that this portion has some time-duration; and from this it follows, that the least possible empirical present moment is one, in which perception and memory (in the sense of simple retention) are indistinguishable from one another. (Hodgson,1898, p.60)

... memory in its essential characteristic, namely retention of a past in a present moment, now has been shown to take its place among the ultimate facts of experience, being involved in the simplest cases of perception, for which in fact, it is but another name. (Hodgson,1898, p.71)

Concerning the experiencing of C-D, Hodgson maintains that retention of C is certainly not a presentation, instead, it is a less intense “representation” of C experienced with D. while in the single C tone case, the retention of the former stage is somehow different; it is not really distinguishable from perception, or just perception by “another name”.

Jack Shardlow states that: “Looking out of the window in the English summer, you can see leaves *swaying* in the breeze and hear the pitter-patter of raindrops *steadily increasing* against the window” (Shardlow, 2020). Through such an example, he reflects on a simple moment of experiencing a variety of temporal phenomena that human beings go through every day. In his discussion of temporal experience, he suggests two main phenomenological claims: first, humans perceptually experience motion and change and second, during a moment where more than a momentary situation is presented in humans’ ongoing perceptual experience, the one which is presented actually appears to be of a rather limited temporal extent. These two claims are commonly tightly tied to the notion of specious present.

III.4 Bergson's *duration*

Bergson started showing his strong disagreement with the “spatializing” of time through his *Time and Free Will: An Essay on the Immediate Data of Consciousness* (1889/1910) where he introduced his concept of “duration” or “durée”. In some parts of his earlier writings, this concept relates to time as it is featured in human’s immediate experience. According to Bergson, “duration” is a continuous, unquantifiable and immeasurable flow. Therefore, it is totally different from the static conception of time as a multiplex of plain locations generally encountered in the scientific Newtonian or Einsteinian conception of the world.

Pure duration is the form which the succession of our conscious states assumes when our ego lets itself *live*, when it refrains from separating its present state from its former states ... We can thus conceive of succession without distinction, and think of it as a mutual penetration, an interconnection and organization of elements, each one of which represents the whole, and cannot be distinguished or isolated from it except by abstract thought. Such is the account of duration which would be given by a being who was ever the same and ever changing, and who had no idea of space. But, familiar with the latter idea and indeed beset by it, we introduce it unwittingly into our feeling of pure succession; we set our states of consciousness side by side in such a way as to perceive them simultaneously, no longer in one another, but alongside one another; in a word, we project time into space, we express duration in terms of extensity, and succession thus takes the form of a continuous line or a chain, the parts of which touch without penetrating one another. (Bergson H. , *Time and Free Will: An Essay on the Immediate Data of Consciousness*, 1910, pp. 100-101)

Bergson’s various characterisations and definitions of the concept of duration are mainly negative, as he tells very little about what its nature actually is but very much about what it is not. Even if this may seem frustrating, Bergson had a reason for this; as he believed that any attempt for the conceptualisation of the flux of consciousness could be successful only by distorting the phenomena.

IV. Consciousness and Memory

Husserl developed an account of time consciousness through Retentional lines. He may not have used the term “specious present” as his predecessors but he did believe that humans have an apparently immediate awareness of change and persistence among the phenomena and processes they perceive over short intervals. He also suggested that as humans’ streams of consciousness flow on, they are actually aware of their doing so. Husserl perceived this process as it must involve past phases of consciousness as being “retained in apprehension” in a way within later moments of consciousness. The passage put forward portrays the “wonder of time-consciousness” revealing itself to him as he hears the rumbling of an approaching coach:

The perception of the sound in the perception’s ever new now is not a mere *having* of the sound, even of the sound in the now-phase. On the contrary, we find in each now, in addition to the actual physical content, an *adumbration* If we focus reflectively on what is presently given in the actually present now with respect to the sound of the postilion’s horn, or the rumbling of the coach, and if we reflect on it just as it is given, then we note the *trail of memory* that *extends* the now-point of the sound or of the rumbling. This reflection makes it evident that the *immanent thing* could not be given in its unity at all if the perceptual consciousness did not also encompass, along with the point of actually present sensation, the continuity of fading phases that pertain to the sensations belonging to earlier nows. The past would be nothing for the consciousness belonging to the now if it were not represented in the now; and the now would not be now ... if it did not stand before me *in that consciousness* as the *limit of a past being*. The past *must* be represented in this now as past, and this is accomplished through the continuity of adumbrations that in one direction terminates in the sensation-point and in the other direction and in the other direction becomes blurred and indeterminate. (Husserl, 1991, p. 290)

Husserl’s account contains a very dynamic three-layered perspective of the composition of consciousness at any moment. These three elements are: “primal impressions”, “retentions/primary memories” and “protentions”. Primal impressions consist in the immediate actual experiences occupying the momentary now. No sooner does a

momentary tone-phase (primal impression) happen than it slips smoothly into the past. Nevertheless, it does not really disappear from consciousness altogether: it remains in form of a retention, which displays it as “past”. According to Husserl, “retentions” are a somehow different form of consciousness, as they significantly differ from ordinary memories. As Husserl named them in the above quotation, they are the “adumbrations”. Once new primal impressions start, the initial tone-phase persists in a retained state but as a progression towards more past, until it vanishes from consciousness altogether. From this phase, it can only be reached through ordinary memory. While for “protentions”, they represent the future-oriented correlates of retentions. They may be detailed to some extent, as in some cases when humans perceive or remember some usual sequence of events, though they majorly represent some sort of “openness” to the future or some notion of expectation. As Husserl states:

It belongs to the essence of perception not only that it has in view a punctual now and not only that it releases from its view something that has just been, while ‘still intending’ it in the original mode of ‘just-having-been’, but also that it passes over from now to now and, in anticipation, goes to meet the new now. The waking consciousness, the waking life, is a living-towards, a living that goes from the now towards the new now. (Husserl, 1991, p.112)

Regardless of the way the forward-looking protentional part of consciousness is to be correctly understood, this is a very reasonable aspect of phenomenology. When people go about their job, for instance, they usually do so with an anticipative awareness of where they are being guided or at least what is probably to come next, though mostly difficult to describe and different in the various circumstances. Husserl’s general idea might be neatly clear; however, the details may be challenging to some extent. Husserl’s terminology went through regular modifications: he dealt with “primary memory” before adopting “retention”, instead of “specious present” or

“presence-time”. He also preferred dealing with “the original temporal field” in his early writings, while in later writings, he adopted other expressions, such as: “primal present”, “flowing present”, “living present”. This apparent evolution in terminology is provoked by and mirrored in the doctrinal evolutions. Although Husserl wrote thoroughly on time-consciousness along his career, he could never reach a satisfying position as he never published a definitive statement regarding his perspective (Dainton, *Temporal Consciousness*, 2018).

IV.1 Stream of Consciousness and Fringed Feelings

In his article *The Fringe of William James’s Psychology the Basis of Logic* (1911), Evander Bradley McGilvary, has put under scrutiny the problem of the nature of truth and has appropriated the insight into the fact which William James expressed, saying: “If we then consider the *cognitive* function of different states of mind, we may feel assured that the difference between those that are mere ‘acquaintance’ and those that are ‘knowledges-about’ is reducible almost entirely to the absence or presence of psychic fringes or overtones” (McGilvary, 1911). In order to explain the psychic fringes or overtones of James, there is a need to provide a brief account on his doctrine of the feelings of relation. He said:

If there be such things as feelings at all, ... then so surely as relations between objects exist *in rerum naturà*, so surely, and more surely, do feelings exist to which these relations are known. There is not a conjunction or a preposition, and hardly an adverbial phrase, syntactic form, or inflection of voice, in human speech, that does not express some shading or other of relation which we at some moment actually feel to exist between the larger objects of our thought. If we speak objectively, it is the real relations that appear revealed; if we speak subjectively, it is the stream of consciousness that matches each of them by an inward colouring of its own. In either case the relations are numberless, and no existing language is capable of doing justice to all their shades” (James, *The Principles of Psychology*)

From an objective point of view, in some cases, where a relation seems to be revealed, all its terms seem revealed as well. While from a subjective point of view, in the same cases, the consciousness of such relational complex may be distinguished. James argues that into a succession of “states”, supposing the relation in question has only two terms, first there is the “state of consciousness” to which the first term of the relation is announced, then, accordingly, a second “state” to which the relation is exhibited, following those, comes the third “state” as a final stage, cognizing the other term of the relation. He named the second and intervening “state” as a “transitive state”. This state is regarded as a transversion of a single continuous consciousness, which as an indivisible whole has as its aim the relational complex in its totality of terms and relation. In such a continuous consciousness, there are only two tones and their interval without harmonics “so much”, said James, “for the transitive states. But there are other unnamed states or qualities of states that are just as important and just as cognitive as they, and just as much unrecognized by the traditional sensationist and intellectualist philosophies of mind. The first fails to find them at all, the second finds their *cognitive function*, but denies that anything in the way of *feeling* has a share in bringing it about” (James, pp.249-255). To elucidate his argument, he provided some examples to describe what these inarticulate psychoses, brought by waxing and waning excitements of the brain, look like. He has first provided the example where the reader has to suppose that three successive persons say to him/her: “‘Wait!’ ‘Hark!’ ‘Look!’” human consciousness is thrown into three different expectations, even if there is no clear aim before it in any of the cases. Leaving some different bodily attitudes in addition to the echoing images of the three words which are in turn

obviously different. The existence of a residual conscious affection with a sense of the direction from which an impression is coming, is forcibly there, even though there is not yet any positive impression. Thus, there are no names for the psychoses in question except the names: Hark, Look and Wait. James adds further:

Suppose we try to recall a forgotten name. The state of our consciousness is peculiar. There is a gap therein; but no mere gap. It is a gap that is intensely active. A sort of wraith of the name is in it, beckoning us in a given direction, making us at moments tingle with the sense of our closeness, and then letting us sink back without the longed-for term. If wrong names are proposed to us, this singularly definite gap acts immediately so as to negate them. They do not fit into its mould. And the gap of one word does not feel like the gap of another, all empty of content as both might seem necessarily to be when described as gaps (James, pp.249-255)

James suggests that there are innumerable consciousnesses of emptiness, even without having a name they are all different from one another. The ordinary way assumes that they all represent emptiness of consciousness but the feeling of an absence is totally different from the absence of a feeling. This very intense feeling bringing the rhythm of a lost word without its sound cover. He implies that, forcibly all humans have gone through this experience of “the tentatizing effect of the blank rhythm of some forgotten verse, relentlessly dancing in one’s mind, striving to be filled out with words”.

IV.2 Stream of Consciousness in Marcel Proust’s *A la recherche du temps perdu*

In the novel *A la recherche du temps perdu*²⁵ by Marcel Proust, it is often observed that the character of the narrator is engaging in the deliberate retrieval of a remembrance that appears to his consciousness in the form of an involuntary memory. This

²⁵ The novel is translated into English as *In Search of Lost Time*. A brief description of the novel is provided in Appendix C.

very retrieval revolves around the analogy between “a common quality between two [different] sensations” (Proust, 1989), one experienced presently while the other experienced in the past and forgotten later. This remembrance of the narrator actually derives from the “transmutation” of an instantly felt reality into the recognition of experienced qualities in some past sensation (Proust, Beg-Meil , 1971) and “the miracle of this analogy” depends on his escape from the present, on his imaginative aptitude to split two different moments in time apart from the rules of chronological separation and unite them together (Proust, *Le Temps retrouvé*).

This very process of retrieval is sometimes described in details and analysed self-consciously by the narrator of Proust; as the narrator recovers, in a retrospective embodiment of the past experience, as Russel Epstein suggests, the complex web of “sensory, emotional and appetitive” modalities that comprise, “post factum”, the meaningful connection to an earlier moment in time. (Epstein,2004, as cited in (Balsamo, s.d.)

The sensation felt presently submerges the narrator with “a delicious pleasure” and his temper “of a moment ago is superseded by a surge of elation” (Shepherd, 1998). Still, the narrator is unwilling to overstress the intensity of this state of elation. Despite the enthusiasm of his affective investment in the retrieval of the ambiguous remembrance and despite the sensory, emotional and appetitive objective of this evocative effort, the narrator gradually drives in the background the excitement evoked by his temper swing. His euphoria, secondary to the advent stage of his present effort of the recalling of memory, empowers his mental activity and then gets purified gradually from his “re-instantiation of the earlier experience”. (Epstein, 2004)

It is nearly like mnemonic retrieval could be effectively embraced by the narrator just in a state of balance, of weakness, of inaction, of resistance from outer tumult, requiring the unexpected and thorough interference of the contingent flow of tempers, events, circumstances, situations and discussions that would ordinarily surround the psychological existence of a fictional character. As a first-person narrator, the narrator gets involved in his “soliloquy”, as Gérard Genette implies “for obvious purposes of [analytical] demonstration”. (Genette, 1980, p. 179)

It is actually not assumed that the expressive resources of the “interior monologue”²⁶ are inaccessible to him. Edouard Dujardin pictured the interior monologue as some sort of discourse missing reasonable and logical organisation, “in a mode which gives the impression that the original thoughts are actually being reproduced [in speech]” (Beja, 1992, p. 67)

In some occasions, Proust’s narrator appears playing with this narrative technique, just as Gerard Genette portrayed in “Narrative Discourse”. Where the latter sheds the light on the following passage from *La Prisonnière*, whereby the narrative voice in the imperfect indicative gets incarnated by the immediacy of the present and present perfect: “Par qui donc l’avais-je apprise? Ah ! Oui, par Aimé. Il était content de me revoir. Mais il n’aime pas Albertine. Tout le monde ne peut pas l’aimer. Oui, c’est lui qui m’a annoncé qu’elle était à Balbec. Comment le savait-il donc ?” (Proust, *La Prisonnière*, 592, in *À la recherche du temps perdu*, 1988).

²⁶ **Interior monologue**, in dramatic and nondramatic fiction, narrative technique that exhibits the thoughts passing through the minds of the protagonists. These ideas may be either loosely related impressions approaching free association or more rationally structured sequences of thought and emotion. (Britannica, 2020)

Even if it seems opposing the type of “psychological realism” deep-rooted in the narrative technique of interior monologue, the narrator decides not to get full use of it as a rule, as David Lodge argued, Joyce’s interior monologue and stream of consciousness “took psychological realism as far as it would go” (Lodge, *The Art of Fiction*, 1993, p. 49)

The retrieval process described by the narrator includes two different stages, the memory recall stage (launched by an involuntary memory) followed by the stage of accomplished remembrance. If it does not portray the slightest hint of the inarticulate, infralinguistic advocated by Dujardin (Dujardin, 1931, p. 59), it rather shares a range of structural correspondences with William James’s theory of “stream of consciousness”. James described this theory as a very crucial element of his conscious experience description, in *The Principles of Psychology* (1890). According to William James’s theory, the benefits of this type of memory preferred by Proust’s narrator, which appears at first in form of a random emotion, is the fact that it is not abstracted, as the case with intentional, voluntary recollection, from the “conjunction of sensations, goals and desires” of its initial context. (Epstein, 2004, pp.218-219)

It is generally known that William James’s theory has been adopted in literary circles -though never explicitly by James Joyce, the most famous writer in the stream of consciousness technique- to present a narrative technique that portrays “without logical organisation” a “flux of thoughts, sensations and feelings ... nearest the unconscious” (Beja, 1992) Beja claims that the stream of consciousness portrays the “flux” and the interior monologue is the narrative technique playing the role of the means to “record” this flux, as David Lodge suggests; the literary definition of stream

of consciousness means a narrative technique but in multiple ways broader than that of the interior monologue. (Lodge, *The Art of Fiction*, 1993, pp. 43-44)

To David Lodge, the expressive means of the stream of consciousness technique surpass the scope of inner speech, since they entail a calibrated mixture of free indirect speech, interior monologue and third person narration.

According to William James, stream of consciousness orbits the difference between the “fringe”, feeling of tendency and the “substantive state”. The former consists of a vague emotion implying a present sensation in the mental course from which a sensation experienced previously is going to appear again. (Balsamo, s.d.) This fringe happens in a “transitive state” provoked by the ambiguous feeling that a relation still undefined joins two diachronic sensations. While the latter “substantive state” happens when the sensation experienced formerly, which is intrinsic to a momentarily forgotten memory portraying some “relation” with the present sensation, is fully recognised. (Balsamo, s.d.) The accomplished recognition corresponds to the aim or “meaning” itself of the stream of consciousness and in the instances depicted in Proust’s Narrator’s words, permits the recalling agent to reveal the pertinent, contextual modalities, emotional, sensual and appetitive, that informed the sporadic matrix of the initial original sensation (James, *Principles of Psychology*, 1890). Following the Narrator’s “fringed” sensation’s persistent probing, the accomplished recognition that contributes to the completion of his mental stream leads him to a moment of intensified awareness, as it provides him with a pause of joyous satisfaction, an “unfringed” moment of emotional peace. (James, *The Principles of Psychology*, 1890, p. 478)

Conclusion

Arriving at this stage of the research, readers better understand why it was quite difficult to provide a clear description of the concepts right from the beginning as they embrace many aspects within themselves. Their description from a physics' point of view has been provided in the first chapter along with some philosophical insights; however, in the current chapter, the focus was more on the human mind per se, its analysis from a psychological perspective, providing a detailed study of the way the human brain proceeds with the analysis of the various phenomena. later, the focus shifted to language, considering the fact that it is the basic and only tool for human beings to express their thoughts, mentioning the importance of the concepts of time and space in the human everyday communication and providing the multiple conceptualisations of these concepts through the human language and how their meanings differ according to many factors. After that, the emphasis shifts towards philosophy again, to portray how philosophers have conceived these aspects and how they investigated the different ways they are conceptualised by the human brain, since human beings have differed muchly in both the conceptualisation and conception of these intriguing entities.

At the end of this chapter, an example from the French literature has been provided to portray how Marcel Proust challenged both the objective scientific theories related to time and the conventional narrative in literature and perceived time differently, suggesting the most prominent idea in his work, that humans are actually able to live many types of time, past, present and future, at once and at the same moment, mainly through memories and feelings.

In the next chapter, other examples from literature are provided, to portray how twentieth century writers perceived and portrayed time in their works, as well as the importance played by the aspect of time to convey their thoughts.



**Chapter three : Human Perception
of Time and Space in Literature**

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Introduction

With an attempt to faithfully describe and report human conception of time and space as major features of the human existence, the present chapter aims at depicting human vision through two lenses from literature; the first consists in writers' perspective on these concepts and the second lies on the imagined conception through the different characters in the novels through the interior monologue and the stream of consciousness technique²⁷. The chapter deals with some of the most important modernist novels, that initiated a different perspective on the concepts of time and space as well as their prominent participation in the introduction of the new techniques and plots' structure.

Many scholars attribute the publication of James Joyce's 1922 novel *Ulysses*²⁸ to mark the modernist literary movement. Joyce's strategies and new techniques to portray the events in the life of the protagonist Leopold Bloom, came to epitomise modernist artistic break from the conventional fiction norms and modes.

Modernism, in its broad definition represents modern thought, character or practice. The term particularly describes the modernist movement with all its cultural tendencies and its wide range of related cultural movements, originally emerging from the widespread and extensive changes to Western society in the late 19th and early 20th centuries. The movement is regarded as a revolt against the conservative values

²⁷ It is important to note the difference between the stream of consciousness and the interior monologue as many tend to use the expressions interchangeably. The "interior monologue" may be summarised as the continuous flow of thoughts in the subconscious making its way into the conscious for interior expression. While "stream of consciousness" consists of the literary practice, that is the act of writing down the interior monologue of the writer's imagined interior monologue of the character.

²⁸ For Joyce's biography and the summary of the novel, see : Appendices : D and E.

of realism. Most arguably, the basic motive of modernism consists in its denial of traditional thoughts. Rejecting the utmost certainty of Enlightenment thinking as well as the utter rejection of the mere idea related to the existence of a compassionate, all-powerful creator. Actually, modernism did not categorically defy religion, neither did it completely renounce to the ideas and beliefs related to Enlightenment, but rather questioned and sought for some alternatives for the preceding age's beliefs and convictions. The past was then treated and perceived as different from the modern age and all its principles and unarguable authorities were to be questioned and revised.

In general, modernism is often regarded as being characterised by many features, but most importantly, by the deliberate and radical break away from traditional thought subsequently leading to the emergence of new and innovative forms of expression. Hence, various styles especially in art and literature, in the late 19th and early 20th centuries, are significantly different from the ones that preceded them.

At that time, the main modern cities forged the intellectual life. Cities like Berlin, Moscow, Vienna, London, New York, Paris, St Petersburg and Chicago represent the cradles of the technological and cultural development. They represent the major places welcoming social groupings and political activity, new ideas, trends and technologies emerged and emancipation reached its peak. Certainly, the cultural turmoil impacted the arts, while this atmosphere of new thinking leaned towards a new world, the arts rather leaned towards a new interpretation of the world. New trends exploring social indeterminacy strived to investigate the miscellaneous aspects of the human psyche, analysed the problem of consciousness and opted for a new vision on life; the modern view.

The modern may be best defined as a type of fermentation process, especially through the manifestation of a new consciousness, scepticism and relativity. This process of reforming consciousness evolved as a response to the tumultuous and hopeless social climate of the 20th century. (Kuiper,2019; & Dungan, 2019) (Kuiper, 2019) (Dungan, 2019)

Influenced by the modern philosophical and psychological thinking launched by William James, Henri Bergson and Martin Heidegger²⁹, literary writers attempted to defeat such desperate attitude through designing and presenting a new consciousness, which would be able to reflect and encompass both the social anarchy and individual depression. A major interest in the unconscious and rationality depicts an overall psychological change in modern thinking. Such scrutiny in the depths of consciousness is tightly associated with the theme of timelessness. A fundamental feature characterising modernist investigation lies in the dichotomy between the inner and outer worlds, subjective and objective, individual and natural, metaphysical and physical, world of mind-time and world of linear time. The dichotomies reflect a double-faced coin, their interrelatedness will be exhaustively investigated in the analysis of Joyce and Woolf's works. Starting with an analysis of James Joyce's epic novel *Ulysses*, and later providing some examples from Virginia Woolf's writings³⁰, namely *Mrs. Dalloway*, *Orlando* and *The Waves*³¹.

²⁹ More details on Existentialism are provided in: Appendix F.

³⁰ Virginia Woolf's Biography is provided in Appendix G.

³¹ Novel's summaries are provided in Appendix H.

But before proceeding with the analysis of the two ways to portray the conception of time and space, there is a need to introduce the method used to analyse the chosen literary works.

It has been opted for an eclectic method, binding Philosophy, Narratology³² through focalisation and Psychoanalysis³³ through free association to scrutinise the most prominent works related to time consciousness in the twentieth century.

I. Temporal Consciousness throughout *Ulysses*

Ulysses by James Joyce maintains a very special place in Modern English Literature as it is considered as one of the greatest masterpieces of this period. It reports the events in the lives of the central characters, Leopold Bloom and Stephen Dedalus, through a period of a single day in Dublin. Its complexities and depth marked a turning point in the history of the process of the human understanding of language and literature. Labyrinthine in its structure and considerably inventive, the novel embraces both the mythical monotonous adventure and an outstanding portrait of the consciousness' process. Though difficult to read, understand or even summarise, the novel offers an exceptional philosophical perspective on the psyche, the human conception of different concepts through language and the conception of the two vital concepts, time and space.

It is not an uncommon perspective that Joyce's character, Stephen Dedalus, from his novel, *Ulysses*, is the autobiographical picture of Joyce himself, since most

³² This method is explained in Appendix I.

³³ This method is explained in Appendix J.

critics, including Joyce himself, support this claim (Farrell, 1944). Therefore, throughout the analysis, the name Stephen Dedalus mostly symbolizes both the character as well as the writer, James Joyce.

Wyndham Lewis attacks the “time-cult” in his book *Time and Western Man*, objecting scholars and philosophers adhering to the theory of relativity and flux who sustained that it is the underlying principle of the universe. Henri Bergson’s theory of “duration” seems to constitute the target of this attack, as Bergson first developed his theory in *Time and Free Will* trying to suggest a differentiation between the organization of psychic states and that of the actual physical world (Lewis, 1927). He differentiates between the porosity and fusion of psychic states as contrasted with the concreteness of material objects. Means to organize matters and cut artificially the continuous process of the psyche for practical reasons, include the objective or clock-time, spatial arrangements and the pendulum positions. Bergson declared: “Withdraw the pendulum and its oscillations” and “there will no longer be anything but the heterogeneous duration of the ego without moments external to one another, without relation to number” (Bergson H. , *Time and Free Will: An Essay on the Immediate Data of Consciousness*, 1957, p. 108) later he adds: “below the self with well-defined states, a self in which succeeding each other means melting into one another and forming an organic whole” (Bergson H. , *Time and Free Will: An Essay on the Immediate Data of Consciousness*, 1957, p. 128). Lewis attempted to investigate whether the application of this philosophy will develop or diminish human arts, rather than checking its viability as a system of abstract phenomena, he began his book with an analysis of some novelist writers like Steine, Proust and Joyce, those to have implemented the

Bergsonian duration in their writings. In his last chapter, Lewis dealt with the analysis of the mind of James Joyce, he affirms the presence of some “obsession” with Bergsonian duration in *Ulysses*, that he argues turns the book into a machinery world full of “dead matter”. He suggests as well, that its use is “the glorification of the life-of-the-moment with no reference beyond itself and no absolute or universal value” (Lewis, 1927).

Lewis refuses to admit, through his strict and extreme arguments, the openness as well as the transformative quality distinguishing *Ulysses*, a characteristic challenging all absolute concepts related to reality along with the individual living in it. In addition to that, Lewis fails to discern the duality pervading the narrative, where the temporal and spatial arrangements defining the world are simultaneously used and dissolved through the process of the narrative consciousness underlying the whole work and animating the Joycean world.

I.1. Time, Space and Stream of Consciousness through Narrative Transitions

An account on each episode is provided with the aim of portraying the devices as well as the different styles used by Joyce to present the multiple levels of consciousness.

Episode One “*Telemachus*”

This episode is provided within a very straight narrative, with the omniscient narrator informing the details from Stephen’s life with a subtle hint to his former character image in *A Portrait of the Artist as a Young Man*. However, Joyce’s innovative techniques start evolving very early, as he broke from early traditions of the conventional quotation marks that used to have the aim of indicating a dialogue, he has

instead used dashes and left straight narratives and monologues in paragraph form. As an example of the narrator's details: "Shouts from the open window startling evening in the quadrangle. A deaf gardener, aproned, masked with Matthew Arnold's face, pushes his mower on the sombre lawn watching narrowly the dancing motes of grasshalms". (Joyce, p.6) Then, Stephen's thoughts are reported: "To ourselves [...]new paganism [...]omphalos". (Joyce, p.6) Later, the author finishes Stephen's dialogue: "--Let him stay, Stephen said. There's nothing wrong with him except at night". (Joyce, p.6)

Episode Two "*Nestor*"

The stream of consciousness begins to be very apparent in this second episode. Spoken words and phrases are remembered simultaneously. For instance, when Mr. Deasy mentions the Englishman, the fact which makes Stephen provide a contradictory statement to his own thought with the sole aim to satisfy Mr. Deasy by giving him the answer he was expecting to hear. "--He knew what money was, Mr Deasy said. He made money. A poet, yes, but an Englishman too. Do you know what is the pride of the English? Do you know what is the proudest word you will ever hear from an Englishman's mouth?" and Stephen was thinking: "The seas' ruler. His seacold eyes looked on the empty bay: it seems history is to blame: on me and on my words, un-hating". (Joyce, p.25) Subsequently said: "--That on his empire, the sun never sets".

Episode Three "*Proteus*"

As this episode starts, the reader does not feel the presence of the author in any way. The episode may be perceived as a representation of the dramatic form that is able to stand on its own, without the author's support. Stephen is described alone

while the language turns into a type of fragmentations portraying the fluctuating flow of his stream. Alliteration, fragments from foreign languages, imagery and even poetry are present in the stream:

“WON'T YOU COME TO SANDYMOUNT, MADELINE THE MARE?”

Rhythm begins, you see. I hear. Acatalectic tetrameter of iambs marching. No, gallop: DELINE THE MARE” (Joyce, p.30)

Episode Four “*Calypso*”

The omniscient narrator starts the episode with the presentation of the second protagonist, Leopold Bloom. The time-setting is indicated as eight o'clock and the reader can picture Leopold within his familiar environment along with the elements that are to later invade his consciousness during the day. The reader learns some information about Leopold, his appetite, his pathetic relationship with his wife as well as some very ordinary facts surrounding the life of any individual.

Episode Five “*Lotus Eaters*”

After two hours, the fifth episode starts. Leopold is heading towards the post office, meets an acquaintance and sees a pretty woman, attempts to attract her attention, then aimlessly visits a church. During this trajectory, while wandering in the streets, the reader notices how Leopold's mind proceeds through the continuous mental associations. As when he proceeds with a series of reflections at the Chemist's:

Brings out the darkness of her eyes. Looking at me, the sheet up to her eyes, Spanish, smelling herself, when I was fixing the links in my cuffs. Those homely recipes are often the best: strawberries for the teeth: nettles and rainwater: oatmeal they say steeped in buttermilk. Skinfood. One of the old queen's sons, duke of Albany was it? had only one skin. Leopold, yes. Three we have. Warts, bunions and pimples to make it worse. But you want a perfume too. What perfume does your? PEAU D'ESPAGNE. That orangeflower water is so fresh.

Nice smell these soaps have. Pure curd soap. Time to get a bath round the corner. Hammam. Turkish.

Massage. Dirt gets rolled up in your navel. Nicer if a nice girl did it. Also I think I. Yes I. Do it in the bath. Curious longing I. Water to water. Combine business with pleasure. Pity no time for massage. Feel fresh then all the day. Funeral be rather glum". (Joyce, p.59)

Episode Six "*Hades*"

The sixth episode consists of the funeral scene where the two protagonists meet, Leopold and Stephen, in the carriage on their way to the church, they get into a conversation about death, involving an ironical tone but soon as Leopold remembers his died son and father his stream of consciousness flows into a different direction. Leopold's mind content, including his main psychological concerns related to his wife and inferiority complex, is presented throughout this episode.

Episode Seven "*Aeolus*"

The importance of this episode lies in the fact that it represents Joyce's cleverness in guiding the stream of consciousness. Leopold's thoughts are very smoothly conducted through the headlines in the newspaper office. Written in a way to capture attention with an abundance of rhetorical figures and devices, these captions portray both the thought as well as the word meaning of each part.

"FROM THE FATHERS

It was revealed to me that those things are good which yet are corrupted which neither if they were supremely good nor unless they were good could be corrupted. Ah, curse you! That's saint Augustine" (Joyce, p.104)

Episode Eight "*Laestrygorians*"

The episode first presents Leopold with thoughts related to food as lunchtime approaches, it brings back the fourth episode's images where Leopold's eating habits

were described. In this part, the indirect monologue has been used in order to put forward with emphasis Leopold's sensory impressions.

His heart astir he pushed in the door of the Burton restaurant. Stink gripped his trembling breath: pungent meatjuice, slush of greens. See the animals feed.

Men, men, men.[...]

Couldn't eat a morsel here. Fellow sharpening knife and fork to eat all before him, old chap picking his tootles. Slight spasm, full, chewing the cud. Before and after. Grace after meals. Look on this picture then on that. Scoffing up stewgravy with sopping sippets of bread. Lick it off the plate, man! Get out of this. (Joyce, p.122)

Episode Nine “*Scylla and Charybdis*”

The episode sets the library scene in which Stephen clarifies his hypothesis on the relationship of Hamlet to Shakespeare. The provided example in this scene portrays Stephen's intellectualism and the philosophical awareness that characterises his “stream”. In addition to some touch of enthusiasm from the old Stephen of *A Portrait of the Artist as a Young Man* with which he faces his audience. Nothing is particularly new regarding the stream of conscious technique of this part though the continuous and flowing link among style, narrative and dramatic devices is very apparent.

Episode Ten “*Wandering Rocks*”

In this episode many stylistic devices are yold. The episode represents an epitome presenting the form and all the themes in the novel as a kind of miniature version. It also depicts, through its nineteen minor episodes, many characters' wanderings throughout Dublin. The characters are described partially through the omniscient narrator's details and at other instances through the interior monologue.

Episode Eleven “*Sirens*”

The “Sirens” episode offers an attractive contrast in style and devices. It is mostly characterised by the use of musical devices, from the very opening the reader

meets the musical elements “Bronze by gold heard the hoofirons, steelyringing Imper-
thnthn thnthnthn”. (Joyce, p.188) Which are later evolved into major allusions to the
episode’s “action”. The song’s lines maintain the constant state of the musical analogy
and participate in keeping the organisation of Leopold’s disjointed thoughts while
writing the letter to Marta.

Episode Twelve “*Cyclops*”

Ordinary setting characterises this episode, its time and language remain in the
dialogue between Leopold and acquaintances. Its time is the past which is in fact Le-
opold’s retrospective mind, refreshing the conversation with the historical present
tense.

I was just passing the time of day with old Troy of the D. M. P. at the
corner of Arbour hill there and he damned but a bloody sweep came along
and he near drove his gear into my eye. I turned around to let him have the
weight of my tongue when who should I see dodging along Stony Batter
only Joe Hynes.

--Lo, Joe, says I. How are you blowing? Did you see that bloody chim-
neysweep near shove my eye out with
his brush?

--Soot's luck, says Joe. Who's the old ballocks you were talking to? (Joyce,
p.220)

This procedure of narration provides another shift in the point of view because
Joyce, as an omniscient narrator, certainly does not exclude the characters’ thoughts,
he rather provides the opportunity for Leopold to be seen through other objective
characters’ eyes, giving the reader multiple perspectives on Leopold to allow him truly
comprehend this character’s mindset.

Episode Thirteen “*Nausicaa*”

Still, this episode provides another point of view through which Gerty McDowell
provokes a new reaction in Leopold portraying the natural response of manhood to

femininity. However, the end of this part suggests to the reader that Joyce is actually detracting the act as a trivial reaction of some meaningless thoughts. Gerty is presented through the indirect interior monologue, later the point of view moves to Leopold and both characters are perceived from two perspectives, both internal and external, objective and subjective. By the end of the episode, while Leopold's desires distort his thoughts, his stream leans towards the unconscious level provoking his subconsciousness to come to the surface.

O sweetie all your little girlwhite up I saw dirty bracegirdle made me do
love sticky we two naughty Grace darling she him half past the bed met
him pike hoses frillies for Raoul de perfume your wife black hair heave un-
der embon SENORITA young eyes Mulvey plump bubs me breadvan Win-
kle red slippers she rusty sleep wander years of dreams return tail end
Agendath swoony lovey showed me her next year in drawers return next in
her next her next. (Joyce, p.277)

According to Freudian slips-of-the-tongue, this is considered revealing to a large extent anticipating an entire unconscious level similar to the bordering levels later found in Molly's monologue.

Episode Fourteen “*Oxen of the Sun*”

In this episode, Joyce employs some stylistic devices to present in a very symbolic way both the origin and history of the English language through the birth of a baby at the hospital. The language here has a very tight relationship with the tension, which increases by the approaching of the birth time. The end of the episode marks a significant change in language which becomes uncontrolled and especially incoherent.

Episode Fifteen “*Circe*”

This episode is regarded as the most famous in the novel, it represents Joyce's example of a merely dramatic form, especially with stage directions, it is well-known as the “Nighttown” scene using all consciousness levels throughout its progress. Both

Stephen's as well as Leopold's minds were distorted, the former by alcohol and the latter by fatigue, evoke the images, hallucinations and fantasies that happened to them during the day. It also contains the climax to the major "father-son quest theme", as Stephen sees the ghost of his dead mother, he experiences a real terror but soon finds Leopold as his own father. The device of free-association consists in the method of presentation for the levels. This is the episode in which Joyce's competence as a technician is most displayed.

Episode Sixteen "*Eumaeus*"

Joyce has not really exhausted himself as the previous episode as it mainly portrays the fatigue experienced previously. In a complete contrast with the dramatic scene, the episode has very conventional style, language and patterns. Though this conventionalism brings more success than failure, portraying the exhaustion experienced by both Stephen and Leopold after the "Nighttown" scene which included an intensive flow of their subconscious. It starts with the comment by the omniscient narrator on the impact of the preceding scene and continues in form of dialogues and descriptive passages from the omniscient narrator.

Last Episodes "*Ithaca*" and "*Penelope*"

In episode seventeen, again, the style changes. Contrary to the two former episodes, the tone is coherent and utterly intellectual and the climax to the Leopold-Stephen quest is put forward in form of rapid question and answer passages. The answers are actually loaded with facts and theories from the outer world of phenomena, though the reflection on these is shown in the stream patterns occurring at times as direct and at others indirect. The mental process has in effect been used to mark this

reflection on the questions and multiple images from the subconscious minds of both characters have been identified and explained. By the ending, Leopold's growing worry about the adventures of the day are depicted through his stream's levels while preparing for his bed:

With?

Sinbad the Sailor and Tinbad the Tailor and Jinbad the Jailer and Whinbad the Whaler and Ninbad the Nailer and Finbad the Failer and Binbad the Bailer and Pinbad the Pailer and Minbad the Mailer and Hinbad the Hailer and Rinbad the Railer and Dinbad the Kailer and Vinbad the Quailer and Linbad the Yailer and Xinbad the Phthailer.

When? (Joyce, p.466)

Leopold's mind movement from the conscious to the unconscious level paves the way to the last monologue (Molly's), which is perceived as Joyce's best example of direct interior monologue as it shows how it slowly dives into the levels of consciousness and becomes lost in complete unconscious states of sleep. The first device attracting readers' attention is the complete absence of punctuation, providing the stream its natural flow, the one explained by William James when speaking of the conscious states. In this last episode, Joyce's theory has reached its height, as Joyce's presence as author has been, as Joyce puts it, refined out of existence. The previous intellectualism featuring his presence is absent. Molly's thoughts, feelings and past memories only, are presented, marking a noticeable opposition to the masculine streams of Leopold and Stephen. She does not reveal any of the restraints placed by society on the consciousness but rather proceeds in a flow gathering the themes and images which have been settled throughout the novel.

The critic Richard Ellmann, in his preface to Joyce's novel *Ulysses*, portrayed how *Ulysses* confronted the usual conventions proper to the fiction genre in multiple ways. From absolving from the central narrative voice authority to swinging between

a plot which is sometimes impersonal and some other times fully intimate, Joyce launched a “whole galaxy of new devices and stances and verbal antics [that were] extravagant, derisive, savage, rollicking, tender and lyrical” (Ellmann, 1982) For both scholars and common readers, “the decipherment of obscurities” within this new literary galaxy “has gone on apace”, as the understanding and interpretation of Joyce’s narrative techniques remain under investigation decades after Joyce’s death.

I.2 Time: Ulysses’ Narrative Structure and Modern Thought

One of the most noticeable fields of interest that attracted many scholars is that of the multiplicity of functions performed by the passage of time and temporal consciousness in the novel. A text characterised by its ambition both in size and scope, as the events unfold over the run of a single day: June 16, 1904, in Dublin. In this sense, *Ulysses* strictly conforms to the time and space unities. However, if one tries to consider the number of the various and distinct elements that are loaded in the narrative continuously, for instance the space travelled (Paris, Gibraltar, Andalusia, India) and the amount of time covered (Bloom’s youth, Molly’s girlhood, Stephen’s days in college) it may be claimed that *Ulysses* plainly breaks the unities. Though, both suggestions are accurate, because as Humphrey explains: “it all depends on how one considers the narrative: does it take place in the minds of the characters, or in the thin surface action, the external odyssey of Bloom?” (Humphrey, 1958, p. 85) While the first does not include unities, the second strictly conforms to them. This controversial tension between mind and body actions represents the essence of *Ulysses*’ narrative structure.

Throughout the novel, the narrative voice, narrator as well as the focus on some characters change consistently, yet, even with such transitions, the focus on the setting of the time at which the narrated events occurred (whether the actual time or the one in the context of a larger historical framework) is never neglected.

In *Ulysses*, the character Leopold Bloom is described as being worried, in the same way as Stephen, by the philosophical thoughts related to time and possibility, even if this is not directly perceived because, at the opening of the second part, a sudden change in the narrative voice is noticed, as the narrator offers some details concerning the setting which are mainly perceived as more precise and more intense than those provided in the first part. Moreover, Leopold is portrayed in a way that makes him look happier, more satisfied and better looking than Stephen.

Leopold is first introduced while making his wife's breakfast tray. The narrator described all the details, from Leopold's attention to the slightest details, his precise tray arrangement and the significance of the most ordinary, banal movements, suggesting a sense that Leopold is enjoying his life much more than Stephen. The time devoted to the description of Leopold may be regarded by readers as deceptive in a way, for it implies that Leopold's relationship with time appears healthier and more positive than Stephen's. The narrator provides some details concerning the type of food Leopold appreciates "with relish" (Joyce, p.39) The narrator describes as well in full details Leopold's attention to the cat, that he "watched curiously [and] kindly" (Joyce, p.39) Leopold obviously enjoyed looking at the cat, as he said it was "Clean to see" (Joyce, p.39). He suggested that the cat is much pleasing to the eye and, even if some people think cats are stupid, "They understand what we say better than we

understand them,” as they also have the ability to hold large and deep emotions than some characters (Joyce, p.40)

In the same way as in part one, time is settled in part two as early morning on June 16, 1904, and even here, the indication of the clock-time does not announce the time itself, the narrator rather settles the temporal setting by observing: “the sun was nearing the steeple of George’s church” (Joyce, p.41) Leopold acquires an admirable stream of consciousness reflection from this sun-rising moment; however, it is later noticed that Leopold is worried instead by the passage of time and his inability to locate himself in the large dimension of time than he appears at the beginning. While following an attractive young woman in the street, as he describes: “Pleasant to see first thing in the morning” (Joyce, p.42), he very soon remembers his age through “The sting of disregard” he felt. Immediately after this event, the sun began to get obscured by a cloud, “slowly, wholly. Grey. Far” (Joyce, p.43) This sudden change in weather promptly launches Leopold’s depressing and a kind of haunting thoughts about death, closing with the depressing ending, “Dead: an old woman’s: the grey sunken cunt of the world,” a reflection which “seared his flesh” (Joyce, p.43)

Leopold goes back to his home with the aim of looking after his wife. Some of the details in the scene portray the division of time in addition to the reflection on the way this passage of time diminishes at the moments of pleasure and sense of hope. Among the ways where time influenced Leopold is the very extent to which he loves his wife. Even if he seems to think of her as unattractive and repulsive, he feels satisfaction and reassurance from her dependence on him, as it may also be possible that this notion leads not to love but to the effects of routine which turned him hypnotised.

Nevertheless, trying to discover the reason why he feels that way, is not as important as defining what he feels. For, when he is asked by his wife about the meaning of the word “metempsychosis”, he answers “that we live after death” (Joyce, p.46) Though the idea intended to be conveyed is interesting, it also implies that even the mere act of living during life is challenging.

The interchangeability and fluctuation between external perception and internal analysis of experience are continual and both concepts overlap. The naturalistic argument comprising the former, adhering to the external, objective setting of time and space, acts as the main basis of the maze of psychological association and symbolism, which surpasses absolutes of both spatial and temporal forms.

II. Characters’ Psychology and Temporal Consciousness in Ulysses

Although multiple traditional organizing markers have been neglected by Joyce in *Ulysses*, the acute emphasis on the temporal setting of every prominent episode in the novel is very apparent, especially in the novel’s first two parts. This focus has mainly two roles, serving critical narrative functions and affirming the psychological interests that constitute the thematic core of the novel. At the beginning of *Ulysses*, the identity of the narrator is somehow ambiguous, contrary to the scene’s temporal setting and characters which are actually described. Even if the narrator does not present the specific time of the day, it is not really needed, since he chose to involve the reader by implying the time of day through the description of a variety of details which suggests that the narrative starts in the morning. Buck Mulligan is presented “bearing a bowl of lather on which a mirror and a razor lay crossed” and “a yellow dressing gown, ungirdled, was sustained gently behind him on the mild morning air”

(Joyce, p. 2) Also the mountains outside are described as “awaking” (Joyce, p.3). At this beginning of the novel, the reader may have a sensation of disorientation with a need to get acquainted with many aspects of the setting. As the characters were not properly presented following the standard conventions of the novel, for example, the relationships among them have neither been clarified nor even suggested, the physical setting (place) as well has not been clearly named. The reader is only certain about one thing in this introductory part, which is the time of day, that is morning.

II.1 Central Characters’ Psychological Concerns

The psychological importance of the daily morning routine is highlighted when Buck Mulligan passes his shaving mirror to Stephen Dedalus and says: “Look at yourself, you dreadful bard!”. Even if it is Buck who is shaving himself. This passage is the first of many others where time is used to emphasise the psychological concerns of the central characters, especially Stephen and, Leopold Bloom in the second part of the novel. Stephen looks at himself in the mirror and says: “who chose this face for me?” (Joyce, 5) and his answer was: “This dogsbody to rid of vermin” (Joyce, 5), suggesting Stephen’s depression and disgust towards himself, displeasure with his environment and the relationship between them. Stephen’s dark attitude of antipathy and dissatisfaction with his own face portrays a symptom of the characters’ deep sense of hatred and disgust towards themselves as well as their place in the world.

II.2 Characters’ Psyche between Past, Present and Future

John Rickard in his book *Joyce’s Book of Memory: The Mnemotechnics of Ulysses* (as cited in Smith, 2000) argued that, four years into the new century, a sense that political, economic and social stability would reign and that people would

immediately benefit from these wider scale accomplishments (Smith, 2020). Further on, he adds, the social zeitgeist³⁴ was considered as typical of any turn of the century period: a spirit of possibility, of hope and of change, symbolising a cut with all weaknesses, problems and errors of the past (Smith, 2020). As for Ulysses central characters, on the other hand, the recurrent instances of self-reflection, like when Stephen gazes at himself in the shaving mirror, imply that this sense of hope or possibility is not actually experienced extensively by all society members. At some other instances of this kind of self-reflection, notably the ones experienced by Stephen and Leopold, the quotidian routine related to time does, in fact, only worsen their negative attitude and feeling that they do not belong to that sphere of hope and possibility. Contrary to some other characters, like Mr. Deasy, the schoolmaster, who is able to achieve success and prosperity, both socially and economically. Stephen and Leopold symbolise the group of people who get stuck between the idealised past, inadequate present and the predicted future.

II.3 Stephen's Conception of Time

Two associated scenes reveal Stephen's sharp sense of incapability to seize the moment of the "fin-de-siècle" and improve himself immediately follow his shaving mirror epiphany of self-disgust. The teacher, Stephen, while at school, asks some questions during the briefest pauses in the midst of the history session and reflects on students' responses as "the daughters of memory" (Joyce, p.20). Stephen defines time as "one livid final flame" and turns to his own mind asking: "What's left us then?" this

³⁴ The general intellectual, moral, and cultural climate of an era (Zeitgeist, 2020)

flow of thoughts is interrupted when a student answers the question regarding the place of a battle with the year not the place. This part is highly symbolic because it emphasises the extent to which humans use time as a marker of a specific place and as a means for understanding or conceiving their relationships. Even though there is little cohesion, whether in the narrative, in the classroom or even in life, time correctness contributes significantly to create some context. The history lesson Stephen attempted to deliver at school, turned to be some sort of meditation for Stephen himself to consider both the opportunities and damages of time. Stephen believes: “Time has branded them” and “they are lodged in the room of the infinite possibilities they have ousted” (Joyce, p.21). Without any use of some personal pronouns, Stephen clearly shows his feeling of being branded and fettered by time, incapable to reach any possibilities alleged to be available, even if the reader is still unable to discern, at this turning point, the possibilities that may interest Stephen. Time as well as its related concepts continue to be highlighted before the end of the class. In fact, when the students asked Stephen for a story, he truly enjoyed their request and answered with a riddle: “THE COCK CREW, THE SKY WAS BLUE, THE BELLS IN HEAVEN, WERE STRIKING ELEVEN, TIS TIME FOR THIS POOR SOUL TO GO TO HEAVEN” (Joyce, p.22) The students pretended they had not heard the riddle and ask Stephen to repeat it, then he does. The students did not try to solve this riddle, instead “their eyes grew bigger as the lines were repeated” (Joyce, p.22) Cochrane, one of the students, “after a silence” asked: “What is it, sir? We give it up”. Stephen’s reply: “The fox burying his grandmother under a hollybush” is more confusing than the riddle itself and the students leave the classroom once they hear the crack on the door and

the calling for playing hockey. Despite the fact that the narrator does not pursue his indulgence in other meditations on the riddle's meaning, Stephen's reflections on time and its impact on his state of being are not over yet. This day offers another opportunity for this concept to be elaborated and repeated from a different angle.

II.4 “Cyril Sargent” as Stephen’s Past Image

After the class ends, all students eagerly leave the classroom to play hockey. One of the students, Cyril Sargent, remains behind alone to review a math problem that has frustrated him, slowly approached Stephen. The latter thinks to himself: “Ugly and futile: lean neck and thick hair and a stain of ink, a snail's bed” (Joyce, p.23) This disgust or dislike Stephen feels towards Cyril, who is described as a shy and fragile young boy, is obviously very clear, however, Stephen does admit that: “someone had loved him [Cyril], borne him in her arms and in her heart. But for her the race of the world would have trampled him underfoot, a squashed boneless snail. She had loved his weak watery blood drained from her own” (Joyce, p.23) Stephen stops for a moment of realisation and wonders: “Was that [mothers’ love] then real? The only true thing in life? (Joyce, p.23) Just after reflecting upon such questions that he acknowledges that he feels similar to Cyril Sargent. Even if he is still unable to show any type of empathy towards the boy, he thinks: “Like him was I, these sloping shoulders, this gracelessness. My childhood bends beside me. Too far for me to lay a hand there once or lightly. Mine is far and his secret as our eyes. Secrets, silent, stony sit in the dark palaces of both our hearts: secrets weary of their tyranny: tyrants, willing to be de-throned” (Joyce, p.24)

The role played by time in the discussion between Stephen and his student, Cyril, is at the same time delicate and very crucial to the development of both the psychological themes explored by Joyce in the novel, and the narrative itself. There is the implicit, chasm of time separating young Cyril from the old Stephen, who is separated in turn from some other figures in his life by age, like the condescending paternalistic Mr. Deasy and Leopold Bloom. However, the notion that Stephen does not have time to enlarge his reflection on the questions he was asking himself while looking at Cyril is also present. Just as Stephen considers the affinities between them, especially the common secrets they both hide, the conclusion is drawn, in a similar way as when the riddle was pronounced and then abandoned, and Stephen dismissing Cyril in a hurry, saying: “You had better get your [hockey] stick and go out to the others” (Joyce, p.24)

From a psychoanalytic perspective, Stephen does not allow himself to keep Cyril beside him any longer, for the simple reason that, to permit Cyril do so would oblige Stephen to take his reflection upon his own ugliness, secrets, fears and self-loathing further. The very quick release of his student as well as Stephen’s patronising expression: “It is very simple” prevents the uncomfortable thoughts, but still allows the reader to expect and imagine the thoughts and their importance to the general theme development of the novel.

II.5 Mr. Deasy as a Reverse Image of Stephen’s Future

Though against his will, Stephen is very soon confronted with another experience that obliges him to thoroughly consider the passage of time along with the discontent towards his life and the apparently limited opportunities. After Cyril’

dismissal, Stephen goes to Mr. Deasy's office, the school administrator, to get his wage. Concerning the actual physical time, the scene in Mr. Deasy's office indicates mid-day. Since Stephen has finished his job and responsibilities for the day and got his wage, the reader certainly expects that he will go to The Ship, the pub where he agreed with Buck to meet at "half twelve" (Joyce, p.19) Stephen seems very uncomfortable with Mr. Deasy, principally because of Mr. Deasy's authority, who seems to have full control over the meeting, its content, its length and the narrative as well. Mr. Deasy says at the beginning: "First, our little financial settlement," (Joyce, p.24), while bringing Stephen's wage from the new mechanised savings box, which is a significant symbol alluding to the technological advances of the modern age. Mr. Deasy appears to be an image of the social and economic progress, that fact that makes Stephen recognise Mr. Deasy's power and the obvious self-satisfaction he feels towards himself, contrary to Stephen, the reason why Stephen feels so uncomfortable in Mr. Deasy's presence. Stephen describes the setting: "The same room and hour, the same wisdom" as the former meetings with Mr. Deasy and he pursues: "I the same. Three times now. Three nooses round me here. Well. I can break them in this instant if I will" (Joyce, p.25) Even if Stephen suggests that he was able to break the nooses, he does not appear to do it in fact.

Stephen takes his wage with "shy haste" impatient to leave, however, Mr. Deasy restrained him, putting some pressure upon Stephen to transmit an editorial he has written to some acquaintances of Stephen at a local newspaper. While Mr. Deasy was typing the last part of his editorial, Stephen was contemplating the framed pictures on the wall, observing "images of vanished horses" and the date 1866 marked on the

images. The narrator conveys Stephen's feelings and perceptions of the pictures in a way which implies that these described photographs are so ancient representing a distant past of more than Forty-two years. Very similarly to the following conversation between Mr. Deasy and Stephen which emphasizes the extent to which Stephen feels temporally disoriented with both his elders and contemporaries. Mr. Deasy appears to be shocked by Stephen's declaration: "History... is a nightmare from which I am trying to awake" (Joyce, p.28), in addition to his opinion on God, as Mr. Deasy has an archaic perspective on religion, history and wealth. Thus, Mr. Deasy reaches the conclusion that he is much happier and satisfied with himself than Stephen. Similarly to the reader, who may conclude that the difference between Mr. Deasy and Stephen is far more profound than just this difference in self-perception, it rather consists of the chronological generation gap, social, psychological, economic and ideological gap. Such differences were felt not only by Stephen but by most of his contemporaries as well in Dublin during that period.

II.6 Time Effects on the Central Characters' Lives

As a matter of fact, different symbols convey to the reader the idea that Leopold is actually dying very slowly before reaching any kind of real meaning to his life or to define his essence. For example, the kidney he really enjoys to eat is burning on the stove. After he removes the black burned external part of the kidney, eats the remains and throws the rest to the cat, he starts preparing himself to dress for the funeral of his acquaintance. "A soft qualm [of] regret, flowed down his backbone, increasing" (Joyce, p.48) Actually, while he was using the bathroom, he was reflecting on the ordinary conversations he has with his wife "Timing her. 9.15. Did Roberts pay you yet?"

9.20. What had Gretta Conroy on? 9.23. What possessed me to buy this comb? 9.24. I'm swelled after that cabbage” and soon as he leaves the bells of the church start ringing, as he wonders about the funeral’s time (Joyce, p.50) From this moment onwards, all signs of Leopold’s satisfaction and happiness disappear. The multiple effects of the passage of time on Leopold are clearly apparent not just to the reader but to Leopold as well.

Very similar to Stephen’s case, Leopold’s everyday life is marked by various reminders that time is running while he is unable to exploit this passage of time for his own benefit. His wife constantly addresses him orders treating him as her manservant. He raises the blind for her, brings her correspondence to the bed, tucks the letter under her pillow and asks: “Will That do?” before he goes back to the kitchen to “Hurry up that tea!” as his wife orders (Joyce, p.44) Once he returns home, she complains that he had been out for such a long time; “What a time you were!” probably not because she misses him but she just wanted to ask him a question (Joyce, p.45)

Another event appealing Leopold to consider the aspects of life which are not really that pleasant or hold a sense of hope and opportunity of the future, is his experience of the funeral. He thinks about the heart, during the service, describing it as a “seat of the affections. Broken heart. A pump after all, pumping thousands of gallons of blood every day. One fine day it gets bunged up: and there you are” (Joyce, p.76)

At noon, after the funeral, he goes to the newspaper office to discuss an advertisement with the aim of developing it into a new and more interesting one. Indeed, it is in this section of the novel precisely that one can notice the state of excitement and inspiration Leopold was in, as he was moving with such a rapidity and awareness of

time that is motivated and sharpened by his love and passion for advertising. Yet, Leopold gets defeated another time because his creativity is thwarted by his supervisor, who sticks to the traditional approach.

Many literary scholars often interpret the character of Leopold Bloom as more evolved than Stephen Dedalus, somewhat older, attempting in a more serious way to achieve his aims and still keeping hope and believing in his potentials. To support this argument, it is apparent, as mentioned above, that Leopold does have a passion and love for what he does and thus extracts meaning from it. On the other hand, Stephen appears to be aimless. However, this perspective neglects some details in Leopold's daily life. Rather, some analysts tend to favour the interpretation that Stephen is a frustrated and anxious young man trying to seek a father figure, at least unconsciously, in Leopold Bloom. Among the few scholars who built the argument that Stephen and Leopold do share more affinities than differences, was Williams, who claimed that Leopold Bloom plainly manifested symptoms of "hunger and anger" as a reply to the passage of time, in both ways real and imagined (Ellmann, 1982). Williams describes both hunger and anger as consumptive. A permanent reflection on the past is existent, such as Leopold's reminiscence with his wife, his inability to cope with or even accept the present alludes to his constant desire to capture the past with a sense of regret. (Ellmann, 1982)

On their way to the funeral, Stephen, Leopold and their companions in the carriage talk about their common life difficulties and their negative views on age and the passage of time but in an ironic tone instead of a serious one. Actually, they make enough jokes though they soon regain their self-control rectifying their attitude once

they remember how their deceased friend unexpectedly died at a relatively young age. The peaceful moment does not really affect the men to be more friendly with one another and exchange thoughts and feelings, though, again, the reader deduces that no matter how large is the zeitgeist of the turn of the century moment is, those men would always place themselves out of this sphere, much further, actually, to the extent that it is not just impossible for them to seize and embody this spirit but they do not even believe they should be willing to do so. Certainly, the turn of the century came with a new promise to the society, however, every character seems to be captured within a predetermined trajectory of a life narrative proper to them.

Ulysses' notions of time certainly impact the reader in different ways. Williams suggests a convincing argument regarding this view. He asserts that Ulysses does not "endorse a passive acceptance of the status quo or advocate the patient awaiting of the end of time", implying that it certainly does not encourage the absurd vision of life, neither does it compel people to be pessimistic, instead, Joyce's novel "both embraces the past and faces the unknown without fear" while simultaneously portraying "how each day must be 'digested'," and "how each person who enters that text has the duty, on returning to this world, to interrogate the given universe of discourse" (Ellmann, 1982). The discourse involves as well the impact of time on humans' perceptions and their various expectations for the future including opportunities and hope. Despite the common human vision on the passage of time and the idea that it is mainly ravaging, it is of a prominent importance to acknowledge that time plays a crucial role in human's lives with all its positive effects during the life-period allowing people to live fully and meaningfully.

Ulysses has often been regarded as the greatest stream of consciousness novel in literature, as it portrays the culmination of this technique along with an intense expression of humans' everyday life impressions. It mainly consists of the record of thoughts, memory, sense-impressions and experience. While in Zurich, which was regarded as the seat of psychoanalysis, notably lead by Freud and Jung, at that time, Joyce has certainly been influenced by the new interests and aimed to realise the literary possibilities. The possibilities of putting psychological and literary artistic ideas into the work of Ulysses, for it is full of devices.

II.7 Fringe of Consciousness in Ulysses

As previously explained in chapter 2, William James referred to the lingering, substantive and articulate aspects of consciousness as “the nucleus” and the transitive, inarticulate aspects as “the fringe”. Fringe feelings may be in form of *tip-of-the-tongue* experiences, feelings of familiarity or novelty and/or feelings of knowing. The common feature among such phenomena is the presence of an internally experienced feeling in the absence of actual conscious awareness of the processing of information preceding such feeling (Norman, 2016). Norman regards consciousness as an overview on the information representation that is per se actually inaccessible to consciousness, though suitable to the actual contents of focal awareness. Most notably, the inability of achieving such access is considered as anomalous for its occurrence in situations where the individual is expecting the presence or process of a conscious access to this longed-for information.

The following abridged example of stream of consciousness from Ulysses consists of the emotional pause experienced by Leopold Bloom. The pause comes at the end of

the passage, exactly at the moment when a memory manifests itself to Leopold's consciousness.

Mr Bloom ate his strips of sandwich, fresh clean bread, with relish of disgust pungent mustard, the feety savour of green cheese. Sips of his wine soothed his palate. ... Wine soaked and softened rolled pith of bread mustard a moment mawkish cheese. Nice wine it is. Taste it better because I'm not thirsty. ... Mild fire of wine kindled his veins. I wanted that badly. ... Glowing to a secret touch telling me memory. Touched his sense moistened remembered. ... Ravished over [Molly] I lay, full lips full open, kissed her mouth. Yum. Softly she gave me in my mouth the seedcake warm and chewed. Mawkish pulp her mouth had mumbled sweetsour of her spittle. Joy: I ate it: joy (Joyce, pp.126-127)

The memory of Leopold's first physical contact with his wife, Molly. "Ravished over I lay, full lips full open, kissed her mouth,". Though Leopold does not seem to be aware of his attempt to remember something, his memory does work independently and appears to react "to a secret touch". The sensations he felt towards the food he was enjoying preceded two major events, the reminiscence brought about and its related condition of emotional quietness, which are mainly perceived as dramatic mental process suggesting that a feeling of familiarity is actually being conveyed to his own memory through his comestible sensations. "Wine soaked and softened rolled pith of bread mustard a moment mawkish cheese. ... Touched his sense moistened remembered." Joyce's stylistic devices while describing the scene, including the interior monologue, third-person narration and free indirect speech are somehow broader in expressive scope than the ones elaborated in Dujardin's interior monologue.

A more exact analysis may suggest that Joyce may have submerged his character in a Jamesian-like "penumbra of recognition" experience, which "may surround any experience and make it seem familiar, though we know not why" (James, 1890, p.1562), a fringed set of feelings related to tasting, the initial phase of a conscious

process launched in the overflowing immediacy of an abundant flow of uncoordinated and ambiguous emotions and sensations.

Joyce provokes Leopold's tasting sense first through the "imminence"³⁵ of a revelation and then through his smooth and gradual presentation with the revelation per se. Through such a procedure, Joyce succeeds in presenting a picture where Leopold does not seem to evoke any purposeful memory work, that is, not implying any of the concerns, mainly thoughtful and sensory at once, which were mainly launched in William James by any type of usual tip-of-the-tongue experience, saying: "It tingles, it trembles on the verge, but does not come". (James, 1890, p.1562)

II.8 Memory Work through the Stream of Consciousness in Ulysses

Unlike Proust's approach to the memory work triggered in his protagonist through the comestible sense, who offers his reader very detailed descriptions of his own reminiscence while sitting in front of his cup of tea, extremely focused, submerged by the smell of his famous madeleine, until he gradually reaches his aim, or rather, longed desire and savours his well-deserved moment of delight through a mental process of contemplation, as he says: "Toutes les fleurs de notre jardin et celles du parc de M. Swann, et les nymphéas de la Vivonne, et les bonnes gens du village et leurs petits logis et l'église et tout Combray et ses environs, tout cela qui prend forme et solidité, est sorti, ville et jardins, de ma tasse de thé"³⁶ (Proust, 1971, p.69). Such sensuous

³⁵ Another type of Jamesian attributes to the fringed sensations consists of the feeling of "imminence" (James, 1561).

³⁶ All the flowers in our garden and those in M. Swann's park, and the water lilies of Vivonne, and the good people of the village and their little homes and the church and all Combray and its surroundings, all that takes shape and solidity, came out, city and gardens, from my cup of tea. My translation.

perception is immediately followed by a collection of reminiscences explored in the second part of *Du Coté de chez Swann*.

Joyce's reader, rather fully enjoys the taste and feelings provided by the flow of the mixed feelings which, after fringing Leopold's comestible sensations, culminates in his remembering of the sensual "sweetsour" stream of Molly's "mawkish pulp" in his mouth. (Balsamo, s.d.)

Leopold's act of memory recall does challenge in a sensual process the Jamesian experience of the tip-of-the-tongue at the fringe. Stimulating his comestible feelings in a same way as does the memory of Molly's comestible kiss, which tingles, trembles but unwilling to come. The fringed feeling and its coordinates fuse within one another through a common stream of the same sensual feelings and impressions, without any hint that Leopold is immersed in a reflective, self-conscious process of a meaningful remembering. (Balsamo, s.d.)

III. Time of Narration and Narrated Time

In narration there exist two distinctive types of temporality. Paul Ricoeur has discerned the difference between "the time of narrating and narrated time" (Ricoeur, *Time and Narrative*, 1984, p. 78). He highlighted that the unequal distribution between the time of narrating and narrated time results in a double temporality. The time of narrating, which is measurable perfectly corresponding with the lines or the pages of the book, essentially deals with the world of chronological time. Conversely, the narrated time, the time at/during which actions or events occur, deals with the world of mind time and portrays the very process of life. This "temporality of life"

misrepresents the measurable temporality of events and by excluding the chronological sequence, suggests “relative lengths of time”.

Both Joyce’s and Woolf’s works epitomise Ricoeur’s distinction between the narrating temporality and narrated temporality; for instance, in *Ulysses* and *Mrs. Dalloway*, the time of narrating embraces one day, whereas the time narrated encompasses myriads of events from the lives of different characters. Dayton Kohler comments on Woolf’s works stating that her novels are “narrowly circumscribed by time, for the whole action takes place within a single day” (Kohler, 1948). In *Orlando*, on the other hand, the time of narrating encompasses three hundred and more years while the protagonist stopped ageing at the age of thirty-six. Even if the novel encircles more than one day, its narrative structure neatly portrays the double temporality, the reason why it represents a crucial novel to be provided as an example in this study for it is not only a vivid description of the two types of temporality and Woolf’s leaning towards relativity, but also portrays and highlights the tools enabling Woolf to create such delicate, yet brilliant and exceptional conceptualisation of time.

IV. Virginia Woolf and Time

“Nothing exists outside us except a state of mind” (Mrs. Dalloway, p.41)

The intellectual environment Virginia Woolf has been raised in allowed her to immerse herself in literature and writing very easily. Naturally, she has been highly influenced by her contemporary writers and the way they developed new approaches to deal and analyse the concept of time in their various writings. These writers regarded the conventional rules related to time treatment as extremely paralysing to their ambitions and assumptions, especially the way these rules appeared to distort

the process through which time influences and gets influenced by the human life. They also perceived the traditional time measurement as the clock-time of hours, days and months as not only delusive but also preventing the twentieth century writer from referring properly to the main divisions of past, present and future. Although time seems to flow in a continual succession, obviously from the past to the future, any individual is believed to have the ability to exist in more than one dimension, as any human being can travel back to the past, through memory or dreaming, to later get expelled again through time towards the future.

Virginia Woolf was extremely aware of the multiple functions and mysteries of time within the human mind, the reason why she often opted for some experimental patterns related to time in her novels. As a true believer in the eternal process, Woolf sought for the recreation of literature through a revolution in the literary technique as well as subject matter. She reviewed language, structure, plot and personality in a new trend. Personality was in a continuous process to take shape but still could not be achieved.

She chose a language through which she could be able to convey all emotions and perceptions from all the different levels of awareness, all at the same and single moment, portraying both the conscious and the unconscious at the same time. She was obliged to eliminate the plot for there was no interest in the action, as the most important aspect was the inner state of the character. Full of “moments of being”, it portrayed the motif behind the curtain of existence through which she related to the outer world.

As a twentieth century writer, Woolf is considered as a recipient of the previous hundred years of time-oriented literature, including prominent writers such as Shakespeare, Milton and Sterne. In addition to the more recent immediate influences on her time-conception, like Marcel Proust and James Joyce in addition to some philosophers.

IV.1 Woolf's Bergsonian Perception of Time

Virginia Woolf is characterised by her unique and modernist perception of time as she has been highly influenced by some philosophers and writers, in particular, the French philosopher Henry Bergson who was very popular at that time. Woolf intended to break away from the traditional perception of time endeavouring a new method of using and playing with time in a way that allows her to express herself more freely and, she actually succeeded with her innovations as she has used some techniques to describe the passage of time in most of her works, as she also reported her thoughts mainly about time in her diary. She wrote her opinion on Mrs. Dalloway, on the 23rd November 1926:

“... and time shall be utterly obliterated; future shall somehow blossom out of the past. One incident - say the fall of a flower - might contain it. My theory being that the actual event practically does not exist - nor time either. But I don't want to force this. I must make up my series book” (Woolf, 1968, p. 115).

Woolf did not really express herself in a very explicit and direct way. She rather used some hints in addition to some other ways to reflect on the passage of time in her novels, as the use of clock or the straightforward time expressions or even the specific statements of the amount of time passed is very rarely encountered by her readers.

Woolf was clever in the way she used nature, for example, to portray the passage of time, like the cycle of a flower or watching the day passing:

Now is life very solid or very shifting? I am haunted by the two contradictions. This has gone on for ever; will last for ever; goes down to the bottom of the world - this moment I stand on. Also it is transitory, flying, diaphanous. I shall pass like a cloud on the waves. Perhaps it may be that though we change, one flying after another, so quick, so quick, yet we are somehow successive and continuous, we human beings, and show the light through. But what is the light? I am impressed by the transitoriness of human life to such an extent that I am often saying a farewell - after dining with Roger, for instance; or reckoning how many more times I shall see
Nessa (Woolf, 1968, p.154)

This passage from Woolf's diary, written in January 1929, when she had not reached her fifties yet, relatively still young, it was clear enough, as she had already attempted several times to commit suicide, that she was unable to predict whether her illness would come back. She had been in a state of mind in which her subconscious was urging her to commit suicide again, thing which appeared most reasonable to her. It was not really significant for her to write about death, as most human beings, very frequently reflect on the passage of time in their lives and how quick it is flowing along with all the change in situations, events and individuals to the extent that they become no longer able to truly perceive or grasp the changed things or the new events. Humans can never be sure about the future. Or, as implied by the end of the passage, who will live the next day, or is one able to see his relatives, friends again, the reason why it is reasonable to consider the possibility that it may be the last time.

Henri Bergson's treatment of time has profoundly influenced Virginia Woolf's perception and conceptualisation. As the details of Bergson's theory may easily be discerned in Woolf's novels. This part seeks to portray the extent to which Woolf's perception of time has clearly been determined by Bergson.

Bergson has basically perceived reality through two lenses leading to his distinction between the two types of temporality. He argued that the mere perception of reality may either be intellectual or intuitive; intellectual in the way it explains the perception of time as chronological, while intuitive in its portrayal of the psychological perception of time. As previously explained in the 2nd chapter, the chronological perception describes time as a set of separate artificial segments like minutes, hours, days and weeks. On the other hand, intuitive or psychological time rather gathers the multiple separate moments to put them together as one organic whole. Thus, human psychological perception of time as a whole consists in Bergson's pure duration. This very notion of duration reflecting humans' psychological experience of time cannot actually be analysed in the same way as the physical, chronological time. According to Bergson, "the flux of time is the reality itself" (Bergson H. , Creative Evolution, p. 374) and life per se resides in the flux; "life progresses and endures in time" (Bergson, p.58). It is this very differentiation between psychological and chronological time which actually helps and plays a major role in defining the human existence, as it is important as well in the current part to describe Woolf's perception of time through her novels. This part will focus on Bergsonian theory to analyse Woolf's works. In addition to the use of some concepts to relate Woolf's novel *Mrs. Dalloway* to Joyce's *Ulysses* portraying the similarities between the two, not only in the matter of time treatment through the stream of consciousness technique for example, but also in some aspects regarding the narrative, plot and character structure which highly reflect modernism as well as existentialism.

The Bergsonian theory of temporality is highly echoed in Woolf's writings and her dualistic perception of the nature of time. Since she depicts both the subjective, psychological or mind perception of time and the objective physical time. Deleuze defines Bergsonian dualisms as: "duration-space, quality-quantity, heterogenous-homogenous, continuous-discontinuous, the two multiplicities, memory-matter, recollection-perception, contraction-relaxation, instinct-intelligence, the two sources" (Deleuze, 1991, p. 21). These binary oppositions are actually very closely related to existentialism which will be evoked throughout the following analysis.

IV.1.1 Woolf's Subjective View of Time in *Orlando*

One of the most obvious motifs of the novel *Orlando* is time perception. Readers witness the protagonist's birth in the sixteenth century, during the Elizabethan Age, pursuing all the events until the first half of the twentieth century but still the protagonist is only in his/her thirties. A weird sensation related to the meaning or rather perception is felt by the reader. From a normal human perspective, it is quite obvious that time is subjective, even if bound to be measured precisely through the clock. It is also very obvious among human beings that, while having fun and enjoying the moment, time seems to be moving extremely fast; however, when getting bored, or feeling sad, time moves in a very slow way Virginia Woolf as probably having experienced this feeling too, attempted to portray it through her writings. The length of Orlando's life reflects one of Woolf's time experiments. Actually, while reading the novel, the way she depicts the passage of time is unique, as she has been able to describe a very simple and brief moment or passage of time in an impressive way through almost half a page, for instance:

Here he came then, day after day, week after week, month after month, year after year. He saw the beech trees turn golden and the young ferns unfurl; he saw the moon sickle and then circular; he saw – but probably the reader can imagine the passage which should follow and how every tree and plant in the neighbourhood is described first green, then golden; how moons rise and suns set; how spring follows winter and autumn summer; how night succeeds day and day night; how there is first a storm and then fine weather; how things remain much as they are for two or three hundred years or so, except for a little dust and a few cobwebs which one old woman can sweep up in half an hour; a conclusion which, one cannot help feeling, might have been reached more quickly by the statement that “Time passed” (here the exact amount could be indicated in brackets) and nothing whatever happened. (Orlando, pp.35-36)

Throughout the novel, Woolf succeeded in the description of the passage of time that readers could get a full picture and imagine in a perfect way the situation being portrayed. In addition to that, she not only described the end of a year but rather the end of a century and the beginning of another. She does not portray it as the end of an age but in a way to suggest that at each end there is a new beginning with some hope. She pursues the thoughts accompanying each strike of the clock,

She heard the far-away cry of the night watchman – ‘Just twelve o’clock on a frosty morning’. No sooner had the words left his lips than the first stroke of midnight sounded. Orlando then for the first time noticed a small cloud gathered behind the dome of St. Paul’s. As the strokes sounded, the cloud increased, and she saw it darken and spread with extraordinary speed. At the same time a light breeze rose and by the time the sixth stroke of midnight had struck the whole of the eastern sky was covered with an irregular moving darkness, though the sky to the west and north stayed clear as ever. Then the cloud spread north. Height upon height above the city was engulfed by it. Only Mayfair, with all its lights shining, burnt more brilliantly than ever by contrast. With the eighth stroke, some hurrying tatters of cloud sprawled over Piccadilly. They seemed to mass themselves and to advance with extraordinary rapidity towards the west end. As the ninth, tenth, and eleventh strokes struck, a huge blackness sprawled over the whole of London. With the twelfth stroke of midnight, the darkness was complete. A turbulent welter of cloud covered the city. All was darkness; all was doubt; all was confusion. The Eighteenth century was over; the Nineteenth century had begun. (Orlando, p.83)

This example presents a very colourful image which mainly captures the moment with all the sensations and feelings surrounding it. Nevertheless, at some other instances, Woolf just put the names of the months to describe the passage of time, this method worked well enough to reach her aim, for example: “It was now November. After November, comes December. Then January, February, March, and April. After April comes May. June, July, August follow. Next is September. Then October, and so, behold, here we are back at November again, with a whole year accomplished” (Orlando, p.99)

In some other passages, Woolf knew how to portray the relativistic perception regarding the passage of time, as she presents the way human beings perceive differently the passage of the same amount of time and the way this subjective perception cannot be objectively or precisely be measured through hours and minutes, since, in this case, it is the role of the individual human mind to proceed according to its state at the moment.

But Time, unfortunately, though it makes animals and vegetables bloom and fade with amazing punctuality, has no such simple effect upon the mind of man. The mind of man, moreover, works with equal strangeness upon the body of time. An hour, once it lodges in the queer element of the human spirit, may be stretched to fifty or a hundred times its clock length; on the other hand, an hour may be accurately represented on the timepiece of the mind by one second (Orlando, p.36)

In a very similar vein, she reflected the impact of the passage of time on the protagonist’s life, in the sense that some experiences made him/her grow older while others have not added any meaning to it, a sense which is nearly felt by all human beings “Some weeks added a century to his age, others no more than three seconds at most. Altogether, the task of estimating the length of human life (of the animals’ we presume not to speak) is beyond our capacity, for directly we say that it is ages long,

we are reminded that it is briefer than the fall of a rose leaf to the ground” (Orlando, p.36)

It is shown through the novel that it has been of a significant difficulty for the protagonist to place himself/herself in time, or at least to be aware of the era he/she lived in. For he/she lived for almost three centuries, attended the reign of a number of queens and kings, lived in various and different societies and witnessed all the advancements in the different fields, but still he/she was able to cope very naturally, as argued in the following passage: “Orlando had inclined herself naturally to the Elizabethan spirit, to the Restoration spirit, to the spirit of the eighteenth century, and had in consequence scarcely been aware of the change from one age to the other” (Orlando, p.90)

The protagonist’s impressively long life-period refers to some part of the confusion revealed by the biographer in the passage. The author is aware of the fact that, naturally, any human or even object’s life can be measured precisely, that is, to start counting from the date of birth till death. However, from a metaphysical perspective, this counting may differ from one person to another, for it generally depends on the events occurred during that life-period, as for someone who has all the time been passive achieving nothing, this life-period seems to be empty, thus, very short including absolutely no interesting things to report or write about. On the other hand, for a person who is considered as being very active, achieving some interesting tasks, attempting some new experiences, his/her life-period would appear exceptionally long suggesting that this person has nearly lived many lives at once. The case of Orlando is no exception here, because as the story occurs during a very long time-period, which

is three centuries, and comprises too many historical events in different epochs in the past, witnessing many kings and queens' reigns, experiencing many changes both psychologically and physically, to such an extent that the reader sometimes thinks of the protagonist as an eternal character resembling to a large extent the stories of vampires, which despite being very long, full of events, really interesting and very active, they are still not boring in any case and still seem short when counted through mental perception not the clock' time, as Woolf argues: "The true length of a person's life, whatever the 'Dictionary of National Biography' may say, is always a matter of dispute" (Orlando, p.113)

In a biography here the narrator's voice is constantly guiding the reader and describing the work's limits, at some instances, even Orlando's thoughts are expressed especially when speaking about time. Orlando was described at first in a way to suggest he/she was not really aware of the passage of time until he reached his thirties and realised that time has run very quickly without even feeling it involving a sense of uneasiness about that, as he/she says: "Time has passed over me," she thought, trying to collect herself; "this is the oncome of middle age. How strange it is!" (Orlando, p.113)

Woolf considers time as a very crucial concept, the reason why she tries to portray her own vision on the concept through her writings. Orlando is a good example of how she managed to change the biographical genre to reach her main aim. Describing the multiple differences between epochs or even between men and women and how everything changes through time, though proceeding in a different way, since usually, if a writer attempts to report such differences through time, he/she uses chronicle,

Woolf has gathered everything in only one novel, through the telling of one story lived by a single person (the protagonist). She obviously had the aim of shocking the reader through these new conventions, to succeed in portraying and conveying her own perception of time.

All human beings are different from one another, with different perceptions, thoughts and feelings. Thus, to portray a vision or an insight on the way individuals perceive a certain entity during a specific period of time, the best way is to reflect their continuous flow of perceptions and feelings. Woolf described or reported the life of a single person throughout three hundred years in only one novel of one hundred and twenty-two pages through the consciousness of one character. Maybe what Woolf wanted to suggest was the fact that Orlando, as her own friend, did not actually live that long but because of the active life she led and the many experiences she has gone through. This has led the author to suggest that it is as if Orlando lived many lives and she attempted to portray the other real (according to Woolf) amount of time Orlando truly lived.

IV.I.2 Stream of Consciousness in *Orlando*

Virginia Woolf, as being influenced by James Joyce, is commonly known for her use of the stream of consciousness technique. She playfully used this technique in *Orlando*, to express the protagonist's thoughts and feelings through his interior monologues. Often, the technique has been used by the author herself to comment or add some information, though it is a biography which should be reported objectively, Woolf interfered some times to question or reflect on some issues for the simple reason that she may have lacked some pieces of information or maybe just because she could

not know exactly what the character was feeling or what was running through his/her mind, as she has never been in his mind. In this way, the stream of consciousness in this novel served both reflecting characters' thoughts as well as the writer's feelings, impressions and questionings. The example provided below consists in the author's reflection on the incident of Orlando's trance, questioning its nature, whether it was some kind of long sleep, temporary death or something other than that.

But if sleep it was, of what nature, we can scarcely refrain from asking, are such sleeps as these? Are they remedial measures - trances in which the most galling memories, events that seem likely to cripple life for ever, are brushed with a dark wing which rubs their harshness off and gilds them, even the ugliest and basest, with a lustre, and incandescence? Has the finger of death to be laid on the tumult of life from time to time lest it rend us asunder? Are we so made that we have to take death in small doses daily or we could not go on with the business of living? And then what strange powers are these that penetrate our most secret ways and change our most treasured possessions without our willing it? Had Orlando, worn out by the extremity of his suffering, died for a week, and then come to life again? And if so, of what nature is death and of what nature is life? Having waited well over half an hour for an answer to these questions, and none coming, let us get on with the story (Orlando, p.25)

While in the coming passage, the interior monologue of Orlando is described. After the princess left him, feeling really sad unable to stop thinking about it, wondering why she acted as the sort or at least what led her to this:

Thus it was that Orlando, dipping his pen in the ink, saw the mocking face of the lost Princess and asked himself a million questions instantly which were as arrows dipped in gall. Where was she; any why had she left him? Was the Ambassador her uncle or her lover? Had they plotted? Was she forced? Was she married? Was she dead? (Orlando, p.29)

Orlando's journey in Turkey characterises the upheaval's eruption in the story.

This part is considered of a prominent importance, as the author has to make a decision on whether to finish the story at this event, or choose to tell the rest of the coming

events. And some inner thought suggests that the truth ought to be revealed not dismissed:

And now again obscurity descends, and would indeed that it were deeper! Would, we almost have it in our hearts to exclaim, that it were so deep that we could see nothing whatever through its opacity! Would that we might here take the pen and write *Finis* to our work! Would that we might spare the reader what is to come and say to him in so many words, Orlando died and was buried. But here, alas, Truth, Candour, and Honesty, the austere Gods who keep watch and ward by the inkpot of the biographer, cry No! Putting their silver trumpets to their lips they demand in one blast, Truth! And again they cry Truth! and sounding yet a third time in concert they peal forth, The Truth and nothing but the Truth! (Orlando, p.49)

Another moment of an equal importance occurs when Orlando, as a woman, is approaching the British Isles, while reflecting deeply on her new status causing a noticeable turmoil in her mind. She actually realises what is now expected from her as a female, since she has already experienced the status of masculinity and knew exactly what used to be expected from the other part. Still, she expresses now some feelings of regret towards her old self and towards the things she would no longer be able to do once in Britain again. Orlando is conscious of the fact that she has to cope with her new duties and assume her inferior status not only as a female but also as a former ambassador whose main and only tasks now consist in pouring tea and asking how the lords prefer it:

‘And that’s the last oath I shall ever be able to swear, ‘she thought;’ once I set foot on English soil. And I shall never be able to crack a man over the head, or tell him he lies in his teeth, or draw my sword and run him through the body, or sit among my peers, or wear a coronet, or walk in procession, or sentence a man to death, or lead an army, or prance down Whitehall on a charger, or wear seventy-two different medals on my breast. All I can do, once I set foot on English soil, is to pour out tea and ask my lords how they like it. D’you take sugar? D’you take cream?’ And mincing out the words, she was horrified to perceive how low an opinion she was forming of the other sex, the manly, to which it had once been her pride to belong—‘To fall from a mast-head’ (Orlando, p.59)

Here, the narrator not only considered the protagonist's thoughts, but also reflected on the way people would react to her new status along with the possible objections from their part. Orlando did not really feel to be a full representative of one sex, possessing some features of both, and Woolf wanted to describe this acutely trying to make it very clear:

For it was this mixture in her of man and woman, one being uppermost and then the other, that often gave her conduct an unexpected turn. The curious of her own sex would argue, for example, if Orlando was a woman, how did she never take more than ten minutes to dress? And were not her clothes chosen rather at random, and sometimes worn rather shabby? And then they would say, still, she has none of the formality of a man, or a man's love of power. She is excessively tender-hearted. She could not endure to see a donkey beaten or a kitten drowned. Yet again, they noted, she detested household matters, was up at dawn and out among the fields in summer before the sun had risen. No farmer knew more about the crops than she did. She could drink with the best and liked games of hazard. She rode well and drove six horses at a gallop over London Bridge. Yet again, though bold and active as a man, it was remarked that the sight of another in danger brought on the most womanly palpitations. She would burst into tears on slight provocation (Orlando, p.70)

The scene of the accident in London Streets, in which the Archduke saved Orlando's life in front of the crowd, made her worry about her own safety as a woman. For, when she was a man, she was free to go wherever she wanted protecting and fighting for her safety without being ashamed; however, now as a woman, she is certainly unable to act that way, depending each time on men's favour to defend her: "What with the crowd, what with the Duke, what with the jewel, she drove home in the vilest temper imaginable. Was it impossible then to go for a walk without being half-suffocated, presented with a toad set in emeralds, and asked in marriage by an Archduke?" (Orlando, p.71)

The stream of consciousness technique serves to better understand, analyse and put the reader in the character's shoes, in order to get the full picture regarding all aspects of the novel. In this regard, Woolf used the stream of consciousness technique in this novel in a way to justify to the reader the protagonist's actions, beliefs and feelings and make it easier, for the reader, to follow the flow of ideas and events.

IV.I.3 Subjective Time in *The Waves*

Very similar to Woolf's previously dealt with novel, *The Waves* represents an experiment with time. It may be said that the difference between *The Waves* and *Orlando* consists in the division of the human life by the interludes. Woolf compares the entire life of any human being to a single day, trying to portray in a very interesting way how the perception of the passage of time is actually relative, in the sense that if one is to think about the age of this universe or earth itself, the human life seems really short; thus, comparing it to a single day, or even a shorter period of time, appears totally logical³⁷.

She conveys the mere idea that the cycle of a human life is very similar to the cycle of a day. At the eve of a day, the human being is very energetic and full of hope able to plan anything to do during the day. Very similar to the human life which starts with childhood, during which human beings are fresh, powerful and much hopeful for the future, doing and planning anything they wish, predicting a long life coming.

Later, comes the noon, in which the individual remembers the part of day left behind, yet hoping and predicting much time to follow, to achieve or change something. Very

³⁷ This idea is also developed from a religious perspective in the fourth chapter; in which one of the Prophet's sayings likens a year to a month, a month to a week and a week to a single day.

similar to the time when a human being is middle-aged, he can assume that he has done things while growing up, studying, working, getting married, having children, but still during this period, he may have other opportunities and many other things to do.

In the evening, which is the last part of the day, gloomy and beautiful at the same time, the time in which individuals most often reflect on their day through recalling its events. Very similarly to the period in which the human being reaches an old age where he sees his life as going to an inevitable end, even if this age may be beautiful and relaxing, people generally reflect on their past regretting things or admiring the different reminiscences. Then, the day reaches its final part in darkness and life as well reaches the end which is death.

This metaphor, through which Woolf parallels a day to a life period, is not the only way Woolf playfully worked with time, as her way of using the characters is different as well. Woolf made her characters talk about the same events in different sequences. For example, Bernard mentioned an event, in the next paragraph, Susan talked about it too, again, in the next one, Rhoda is seen talking about it. So, every character gives his/her own perspective towards the event without any noticeable switch or gap except the use of a different paragraph.

Every interlude represents the passage of time, they all contain pleasant colourful descriptions of nature and the passage of time during a specific time of the day. Every one of these interludes starts earlier somehow and does not actually stop time to provide all the description of that specific moment, such gradual changes are put forward:

The sun had not yet risen. The sea was indistinguishable from the sky, except that the sea was slightly creased as if a cloth had wrinkles in it. Gradually as the sky whitened a dark line lay on the horizon dividing the sea from the sky and the grey cloth became barred with thick strokes moving, one after another, beneath the surface, following each other, pursuing each other, perpetually (The Waves, p.5)

IV.I.4 Stream of Consciousness through Bergsonian ‘Duration’ in *The Waves*

Readers have become acquainted with Virginia Woolf’s technique of describing the scene through the stream of consciousness of a character; similarly, in *The Waves*, the female protagonist, Jinny, describes the sequence in which she was leaning out of the window and later sees her father. Readers picture the scene through the protagonist’s chain of thoughts:

Now we stop at station after station, rolling out milk cans. Now women kiss each other and help with baskets. Now I will let myself lean out of the window. The air rushes down my nose and throat—the cold air, the salt air with the smell of turnip fields in it. And there is my father, with his back turned, talking to a farmer. I tremble, I cry. There is my father in gaiters. There is my father.’ (The Waves, p.40)

Jinny, while going to a party in London, also describes her thoughts and perceptions:

‘Now the car slides to a stop. A strip of pavement is lighted. The door is opening and shutting. People are arriving; they do not speak; they hasten in. There is the swishing sound of cloaks falling in the hall. This is the prelude, this is the beginning. I glance, I peep, I powder. All is exact, prepared. My hair is swept in one curve. My lips are precisely red. I am ready now to join men and women on the stairs, my peers. I pass them, exposed to their gaze, as they are to mine. Like lightning we look but do not soften or show signs of recognition. Our bodies communicate. This is my calling. This is my world. All is decided and ready; the servants, standing here, and again here, take my name, my fresh, my unknown name, and toss it before me. I enter. (The Waves, p.64)

Another passage portrays a different sequence of reflections, stressing each point in time through the act of repeating the word “now”. It starts every new moment, every new perception and thought:

Now I feel the roughness of the fibre of the curtain through which I push; now I feel the cold iron railing and its blistered paint beneath my palm.

Now the cool tide of darkness breaks its waters over me. We are out of doors. Night opens; night traversed by wandering moths; night hiding lovers roaming to adventure. I smell roses; I smell violets; I see red and blue just hidden. Now gravel is under my shoes; now grass. Up reel the tall backs of houses guilty with lights. All London is uneasy with flashing lights. Now let us sing our love song—Come, come, come. Now my gold signal is like a dragonfly flying taut. Jug, jug, jug, I sing like the nightingale whose melody is crowded in the too narrow passage of her throat. Now I hear crash and rending of boughs and the crack of antlers as if the beasts of the forest were all hunting, all rearing high and plunging down among the thorns. One has pierced me. One is driven deep within me (The Waves, pp.110-111).

Woolf, through her use of the word “now”, not only allows the reader to follow the character’s inner thoughts through the stream of consciousness, but also hints to the urgent and rushing flow of thoughts involving Bergsonian notion of the interference of the recent instances from the past into the present, entailing the forming of a whole and single unity between past and present.

IV.1.5 Consciousness through Narrative Devices in *The Waves*

The Waves is composed of soliloquies revealing, from childhood to old age, the lives of six different but synchronized characters, three women and three men. The voices of these characters, initially undifferentiated, begin to reveal the individual attitudes, feelings and tempers as characters gradually acquire and shape a particular identity.

Bernard seems to be the central figure, he embraces the role of writer, narrator, and his speech is characterized by multiple references to language and the writing process.

“Let us now crawl,’ said Bernard, ‘under the canopy of the currant leaves, and tell stories” (The Waves, 15).

“I must make phrases and phrases and so interpose something hard between myself and the stare of housemaids, the stare of clocks, staring faces, indifferent faces, [...]” (The Waves, p.20)

“When I am grown up I shall carry a notebook —a fat book with many pages, methodically lettered. I shall enter my phrases” (The Waves, p.24)

He might be representing the archetype of the narrator willing to gather a large audience to tell his stories.

“The truth is that I need the stimulus of other people. Alone, over my dead fire, I tend to see the thin places in my own stories” (The Waves, p.51)

“I need eyes on me to draw out these frills and furbelows. To be myself (I note) I need the illumination of other people's eyes, and therefore cannot be entirely sure what is my self” (The Waves, p.72)

However, when he grows up, he becomes skeptical about his ambition to become a writer, to tell stories: “I have done with phrases” he said, “How much better is silence”. Bernard, like Virginia Woolf, questions the capacity of language and stories of allowing the complexity of consciousness, of human life, too multiple and variable to be captured and described through simple stories.

But what are stories? Toys I twist, bubbles I blow, one ring passing through another. And sometimes I begin to doubt if there are stories (90)
Also, how I distrust neat designs of life that are drawn upon half-sheets of note-paper. I begin to long for some little language such as lovers use, broken words, inarticulate words, like the shuffling of feet on the pavement. I begin to seek some design more in accordance with those moments of humiliation and triumph that come now and then undeniably (The Waves, p.150)

While writing represents Bernard's leitmotif³⁸, the other characters each have his/her own leitmotif. In this way, he tried to make “the life of the soul expressed by the incessant thrust of musical motives coming to say, one after another, the 'states' of thought, feelings or sensations ...” (Canonne, 2001, p. 36)

³⁸ The term "leitmotif" comes from the German language. This designation appeared in the second mid-19th century in the works of Richard Wagner, who brought the principle of leitmotif to its peak in his operas. The term is used primarily in the musical context to denote a motif that characterises a character, a feeling, a place or a situation; this is a key theme, repeated throughout a work to evoke and illustrate an idea, a character. The term "leitmotif" was introduced in the literary context by Dujardin who wanted in his “Lauriers”: "to transpose into the literary field the processes of the Wagnerian musical drama, the leitmotifs” (Canonne, 2001). My translation.

The use of leitmotifs, often taking the form of a symbol or a metaphor is a frequent process in *Waves*. The “beast” associated with Louis may be the personification of the sea, the amount of water the waves contain, whose force, momentum and characteristic noise recall the stamping of an animal:

“I hear something stamping,’ said Louis. ‘A great beast’s foot is chained. It stamps, and stamps, and stamps.’” (*The Waves*, p.6)

“The beast stamps; the elephant with its foot chained; the great brute on the beach stamps,’ said Louis” (*The Waves*, p.7)

Another leitmotif of Louis is the sphinx, the “stone figure in a desert by the Nile”, representing thousands of years of history: “I see women passing with red pitchers to the river; I see camels swaying and men in turbans. I hear trappings, tremblings, stirrings round me” (*The Waves*, p.8)

At the same time, Louis seems to be the character who goes beyond the experience of the present, representing in a way humanity or history:

I seem already to have lived many thousand years. But if I now shut my eyes, if I fail to realize the meeting-place of past and present, that I sit in a third-class railway carriage full of boys going home for the holidays, human history is defrauded of a moment’s vision (*The Waves*, p.42)

I have lived a thousand lives already (*The Waves*, p.80)

Susan represents mother nature, the reproductive cycle and fertility, she mostly represents Nietzschean eternal recurrence. She gets married and raises her children.

... I am the field, I am the barn, I am the trees ... (*The Waves*, p.61)

I am the seasons, I think sometimes, January, May, November; the mud, the mist, the dawn (*The Waves*, p.62)

I knead; I stretch; I pull, plunging my hands in the warm inwards of the dough (*The Waves*, p.63)

My children will carry me on; their teething, their crying, their going to school and coming back will be like the waves of the sea under me (*The Waves*, p.82)

Rhoda is characterised as “the fountain’s nymph”:

She has no body as the others have (*The Waves*, p.15)

But here I am nobody. I have no face. This great company, all dressed in brown serge, has robbed me of my identity (*The Waves*, p.22)

I am not here. I have no face. Other people have faces; Susan and Jinny have faces; they are here. Their world is the real world (The Waves, p.28)

She is mystical, dreamy, lonely, shy and fierce:

I must push my foot stealthily lest I should fall off the edge of the world into nothingness. I have to bang my head against some hard door to call myself back to the body.' (The Waves, p.28)

Month by month things are losing their hardness; even my body now lets the light through; my spine is soft like wax near the flame of the candle. I dream; I dream.' (The Waves, p.29)

In her speech, she alludes to the act of throwing something, the flowers for example, or to throw herself in the water, such allusions entail her suicide by the end of the novel: "I sail on alone under the white cliffs. Oh, but I sink, I fall!" (The Waves, p.18)

Some critics argue that Virginia Woolf has actually projected the mysterious and obscure aspect of her own personality onto this character.

Virginia Woolf is associated as well to the character of Jinny. In *The Waves*, Jinny represents the material, she is carnal and epicurean, adventurous and daring.

I feel myself shining in the dark. Silk is on my knee. My silk legs rub smoothly together. The stones of a necklace lie cold on my throat. My feet feel the pinch of shoes (64)

I glance, I peep, I powder. All is exact, prepared. My hair is swept in one curve. My lips are precisely red. I am ready now to join men and women on the stairs, my peers (64)

The seventh character, Percival, is a mysterious character, since he only exists in the characters' consciousness, he is the only character who never speaks. He is presented as a hero they admire.

The reign of chaos is over. He has imposed order. Knives cut again.' (The Waves, p.76)

'Here is Percival,' said Bernard, 'smoothing his hair, not from vanity (he does not look in the glass), but to propitiate the god of decency. He is conventional; he is a hero (The Waves, p.77)

Thus, he symbolises the norm, the tradition, the old order, he is a hero of the novel tradition as proved by his parodic death: "He fell. His horse tripped" (The Waves, p.94)

In the same regard, he may be perceived as a structuring element, as it is around him that all characters unite and is regularly the subject of their thoughts. “But without Percival there is no solidity. We are silhouettes, hollow phantoms moving mistily without a background.” (The Waves, p.76)

All these leitmotifs constitute a specific language of characterisation which transcends everyday life and emphasise the sublime and symbolic aspects of each character. Very similar to music where recurring patterns and leitmotifs are a structuring element.

The language in *The Waves* is lyrical, loaded with images. As Canonne suggests: “The soliloquies never cease, from beginning to end, to suggest the idea that they benefit from a poetic license and that they should not be understood as the realistic reproduction of the characters’ inner speech” (Cohn, 1981).

The aesthetic and poetic scope of Woolf’s work has also contributed to the break from the conventional norms allowing characters to report their thoughts in a loose and convenient way.

‘I burn, I shiver,’ said Jinny (The Waves, p.8)

I move, I dance; I never cease to move and to dance [...] I bind my hair with a white ribbon (The Waves, p.27)

I glance, I peep, I powder (The Waves, p.64)

Instead of using the present continuous, which is much commonly used in English, these actions are reported by the “lyric present”:

It is mainly because of the use she makes of this verbal form that Jinny’s acts do not seem to happen simultaneously with her speech, but in a different temporality, in this extratemporal dimension where the gestures described by a poem are located. It is also because of this that the mismatch effect which occurs, as we have seen, as in a monologue where the speaker

directly states his own movements, does not take place in *The Waves*³⁹ [...] (Cohn, 1981, p. 299)

Poetry and music may be perceived as the literary genres symbolising the best way to communicate emotions without any mediation, “through the principle of effusion from spirit to spirit⁴⁰” (Canonne, 2001, p. 36). Woolf’s main purpose was actually to explore the different states of the characters’ consciousness, the reason why poetry and music were the most inspiring for her.

Virginia Woolf juxtaposes the different characters’ perceptions of the same event, offering multiple perspectives on the same situation or action. This technique confirms that according to Woolf reality is not simple but rather complex, difficult to apprehend for the simple reason that it may exist in a consciousness only.

In the second chapter, the monologues of the characters express the reality related to a train travel in a unique way proper to each character’s personality and state of mind. The individual consciousness analyses and conceives the reality of the outer material world through fusing it with memories, thoughts, feelings and perceptions.

'I sit snug in my own corner going North,' said Jinny, 'in this roaring express which is yet so smooth that it flattens hedges, lengthens hills (*The Waves*, p.40)

'It is the first day of the summer holidays,' said Rhoda. 'And now, as the train passes by these red rocks, by this blue sea, the term, done with, forms itself into one shape behind me. I see its colour. June was white (*The Waves*, p.41)

'Now we are off,' said Louis. 'Now I hang suspended without attachments. We are nowhere. We are passing through England in a train (*The Waves*, p.42)

³⁹ « C’est surtout à cause de l’emploi qu’elle fait de cette forme verbale que les gestes de Jinny ne donnent pas l’impression de se produire en même temps qu’elle les énonce, mais dans une temporalité autre, dans cette dimension extratemporelle où se situent les gestes décrits par un poème. C’est aussi à cause de cela que l’effet de discordance qui se produit, comme on l’a vu, quand dans un monologue le locuteur énonce directement ses propres mouvements, n’a pas lieu dans *The Waves* ». My translation.

⁴⁰ « Par le principe d’effusion d’âme à âme ». My translation.

With this train journey the adolescent stage ends, which could also be interpreted as a metaphor for the journey of life. It also evokes the questionings regarding what will happen next in the coming stages of life. “I am about to meet—what? What extraordinary adventure waits me, ...” (The Waves, p.46)

Virginia Woolf noted: “The Waves is I think resolving itself ... into a series of dramatic soliloquies”, when the final structure of her work started to crystallise in her mind.

In fact, *The Waves* is a novel of silence, as suggested by critics, in which characters do not really communicate.

[...] she [Virginia Woolf] turned back on the outer world, producing an effect like that of a photographic negative, in which what is ‘said’ by the characters is actually what they think or feel, while their actual speech remains out of earshot. Thus she reordered the traditional hierarchy of inner and outer experience, and wrote the novel about silence (‘the things people do not say’) that Terence had planned in *The Voyage Out*, the culmination of an old and enduring ambition (Briggs, 2005, p. 238)

The soliloquies are introduced by the briefest expressions such as: “said Rhoda”, “said Bernard”, followed by alternate monologues of the six characters. Such brief expressions constitute the only form of reported monologue.

IV.2 Woolf and Existentialism

Similar to the doctrine of modernism, the philosophy of existentialism evokes the same issues. The same largely pervasive application of the doctrine is found, the continuous state of failure or inability to succeed in providing a solid definition of the notion and its full extent, though the breadth of its origin and essence remains arguable. Notwithstanding, some writers are usually associated to the philosophy of existentialism are Jean-Paul Sartre and Albert Camus, such philosophers are generally regarded as the founding fathers of existentialism, even if this claim is not really and

utterly correct. Despite the fact that existentialism truly flourished into worldwide acceptance and popularity in the mid-20th century through Sartre and Camus' works, the movement emerged from former philosophical enquiries. Though, Sartre's outstanding contribution to this philosophy has permitted the notion of existentialism to blossom.

The doctrine is largely perceived as continuous philosophical puzzle with a notable influence on both artistic and religious works. In the years following the Second World War, existential philosophers like Sartre and Camus were considered as the figures crowning the movement with glory; nonetheless, the origin and roots of this philosophy may be seen in Descartes' dualism as well as the German thinking of the 19th century.

Moreover, among the tremendous works characterizing the beginning of the twentieth century philosophical works is Martin Heidegger's *Being and Time*, with an appealing two-words title, the intriguing work aims at reconsidering the most essential question in the history of philosophy, which is the question of being. The book is unique in the fact that, contrary to previous philosophical writings, the book does not intend to develop a philosophical theory, however, it addresses the challenge of considering exhaustively the main persistent dilemma in traditional philosophy. Heidegger addresses this issue through re-evaluating the basic question that played a crucial role in Western thought from ancient times till the modern era; namely the problem of being. Nonetheless, he proceeds in a special way, through gathering the main concerns of the contemporary time: the frustration of the modern world, the traditional values' conflict, the metaphysics' decline, technological realms, the authority of instrumental

rationality and the research for some novel symbolic resources for mankind (Escudero, 2013) As an existentialist work, *Being and Time* has the ability, as Susan Sontag claims, of sloughing off the flakes that obscure humans' everyday vision, and, in so doing, of creating a new way of viewing reality (Sontag, 1977, p. 105)

Like any doctrine emerging as a reaction, rejection and criticism of its predecessor, existentialism blossomed from its critique of realism. Developing as a cultural opposition to the realistic system, existentialism strongly disagreed with the realistic perception and analysis of reality because of the traditional opposition between the notions of essence and existence. Its criticism constitutes an assault on every analytical theory, from naturalism to idealism, as it focuses on an absolute redefinition of the world; that is, existentialism intended to utterly reformulate the strictly established notions relative to reality, human nature and the human being. In essence, the theory emerged from phenomenology but is tightly associated to epistemology and metaphysics, the essential branches of philosophy contributing to the development of existentialism since they provide and allow an exhaustive exploration of human perception, knowledge, experience, consciousness, existence and essence. Therefore, the most pertinent thesis of existentialism or Sartre's claim "existence precedes essence" (Sartre, 2007, p. 22) relies heavily on phenomenology, epistemology and metaphysics.

According to existentialists, the very notion of human existence and the mere relationship between the human being and the natural world in which he exists cannot actually be analysed and explained within a theoretical framework consisting of physical or psychological elements only. Instead, while this philosophy embraces the

fundamental concepts of natural sciences (like physical or biological concepts), it suggests a new range of concepts essential to the proper understanding of human existence.

Sartre's famous line "existence precedes essence" represents the core of most critics' attacks on the doctrine of existentialism, which represent the objection against the existentialist claim that a human being exists first, and will not be able to define his essence and his meaning in this world only after this act of existing, Sartre explains this principle of existentialism in his book *Existentialism is a Humanism*:

That being is man, or, as Heidegger put it, the human reality. What do we mean here by "existence precedes essence"? We mean that man first exists: he materializes in the world, encounters himself, and only afterward defines himself. If man as existentialists conceive of him cannot be defined, it is because to begin with he is nothing. He will not be anything until later, and then he will be what he makes of himself. Thus, there is no human nature since there is no God to conceive of it. Man is not only that which he conceives himself to be, but that which he wills himself to be, and since he conceives of himself only after he exists, just as he wills himself to be after being thrown into existence, man is nothing other than what he makes of himself. This is the first principle of existentialism (Sartre, 2007, p. 22)

IV.2.1 Existential Temporality in *Mrs. Dalloway*

While treating imaginative experience of time, in the fourth chapter of *Time and Narrative*, Paul Ricoeur states that:

All fictional narratives are "tales of time" inasmuch as the structural transformations that affect the situations and characters take time. However only a few are "tales about time" inasmuch as in them it is the very experience of time that is at stake in these structural transformations (Ricoeur, 107).

Mrs. Dalloway is one of the most important tales in which time plays a significant role. Woolf has in fact focused more on the revelation of her main characters

through the description of their temporal experience and flows of thoughts, or, streams of consciousness, rather than their actions.

Reflecting Virginia Woolf's influence by James Joyce and very much similar to Joyce's *Ulysses*, the time setting of Mrs. Dalloway is limited to a single day in June nineteen-twenty-three. Though, the plot holds much more than a simple one-day action. Through her techniques of playing with time and using the stream of consciousness, Woolf succeeded in embracing the entire life of the main character, Clarissa, or at least the most important moments that contributed in revealing her true essence as well as the essence of some characters closely surrounding her like Peter Walsh, Richard Dalloway, Sally Seton, Elizabeth Dalloway and Miss Kilman, or even those who were just connected to her like Septimus and his wife Rezia.

The thoughts of such characters have been used to complete Clarissa's consciousness entailing the full revealing of her character. Among the narrative techniques used to emphasise the passage of time consists in the occurrence itself of some events during the day, such as the multiple meetings and incidents or even arrivals and leavings, where time (measurement; clock-time) appears to be conceived in a very similar way by everyone. For example, the moment when a royal figure was passing by in the street within the car, which was regarded as a moment of a special importance as everyone was questioning whether it was the Queen or not. They all stop to watch and the scene is described in a way to suggest that time has actually stopped for a while to properly honour the significant moment:

Gliding across Piccadilly, the car turned down St. James's Street. Tall men, men of robust physique, well-dressed men with their tail-coats and their white slips and their hair raked back who, for reasons difficult to discriminate, were standing in the bow window of Brooks's with their hands behind

the tails of their coats, looking out, perceived instinctively that greatness was passing, and the pale light of the immortal presence fell upon them as it had fallen upon Clarissa Dalloway. At once they stood even straighter, and removed their hands, and seemed ready to attend their Sovereign, if need be, to the cannon's mouth, as their ancestors had done before them (Mrs. Dalloway, p.13).

This impression towards the position of the queen is regarded of a special importance as it reflects how they pay honour to their monarch the same way as their ancestors did. This very precise moment is experienced by the protagonist as well as she was walking in the streets on her way to buy flowers for her party. Rezia and Septimus too, witnessed it as they were going to the park. They all noticed it and could not but stare. However, each of them experienced it in his/her own way with their own temporal consciousness, having their own streams of consciousness through their minds.

Another situation somehow similar occurs some moments later when people were gazing at the aeroplane writing letters in the sky with its white smoke:

“Look, look, Septimus!” she cried. For Dr. Holmes had told her to make her husband (who had nothing whatever seriously the matter with him but was a little out of sorts) take an interest in things outside himself.

So, thought Septimus, looking up, they are signalling to me. Not indeed in actual words; that is, he could not read the language yet; but it was plain enough, this beauty, this exquisite beauty, and tears filled his eyes as he looked at the smoke words languishing and melting in the sky and bestowing upon him in their inexhaustible charity and laughing goodness one shape after another of unimaginable beauty and signalling their intention to provide him, for nothing, for ever, for looking merely, with beauty, more beauty! Tears ran down his cheeks (Mrs. Dalloway, p.16)

... and Mrs. Dalloway: “What are they looking at?” said Clarissa Dalloway to the maid who opened her door. (Mrs. Dalloway, p.21)

Such direct speeches, form the “outside-world action”, which consists of the actions and sayings outside the characters’ minds, or what is heard and seen by others from the outside, contribute in the forming of the main skeleton of the story. Their role is to guide the reader throughout the story and remind him, each time, of the outside

world. For it is certainly very easy for any reader to lose him/herself through the streams of consciousness permanently present between them. In fact, such moments of self-reflection and continual process of thinking within the temporal consciousness, while the character is experiencing that flow of memories, thoughts and future expectations, or as Bergson named it “duration”, constitute the most significant elements.

The thing which attracts one’s attention in Woolf’s work too, is the very fact of the creation of characters in Mrs. Dalloway. Rather than using the traditional way of presenting and describing the characters first and later revealing their pasts gradually and smoothly to allow the reader to get acquainted with them and understand their actions. Here, in Mrs. Dalloway, the reader is provided with a full picture of Richard Dalloway, Peter Walsh or Sally Seton through Clarissa’s eyes even before their entering to the scene. These characters are evoked in Clarissa’s stream of consciousness as they exist in her memories.

Additionally, these characters are only described in relation to Clarissa and the way they think of her instead of the objective description of individuals. Hence, while the reader is exploring the protagonist, he is simultaneously exploring other characters through Clarissa. Moreover, some other reminders of the outer world and the interruption of time to the inner flow of consciousness are the clocks, notably those of Big Ben with their striking, considered as a symbol of London, where the story takes place, is actually heard many times throughout the story: “As they looked the whole world became perfectly silent, and a flight of gulls crossed the sky, first one gull leading, then another, and in this extraordinary silence and peace, in this pallor, in this purity, bells struck eleven times, the sound fading up there among the gulls” (Mrs. Dalloway, p.15)

Frequently, they interrupt the stream of consciousness or the instantly quiet peaceful moment with the aim of reminding readers of the uniformity, the unstoppable and the eternity of time which evokes the willingness to enjoy life and the fear of death and ageing as well: "There! Out it boomed. First a warning, musical; then the hour, irrevocable. The leaden circles dissolved in the air" (Mrs. Dalloway, p.3)

However, while Clarissa was rushing home to make the preparations for her party. Rezia asks Septimus about the time to remind him of the appointment with the doctor:

"The time, Septimus," Rezia repeated. "What is the time?"

He was talking, he was starting, this man must notice him. He was looking at them.

"I will tell you the time," said Septimus, very slowly, very drowsily, smiling mysteriously. As he sat smiling at the dead man in the grey suit the quarter struck—the quarter to twelve. (Mrs. Dalloway, pp.50-51)

IV.2.2 Time Awareness in *Mrs. Dalloway*

Very similar to Clarissa, who has been aware of the passage of time rushing and preparing multiple things for her party including lunch, Rezia experienced such an awareness as well, Rezia has been rushing too but in a different way, as she attempted to talk with the doctor about her husband's illness and envisage some solutions or how he could be treated soon. In this way, the striking of the clock portrays both the individual as well as the common awareness of the passage of time. In addition to that, the multiple accidental meetings of characters portray the very sameness of the time, or the common measurement which is conventional. Woolf uses this method to settle a sort of natural fluidity of the plot as she proved her ability to move from one character's stream of consciousness to another without having to change the situation completely, thus, orienting the readers' imagination to the characters' situations in a

much easier way. For example, when Rezia's stream of consciousness, when she was reflecting on Septimus' behaviour, switches to Peter's stream of consciousness, when he was questioning what has Septimus told Rezia to make her look that desperate in such a fine summer morning:

And that is being young, Peter Walsh thought as he passed them. To be having an awful scene—the poor girl looked absolutely desperate—in the middle of the morning. But what was it about, he wondered, what had the young man in the overcoat been saying to her to make her look like that; what awful fix had they got themselves into, both to look so desperate as that on a fine summer morning? (Mrs. Dalloway, p.51)

IV.2.3 *Septimus'* Essence Between Mortal Time and Monumental Time

The private moments of Septimus suicide clearly describe how time flows in a continuous, unstoppable and infinite flux: “The clock was striking—one, two, three: how sensible the sound was; compared with all this thumping and whispering; like Septimus himself. She was falling asleep. But the clock went on striking, four, five, six ...” (Mrs. Dalloway, p.107) After having experienced her husband's death, Rezia neglects all other sounds surrounding her, and cannot but subjectively feel the sound of the striking as a very symbolic one to remind her of her husband and his tragic death. Rezia and Woolf's readers are aware that despite Septimus death (suicide) the clock never stops and time is constantly going on. Moreover, this scene brings to the reader's mind Sartre's claim “existence precedes essence” meaning that a personality is not in fact shaped over a formerly conceived model neither it is intended for a specific purpose, since it is the human being who makes the choice of undertaking such a mission.

Jean Paul Sartre, in *Existentialism is a Humanism*, argues: “If values are vague and if they are always too broad in scope to apply to the specific and concrete case under consideration, we have no choice but to rely on our instincts” (Sartre, 2007, p.

32). While explaining the young man's convictions, who argued that what really matters are feelings, implying that people's acts are determined by their feelings and convictions, or in other words, what can an individual do to achieve his aim, or what compels anyone to do anything are feelings, giving the example of the young man's love for his mother which can be defined only by what he can do for her, sacrificing his life for her or choosing to leave. But later, Sartre asks how can the strength of a feeling be measured? He claimed that: "The only way I can measure the strength of this affection is precisely by performing an action that confirms and defines it" (Sartre, 2017, p.32) However, this very dependence on feelings to justify actions makes the person caught in a vicious circle, as Sartre puts it. In this regard, Septimus may have committed suicide due to his despair and the confusions that persistently invaded his mind as he was sick, suffering from hallucinations, he also believed himself unable to feel, suggesting that he was unable to define his existence. Sartre argued: "feelings are developed through the actions we take; therefore I cannot use them as guidelines for action" (32). Septimus was detached and distant from his society and his wife, probably because of his own conviction that he cannot prove any feelings. Nonetheless, according to Sartre feelings should not be used as guidelines for action, that is, Septimus should not have exploited this feeling of inability to have any feelings to develop such an antisocial behaviour, instead, he could have faced his fears making other choices that do not result in suicide.

Sartre said: "I shouldn't seek within myself some authentic state that will compel me to act, any more than I can expect any morality to provide the concepts that will enable me to act" (Sartre, 2017, p.33) Further on, he explains how choosing one's

advisor is only a way to commit oneself. Septimus has chosen psychologists as advisors, thus, he committed himself to the fact of being psychologically sick. He rather trusted a doctor than his own feelings.

Sartre has also reported his piece of advice to the young man, saying: “You are free, so choose; in other words, invent. No general code of ethics can tell you what you ought to do, there are no signs in this world” (Sartre, 2017, p.33) Sartre’s claim appears very logical, the social restrictions surrounding Septimus, in addition to the scientific psychological norms imposed on him made him believe of himself incapable of many things lowering his self-esteem and entailing his suicide, while it could have been relative to his own nature, and his antisocial attitude might have been one of his character’s traits not forcibly an illness. More importantly, Sartre remarks that even if there are some signs in one’s life, it is one’s responsibility to interpret and choose their meanings. Again, Septimus’ miserable life and tragic death were the result of his own choices.

To suggest that existence precedes essence is to maintain that there is no such predetermined essence and that human’s essence is defined by humans themselves through the way they create and live their lives. As Sartre claims: “man first of all exists, encounters himself, surges up in the world and defines himself afterwards” (Sartre, 2017, p.23)

IV.2.4 Clarissa’s Image

Paul Ricoeur remarks that it is important to note that Septimus, though not belonging to Clarissa’s circle but only treated by Dr. Bradshaw, who was a guest at Clarissa’s party, the deep connection between their fates -Clarissa’s and Septimus’- is

reached at a deeper level than the coup-de-théâtre. Ricoeur argues that: “the unexpected news, midway through the party, of Septimus suicide- that allows the plot to reach its culmination” (Ricoeur, *Time and Narrative*, 1984, p. 102).

In a way, Septimus may be perceived as Clarissa’s double, in the same way as the old woman across the street. Gillies states that: “ Clarissa never actually meets either of her doubles [but] she is able to enter into their lives and learn from them something that allows her a greater degree of self-knowledge” (Gillies, 1996, p. 116). Septimus and Clarissa’s voices match as she says: “Death was defiance. Death was an attempt to communicate; people feeling the impossibility of reaching the centre which, mystically, evaded them; closeness drew apart; rapture faded, one was alone. There was an embrace in death” (Mrs. Dalloway, p.132). Even though Clarissa had organised a party and invited many people to it, she still feels the same loneliness as Septimus. She is unable to express her feelings to her husband and daughter, neither do they; as she is not able to communicate with Peter and Sally as she used to in the past either. In the same regard, Septimus embraced that feeling of the impossibility to communicate with people around him, who mainly thought of him as a mentally ill, and with doctors as well who urged him to separate from his wife, who was the only person still believing in him and wanted to help him. Instead, he preferred dying after a happy moment with his wife than pursuing his life as a crazy man. Again, as Sartre claimed, it is a matter of choice, Clarissa chose to survive and neglect the norms and standards imposed by society, even though realising and acknowledging her own weakness of the inability to communicate with others; conversely, Septimus surrendered to the pressure exerted by both society and doctors.

On the other hand, after learning the news regarding Septimus death, the striking of the clock comes again as a reminder of the passage of time and its eternity, not stopping for anyone's death:

The clock began striking. The young man had killed himself; but she did not pity him; with the clock striking the hour, one, two, three, she did not pity him, with all this going on. There! the old lady had put out her light! the whole house was dark now with this going on, she repeated, and the words came to her, Fear no more the heat of the sun (Mrs. Dalloway, p.133)

Looking at the old lady going to bed quietly, who sent a 'sign' to Clarissa while looking at her, while Clarissa was reflecting on death, Clarissa remembers how much she is attached to and loves life and suddenly remembers her own inevitable mortality. Gillies comments on this moment: "it pushes her back into life, but she re-enters her world wiser and more self-aware" (Gillies, p.117) Actually, the death of Septimus made Clarissa appreciate living and eager to enjoy each moment of her life: "He made her feel the beauty; made her feel the fun" (Mrs. Dalloway, p.133) Clarissa at last realises the fact that, through her choices, she is not actually alone, she has family and friends indeed waiting for her. The novel closes in a scene described as Peter perceives Clarissa with enjoyment thinking that she has finally regained self-awareness.

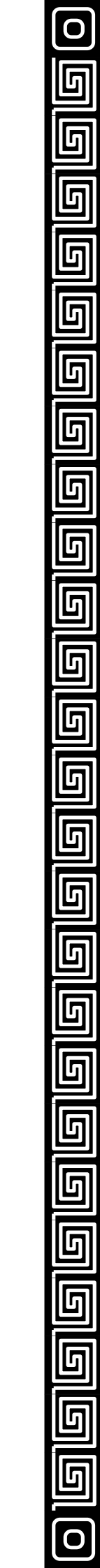
Conclusion

Human mind continuous activity has allowed human beings to scrutinise and interpret the different phenomena in multiple interesting ways. Both philosophers and psychologists have attempted to explain this very process of human thinking. In this regard, it has been explained in the previous chapter how the concepts of time and space are portrayed in language and how scholars attempted to conceptualise them through different models and scenarios. In this chapter, some examples from literature have been analysed aiming at portraying authors' conception of time through their characters' consciousness.

William James was among the most prominent psychologists having explained some aspects related to the human mind functioning. One of these aspects is the stream of consciousness or simply the continuous flow of ideas, which is highly reflected in many of the twentieth century literary writings, the reason behind which the present chapter has dealt with the analysis of the most significant works presenting this technique, using an eclectic method, encompassing narratology and psychoanalysis, with an attempt to cover all aspects related to time in four Modernist novels, namely Joyce's *Ulysses*, and Virginia Woolf's *Mrs. Dalloway*, *Orlando* and *The Waves*.

Thus, this chapter has provided a thorough analysis of examples from literature to portray human conception of the two concepts, from both authors' as well as characters' perspectives.

The next chapter will consist of an analysis of such conception and conceptualisation of time and space providing a religious perspective on twentieth century thought.



**Chapter Four : A Religious
Perspective on the Concepts of
Time and Space**

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Introduction

This last chapter puts the concepts of Time and Space under scrutiny from a religious perspective. Since it is commonly known that human beings have embraced many different religions from ancient times, there is a need to underscore, from the beginning of this chapter, the reason why, only the Islamic perspective is chosen to define the spiritual conception of these two concepts, time and space.

According to Muhyiddin Ibn Arabi all religions converge in the essence of belief, which is belief in God and the day of judgement, meaning reward and punishment, but they are distinguished in terms of laws and rulings. From here one can see the Holy Qur'an's keenness to highlight these two aspects: the unity of belief in religions on the one hand, and the different laws on the other hand (Al Masri, 2020). On the unity of religion, the following Quranic verses may be cited:

Of the religion (that he made for humankind and revealed through his messengers throughout history), he has led down for you as way of life what he willed to Noah, and that which we reveal to you, and what willed to Abraham, and Moses, and Jesus, (commanding): "Establish the Religion, and do not divide into opposing groups concerning it." What you call people to is hard and distressful for those who associate partners with God. God chooses whom he wills and brings them together (in faith and in obedience) to Himself, and he guides to Himself whoever turns to Him in devotion. (Ash-Shura/The Counsel, 13) ¹⁴¹

This verse comprises many implications as explained by Ali Unal:

The religion God has made and appointed for humankind throughout history is one and the same. It has the same essentials of faith, worship, conduct and morality. Among the Prophets, God chose some as Messengers, and among the Messengers He chose five as being of a particular degree: Noah, Abraham, Moses, Jesus, and

⁴¹ All the verses in English are extracted from the translated version of the Holy Quran by A.Unal. The numbers following the religious text (Eg 1) refer to the original verse, in Arabic, in Appendix A.

Muhammad, upon them all be peace and blessings. He established for each, principles of conduct in life, in addition to the pillars of faith, worship, and morality. These principles, which form a way of life (Law), are the same in essence (Unal, 2006, p. 923), though there are some differences among them in secondary matters, as suggested as well by the meaning of this verse:

We have sent down to you the Book with the truth, confirming whatever of the Book was revealed before it, and arguing over it. Judge, then, between them by what God has sent down, and do not follow their lusts and fancies away from the truth that has come to you. For each, have we appointed a clear way of life and a comprehensive system. And if God had so willed, he would surely have made you a single community; but in order to test you by what He granted to you. Strive, then, together as if competing in good works. To God is the return of all of you, and He will then make you understand about what you have differed on (Al-Ma'idah/The Dinner Table, 48)²

Ali Unal has also explained this verse, stating that; Since humanity was living what was, in many respects, an age of childhood until the time of the Prophet Muhammad, upon him be peace and blessings, every Messenger to come before that time had been sent to a certain people and for a certain period. In the Abrahamic line, Moses, upon him be peace, came to the Children of Israel with the Torah, and Jesus, upon him be peace, with the Gospel, which confirmed the Torah in the essentials of faith, worship, morality, and the fundamental rules of the lawful and unlawful, but which made some unlawful things lawful. So, when Jesus came, the Children of Israel, who had followed the Torah until then, should have believed in him and all the previous Prophets and Books, and taken into account the changes which the Gospel introduced in the commandments of the Torah. Many of them, did not.

When the Prophet Muhammad, upon him be peace and blessings, came with the Qur'an at a time when there was no longer any need for another Prophet after him or for another Book to be sent, both the Jews and Christians should have believed in him and all the previous Prophets and Books, and followed the Qur'an. Unfortunately, many of them did not, and thus there came to be three different religions and ways where there should have been only one. The conclusion of this verse is extremely important and contains a threat that is directly linked to the existence of these three major religions or ways (Unal, 2006, p. 247).

The verses above this one, mention the Books prior to the Qur'an, giving the name of each. In verse 48 the expression "*whatever of the Book*" is used, and the Qur'an is mentioned as the Book. This means that, although there are some differences in the laws, the Qur'an encompasses all the truths contained in the previous Books. Concerning the Law, the Qur'an retained the commandments contained in other Books which it did not abrogate. (Unal, 2006, p. 247)

I. The Existence and Oneness of God

God (Himself) testifies that there surely is no deity but He, and so do the angels and those of knowledge, being firm in upholding truth and uprightness: (these all testify that) there is no deity but He, the All-Glorious with irresistible might, the All-Wise. The (true) Religion with God is Islam. Those who were given the Book before differed only after the knowledge (of truth) came to them because of envious rivalry and insolence among themselves, whoever disbelieves in the Revelations of God (should know that) God is swift at reckoning (Al-Imran/The Family of Imran, 18-19)³

Unal suggests: This verse, by virtue of its being the greatest evidence of God's Existence and Oneness, is regarded as being equal to God's Greatest Name (Unal, 2006, p.127)

Everything in the universe, from the minutest particles to the most expansive galaxies, and every event that takes place in it, bears decisive evidence of the Existence and Oneness of God. For with a thing's coming into existence, with its life and particularities, and with the function it fulfills in the general network of existence, every creature and every object points to a single Deity who has absolute and infinite attributes, including, in particular, Knowledge, Power, and Will (Unal, 2006, p.127)

Unal provides the example of imagining oneself standing by a river at midday. In each of the bubbles floating by on this river there can be seen a tiny, shining sun. when those bubbles go into a distant tunnel, the tiny suns can no longer be seen. But in the bubbles passing in front of the observer at that moment, the same tiny suns can still be seen. This proves that the suns found in the bubbles do not actually belong to the bubbles themselves, nor are they of their own making. They are the reflections of the one, single sun in the sky. This is how each bubble bears witness to the existence and oneness of the sun. it also shows that the sun provides light. The tiny suns continue to be reflected in new bubbles that pass by, while others are getting lost in the tunnel -all this goes to demonstrate that the sun is a permanent object.

Thus, all the things in the universe are like a bubble. The coming into existence of these things, provided as they are with the necessary equipment for life in the proper environment, goes to prove the Existence of a Creator Who has full knowledge of both the object and the universe, for every object has a relationship with almost everything else in the whole of the universe. The power that those living creatures have to see and hear, and their ability to satisfy their vital needs proves that the Creator is All-Providing. The reason why, God says in the Holy Qur'an: "God burdens no soul except

within its capacity: in its favor is whatever (good) it earns, and against it whatever (evil) it merits...” (Al-Baqarah/The Cow, 286) The death of living beings and their being replaced by new ones shows that the Creator is Permanent. Likewise, the order of the universe and the reality that its components mutually help one another also indicate the fact that the Creator is One. It is clear that whoever has created and directs the solar system has also created the human body and directs it. Among creatures, humanity has will and consciousness. Despite this, no human being plays a role in their coming into this world, in the choice of their family, colour or race, nor in the time or their place of birth and death. Apart from this “objective” reality, there is the fact that human beings feel in their conscience the Existence of God as a point of reliance. Even if they do not encounter difficult situations, all humans have an innate feeling for His Existence.

Unal argues that it is absolutely impossible to explain existence without the Existence of God. And that His Existence is more manifest than anything else in the universe. He also implies that the person who denies Him is no different from one who closes their eyes at midday and claims that there is no sun in the universe.

II. Time and Space from a Religious Perspective

The concept of time in ancient Arab thought was melted with much ambiguity and confusion, philosophers claimed that the reason behind this confusion consists in both the multiple and different names, from which other terms may emerge, attributed to the concept and the different opinions denying or proving the nature of the concept.

Accordingly, before dealing with the details regarding the different claims on the nature of time, there is a need to report the different terms attributed to time in the Arabic language along with their meanings, as the ancient Arabs were extremely precise in the definition and description of concepts.

II.1 Time in the Arabic Language

Dictionaries as well as encyclopaedias in the Arabic language, such as Djurjani's *Taarifat*, Nahanui's artistic terms⁴², and Abi-Albaqaa's *Al-Kuliyat*, constitute a very valuable material in determining and defining Arabic terms generally but those related to time particularly. (Zurab)

Al-Zaman⁴³ (Time): in the Arabic language, Zaman refers to both short and long periods of time. Even if it is argued that Zaman and Dahr are the same, this is not correct, because Zaman refers to seasons and months, mostly limited (from two to six months), while Dahr does not stop and cannot be interrupted.

Al-Dahr⁴⁴ (Aeon): extended period of time, it is argued that it represents a thousand years or the extremely long time period such as the human life on earth, or the life of the whole humanity on earth; eternity.

Al-Waqt⁴⁵ (Time): the amount of time, as every thing or event must be settled by a specific timing, entailing the notion of temporariness and time here is just a part of, or a small amount of eternity. It can be used in both past and future. Sibawayh has used the term time "*Waqt*" in space analogously to timing in time, suggesting that

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they are both measurable and limited portions. As stated in the Qur'an: "the Prayer is prescribed for the believers at fixed times" (Al-Nisa/The Women, 103)⁴ Ali Unal interprets this verse as: Although the five times of the prescribed prayers were fixed by the Messenger upon the instruction of Archangel Gabriel, they can be deduced from the relevant verses of the Qur'an: "Establish the Prayer from the declining of the sun to the darkness of the night, and (be ever observant of) the recitation of the Qur'an at dawn" (Al-Isra'/The Night Journey, 78)⁵ The declining of the sun means that the sun has passed its zenith and, therefore indicates the Noon Prayer. After the Noon Prayer comes the Afternoon Prayer. Immediately after sunset and after night has fully fallen, the Evening and Late Evening Prayers are performed respectively. The verse specifically mentions the Dawn or Morning Prayer because of its importance and draws attention to the recitation of the Qur'an during this time. These verses stress the importance of observing the prescribed times for the Prayer and performing it on time. (Unal, 2006)

Al-Hiin⁴⁶ (Stretch of Time): is a part of Dahr or eternity, it is argued that an instant from eternity is so ambiguous that it may fit any and all periods of time, short or long, a year or more, some argued that it consists of forty years, seven years, six months or two, it is much similar the notion of Waqt (time). It is also argued that it is the duration, as stated in the Qur'an: "Did there pass (and surely there did pass) over human a stretch of time when he was a thing not mentioned and remembered (as human)" (Al-Insaan/Human, 1)⁶ This does not mean that humans did not exist at all

during that stretch of time. Rather, as implied in surah *Al-Imran*, verse 28, each member of humankind has some sort of existence in the world of atoms and particles. In other words, since it has already been evident in God's knowledge and determined by Destiny which particles among the innumerable particles of the world will constitute the body of which person, those particles, however widely distributed in air, water and earth, had long been pointed to constitute the body of the particular individual, even though that individual was not known or mentioned as (a) human being. Humankind is the fruit of the Tree of Creation and therefore contained its seed. So, the Tree of Creation has grown out of the seed of humankind. In other words, as the tree is the developed form of its seed, each human being carries in his or her body and self the entire nature and original elements of other forms of existence. Thus, what meaning a seed bears with respect to a tree, humankind has it with respect to the universe. (Unal, 2006, p. 1190)

Many scholars agreed that *Al-Hiin* (stretch of time) is much like the notion of time as it applies to all types of time, as mentioned in the Qur'an: "It yields its fruit in every season due by its Lord's leave" (Ibrahim/Abraham, 25)⁷ In this verse *Hiin* is translated as season.

Al-Mudda⁴⁷ (**Duration**): in some situations, it represents the purpose of both time and space, as it means the aim of human existence⁴⁸. This duration encompasses as well both notions of short and long periods of time. As it also implies the meaning

⁴⁷ المدة

⁴⁸ يقال لهذه الامة مدة, أي لها غاية أو هدف.

of the verb “to stretch” over both time and space, portraying the genius of the Arabic language.

Al-Aàn⁴⁹ (Now): at the present time or moment. Very similar in meaning to the English word.

Al-Abad⁵⁰ (Forever): eternal time, involving the notion of unstopping continuity and eternity.

Al-Azal⁵¹ (Eternity): implying the notion of everlastingness, and sometimes referring to old and ancient concepts.

Arab and Muslim Philosophers defined time in multiple ways:

Al Djurjani (as cited in Zurab) suggests that according to scholars, time is the amount of motion in the universe. While according to Mutakallimun, it consists in a known concept which serves to determine an unknown concept, for example when saying: We will meet at 8 o'clock, the act of “meeting” is unknown or abstract determined by a concrete, determined and known timing which is 8 o'clock.

According to Abi-ALbaqaà, time is an unstable delusional stretch consisting of joined segments. *Mudda* or duration, according to some philosophers, is absolute time that cannot be counted by motion, while others suggest that there is no duration devoid of motion except the one processed through illusion, contrary to Al-Razi who perceived duration as absolute time. (Zurab)

الآن⁴⁹

ابد⁵⁰

ازل⁵¹

The notion of “time” or “*Waq̄t*” is mostly used by Sophists. It is defined by Ibn-Arabi as the human state at the specific time of the state, as it has no relation with the past nor with the future. (Zurab)

***Al- yawm* (day):** The exact translation of the word “yawm” is “day”. However, the Qur’an uses the word “day” not only in the meaning of humans’ normal day, but also as time unit and period. Unal has put forward the different types of “day” in the Qur’an as:

Yawm ad-Din: The Day of Judgement.

Yawm al-fasl: another name for the Day of Judgement, meaning the Day of Judgement and Distinction (between people).

Yawm al-Jaza’: another name for the Day of Judgement meaning the Day of Recompense.

Yawm al-Qiyama: the Day of Destruction of the World and Resurrection (Unal, 1354).

II.2 Time and its Importance in the Holy Qur’an

Actually, the Qur’an has not dealt with the notion of time directly, the way most scholars and philosophical thinkers did, as the Quranic conception of time seems somehow vague and most of the times, this concept holds different names and meanings. For example, Allah says: “Say: “Go about on the earth and see how God originated creation. Then God will bring forth the other (second) creation (in the form of the Hereafter). Surely God has full power over everything” (Al-‘Ankabut/The Spider, 20)8 In this verse, there is no name of either time or space, though it alludes to both, “Go about on the earth” suggests the idea of space, in addition to the use of the adverbial

“Then” and the past tense in “originated” as well as the future tense “will” suggest the notion of time. Still, no word or name is apparent to present these concepts.

Moreover, while the Christian image of time is summarized in its division into three main periods; the first of which includes the period extending from the creation of Adam to his landing on the earth, and the second extends until the ransom of Jesus, and the third starts from that time until the end of history. The Holy Qur’an divides time in terms of its sequence into two worlds: the mortal realm of the world, and the remaining world of the hereafter, as it divides it on the other hand into two times, the first is metaphysical that the human mind cannot conceive; whereas the second: the time that the common people feel in their daily lives, and according to which they measure their events in this life. People used to believe - and natural scientists among them - that the universe is eternal with no beginning or end in time, Muslim philosophers such as Ibn Rushd, Ibn Sina and Al-Farabi held this belief too which is originally drawn from the belief of Greek philosophers and it remained true until "Edwin Hubble" discovered in the second decade of the twentieth century the expansion of the universe and the divergence of its parts from each other, and this discovery was subsequently cemented by what was called The Big Bang Theory, which suggests that the universe was in the form of a very small material point, with a high temperature and density, then it exploded, then the universe objects began to form and move. Through the equation of linking time and motion, it may be concluded that time did not begin until after this explosion. Regarding this theory, the Qur’an has provided a statement indicating the shift of the universe from the stillness to movement, saying: “Do those who disbelieve ever consider that the heavens and the earth were at first

one piece, and then We parted them as separate entities; and that we have made every living thing from water? Will they still not come to believe?" (Al-Anbiyaa/The Prophets, 30)⁹

In the interpretation of this verse, Unal differentiates between the common sense conceptualisation of phenomena and the scientific precise conception and analysis of the various concepts and notions surrounding and pervading human existence. He starts with the common sense interpretation stating that; to learned people who have not studied modern sciences, the expression "*one piece*" in the verse means that when the heavens were clear and without clouds, and the earth was dry, lifeless, and incapable of giving birth, God opened the heavens with rain and the soil with vegetation, and created all living beings through some sort of marriage and impregnation by means of water. They understand that everything is the work of such an All-Powerful One of Majesty, and that the surface of the earth is merely His small garden, and all the clouds that veil the surface of the sky are sponges for watering it. They prostrate themselves before the greatness of His Power. (Unal, 2006, p.664)

To exacting scholars, on the other hand, it means: "In the beginning, the heavens and the earth were a formless mass, each consisting of matter like "dough", without produce or creatures. The All-Wise Creator separated them and rolled them out and, giving each a comely shape and beneficial form, and made them the origins of multiform, adorned creatures." These scholars are filled with admiration at His Wisdom's comprehensiveness.

Unal explains how modern scientists understand that the solar system was like a cloud of gases, or was fused like a mass of "dough". Then the All-Powerful and Self-

Subsistent One rolled it out and placed the planets in their respective positions; or the mass of gases began to cool due to the extremely speedy movement. The Almighty left the sun where it was and brought the earth here. Spreading soil over its surface, watering it with rain, and illuminating it with sunlight, He made the world inhabitable and placed us on it. These scientists are saved from the swamp of naturalism and declare: “I believe in God, the One, the Unique”. Another meaning this verse presents to modern scientists is: The universe was only in the form of ether, a pervasive matter (which some regard as hydrogen). God made ether a source of atoms from which He created all things, and he has placed everything in this “ocean” of the ether (Unal, 2006, p.664)

The heavenly books - including the Holy Qur’an - have unanimously agreed that God created the heavens and the earth and everything between them in six days. The Holy Qur’an detailed this creation process in His saying:

Say: “Is it that you (associate partners with and therefore) disbelieve in the One Who created the earth in two days, and (on account of that unbelief) set up rivals to Him (as deities, lords, and objects of worship)?” That is the Lord of the worlds, 10. He has set in it (the earth) firm mountains rising above it, and bestowed blessings therein, and determined its provisions in due measure (to be obtained) in four periods, in a way to meet the vital necessities of all things and beings, that seek their provision from Him ... 11 ... So He fashioned them (the clouds of gaseous elements which then existed in the place of the heaven) seven heavens in two days, and inspired in each heaven its tasks (Fussilat/Distinctly Spelled Out, 9-12)10

Time is one of the things that have occupied humans’ thought since ancient times, and Man tried to explain it, because it is something that is not material and not tangible, but man feels it and uses it in assessing his affairs, evaluating them, and

measuring the movement of his life and what is related to it. In the Holy Qur'an the great importance of time is evident in many verses of the Qur'an. God Almighty has sworn to time in saying:

By time (especially the last part of it, heavy with events), Most certainly, human in loss (Al-Asr/ Time Heavy with Events, 1-2)¹¹

By the night as it enshrouds (the earth in its darkness); And the day as it rises bright; And that (All-magnificent one) who has created the male and the female; Surely your endeavour is diverse (In character and ends); ... (Al-Layl/ The Night, 1-4)¹²

By the forenoon, And the night when it has grown dark and most still, Your lord has not forsaken you, nor has He become displeased with you (Ad-Duha/ The Forenoon, 1-3)¹³

And by the night as it inclines to depart, And the morning as it breathes, ... (At-Takwir/ The Folding up, 17-18)¹⁴

And His saying:

By the sun and its brightness; And the moon as it follows it (reflecting its light); And the day as it reveals it (the sun) ; And the night as it enshrouds it; ... (Ash-Shams/ The Sun, 1-4)¹⁵

It is noticed that everything that God has sworn by time or its components was of the highest degree of importance calling for a conscious consideration of these verses, given that they are mentioned at the beginning of the surahs in which God Almighty emphasises the importance of these phenomena, and the importance of time is evident in the Noble Qur'an in terms of being a measure of the period during which the first creation process (the creation of the heavens and the earth) took place. And what is between them) as many verses referred to that, including the words of God Almighty:

God is He Who has created the heavens and the earth and what is between them in six days, then established Himself on the Supreme Throne. You have, apart from Him, no guardian (to whom you might refer the ultimate

meaning and outcome of your affairs), nor any intermediary (who, without His leave, can cause anything of use to reach you). Will you not reflect and be mindful?;" (As-Sajda/Prostration, 4)¹⁶

The Noble Qur'an not only mentioned this cosmic truth, but rather added additional facts about the details of these days. As mentioned earlier when talking about the beginning of the creation of the universe, and the state into which it will become. There are noble verses in which there are clear indications showing the power and virtue of God Almighty in managing it.

II.3 Time in the Noble Hadith

The word "zaman" indicating time has been mentioned in the noble hadith several times and in the exact term, while there is no such term in the Qur'an, and there are other words indicating it, such as: day, year, age, and other words that are considered types of measurement of time, such as day, hour and year.

The prophet, upon him be peace and blessings, said: "When time approaches, the Muslim's vision will hardly lie." And he said: "The hour(Day of Judgement) will not rise until the time has approached, so the year will be like a month, and the month will be like a Friday (meaning week), and a Friday will be like a day, and the day will be like the hour, and the hour will be like the burning of frothy." This Hadith may be explained through the following verse.

God says in the Qur'an, Surat Yasin, verse 38: "And the sun runs the course appointed for it for a term to its resting-place, for the stability of it (s system). This is the measured determining of the All-Glorious with irresistible might (to Whose omnipotent ordering the whole universe is submitted), the All-Knowing"¹⁷

As an attempt to interpret this verse, Unal says that, the original of this statement is comprised of four words. The phrase translated as “the course appointed for it for a term to its resting-place for the stability of it(s system)” is, li-mustaqarrin lahā⁵². “*Mustaqarr*” means course or orbit, stability, and the place and time of stability; the preposition “*li*” indicates both reason or aim (“for”), the course of a movement (“in or along”), and destination (“to” or “towards”). So, the phrase li-mustaqarrin lahā points out four facts concerning the sun or its system: it moves for a certain (appointed) term, along a course appointed for it, to its resting-place, for the sake of the stability of the system. It is understood from the statement in its context that the sun is not motionless and has a vital function in the universal order.

In recent decades, solar astronomers have been able to observe that the sun is not, in fact, motionless. It quivers and shakes and continually rings like a well-hit gong. These vibrations of the sun reveal vital information about the sun’s deep interior, its hidden layers, and this information affects calculations of the age of the universe. Also, knowing exactly how the sun spins internally is important in testing Einstein’s theory of general relativity. Like so many other significant findings in astronomy, this discovery about the sun was totally unexpected. Having discovered the quivering and ringing sun, some astronomers have commented that it is as if the sun were a symphony orchestra, with all the instruments being played simultaneously. All the vibrations combine at times to produce a net oscillation on the solar surface that

⁵² لمستقر لها.

is thousands of times stronger than any individual vibration (Bartusiak, as cited in Unal,2006, p.909)

Commenting on this Qur’anic verse several decades before this totally unexpected discovery in astronomy, Said Nursi wrote in *Muhakemat*:

As the word *tajrī* (“runs”) points to a style, the phrase *li-mustaqarrin lahā* (“the course appointed for it for a term to its resting-place for the stability of it(s system)”) demonstrates a reality. The sun, like a vessel built of gold, travels and floats in the ocean of the heavens comprised of ether and defined in a hadīth as a stretched and tightened wave. Although it quivers and shakes in its course or orbit, since people see it moving, the Qur’ān uses the word travel or float. However, since the origin of the force of gravity is movement, the sun moves and quivers in its orbit. Through this vibration, which is the wheel of its figurative movement, its satellites are attracted to it and preserved from falling and scattering. When a tree quivers, its fruit fall. But when the sun quivers and shakes, its fruit – its satellites – are preserved from falling. (as cited in Unal, 2006, p.909)

Again, wisdom requires that the sun should move and travel on its mobile throne – its course or orbit – accompanied by its soldiers – its satellites. For the Divine Power has made everything moving and condemned nothing to absolute rest or motionlessness. Divine Mercy allows nothing to be condemned to inertia that is the cousin of death. So, the sun is free; it can travel provided it obeys the laws of God and does not disturb the freedom of others. So, it may actually be traveling; or its traveling may also be figurative. However, what is important according to the Qur’ān is the universal (or solar system’s) order, the wheel of which is the sun and its movement. Through the sun, the stability and orderliness of the system are ensured (Unal,206, p.910)

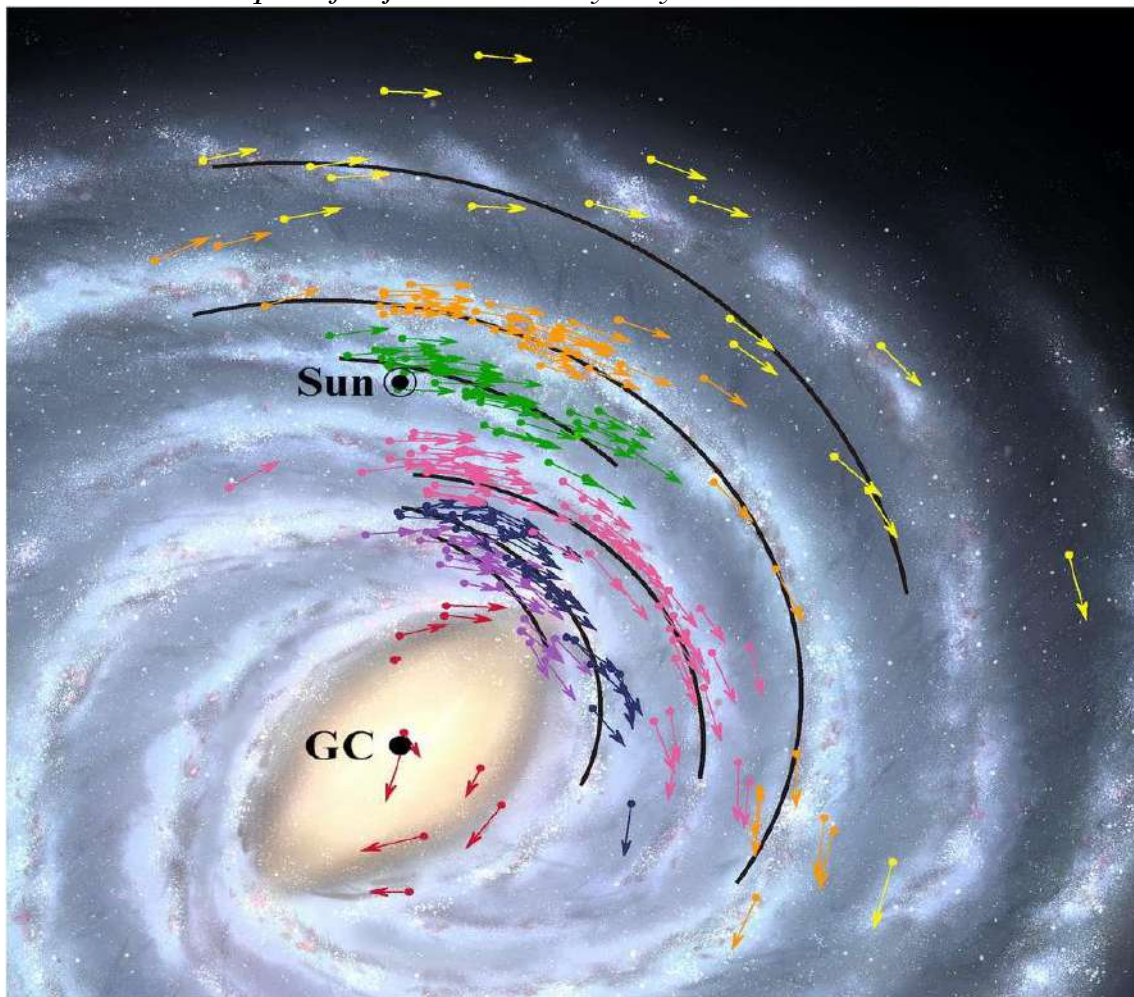
In this regard, the same truth has recently been revealed in modern science, as the journalist Mayer suggests that the planet Earth is located in one of the arms of this Spiral Galaxy. Obviously, but drawing a three-dimensional map of the Milky Way - in which humans live and from which they cannot extract themselves - is not

easy. Yet today, based on the work of the Vera project - for VLBI Exploration of Radio Astrometry, a project that relies on instruments based in Japan - researchers are proposing a small revision of the position - and of the speed - of this Solar System through the Milky Way (Mayer, 2020)

Thanks to data of an incredible resolution of 10 microseconds of arc, the project made it possible to publish extremely precise information on several dozen objects in the Milky Way and to reach a localization of the center of this Galaxy and its super-massive black hole which hides there.

Figure 13

The Position and Speed of Objects in the Milky Way.



Note. In this diagram, the arrows indicate the positions and speeds of 224 objects in the Milky Way. The black lines show the arms of the galactic spiral. The colors represent groups of different objects in the same arm. In the background, a simulation of our Galaxy. From: <https://www.futura-sciences.com/sciences/actualites/voie-lactee-systeme-solaire-deplace-plus-vite-galaxie-plus-proche-trou-noir-supermassif>

So, the Earth would ultimately find itself closer to this central black hole of about four million solar masses than researchers previously thought. In 1985, the International Astronomical Union had endorsed an official value of 27,700 light years. In 2019, the Gravity consortium had already lowered this distance to 26,673 light years. Ultimately, the population of the earth would only be sailing “only” 25,800 light years from the center of the Milky Way (Mayer, 2020).

The Earth would also travel in space faster than previous calculations envisaged: 227 kilometers per second against 220 previously. A good reason to fear that Earth is precipitated towards the supermassive black hole of the center of this Galaxy. But researchers are now eagerly awaiting the results of the next project, dubbed the East Asian Very Long Base Interferometry’ Network and including radio telescopes installed in South Korea and China for even better accuracy.

Thus, it would be logical to translate the expression “Li mustaqarrin laha” or the centre “al mustaqar” as the supermassive black hole attracting the sun and entailing the change in speed; as explained in the first chapter, the deeper one goes into a black hole the higher its velocity. This is the reason why the Noble Prophet, upon him be peace and blessings, said that the time or the measurement of time will change in the future, he actually meant what is already mentioned in the Qur’an, surat Yasin- verse 38, that nothing is motionless in the entire universe, everything is in constant movement and the earth which is moving around the sun, is actually also moving and following

the movement of the sun , which is in turn moving (by attraction) towards or into the supermassive black hole.

The prophet also said: “Time converges, knowledge decreases, scarcity is found, discord arises, and embarrassment abounds.” It is noticeable in these three hadiths, in which time was mentioned, that they all share the verb “to approach”, and scholars who interpreted these hadiths, they either interpret it to mean the equilibrium and equality between night and day, or near the end of life on earth “by the hour”, but most of them favor the second option, meaning that the Day of Resurrection is approaching, so the time will be associated with this day.

These examples from the Prophet’s sayings, suggest that time in the noble hadith is closer to the religious verbal conception portraying time as finite (in the worldly living), from the one of the philosophical perceptions that, in general, time is ancient and eternal.

The word Al-Dahr occurred in a famous hadith narrated in multiple forms, but they all lead to one meaning, as was said by the Prophet, upon him be peace and blessings: “Do not say disappointment of “Al-Dahr” -meaning eternity or Time-, for God is Time” and, “Do not curse Time, for God is Time”.

God also says, in Hadith Qudsi: “The human being insults me, he curses Time and I am Time, everything is at my will, I turn the night into day and day into night”.

III. Time Relativity between the Quran and Western Thought

“The angels and the spirit ascend to Him (thereby), in a day the measure of which is fifty thousand years (of your normal worldly years)” (Al-Maarij/The Stairs of Ascent 4)¹⁸

Unal has explained this verse stating that “Reaching” God requires traversing great “distances” and ascending innumerable steps. So, the stairs of ascent to God and the measure of the day as being fifty thousand years, imply both our distance from him (despite His infinite nearness to Us) and His indescribable “elevation” and transcendence. Unal suggests that the word “day”, in this verse, may also be referring to the Day of Judgement.

“He directs the affair from heaven to the earth; then the affair ascends to Him in a day the measure of which is a thousand years of what you reckon” (As-Sajdah/Prostration, 5)¹⁹ As stated in the previous verse, the Qur’an uses the word “day” not only in the sense of our normal day, but also as time unit and period. While this verse mentions a “day” to be the equivalent of one thousand years by human reckoning, the previous verse mentions a day that measures fifty thousand years. This shows that the concept of day is relative. (Unal, 2006)

IV. Actual Nature and Human Perception of the World

“All that are in the heavens and on the earth entreat Him (in their needs). Every (moment of every) day He is in a new manifestation (with all His Attributes and Names as the Divine Being)” (Ar-Rahman/The All-Merciful, 29)²⁰

Following Newton’s classical physics and relying on the various developments in science, 19th century physicists thought they were able to explain all phenomena in

the universe. E. Dubois Reymond, at the meeting held in memory of Leibniz, at the Prussian Academy in 1880, showed humility stating that:

There have remained seven enigmas in the universe, three of which we have as yet been unable to solve: the essential nature of matter and force, the essence and origin of movement and the nature of consciousness. Three of the remaining that we can solve, although with great difficulties, are: The origin of life, the order in the universe and the apparent purpose for it, and the origin of thought and language. As for the seventh, we can say nothing about it. It is individual free will (A. Adivar as cited in Unal, 2006, p.1093)

Actually, the sub-atomic world has confused scientists, this world as well as the “quantum cosmology” that it introduced, instead of being a combination of concrete things, consists of five elements: the mass of the electron in the field where an action happens (M), the mass of the proton (m), the electrical charge carried by these two elements, the energy quanta (h) – the amount of the energy remaining during the happening of the action – and the unchanging speed of light (c). These five elements of the universe can be reduced even further to action or energy waves traveling through space in tiny packets or quanta. Since the quanta required for an action are peculiar to it and exist independently of the quanta required for the previous action, it becomes impossible to predict the exact state of the universe. If the universe is in T_1 state now, it cannot be predicted that it will be the same at time T_2 (Unal, 2006, p.1094)

Paul Renteln writes:

Modern physicists live in two different worlds. In one world we can predict the future position and momentum of a particle if we know its present position and momentum. This is the world of classical physics, including the physics described by Einstein’s theory of gravity, the general theory of relativity. In the second world it is impossible to predict the exact position and momentum of a particle. This is the probabilistic, subatomic world of quantum mechanics. General relativity and quantum mechanics are the

two great pillars that form the foundation of 20th century physics, and yet their precepts assume two different kinds of universe (Renteln, 1991).

The real nature of this sub-atomic world and the events taking place in it make it impossible to construct a theory to describe them because they cannot be observed. One reason for their unobservability is that, as Renteln writes, in an attempt to propose a theory which he calls quantum gravity to reconcile the two different worlds of classical and quantum physics,

The events take place at a scale far smaller than any realm yet explored by experimental physics. It is only when particles approach to within about 10^{-35} meters that their gravitational interactions have to be described in the same quantum mechanical terms that we adopt to understand the other forces of nature. This distance is 1,024 times smaller than the diameter of an atom – which means that the characteristic scale of quantum gravity bears the same relation to the size of an atom as an atom bears to the size of the solar system. To probe such small distances would require a particle accelerator 1,015 times more powerful than the proposed Superconducting Supercollider (Renteln, 1991)

Later researchers argued that the electron is more of an energy field cloud that fluctuates around a nucleus. The nucleus itself seems to be composed of two smaller constituents – protons and neutrons. Nevertheless, in the 1960's, physicists Murray Gell-Mann and George Zweig confirmed in experiments that protons and neutrons were formed of even more elementary particles, which Gell-Mann called “quarks” (Encyclopaedia, 2020). Quarks⁵³ cannot be seen, not only because of the fact that they are infinitely small but also because they do not seem to be existent at all.

⁵³ **Quark**, any member of a group of elementary subatomic particles that interact by means of the strong force and are believed to be among the fundamental constituents of matter. Quarks associate with one another via the strong force to make up protons and neutrons, in much the same way that the latter particles combine in various proportions to make up atomic nuclei. There are six types, or flavours, of quarks that differ from one another in their mass and charge characteristics (Encyclopaedia, 2020).

This is actually not all what makes humans unable to predict the future of the universe. Werner Heisenberg's theories suggest that at the time when humans can know either where a particle is or how fast it is traveling, they cannot know both. This is because the very act of measuring the particle alters its behaviour. Measuring the particle's speed changes its position and measuring its position changes its speed. Nonetheless, unpredictability in the sub-atomic world does not change anything in humans' daily predictable life or world and everything works according to the fundamental laws of classical Newtonian physics. (Unal, 2006, p.1094)

Unal, further asks the most significant questions related to this research, "why is this so?" and "How should human's view of the world and universe be?". He assumes that scientists who believe in the existence of God and His creation of the universe maintain that "creation" was not in fact a "single" event; meaning that God has not created the universe as a single act and then left it to operate according to the laws He had already established. Instead, they perceive the act of creation as a continuous act "*creatio continua*"; that is, very much like the movement of energy or electricity and its enlightening of this world through bulbs, existence persistently comes from God, returns to and perishes in Him. Unal states: "Through the manifestation of all His Names, God continuously creates, annihilates, and re-creates the universe" (Unal, 2006, p.1094).

Also, in western philosophy, St. Augustine held a subjective view of time, assuming that the subjective conception of time was fundamental to humans' perception of the world. Augustine maintained that "real" time, the eternal one or the one

in which God lives, resides outside human consciousness and operates independently, out of the subjective constraints and structures that humans attribute to it.

Despite their standing for the subjective view of time, modern writers, such as Proust, Joyce and Woolf, oppose Augustine's notion of "real" time, as they claim it is possible, especially in literature, to speed up or slow down time, for the aim of portraying how human consciousness operates. Actually, Augustine's perception and treatment of time arose from his belief in God contrary to many modern writers, who did not believe in God's existence.

Even though atheism was very popular among modern writers, the notion of religion was constantly present in their discourse as the latter repeatedly appeared in novels, short stories and other works during this period. Eliot, Auden and Lewis, among others, remained faithfully religious, strongly defending their beliefs through their writings, unlike others who clearly expressed their opposition to religion through the negative framing of some characters and their actions, as Doris Kilman, for example, in *Mrs. Dalloway*, who was portrayed as evil because of her godly belief.

Augustine's religious questionings related to time constitute the main basis of *Time and Eternity* in *Confessions*. In his book, Augustine analyses two major categories of time; time as perceived and understood by human beings, and "real" time as created by God. Augustine has explained the three diminutions of human time as the past, which consists of memories, the future consisting of expectations based on these memories and the present which is the present sensory experience; implying that both past and future depend on the present, and the future depends on the past as well.

However, the “real” time or “eternal” time experienced by God is a separate type of time which is distinct from past and future. Augustine says:

on the other hand, nothing passes away, but the whole is simultaneously present. But no temporal process is wholly simultaneous. Therefore, let it see that all time past is forced to move on by the incoming future; that all the future follows from the past; and that all, past and future, is created and issues out of that which is forever present. Who will hold the heart of man that it may stand still and see how the eternity which always stands still is itself neither future nor past but expresses itself in the times that are future and past? Can my hand do this, or can the hand of my mouth bring about so difficult a thing even by persuasion? (Augustine, p. 252)

In this passage, Augustine describes his perception of eternity as being void of past and future, only experienced by God, human beings are unable to understand it, simply because time, as experienced by humans encompasses past, present and future; the past appears to humans as being far away because it is pushed by the coming of the future, the happening of the future is caused and defined by events of the past and the present, always consisting in humans’ current state decides what becomes past and what will happen in the future.

In the same way, eternity is permanently in the present state determining the past and the future. Augustine also questions the real nature of time, since the past is no longer, the present fleets so quickly to be measured and the future has not come yet. Augustine states: “how can we say that even this *is*, since the cause of its being is that it will cease to be? Thus, can we not truly say that time *is* only as it tends toward nonbeing?” (Augustine, p.255) This has been Augustin’s main concern.

Some medieval Muslim scholars, like Muhyi’-d-Dīn ibn al-’Arabī and Jalālu’-d-Dīn ar-Rūmī, named the pairs of acts (of creating, annihilating and recreating the universe) as “the continuous cycle of coming into existence and dying”. The incredible speed of this movement gives the illusion that this universe is uniform and continuous.

Ar- Rūmī compares this to the spinning of a stick on one end of which a light is fixed. When it is rotated at high speed, the light (which is on the end of the stick) forms a circle of light. Contemporary scholars liken it to the projection of movies onto screens. A filmstrip consists of multiple frames but the movie projected on the screen appears as an undivided complete frame. In a like manner, the universe undergoes constant appearance and disappearance, or perish and re-creation but humans unconsciously hold the assumption that it continues to exist without any interruption (Unal, 2006, p.1095) This is actually the human mind processing of temporal consciousness proposed by philosophers and named the cinematic model (explained in the second chapter) which highly portrays Augustine’s concern qualifying the time frame as “present” suggesting that humans’ streams of consciousness consist of continuous successions of momentary states of consciousness. Thus, they are very similar to movies consisting of rapid sequences of still images. In this way, filmmakers impose their subjective view vision of time even though the extension of the present is certainly much shorter. This entails the notion of Constructionism, a doctrine which Augustine obviously did not belong to as it mainly relies on the disbelief in the existence of God.

Being influenced by their disbelief and lack of faith in God, both Woolf and Joyce deviated from St. Augustine treatment of time through their emphasis on human experience and consciousness.

Modern philosophers linked the existence of time to the existence of God, claiming that if God did not exist, true time could not exist either, but once they decided to exclude the notion of existence of God, they remained dealing with their own

subjective perception of time. Entailing the essence of the doctrine of constructionism providing humans the power of creating their own subjective conceptions.

The nature and essence of time have turned to be one of the constructed concepts according to some modern writers as they changed what had been perceived as the abiding and eternal structures of time through the use of various techniques in literature. Many examples supporting the constructionist notion of time can be found in Woolf's writings, such as, *Mrs. Dalloway*, *Orlando* and *The Waves*, though Woolf treated it in different ways.

Mrs. Dalloway, for instance, has no chapter divisions and Woolf exhibits a whole lifespan within the perimeter of one narrative day, being influenced by and using a Bergsonian approach to time.

In *Orlando*, the numbered chapters are geniously divided according to the selected turning points in the narrative while narrating the biography. The notion that the protagonist lives throughout a long period, of four centuries, undergoing a gender change, evokes the Einsteinian relativistic view of life and time which is portrayed in chapter two of the book:

to say that he would go out after breakfast a man of thirty and come home to dinner a man of fifty-five at least. Some weeks added a century to his age, others no more than three seconds at most. Altogether, the task of estimating the length of human life (of the animals' we presume not to speak) is beyond our capacity, for directly we say that it is ages long, we are reminded that it is briefer than the fall of a rose leaf to the ground (*Orlando*, p.36)

And:

Life seemed to him of prodigious length. Yet even so, it went like a flash. But even when it stretched longest and the moments swelled biggest and he seemed to wander alone in deserts of vast eternity, there was no time for the smoothing out and deciphering of those scored parchments which thirty years among men and women had rolled tight in his heart and brain (*Orlando*, p.36)

Just as Einstein's relativity, the novel represents the humans' relativistic and subjective perception of the world "time" which later contributes to shaping their experiences. In this novel, the protagonist's experiences are perceived through his own perception of the notion of time.

The Waves, on the other hand, includes both structural techniques. The unnumbered chapters comprise the characters' soliloquies through which they narrate their own lives from childhood to old age. In parallel to the chapters, the italicised interludes are there serving to trace the sun trajectory through one day symbolising one human lifetime. The novel is a form of imagery with a discrete hint to Nietzschean circularity.

Throughout these novels, which are completely different in their time treatment, as each one of them presents a different exegesis of time through a different narrative style, Woolf constructed three different narrative truths existing within three individual time constructions and the overwiewing of the three novels together consists a major sign that Woolf has embraced a rather constructionist perspective on time.

Regarding the notion of time, Nietzsche opposes the Augustinian view of "real" time, implying that humans have the capacity to clearly determine the duration of the present and the precise time or period past events occurred adequately attributing their places in history. This actually follows the constructionist perspective; the human being determines the "truth", causing the creation of many other truths with equal similar interpretations.

Even if Nietzsche had not deeply scrutinised the mystery of time, he settled his famous theory of eternal recurrence in *Thus Spoke Zarathustra*. His concept of eternal recurrence consists in the notion that humans live their lives and make choices again and again for eternity. By providing such theory, Nietzsche highlights the importance of personal consequences for the chosen actions. He stressed the idea that humanity has to make good choices, otherwise it would suffer continually and eternally. In the writings of both Woolf and Joyce, characters are constantly faced with situations in which they have to make choices, which in turn later define their existence and essence. Some of Nietzsche's theory principles appear in Woolf's writings, the fact that Louis in *The Waves*, for instance, was still holding the past within him suggests that the past persists in the present. The essence of Nietzsche's theory of eternal recurrence and this persistence of the past into the present are interrelated as they both allude to the repetition of every event in history as portrayed through the character of Louis. In addition to that, Nietzsche's theory implies that the past continually visits the present and the future in a cyclic sequence. Again, the very symbol of "circle" is of a major significance; it is frequently present in Woolf's writings, for example, in the circular clocks chiming throughout the novel of *Mrs. Dalloway*, the gold circle which is the wedding band in *Orlando* and in the loop of light in *The Waves*.

V. Human Essence between Philosophy and Spirituality

"And the human selfhood and that (All-Knowing, All-Powerful, and All-Wise One) Who has formed it to perfection; And Who has inspired it with the conscience of what is wrong and bad for it, and what is right and good for it" (Ash-Shams/The Sun, 7-8)²¹ Unal explains these verses stating that God has endowed the human self or ego

with the necessary potential, and equipped it with a capacity to be able to realize the goal of its existence. He has also created it with a disposition to guarding against the Divine prohibitions, and taught it through Revelation how it should guard against them, appointing some (the Messengers) to guide it to that goal (Unal, 2006, p.1230) “He is indeed prosperous who has grown it in purity (away from self-aggrandizing rebellion against God); And he is indeed lost who has corrupted it (in self-aggrandizing rebellion against God)” (Ash-Shams/The Sun, 9-10)²²

Unal starts his interpretation of this verse portraying the main differences between humans and animals, highlighting the major difference which consists in the fact that animals learn how to live through innate faculties and habits. While, on the other hand, humans, throughout their entire lives on earth, never stop learning how to live continually discovering new truths about what is beneficial and what is harmful to them, implying that human life is essentially about learning and progress.

Later, he compares human beings to seeds, as both bear the qualities to engender and attain perfection. He argues that a seed, being endowed by the Divine Power with great potential and is destined to enact this potential. However, two possibilities are offered, if the seed abuses its potential and attracts harmful substances, it will very soon decay at its confined space. On the other hand, if the potential gets properly used, it will grow into a fruitful tree surpassing the narrow confines. Moreover, its small and specific nature will be representing a great and universal truth.

Likewise, human essence is like a seed. If humans invest their potential, intellectual and spiritual faculties in this material world for the sake of the worldly

life with the sole aim to satisfy the fancies of their carnal, evil-commanding souls, they will certainly be corrupt, just like the decayed seed, appreciating solely the fleeting pleasures of this short life; thence departing from this physical world carrying a heavy spiritual burden on their unfortunate souls. Nevertheless, Unal argues, if they -human beings- choose to “germinate the seed of [their] potential under the ‘soil of spirituality’ with the ‘water of faith and worship’,... [they] will grow into an eternal, majestic tree, the branches of which extend into eternity”(Unal, 2006, p.1230) meaning that they would yield fruit of virtue in the world as well as eternal happiness in the next, everlasting world. In this case, they would be favoured in paradise with infinite perfection and countless blessings.

All the above-mentioned arguments allude to the fact that humans have been created in this world for the only aim of being developed and accomplished through knowledge and faith.

In the Qur’an, God says: “And (know that) for every community, there is a term appointed (by God considering their free will); and when the end of the term falls, they can neither delay it by a single moment, nor can they hasten it” (Al-Araf/The Heights, 34)²³ Unal suggests that this verse does not mean that an absolute determinism prevails in history. Rather, the Qur’an sees human beings as the “motor” of history, contrary to the fatalistic approaches of some nineteenth century Western historical philosophies, such as dialectical materialism and historicism. Such philosophies assert that time and conditions direct human history, and the only thing that people must do is to keep up with the stream of time, which progresses independently of human will. However, according to the Qur’an, just as every individual’s will and behavior

determines the outcome of his or her life in this world and in the Hereafter, a society's progress or decline is determined by the will, world-view, and lifestyle of its inhabitants. The Qur'an says (Ar-Ra'd/Thunder, 11)24: God does not change the condition of a people unless they change what is in themselves (their beliefs, world-view, and lifestyle) . In other words, each society holds the reins of its fate in its hands. A prophetic Tradition emphasizes this idea: "You will be ruled according to how you are" (al-Hindī, as cited in Unal, 2006, p.321) Therefore, this verse should be viewed in the light of human free will in its relationship with the Divine Eternal Will. Since God is absolutely independent of time and sees everything, witnessing all times as if they were no more than one point, He cannot be viewed in terms of the past, the present, or the future. His Will is, in some respect, identical with His Knowledge, and every event takes place according to the law of cause and effect, which His Will has appointed. Therefore, the verse mentions a phenomenon, rather than a compelling, determining law. (Unal, 2006, p.321)

However, those Western philosophies mentioned by Unal argue that nature is prior to and independent of humanity and the human existence, which is mainly the product and a part of nature, is forcibly dependent on it. While some succeeding Western philosophies, mainly Existentialist philosophy assumes that both the objective and subjective elements of "being" do not exist independently and apart from each other and that it is actually the subject which defines and makes the world what it is.

In his book *Introduction to Metaphysics*, Heidegger discerns this difference stating: "it is in words and language that things first come into being and are" in addition to Sartre's famous line: "Existence comes before essence". Moreover, freedom, choice

and responsibility represent the central aspects of the existentialist thought. Like Jaspers, who believed that freedom is a vital feature to human existence, Kierkegaard perceived the very act of existing as synonymous to being free, he argues:

Man's freedom involves a 'life of toil and much suffering and many dangers' whether we like it or not, toil, suffering, and danger are our lot. Men have strived throughout history to free themselves from danger and from loneliness, anxiety and anguish by seeking recourse in the supernatural or in the social collective. Man has tried the religious escape, the cultural escape, and all manner of escape, but if he wants freedom, he must not escape from himself. Buried in the social collective, the individual rarely is able to extricate himself and thus loses the very freedom which is the essence of man's behavior. (as cited in Azhar, 2013)

In this regard, all existentialists maintain that the fulfilment of freedom is essentially based on the choices made by Man. They claim that existence is based on choices and that human beings do not actually create themselves but they are rather able to choose themselves.

This very notion of the individual choices determining the human existence and essence is not only found in the Twentieth century philosophy but also in the literature of this period, in Joyce's writings, for instance, *A Portrait of the Artist as a Young Man*, Stephen was confronted with situations in which he had to make choices of a major significance in his life, for example, when Stephen had to choose between the colors of roses:

White roses and red roses: those were beautiful colours to think of. And the cards for first place and second place and third place were beautiful colours too: pink and cream and lavender. Lavender and cream and pink roses were beautiful to think of. Perhaps a wild rose might be like those colours and he remembered the song about the wild rose blossoms on the little green place. But you could not have a green rose. But perhaps somewhere in the world you could (Joyce, p.10)

The two colours, between which Stephen has to choose, in this passage, actually symbolise the notions of nationalism and religion, representing ways his countrymen

live by, as portrayed during the Christmas dinner as these two choices are also symbolised by his father and Dante. Though Stephen was actually considering a third choice represented by the “green rose”. He does not want to make a choice between white roses and red roses but he rather wants to invent his choice, as Sartre explained in his book *Existentialism is a Humanism*, “I shouldn’t seek within myself some authentic state that will compel me to act, any more than I can expect any morality to provide the concepts that will enable me to act” (Sartre, p.33) Later Sartre stated his idea straightforwardly: “You are free, so choose; in other words, invent. No general code of ethics can tell you what you ought to do; there are no signs in this world” (Sartre, p.33)

In a similar vein, Stephen required some other choices in life as he wanted to be an individual person. Even if the “green rose” does not exist in Ireland, Stephen has a strong will and determination to find it somewhere else in the world.

Moreover, a similar situation concerning the available choices surfaces again when Stephen is asked whether he kisses his mother before going to bed or not, Stephen again is confused about the decision to make as neither of the choices seemed satisfactory neither to him nor to his environment.

Another very symbolic allusion to choices is provided by the colors green and maroon, on the brushes of Dante: “He wondered which was right, to be for the green or for the maroon” (Joyce, p.15) Which way to choose in life seems very limited to Stephen because, everytime, the choices are offered by society, not his own, hence certainly not satisfactory for him.

In the fourth chapter, Stephen receives the order to become a priest. He reached a point where he needs to make a very decisive decision. He feels some “chill” and sense of repulsion to the idea of accepting the order:

The chill and order of the life repelled him. He saw himself rising in the cold of the morning and filing down with the others to early mass and trying vainly to struggle with his prayers against the fainting sickness of his stomach. He saw himself sitting at dinner with the community of a college. What, then, had become of that deep-rooted shyness of his which had made him loth to eat or drink under a strange roof? What had come of the pride of his spirit which had always made him conceive himself as a being apart in every order? (Joyce, p.199)

Stephen was questioning what had happened to his pride and rebellious spirit that was guiding him. While making the decision to choose his own path, Stephen also chooses to acquire knowledge through his own experiences. As he did not fear sinning or making mistakes as he perceived it as another interesting way to experience the world:

He was destined to learn his own wisdom apart from others or to learn the wisdom of others himself wandering among the snares of the world. The snares of the world were its ways of sin. He would fall. He had not yet fallen but he would fall silently, in an instant. Not to fall was too hard, too hard; and he felt the silent lapse of his soul, as it would be at some instant to come, falling, falling, but not yet fallen, still unfallen, but about to fall (Joyce, p.200)

According to the religious minded society Stephen lived in, the decision he finally makes of rejecting the order is considered as falling. Nonetheless, this is not really important to Stephen as he chooses the artistic life which seems satisfactory to him. Nietzsche said : “Is it any wonder that we free spirits ' are not precisely the most communicative of spirits? ...we [free spirits] are born. sworn, jealous friends of solitude, of our own deepest, most midnight, most midday solitude-such a type of man we are, we free spirits!”, as cited in (Halimi, 2012) where he argues that : “what

matters is one's own life, future, essence and purpose" (Halimi : 270), implying that the spirit consists a fundamental feature defining human essence. Such statements urge one to define the nature of the spirit.

V.1 The Spirit and the Human Essence

Unal states that the interpreters of the Qur'an have disagreed about what is meant by "spirit" in the verse: "They ask you about the spirit. Say: "The spirit is of my Lord's Command, and of knowledge, you have been granted only a little." (Al-Isra'/The Night Journey, 85)²⁵ Suggesting that some argue that it means "Revelation" while it is alleged by others that it consists in the essence of living existence or the source of life, movement, consciousness, feelings and senses in living beings. Unal calls for considering the assumption that it is the spirit in a human being which is, in addition to being the source of life, the essence that learns, is educated and believes or denies, and that Revelation is the source or means of spiritual liveliness, to possibly reach the conclusion that Revelation is the life of spirit (Unal, 1306).

God Almighty, says: "O you who believe! Respond to God and to the Messenger when the Messenger calls you (in the Name of God) to that which gives you life; ..." (Al-Anfal/The Accessions, 24)²⁶ Unal asserts that God has two laws; one emerging from His Attributes of speech and manifested as the Divine Revelation or Religion. The other comes from His Attributes of Will and Power and is manifested as the "laws of nature" and life. Unal adds that the spirit is also a manifestation of God's Attributes of Will and Power. He argues that it is a living law with consciousness and a real, sensible existence.

Bediüzzaman Said Nursi said in *The Letters of Light*:

The spirit is a law with consciousness and a real, sensible existence: Divine Power has clothed it in an energetic envelope within a body of sensory organs. This spirit, which exists in humankind, is a counterpart to the “laws of nature and life.” Both are unchanging (unless God wills otherwise for certain wise purposes) and permanent, and both have issued from the world of Divine Commands. If the Eternal Power had clothed the laws with perceptible existence and consciousness, each would have been a spirit; and if the human spirit were stripped of life and consciousness, it would become an immaterial law (as cited in Unal, 2006, p.1306)

Unal claims there are many worlds in this universe as there are subdivisions, such as the world of plants, animals, human beings and the world of ghosts (jinn), they lie one within the other or above covering each other. Humans live in the visible, material world, the one which addresses itself to their senses. This world consists in the realm where God Almighty provides life, creates, renews, changes and causes to die; from the infinitely small particles to the greatest galaxies.

Sciences, in general, attribute all phenomena in the physical world to natural laws, though these laws do not hold a directly perceptible existence. Hence, attributing creativity to such laws, which mainly consist of nominal principles deduced from the phenomena perceived occurring in nature is equal to denying the existence of the spirit, which is utter prejudice or bias and deliberate denial. Just as the laws that appear to proceed in the universe, Unal states that: “the spirit is a law that issues from the world of Divine Laws or Commands” (1306) Nonetheless, contrary to these other laws, the human spirit is a living, conscious law. In addition to and above this visible, material world, there is the immaterial world of Divine Laws or Commands and to succeed in understanding it Unal provides an example asking people to consider how a book, a tree or a human being comes into existence, he argues that the most crucial part in the “being” of a book is found in its meaning not its physical entity, since the

latter, alone, has no meaning in and of itself, but it is the meaning and the ideas of the book that cause it to exist representing the essence of its existence. In a similar vein, by observing the “natural” phenomena in this world, one can deduce the existence of so many other similar laws such as gravity and repulsion, freezing and vaporisation. Hence, the spirit is a law emerging from the world of Divine Commands. However, contrary to the other laws, the human spirit is a living, conscious law. If for example, the spirit is detached from life and consciousness, it would become a law; but if the other laws were to be provided with life and consciousness, they would become a spirit.

Unal assumes that the spirit cannot be defined or perceived through modern science, he states that any physical entity in this world is composed of atoms, which are in turn made up of minute particles, the spirit is a simple entity, which does not disintegrate. It cannot be seen in the same way as other material objects, but it is only recognised through its manifestations in the material world. He adds that even if humans accept its (the spirit) existence and daily observe its manifestations, they actually cannot know its nature and their ignorance of its nature does not forcibly entail the notion that it does not exist (Unal, 2006, p.1307)

“It is the spirit which sees, hears and senses” Unal states. He maintains that even if humans see with their eyes, the eyes are nothing but instruments used to fulfil the act of seeing, as the centre of sight is in the brain (as explained in the second chapter). Though it is not the brain per se which performs the act of seeing, as seeing and hearing represent conscious perceptions. The brain itself is a means which has no consciousness or perceptiveness. Humans do not say “My brain sees”, but rather “I see”. Unal later provides a significant analogy by raising some interesting questions related

to the nature of the spirit, like: Who is this being that humans call “I”? Is it something composed of a brain, a heart and other organs and limbs? Why are humans unable to move when they die despite the fact that all of the organs are still existent? How is this organism operating? Does it work by itself or does some other thing, like electrical energy cause it to work? He suggests that, in machineries working with electrical energy, any deficiency causing a disruption between electrical energy and the machinery can cause it to stop and turn it to a piece of useless metal. However, can this analogy apply to the relationship between body and spirit? What is known among human beings as “death”, consists in the very cut of the relationship between body and spirit, causing the physical body to be reduced to something which decomposes very quickly and unless buried very soon after death, it forcibly rots.

As a matter of fact, the spirit is only able to establish a connection with the material world through the use of the physical body, because, since the spirit emerges from the World of Divine Commands it only deals with the abstract, immaterial and invisible entities, thus it needs a means to connect with the material, physical world which is the body that includes the brain, heart and other organs to help in the process of establishing this connection. Therefore, the spirit is responsible for directing and commanding the human conscience in addition to all of the other faculties.

Further on, Unal states that “the spirit has deep relationships to the past and future”. Animals, for example, have no awareness of time, as they only live for the present, they neither feel pain of the past nor anxiety towards the future. Contrary to humans, who get strongly influenced by their past, whether good or bad, and are actually anxious or excited about their future, simply because their spirit is conscious and aware.

From ancient times, the spirit has been one of the most intriguing subjects and remained as a centre of religious considerations, to the extent that some scholars suggest that Religion is the science of the spirit. Philosophers as well, have realised the importance of the spirit. Plato, for example, perceived the spirit as the essence of the human being, determining the way the latter behaves. Plato claimed that this essence is an incorporeal, eternal holder of the human “being”. He also believed that the spirit is eternal and even if the body dies, the spirit continue to exist through reincarnation.

V.2 The Spirit in Quantum Physics

In modern times, Quantum Physics seriously attempts to explain this notion of soul⁵⁴. It has often been described as a mass of unknown energy connected with the human body through a mutual connection. Physics has considered this type of energy as an Imaginary one, borrowing the term Imaginary from Mathematics -real and imaginary numbers- (Aquino, 2012).

Quantum Physics proves energy to be quantised, i.e., it has discrete values represented by discrete energy levels corresponding to all positive integer values of the *quantum number* n , ($n=1,2,3, \dots$). Therefore, throughout a person’s life, the energy of its soul is featured by various quantum levels of energy (Aquino, 2012).

Aquino argues that theoretically, the quantisation of gravity indicates that the *imaginary* gravitational mass $m_{g(im)}$ and the *imaginary* inertial mass $m_{i0(im)}$ are correlated through the following factor

⁵⁴ In this part, the term « soul » replaces « spirit » though it will be explained why later in the study.

$$\chi = \frac{m_{g(im)}}{m_{i0(im)}} = \left\{ 1 - 2 \left[\sqrt{1 + \left(\frac{\Delta p_{(im)}}{m_{i0(im)} c} \right)^2} - 1 \right] \right\} \quad (1)$$

Where $m_{i0(im)} = -\frac{2}{\sqrt{3}} m_{i0} i$ is the *imaginary* inertial mass at rest of the particle and $\Delta p_{(im)} = U_{(im)} n_r / c = (U i) n_r / c$ consists the variation in the particle's *imaginary* kinetic momentum, c is the speed of light. Hence, the first equation may be rewritten as:

$$\chi = \frac{m_{g(im)}}{m_{i0(im)}} = \left\{ 1 - 2 \left[\sqrt{1 + \frac{3}{4} \left(\frac{U n_r}{m_{i0} c^2} \right)^2} - 1 \right] \right\} \quad (2)$$

When Δp is produced by the absorption of a photon with wavelength λ , $U = hf$, and the second equation becomes:

$$\chi = \frac{m_{g(im)}}{m_{i0(im)}} = \left\{ 1 - 2 \left[\sqrt{1 + \frac{3}{4} \left(\frac{\lambda_0}{\lambda_{mod}} \right)^2} - 1 \right] \right\} \quad (3)$$

Where $\lambda_0 = h/m_{i0} c$ consists the *De Broglie wavelength* for the particle with *rest* inertial mass (real) m_{i0} and $\lambda_{mod} = \lambda/n_r$. The electrodynamics suggests that when an electromagnetic wave with frequency f and velocity c incides on a material with relative permittivity ϵ_r , relative magnetic permeability μ_r and electrical conductivity σ , its velocity is reduced to $v = c/n_r$ where n_r is the index of refraction of the material given by:

$$n_r = \frac{c}{v} = \sqrt{\frac{\epsilon_r \mu_r}{2} \left(\sqrt{1 + (\sigma/\omega \epsilon)^2} + 1 \right)} \quad (4)$$

If $\sigma \gg \omega \epsilon$, $\omega = 2\pi f$, equation (4) becomes:

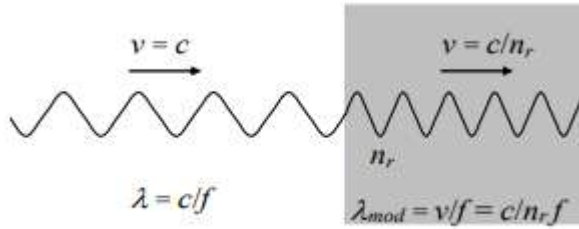
$$n_r = \sqrt{\frac{\mu_r \sigma}{4\pi \epsilon_0 f}} \quad (5)$$

Therefore, the wavelength of the incident radiation (in fig.1) becomes:

$$\lambda_{\text{mod}} = \frac{v}{f} = \frac{c/f}{n_r} = \frac{\lambda}{n_r} = \sqrt{\frac{4\pi}{\mu f \sigma}} \quad (6)$$

Figure 14

Modified Electromagnetic Wave



Note. The wavelength of the electromagnetic wave can be strongly reduced, but its frequency remains the same. From : (Aquino, 2012)

Supposing that an imaginary lamina with thickness equalling ξ contains n imaginary molecules/ m^3 , so the number of molecules per unit area is $n\xi$. Therefore, if the electromagnetic radiation with the frequency f incides on an area S of the lamina, it reaches $nS\xi$ molecules. If it incides on the overall area of the lamina, S_f , the total number of molecules reached by the radiation is $N=nS_f\xi$. The number of molecules per unit volume, n , is given by:

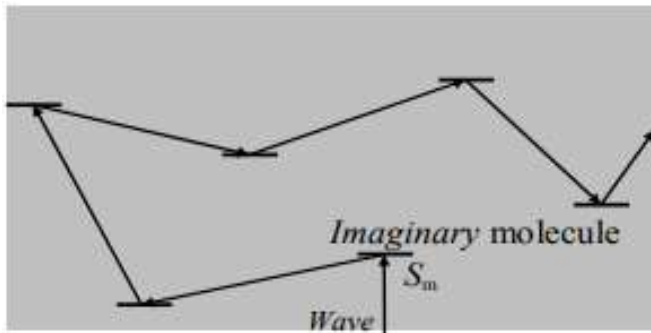
$$n = \frac{N_0 \rho}{A} \quad (7)$$

Where $N_0=6.02 * 10^{26}$ molecules/kmole is the Avogadro number; ρ is the matter density of the lamina (in kg/m^3) and A is the molar mass ($kg/kmole$). When an electromagnetic wave incides on the lamina, it hits N_f front molecules, where $N_f \cong (nS_f)\phi_m$, ϕ_m is

the diameter of the molecule. So, the electromagnetic wave incides effectively on an area $S=N_f S_m$, where, $S_m=\frac{1}{4}\pi\phi^2$ is the cross section area of one molecule. After these collisions it entails $n_{collisions}$ with the other molecules. Figure 15 portrays the process.

Figure 15

Collisions inside the imaginary Lamina.



From: (Aquino, 2012)

So, the total number of collisions in the volume $S\xi$ is:

$$N_{collisions} = N_f + n_{collisions} = n_l S \phi_m + (n_l S \xi - n_m S \phi_m) = n_m S \xi \quad (8)$$

The power density, D , of the radiation on the lamina can be expressed by:

$$D = \frac{P}{S} = \frac{P}{N_f S_m} \quad (9)$$

The total mean number of collisions in each molecule, n_1 , can be expressed by the equation:

$$n_1 = \frac{n_{total \ photons} N_{collisions}}{N} \quad (10)$$

Since in each collision, a momentum h/λ is transferred to the molecule, after that the total momentum transferred to the lamina will be :

$$\Delta p = (n_1 N) h/\lambda, \text{ i.e., } U_n/c = (n_1 N) n_r h/\lambda = (n_1 N) h/\lambda_{mod}$$

Thus, according to Eq. (2), it may be concluded that :

$$\begin{aligned} \frac{m_{g(t)im}}{m_{i0(t)im}} &= \left\{ 1 - 2 \left[\sqrt{1 + \frac{3}{4} \left[\left(n_i N \right) \frac{\lambda_0}{\lambda_{mod}} \right]^2} - 1 \right] \right\} = \\ &= \left\{ 1 - 2 \left[\sqrt{1 + \frac{3}{4} \left[n_{total\ photons} N_{collisions} \frac{\lambda_0}{\lambda_{mod}} \right]^2} - 1 \right] \right\} \end{aligned} \quad (11)$$

Since Eq. (8) entails: $N_{collisions} = n_i S \xi$: So, it may be written:

$$n_{total\ photons} N_{collisions} = \left(\frac{P}{hf^2} \right) (n_i S \xi) \quad (12)$$

And the substitution of Eq. (12) into Eq. (11) produces:

$$\frac{m_{g(t)im}}{m_{i0(t)im}} = \left\{ 1 - 2 \left[\sqrt{1 + \frac{3}{4} \left[\left(\frac{P}{hf^2} \right) n_i S \xi \right] \frac{\lambda_0}{\lambda_{mod}} \right]^2} - 1 \right] \right\} \quad (13)$$

And substitution of P given by Eq. (9) into Eq. (13) yields:

$$\frac{m_{g(t)im}}{m_{i0(t)im}} = \left\{ 1 - 2 \left[\sqrt{1 + \frac{3}{4} \left[\left(\frac{N_f S_m D}{f^2} \right) \left(\frac{n_i S \xi}{m_{i0(t)im} c} \right) \frac{1}{\lambda_{mod}} \right]^2} - 1 \right] \right\} \quad (14)$$

Substitution of $N_f \cong (n_i S_f) \phi_m$ and $S = N_f S_m$ into Eq. (14) entails:

$$\frac{m_{g(t)im}}{m_{i0(t)im}} = \left\{ 1 - 2 \left[\sqrt{1 + \frac{3}{4} \left[\left(\frac{n_i^3 S_f^2 S_m^2 \phi_m^2 D}{m_{i0(t)im} c f^2} \right) \frac{1}{\lambda_{mod}} \right]^2} - 1 \right] \right\} \quad (15)$$

Where:

$$m_{i0(t)} = \rho_{(t)} V_{(t)}$$

The case in which the area S_f consists only in the *area of the cross-section of the lamina* (S_α), taking into consideration that $m_{\alpha(l)} = \rho_{(l)} S_\alpha \mathcal{E}$, it is obtained from Eq. (15) :

$$\frac{m_{g(l)im}}{m_{\alpha(l)im}} = \left\{ 1 - 2 \left[\sqrt{1 + \frac{3}{4} \left[\left(\frac{n_l^3 S_\alpha^2 \phi_m^2 D}{\rho_{(l)} c f^2} \right) \frac{1}{\lambda_{mod}} \right]^2} - 1 \right] \right\} \quad (16)$$

If the lamina's electrical conductivity $\sigma_{(l)}$ is such that $\sigma_{(l)} \gg \omega \epsilon$, the value of λ is provided by the sixth equation :

$$\lambda = \lambda_{mod} = \sqrt{\frac{4\pi}{\mu f \sigma}} \quad (17)$$

And substitution of Eq. (17) into Eq. (16) produces:

$$\chi = \frac{m_{g(l)im}}{m_{\alpha(l)im}} = \left\{ 1 - 2 \left[\sqrt{1 + \frac{3n_l^6 S_\alpha^2 S_m^4 \phi_m^4 \mu \sigma D^2}{16\pi \rho^2 c^2 f^3}} - 1 \right] \right\} \quad (18)$$

As stated above, the soul has been described as a mass of unknown energy united with the human body through a mutual interaction. According to physics, this kind of energy is “*Imaginary*” energy.

Likening the soul to the imaginary energy, Aquino defines the soul as: “*an imaginary body, made of imaginary particles each one of them described by imaginaries wavefunctions Ψ_{im} , by similarity to the real bodies, which are made of real particles described in Quantum Mechanics by its real wavefunction Ψ* ” (Aquino, 2012).

Aquino further claims that the extension of the imaginary wavefunction to the relativistic form can be made later, in a compatible way, with the Lorentz transformations equations of the special theory of relativity, in a like manner to the real wavefunction. Furthermore, the energy of soul can now be expressed through Einstein's

energy equation ($E=mc^2$) which can in turn be extended to the imaginary form, from the above analysis, $E_{g(S)im}=m_{g(S)im}c^2$. Thence, it may be said that the soul has an imaginary energy $E_{g(S)im}=m_{g(S)im}c^2$ where $m_{g(S)im}$ represents the imaginary gravitational mass of soul, which in accordance to Eq. (18) is correlated to imaginary inertial mass of soul at rest $m_{i0(S)im}$, using the following expression:

$$\chi_S = m_{g(S)im} / m_{i0(S)im}$$

Meaning that the value of $E_{g(S)im}$ can also be decreased or made negative through absorbing the energy of radiation incident on the soul (as in Eq. (18)).

Though some scientists disagree with the use of the terms “soul” and “spirit” interchangeably, others claim that it is possible to equate soul with spirit, arguing that, since any being, whether human or animal, is composed of a binding energy allowing all the body cells to stay together, which are in turn producing an energy which produces an important magnetic field. It is this very union of cells that generates life and the reason why the first linguistic definition of spirit is rather a magnetic field. Moreover, it has been explained in the first chapter that light is an electromagnetic wave, composed of an electric field and a magnetic field and adding to Unal’s claim that the spirit is an electric energy. From this analogy, it may be said that the spirit is very similar to light if not identical. It may also be said that this spirit can easily move and even travel in the speed of light and that the physical body is nothing but a temporary container serving as a means to interact with the physical world. Thus, as mentioned in the Qur’an (in verses of the coming section) the physical human being, existing in this worldly life is certainly mortal as the body has to die after a certain

amount of time, however the spirit, the magnetic field which exists by means of other entities than the physical human body, is immortal or eternal.

V.3 The Spirit and its Eternity

The human spirit has indeed an immense desire for eternity, though the origin of such desire is certainly not the physical dimension of the human existence, because physically, humans are mortal and the desire and feeling of eternity is impossible to emerge from mortal existence but rather originates in the eternal dimension of the human existence only and it is actually the spirit which forms this dimension. As Unal asserts: It is the spirit which causes a human being to sigh: “I am mortal but I do not desire what is mortal. I am impotent but I do not desire what is impotent. What I desire is an eternal beloved (who will never desert me), and I yearn for an eternal world.” (Unal, 2006, p.1309)

In the Holy Qur’an, God Almighty says: “And make for yourselves great castles (as if) hoping that you might live for ever;” (Ash-Shu’ara/The Poets, 129)²⁷ This verse is actually the discourse of the prophet Houd addressing the people of Aad, who were given power and prominence in the world as described in verse 69, Al-A’raf/The Elevated Places²⁸: “Remember and be mindful that He has made you successors (on the earth) after Noah’s people and increased you in *stature and power*”. Meaning that they had built immense buildings and castles for the sole aim to display their wealth and power, while they had no purpose except standing as monuments to their glory and grandeur. The prophet Hud also implied that even if they had built these immense buildings, they were expanding their wealth as well as their mental and physical abilities in a way to suggest that they were going to live forever. He was reminding them

that this is utterly impossible, despite the fact that they already knew this reality. Thus, it is clearly shown in this verse that immortality in this material, physical world is impossible.

On the other hand, in other verses, such as: “But those who disbelieve and deny Our signs (the verses of the revealed Book of guidance, as well as the signs in both their inner world and the outer world establishing My Existence and Unity and other pillars of faith), they will be the companions of the Fire; they *will abide therein*” (Al-Baqarah/The Cow: 39). And: “While those who believe and do good, righteous deeds, those are the companions of Paradise; they *will abide therein*” (Al-Baqarah/The Cow: 82)²⁹ These verses, among many others, mention bear the meaning of certainty about the notion of eternity in the afterlife. Meaning that, the spirit, after leaving the physical body, will remain eternal, whether in paradise or in hell, the decision which is in turn dependent on the humans’ choices during their existence in the worldly life.

Another interesting feature of the spirit consists in the abilities it has because of its nature (magnetic field). As explained above, because the spirit is very much different from the physical body, it has the ability to perform certain acts which the human body is impossible to achieve. Travel in and through time and space for example.

VI. Multi-dimensional Existence and Time Travel

The noble prophet Muhammad, upon him be peace and blessings, has devoted his life to spread Islam. He offered his time to deliver God’s message not only to his friends like Abu Bakr and Umar but was also obliged to transmit it to Abu Jahl and his like. As each time he meets them, he would say: “Proclaim, “There is no deity but

God', and be saved" (Unal, 2006, p.1292) He used to visit the places where people gathered to carry the same message.

Many people from different origins were attracted to fairs which were frequently held in places around Makkah, like Arafat, Mina, Muzdalifah and Aqabah. The noble prophet used to visit such places to preach Islam, the thing which provoked the anger and hatred of the polytheists of Makkah. Though, at a certain time, the reactions which started as indifference, changed to derision and mocking, then turned to persecution, torture, excluding and boycotting Muslims. Reaching a point at which he discovered there was no hope for any further conversions among the Makkan polytheists. The prophet Muhammad, upon him be peace and blessings, decided to take Ziyad Ibn Harithah and go to Taif. Sadly, even there, he was faced with hatred, violence and terror. The children of Taif were positioned on both sides of the road throwing stones at him to the point that no square inch of his body was not hit by the stones. However finally, he succeeded in leaving that town and could find refuge under a tree in a vineyard, bleeding abundantly, he supplicated God:

O God, unto You do I complain of my frailty, lack of resources, and lack of significance before those people. O Most Merciful of the merciful, You are the Lord of the oppressed and You are my Lord. To whom do You abandon me? To that stranger who looks askance and grimaces at me? Or to that enemy to whom You have given mastery over me? If, however, Your indignation is not against me, I am not worried. But Your grace is a much greater thing for me to wish for. I seek refuge in the Light of Your "Face," which illuminates all darkness and by which the affairs of this life and the Hereafter have been rightly ordered, lest Your wrath alight upon me, or Your indignation descend upon me. I expect Your forgiveness so that You may be pleased with me, and there is no other resource nor any power but what is in You. (as cited in Unal, 2006, p.1292)

Some time after returning from this painful trip, the prophet was resting in the Sacred Mosque, one night, until he was taken from there to Masjid al-Aqsa in Jerusalem and

later through the heavenly dimensions of existence; during this journey he could observe the greatest signs of God. He actually saw the highest truths and signs regarding God's Divinity and Lordship, as well as the original truths of the principles of faith and worship in addition to all existence in archetypal forms. He witnessed as well the original meanings of all events and objects in the physical world, along with the forms they take and their results pertaining to the other world. The prescribed prayers, which were established as five times daily, were also required from him and his community during this journey. (Unal, 2006, p.1293)

The Ascension represents one of the greatest miracles of the Prophet Muhammad, upon him be peace and blessings. After realising spiritual perfection and full faith and worship refinement, God has chosen to reward him by taking him to his holy presence. Excluding all the natural laws and material causes and rising beyond the limits of bodily existence, the prophet, upon him be peace and blessings, travelled through extremely long distances at a very high speed transcending all dimensions of existence to finally reach the holy Presence of God.

Unal, in his analysis of this journey, suggests that generally in order to clarify subtle matters and abstract truths, humans use comparisons between such matters/truths and concrete things in the material world. However, in order to succeed in making such comparisons, some similarities ought to be present among the things being compared. Nevertheless, since both the prophet's travel from Makkah to Jerusalem (the Night Journey) and his ascension (al- Mi'rāj) through the dimensions of existence certainly represent exceptional miracles without equal or like in the material world and concludes that the method of comparison cannot be applied and that such events can

only be known and understood by God's teaching. Nonetheless, Unal assumes that the names of the "vehicles" mentioned in the Prophetic Traditions regarding both the Night Journey and the Ascension – Bur'āq (derived from the Arabic word Barq, meaning lightning) – and the name of the journey itself Mi'rāj (meaning stairway) imply that it is rather possible to refer to some scientific truths to explain this miracle and make it understandable by the "restricted" human mind (Unal,2006, p.1293)

Unal argues that atomic physics has in fact changed many notions in physics and maintained that the material world is a dimension or an appearance of existence. Similar to this world, there are many other worlds or dimensions of existence, each having its own characteristics. Einstein claimed that time is only one of the dimensions of existence and that Science has not reached yet a final convincing conclusion about existence and the constant emerging of new findings and developments consistently change human understanding. Thus, especially in modern times, it would be completely irrational to question the event of the Ascension.

According to Unal, in the Ascension, the prophet Muhammad, upon him be peace and blessings, "must have moved with the speed of the spirit and he travelled through all time and space and all dimensions of existence in a very short period" (Unal,2006, p.1294)

However, one may argue that, since the very name of the vehicle of the Ascension is mentioned by the prophet, which is Bur'āq, which means lightning, it rather means that this vehicle actually travelled with the speed of light or even more, and as explained by Einstein's theory of general relativity (explained in the first chapter, in the timetravel section), this appears totally logical and understandable except the lack of

some details concerning the envelope used to protect the prophet's noble body, since it is highly dangerous to get into a wormhole (as the mass needs to be squeezed and curved through it) to reach another dimension in time and space.

Another possible explanation consists in a suggestion, quite similar to Unal's, that the travel was a spiritual rather than bodily or physical travel, entailing the consciousness, meaning that the prophet might have travelled through his mind -consciousness- since the travel was very short compared to all the events and scenes the prophet has seen and lived. Moreover, the notions of time and space were completely lost or rather united as he visited both the past and the future, as suggested by Unal when he argued that people may have difficulty in understanding how a mortal, physical being can make such a journey and observe all existence with its past and future. He claims that in order to understand this matter, one has to consider this analogy:

imagine that you are standing with a mirror in your hand, with everything reflected on the right representing the past, while everything reflected on the left represents the future. The mirror can reflect one direction only since it cannot show both sides at the same time as you are holding it. If you wish to reflect both directions at the same time, you will have to rise high above your original position, so that left and right are united into one and nothing remains to be called first or last, beginning or end (Unal, 2006, p.1294)

Similar to this comparison, the prophet has travelled through time and space reaching a point where he was located in the notion of "all time" as a single entity, where past, present and future are united.

During this miraculous journey, the prophet has met the prophets who preceded him, saw angels, admired the beauty of Paradise and observed the terrors of Hell. He was also able to observe the fundamental realities of all the Qur'anic issues along with the meanings and wisdom in all the acts of worship. He went as far as the realms,

where even Gabriel, the greatest of angels, was unable reach. As he was also honoured with the vision of God, the journey was devoid of any qualitative or quantitative dimensions or restrictions. Then, he returned to the earth, where he was subjected to all types of persecutions, aiming at bringing humans out the darkness of the material existence into the illuminated realm of faith and worship, through which they may also be able to realise a spiritual ascension, each according to their ability.

The human mind actually has an inherent belief in the capacities of the spirit.

In literature, for example, time travel was only imagined for movies, displaying people traveling in time, visiting other generations and epochs, or in space searching for another life on other planets, in addition to some novels where writers have showed their genius portraying the capacity of the human mind and consciousness.

In her novel, *Orlando*, Woolf has not only played with the notion of time and its subjective perception by the individual but also highlighted the importance of the living spirit. When Orlando fell in trance, he did not actually die neither was he asleep, but in a state impossible to explain. Nevertheless, the spirit has been disconnected from the body, it means that it left it. After awakening, however, Orlando became a woman, this evokes many ideas; first, it may suggest that Orlando died actually and all what happened after his presumed awakening was only another imagined new life by Virginia Woolf, may be suggesting a kind of reincarnation of his spirit into a woman's body, second, it may also be suggestive that even after his presumed awakening, he was just still dreaming, meaning that it is his consciousness only which was working, visiting the life he used to lead.

As a matter of fact, many suggestions may be stated regarding this turning point of the novel, however, they all lead to the idea that, after this incident, Woolf started telling a story about a spirit, an immaterial, abstract entity and stopped her telling of the story of a physical, material body. This notion also suggests that Woolf wanted to convey the idea that what really matters is the human essence achieved by the spirit rather than the physical body.

Conclusion

The present concluding chapter aimed at providing a religious perspective on the notions of time and space. But in order to prove the objectivity of the research, it was of a major importance to explain, from the very beginning, the reason behind choosing the religion of Islam only. To later proceed with the presentation of the notions in the Arabic language, as the language of Islam, through the Holy Qur'an and the Noble Hadith.

Throughout the chapter, a correlation between the quranic verses and the existentialist thoughts through some twentieth century writings, has been put forward to provide some answers to the main existentialist questionings regarding the human essence and individuality. Another crucial fact has been explained, it consists in the very notion of death and immortality and their role in defining the human existence and essence.

Two clues have been presented to prove the nature of the spirit. The first consists in a study provided by quantum physics, which explains the nature of the spirit through mathematical equations and some laws and principles from physics. The second clue consists in some quranic verses along with their explanations to show how such facts are actually already provided by the Holy Qur'an.

Reaching the conclusion that the spirit is immortal, eternal and the one responsible for all choices made by human beings on earth in this worldly life to define their essences.



General Conclusion

General Conclusion

In a world full of mysteries and dilemmas, human beings are diving in a sea of doubts launching the mind in an endless process of questioning and inquiry regarding all conventional thoughts and beliefs. Time and space, two concepts vital to the human life on earth, seemingly very obvious to describe, they occupied a large portion of the philosophic as well as scientific thinking.

The present thesis aimed at unveiling the mysteries surrounding these concepts.

At the beginning of the present research, it seemed as it was one path to take in order to reach the objective. A path which seemed clearly traced through specific approaches. However, throughout the process of the literature review, some other disciplines started to rise to the surface, frequently in an intertwined way.

At that point, it has been discovered that it was quite impossible to explain the two concepts, neither their conceptualisation of human existence without the amalgamation of many perspectives, disciplines, theories, approaches and methods.

The contradiction between the simplicity of the title and the complexity of the content consists the realisation and essence of the present work.

Mr. Khaldoun FKEYER, professor of Physics at Laghouat University, once said: “La physique n’est qu’une nouvelle forme de la philosophie⁵⁵”. Through such a claim, he confirmed the view provided by this work, that knowledge is a single undividable entity consisting the only way to set and ascertain the truth regarding the various phenomena in this world.

⁵⁵ Physics is just a new form of philosophy. My translation.

The dominating philosophy in the Nineteenth century was Hegel's cosmic reality. His writings greatly influenced the pioneers of existential thought, particularly Heidegger, Jaspers and Kierkegaard. Hegel's focal point was the examination of human nature in relation to human experience. His philosophy investigated the notion of spirit and mind; the "geist", in addition to the notion of consciousness, with an emphasis on the notion of self-consciousness in relation to collective consciousness.

Even if Hegel and Kant symbolise German absolute idealism, their philosophy represent the cornerstone of the existential ideology. Both Hegel and Kant insisted that human beings are unable to perceive the world immediately. Rather, they argued that the human mind can access ideas about the world and human nature, or that human nature per se is designed in such a way to allow all humans have abstract thoughts. They suggest that human beings can form ideas about the world, such as conceptions, notions, impressions and perceptions but they are unable to directly perceive phenomena. Therefore, there exists only one reality which is virtual in essence. Hegel held the belief that the experience of the outer physical world can be summarised into a system of logic, or rational categories as he named it.

Hegel mostly dealt with multiple philosophical issues and contradictions related to thought, reality and freedom; with an aim of reducing such tensions and contradictions into a rational unity.

Unlike Aristotle, Hegel believed that the division of reality into discrete parts is completely false. He rather thought that the mind and nature constitute a single great

reality; he maintained that the individual consciousness forms a part of a greater consciousness.

Hegel's universe actually found many opponents among existentialist philosophers, especially because Hegelian philosophy somehow neglected the individual's concrete existence, anxiety, fear or even freedom and personal choices. Nevertheless, notions related to consciousness and reality remained equally confusing and essential for both, Hegel and existentialists, the reason why Hegel's philosophy remains being considered as a prominent doctrine launching the evolution of existentialism.

Emerging from phenomenology and establishing a tight relationship with epistemology and metaphysics, Existentialism developed as a philosophy emphasising human conception, experience, consciousness, existence and essence. Hence, it highlighted the fact that in order for human beings to define their essence in this world and explain their relationship with the physical world they occupy and exist in, they had to go beyond the Cartesian philosophy and the theoretical framework of mathematics, physics and psychology. Yet, without neglecting the importance of the latter.

As developed throughout this study, the famous line motivating most thinkers, scientists and writers of the twentieth century was Sartre's "existence precedes essence". That is, the human being exists first in this world and then starts exploring and investigating his environment to reach and achieve his essence.

Actually, existentialists strongly believed in the multiple capacities of the human mind as they mainly relied on the subjective interpretation of the individuals' experiences in the physical world. Sartre's belief that subjectivity consists a prominent feature defining the human condition emerges directly from his claim that

existence precedes essence because of the humans' lack of a predetermined essence. Implying that humans have to conceive themselves as subjects constantly and permanently evolving toward their essences.

The existentialist Soren Kierkegaard explored the concepts of faith, reason and ethics adopting an exceptional view on reasonability and religion. To him, the concept of reason itself defies Christian dogma and its contradictions; faith in God is impossible to emerge from reason. According to Kierkegaard, it is; whether one believes in a certain religion regardless of logical reasoning or reasonability, or disbelieves because of his/her belief and faith in reason. When choosing to believe in religion, one has to discard the power of the mind and reason because this belief is in something superior that surpasses reason. Kierkegaard assumes that this may be possible only by acknowledging that: "In relation to God we are always in the wrong". (Kierkegaard, 1987, p.311) (Kierkegaard, 1987) Thus, the human being develops "an infinitely free relationship with God" when the human being "acknowledges that God is always right" and the human being "is always wrong". (Kierkegaard, 1987, p.11)

Through such statements Kierkegaard presented his belief in the notion that essentially contradicts the belief in reason to the belief in God. This idea actually pervaded most existentialist thinkers and twentieth century writers, who were eager to break away from traditionalist thought, notably religion, which they perceived as no longer useful. Twentieth century modern writers mirrored such views in their writings, as discussed in the present thesis, they aimed at innovating all aspects of life with a specific emphasis on subjectivity. This subjectivity was highly reflected through the

innovative techniques used in their writings and especially in their treatment of the human consciousness, and the external phenomena around it.

The two most prominent views on time were the ones provided by Isaac Newton and Albert Einstein. Newton perceived the notions of time and space as being absolute entities, while Einstein argued that they are relative to each person. Many people nowadays think that Einstein proved Newton to be wrong. However, as Schopenhauer said : “If only people could understand that something can be true and untrue at the same time” because neither was wrong actually, and both provided a sound logical study of these concepts.

Since, from the 17th century to the 19th, the Gallileo-Newtonian principles were functioning perfectly until the end of the 19th century, when a new thought started coming onto the surface suggesting that the speed of light is always the same in all referentials through the series of equations provided by James Maxwell in addition to the experience of Michelson and Morley, which united electricity, magnetism and light. But at the eve of the 20th century, a contradiction rised between the principle of relativity and Gallileo’s transformation suggesting that speed is always relative and can be obtained through additions, and the equations of Maxwell (with the experience of Michelson and Morley) arguing that the speed of light is always the same in all referentials. Einstein chose to preserve the principle of relativity and replace Gallileo’s transformation; that is keeping the notion that in two referentials in a uniform reptilic movement, the experience’s results are the same, however he changed the formula which allows the distinction between the coordinates of an event from one referential to another and he replaced it with the Lorentz transformation. Meaning that he

replaced Gallileo's transformation with Lorentz's, simply because travelling at low speed is totally different from very high speed, such as the speed of light. Hence, Einstein has simply put it, through the transformation of Lorentz; when travelling at low speed, Gallileo and Newton laws are totally correct, however, when travelling at very high speeds (speed of light) the Gallilean and Newtonian laws can no longer be used, and the General Relativity Theory replaces them.

This has been the essence of Einstein's relativity which greatly impacted 20th century philosophical thought, rejecting all the previous absolute and objective perceptions replacing them with the new relative, subjective views. The reason why some of the 20th century writings have been chosen as an example for the present study, to portray the way all fields of knowledge interact and overlap to constitute a single entity, since each field has forcibly an influence over the others, second to portray how the human conception of the entities and phenomena changed because of these new discoveries in physics, and third to show the way human thinking changed to a significantly large extent during that century, bringing some new addition to, but mostly rejecting all ancient thoughts and beliefs, especially the ones related to religion.

In this regard, existentialist philosophers did reject religion, opposing religious thought to reasonability, claiming that religion is not really logical and most of the time contradicts reasonability, though, they were probably alluding to Christianity or some other religion, since this is certainly not the case for the religion of Islam which not only conforms perfectly with reasonability and the new scientific discoveries, but also incites human beings to achieve their essences, providing them with myriads of

guidelines in the Holy Qur'an. It is actually the reason behind choosing Islam as the religious perspective to this study.

The findings of this study show that time and space not only conceptualise human existence on earth but also are responsible for defining the human essence. Moreover, though a very detailed explanation of the two concepts has been provided, from multiple perspective, the constantly evolving state of the human mind allows any possible type of imagination regarding the abstract concepts or phenomena surrounding human beings, as the example provided in this thesis, which consists in the notion of time travel; it has been imagined by the human mind and theoretically realised through mathematical equations, it has also been mentioned in the religion of Islam through the Qur'an, as a surely realisable act; nevertheless the human mind is still unable to conceptualise and achieve it in reality. Thus, it may be said that, despite the exhaustive and thorough analysis made in this study, all abstract concepts are still impossible to explain concretely.

Some suggested areas for future academic research would be;

First, in literature, this study has mainly dealt with examples from British literature, however, other examples of a similar importance may be found in French literature, as Marcel Proust, for example, who is a prominent figure in the existentialist movement from one side, and as one of the first writers having explored the subjective view of time through their writings.

Second, in esoterism, the notion or act of astral projection is a form of intentional out-of-body experience, holds the belief that the spirit can separate itself from the body and travel through space and time. It mainly works through spirit and

consciousness and this can be related to many entities, whether in the field of physics, psychology or literature.



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Appendices

Appendix A

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

1. شَرَعَ لَكُمْ مِنَ الدِّينِ مَا وَصَّى بِهِ نُوحًا وَالَّذِي أَوْحَيْنَا إِلَيْكَ وَمَا وَصَّيْنَا بِهِ إِبْرَاهِيمَ وَمُوسَى وَعِيسَى أَنْ أَقِيمُوا الدِّينَ وَلَا تَتَفَرَّقُوا فِيهِ كَبُرَ عَلَى الْمُشْرِكِينَ مَا تَدْعُوهُمْ إِلَيْهِ اللَّهُ يَجْتَبِي إِلَيْهِ مَنْ يَشَاءُ وَيَهْدِي إِلَيْهِ مَنْ يُنِيبُ الشورى الآية 13

2. وَأَنْزَلْنَا إِلَيْكَ الْكِتَابَ بِالْحَقِّ مُصَدِّقًا لِمَا بَيْنَ يَدَيْهِ مِنَ الْكِتَابِ وَمُهَيْمِنًا عَلَيْهِ فَاحْكُم بَيْنَهُمْ بِمَا أَنْزَلَ اللَّهُ وَلَا تَتَّبِعْ أَهْوَاءَهُمْ عَمَّا جَاءَكَ مِنَ الْحَقِّ لِكُلِّ جَعَلْنَا مِنْكُمْ شِرْعَةً وَمَنْهَاجًا وَلَوْ شَاءَ اللَّهُ لَجَعَلَكُمْ أُمَّةً وَاحِدَةً وَلَكِنْ لِيَبْلُوَكُمْ فِي مَا آتَاكُمْ فَاسْتَبِقُوا الْخَيْرَاتِ إِلَى اللَّهِ مَرْجِعُكُمْ جَمِيعًا فَيُنَبِّئُكُمْ بِمَا كُنْتُمْ فِيهِ تَخْتَلِفُونَ المائدة 48

3. شَهِدَ اللَّهُ أَنَّهُ لَا إِلَهَ إِلَّا هُوَ وَالْمَلَائِكَةُ وَأُولُوا الْعِلْمِ قَانِمًا بِالْقِسْطِ لَا إِلَهَ إِلَّا هُوَ الْعَزِيزُ الْحَكِيمُ ١٨ إِنَّ الدِّينَ عِنْدَ اللَّهِ الْإِسْلَامُ وَمَا اخْتَلَفَ الَّذِينَ أُوتُوا الْكِتَابَ إِلَّا مِنْ بَعْدِ مَا جَاءَهُمُ الْعِلْمُ بَغْيًا بَيْنَهُمْ وَمَنْ يَكْفُرْ بِآيَاتِ اللَّهِ فَإِنَّ اللَّهَ سَرِيعُ الْحِسَابِ ١٩ ال عمران 18-19.

4. فَإِذَا قَضَيْتُمُ الصَّلَاةَ فَادْكُرُوا اللَّهَ قِيَمًا وَقُعودًا وَعَلَىٰ جُنُوبِكُمْ فَإِذَا اطْمَأْنَنْتُمْ فَأَقِيمُوا الصَّلَاةَ إِنَّ الصَّلَاةَ كَانَتْ عَلَى الْمُؤْمِنِينَ كِتَابًا مَوْفُوتًا ١٣ النساء 103.

5. أَقِمِ الصَّلَاةَ لِذُلُوكِ الشَّمْسِ إِلَى غَسَقِ اللَّيْلِ وَقُرْءَانَ الْفَجْرِ إِنَّ قُرْءَانَ الْفَجْرِ كَانَ مَشْهُودًا ﴿٧٨﴾ الإسراء 78.

6. هَلْ أَتَى عَلَى الْإِنْسَانِ حِينٌ مِّنَ الدَّهْرِ لَمْ يَكُن شَيْئًا مَّذْكُورًا ﴿١﴾ الإنسان 1.

7. تَوَتَّىٰ أَكْلَهَا كُلَّ حِينٍ بِإِذْنِ رَبِّهَا وَيَضْرِبُ اللَّهُ الْأَمْثَالَ لِلنَّاسِ لَعَلَّهُمْ يَتَذَكَّرُونَ ﴿٢٥﴾ إبراهيم 25.

8. قُلْ سِيرُوا فِي الْأَرْضِ فَانظُرُوا كَيْفَ بَدَأَ الْخَلْقَ ثُمَّ اللَّهُ يُنشِئُ النَّشْأَةَ الْآخِرَةَ إِنَّ اللَّهَ عَلَىٰ كُلِّ شَيْءٍ قَدِيرٌ ﴿٢٠﴾ العنكبوت 20.

9. أَوْ لَمْ يَرَ الَّذِينَ كَفَرُوا أَنَّ السَّمَوَاتِ وَالْأَرْضَ كَانَتَا رَتْقًا فَفَتَقْنَاهُمَا وَجَعَلْنَا مِنَ الْمَاءِ كُلَّ شَيْءٍ حَيٍّ أَفَلَا يُؤْمِنُونَ ﴿٣٠﴾ الأنبياء 30.

10. قُلْ أَيْنَ كُمْ لَتَكْفُرُونَ بِالَّذِي خَلَقَ الْأَرْضَ فِي يَوْمَيْنِ وَتَجْعَلُونَ لَهُ أَندَادًا ذَلِكَ رَبُّ الْعَالَمِينَ ﴿٨﴾ وَجَعَلَ فِيهَا رُوسِيًّا مِّن فَوْقِهَا وَبَرَكَ فِيهَا وَقَدَّرَ فِيهَا أَقْوَاتَهَا فِي أَرْبَعَةِ أَيَّامٍ سِوَاءَ لِلسَّائِلِينَ ﴿٩﴾ ثُمَّ أَسْتَوَىٰ إِلَى السَّمَاءِ وَهِيَ دُخَانٌ فَقَالَ لَهَا وَلِلْأَرْضِ ائْتِيَا طَوْعًا أَوْ كَرْهًا قَالَتَا أَتَيْنَا طَائِعِينَ ﴿١٠﴾ فَقَضَلَهُنَّ سَبْعَ سَمَوَاتٍ فِي يَوْمَيْنِ وَأَوْحَىٰ فِي كُلِّ سَمَاءٍ أَمْرَهَا وَزَيَّنَّا السَّمَاءَ الدُّنْيَا بِمَصْبِيحٍ وَحِفْظًا ذَلِكَ تَقْدِيرُ الْعَزِيزِ الْعَلِيمِ ﴿١١﴾ فصلت 9-12.

11. وَالْعَصْرُ ﴿١٦﴾ إِنَّ الْإِنْسَانَ لَفِي خُسْرٍ ﴿١٧﴾ العصر 1-2.

12. وَاللَّيْلِ إِذَا يَغْشَى ﴿١٦﴾ وَالنَّهَارِ إِذَا تَجَلَّى ﴿١٧﴾ وَمَا خَلَقَ الذَّكَرَ وَالْأُنثَى ﴿١٨﴾ إِنَّ سَعْيَكُمْ لَشَتَّى ﴿١٩﴾ الليل 1-4.

13. وَالضُّحَى ﴿١٦﴾ وَاللَّيْلِ إِذَا سَجَى ﴿١٧﴾ مَا وَدَّعَكَ رَبُّكَ وَمَا قَلَى ﴿١٨﴾ الضحى 1-3.

14. وَاللَّيْلِ إِذَا عَسَسَ ﴿١٧﴾ وَالصُّبْحِ إِذَا تَنَفَّسَ ﴿١٨﴾ التكوير 17-18.

15. وَالشَّمْسِ وَضُحَاهَا ﴿١٦﴾ وَالْقَمَرِ إِذَا تَلَّهَا ﴿١٧﴾ وَالنَّهَارِ إِذَا جَلَّهَا ﴿١٨﴾ وَاللَّيْلِ إِذَا يَغْشَاهَا ﴿١٩﴾ الشمس 1-4.

16. اللَّهُ الَّذِي خَلَقَ السَّمَوَاتِ وَالْأَرْضَ وَمَا بَيْنَهُمَا فِي سِتَّةِ أَيَّامٍ ثُمَّ اسْتَوَىٰ عَلَى الْعَرْشِ مَا لَكُمْ مِّنْ دُونِهِ مِن وَلِيٍّ وَلَا شَفِيعٍ أَفَلَا تَتَذَكَّرُونَ ﴿٢٨﴾ السجدة 4.

17. وَالشَّمْسُ تَجْرِي لِمُسْتَقَرٍّ لَّهَا ذَلِكَ تَقْدِيرُ الْعَزِيزِ الْعَلِيمِ ﴿٢٨﴾ يس 38.

18. تَخْرُجُ الْمَلَكَةُ وَالرُّوحُ إِلَيْهِ فِي يَوْمٍ كَانَ مِقْدَارُهُ خَمْسِينَ أَلْفَ سَنَةٍ ﴿٢٨﴾ المعارج 4.

19. يُدَبِّرُ الْأَمْرَ مِنَ السَّمَاءِ إِلَى الْأَرْضِ ثُمَّ يَعْرُجُ إِلَيْهِ فِي يَوْمٍ كَانَ مِقْدَارُهُ
أَلْفَ سَنَةٍ مِّمَّا تَعُدُّونَ ﴿٥﴾ السجدة 5.

20. يَسْأَلُهُ مَنْ فِي السَّمَوَاتِ وَالْأَرْضِ كُلَّ يَوْمٍ هُوَ فِي شَأْنٍ ﴿٢٩﴾ الرحمن 29.

21. وَنَفْسٍ وَمَا سَوَّاهَا ﴿٧﴾ فَأَلْهَمَهَا فُجُورَهَا وَتَقْوَاهَا ﴿٨﴾ الشمس 7-8.

22. قَدْ أَفْلَحَ مَنْ زَكَّاهَا ﴿٩﴾ وَقَدْ خَابَ مَنْ دَسَّاهَا ﴿١٠﴾ الشمس 9-10.

23. وَلِكُلِّ أُمَّةٍ أَجَلٌ فَإِذَا جَاءَ أَجْلُهُمْ لَا يَسْتَأْخِرُونَ سَاعَةً وَلَا يَسْتَقْدِمُونَ ﴿٢٤﴾

الأعراف 34.

24. لَهُ مَعْقِبَتٌ مِّنْ بَيْنِ يَدَيْهِ وَمِنْ خَلْفِهِ ۖ يَحْفَظُونَهُ مِنْ أَمْرِ اللَّهِ إِنَّ اللَّهَ لَا يُغَيِّرُ
مَا بِقَوْمٍ حَتَّىٰ يُغَيِّرُوا مَا بِأَنْفُسِهِمْ ۗ وَإِذَا أَرَادَ اللَّهُ بِقَوْمٍ سُوءًا فَلَا مَرَدَّ لَهُ ۗ وَمَا لَهُمْ مِنْ
دُونِهِ ۗ مِنْ وَالٍ ﴿١١﴾ الرعد 11.

25. وَيَسْأَلُونَكَ عَنِ الرُّوحِ قُلِ الرُّوحُ مِنْ أَمْرِ رَبِّي وَمَا أُوتِيتُمْ مِنَ الْعِلْمِ إِلَّا قَلِيلًا
﴿٨٥﴾ الاسراء 85.

26. يَا أَيُّهَا الَّذِينَ ءَامَنُوا اسْتَجِيبُوا لِلَّهِ وَلِلرَّسُولِ إِذَا دَعَاكُمْ لِمَا يُحْيِيكُمْ ۗ وَعَلِّمُوا أَنْ
اللَّهُ يَحُولُ بَيْنَ الْمَرْءِ وَقَلْبِهِ ۗ وَأَنَّهُ إِلَيْهِ تُحْشَرُونَ ﴿٢٤﴾ الانفال 24.

27. وَتَتَّخِذُونَ مَصَانِعَ لَعَلَّكُمْ تَخْلُدُونَ ﴿١٢٩﴾ الشعراء 129.

28. أَوْعَجِبْتُمْ أَنْ جَاءَكُمْ ذِكْرٌ مِّن رَّبِّكُمْ عَلَىٰ رَجُلٍ مِّنكُمْ لِيُنذِرَكُمْ وَأَذْكُرُوا إِذْ جَعَلَكُمْ خُلَفَاءَ مِن بَعْدِ قَوْمِ نُوحٍ وَزَادَكُمْ فِي الْخَلْقِ بَصِطَةً فَأَذْكُرُوا ءَالَآءَ اللَّهِ لَعَلَّكُمْ تُفْلِحُونَ ﴿٦٩﴾ الأعراف 69.

29. وَالَّذِينَ ءَامَنُوا وَعَمِلُوا الصَّالِحَاتِ أُولَٰئِكَ أَصْحَابُ الْجَنَّةِ هُمْ فِيهَا خَالِدُونَ ﴿٨٢﴾ البقرة 82.

صدق الله العظيم

Appendix B Original Hadiths

1. قال رسول الله صلى الله عليه و سلم : "إذا اقترب الزمان لم تكذب رؤيا المسلم تكذب" رواه البخاري ، و مسلم ، وأبو داود ، والترمذي ، وابن ماجه ، والدرامي.
2. و قال صلى الله عليه و سلم : "لا تقوم الساعة حتى يقارب الزمان، فتكون السنة كالشهر، ويكون الشهر كالجمعة، وتكون الجمعة كالיום، ويكون اليوم كالساعة وتكون الساعة كاحتراق السعفة" رواه ابن حنبل.
3. و قال صلى الله عليه و سلم : " يتقارب الزمان ، وينقص العلم ، ويلقى الشح، وتظهر الفتن، ويكثر الهرج " رواه أبو داود ، والبخاري، و مسلم، وابن ماجه .
4. " لا تقولوا خيبة الدهر ، إن الله هو الدهر ". رواه البخاري، و مسلم، وابن حنبل، الموطأ لمالك .
5. " لا تسبوا الدهر فإن الله هو الدهر " رواه البخاري ، و مسلم ، وأبو داود ، وابن حنبل.
6. الحديث القدسي : "يؤذيني ابن آدم يسب الدهر و انا الدهر، بيدي الامر اقلب الليل و النهار" رواه البخاري ، و مسلم ، وأبو داود ، وابن حنبل.

Appendix C

Marcel Proust's In Search of Lost Time

A la recherche du temps perdu or *In Search of Lost Time*, is a novel written by Marcel Proust between 1908-1909 and 1922 and published between 1913 and 1927 through seven volumes, of which the last three appeared posthumously. Rather than recounting a specific sequence of events, this work is concerned with the narrator's memory: his memories and links between them, hence the title is not *Lost Time* (like in Milton's *Lost Paradise*), but *In Search of lost Time*.

The volumes are:

- 1 - *Du côté de chez Swann* (1913)
- 2- *À l'ombre des jeunes filles en fleurs* (1919)
- 3 - *Le côté de Guermantes* (1921-1922)
- 4 - *Sodome et Gomorrhe I et II* (1922-1923)
- 5 - *La prisonnière* (posth. 1925)
- 6 - *Albertine disparue* (posth. 1927 ; titre original : *La Fugitive*)
- 7 - *Le Temps retrouvé* (posth. 1927)

It is considered as being Proust's most prominent work, known for its length and the noticeable theme of involuntary memory, the most famous episode of this type of memory is the "episode of the madeleine". The novel follows Proust's childhood reminiscences and adulthood experiences in the late 19th century and early 20th century aristocratic France, reflecting on the loss of time and the absurdity of life. It is claimed as being the longest novel ever written in the history of literature.

The novel had greatly influenced twentieth century modern writers. It has been presented as the most respected novel of the twentieth century.

Appendix D

James Joyce's Biography

James Augustine Aloysius Joyce (1882-1941) was an Irish novelist, novelist, short story writer, poet, teacher and literary critic. He is mainly considered as major figure in the modernist avant-garde movement and one of the most prominent influential writers of the twentieth century. His masterpiece is *Ulysses* (1922) an important work in which the episodes of *Homer's Odyssey* are paralleled in multiple literary styles, notably the *Stream of Consciousness* technique.

Other famous works are; the collection of short stories *Dubliners* (1914), and the novels: *A Portrait of the Artist as a Young Man* (1916) and *Finnegans Wake* (1939). In addition to three books of poetry, a play, letters and occasional journalism.

Joyce was born into a middle-class family in Dublin. A brilliant student, he attended for a short time the Christian Brothers-run O'Connell School before excelling at the Jesuit schools Clongowes and Belvedere, inspite of the financial problems of his family. He persued and attended University College Dublin.

In his early 20's, he emigrated to continental Europe with his wife and most of his adult life was spent abroad. However, his fictional universe was in Dublin and the characters were very much resembling family members, enemies and friends from his time there. *Ulysses* (Joyce's autobiographical work) particularly is set in the streets of Dublin with precision.

Appendix E

James Joyce's *Ulysses*

James Joyce's masterpiece (1922), *Ulysses* tells the story of a modern man struggling with everyday problems and vicissitudes, not the fate of a hero.

It is an odyssey that recounts the reality of one day in details, twisting the epic canon of lore. To tell the drama of the modern Ulysses, the author uses a realistic perspective, describing in details the chaotic landscape of Dublin and the thousand figure-inspired characters who actually existed.

James Joyce uses the stream of consciousness technique, also used by Virginia Woolf, to give voice to his characters and their deepest thoughts. It is precisely the disorderly flow of the protagonists' thoughts, jumping from memory or thought to thought, without logic, without respecting the rules of the chronological order of time, that makes the plot interesting, but also complex. Even the punctuation is subject to free overlap and succession of thoughts. The characters in James Joyce's novel, like Stephen Dedalus, somewhat resemble those in Homer's *Odyssey*. (Stephen Dedalus is also the protagonist of another famous work by Joyce: "Portrait of the Artist as a Young Man").

Stephen resembles the figure of Telemachus, the son of Odysseus; Leopold Bloom, identifies with Ulysses himself and his wife, Molly, brings us back to the figure of Penelope. The reader is drawn to the figures and stories of all the characters, but most notably the figure of Leopold, an advertising agent of Jewish origin who wandered around Dublin just as the legendary Odysseus wandered around the Mediterranean. The reader follows his adventures and approaches this modern man who lives his many daily wanderings. We thus go from the figure of the (ancient) Greek hero:

courageous and never tamed, to that of the modern hero, mainly an inept man with his ego fragmented, confused, weak and unresolved.

The novel is characterized by eighteen episodes divided into three sections: the first is called Telemachus, which deals with the adventures of Stephen-Telemachus; the second section deals with the adventures of Ulysses, i.e. Leopold Bloom, and the third describes the return of the main character Bloom, who returns to his normal daily life, as Ulysses did when he 'embarked on his Nostos, towards Ithaca. In his book, the author presents himself as a modern-day Homer, distorting the classical structure of the Greek poem. His hero, Bloom, is in fact an anti-hero; his journey in life does not lead to a destination or an outcome. His path is marked by continual failures and defeats. Among them, for example, the disharmony with young Stephen and the betrayal suffered by his wife Molly.

Appendix F

Existentialism

“Existentialism” is a term that belongs to intellectual history. Its definition is to some extent one of historical convenience. The term was explicitly adopted as a self-description by Jean-Paul Sartre, and through the wide dissemination of the postwar literary and philosophical output of Sartre and his associates—notably Simone de Beauvoir, Maurice Merleau-Ponty, and Albert Camus—existentialism became identified with a cultural movement that flourished in Europe in the 1940s and 1950s.

Among the major philosophers identified as existentialists (many of whom—for instance Camus and Heidegger—repudiated the label) were Karl Jaspers, Martin Heidegger, and Martin Buber in Germany, Jean Wahl and Gabriel Marcel in France, the Spaniards José Ortega y Gasset and Miguel de Unamuno, and the Russians Nikolai Berdyaev and Lev Shestov. The nineteenth century philosophers, Søren Kierkegaard and Friedrich Nietzsche, came to be seen as precursors of the movement.

Existentialism was as much a literary phenomenon as a philosophical one. Sartre’s own ideas were and are better known through his fictional works (such as *Nausea* and *No Exit*) than through his more purely philosophical ones (such as *Being and Nothingness* and *Critique of Dialectical Reason*), and the postwar years found a very diverse coterie of writers and artists linked under the term: retrospectively, Dostoevsky, Ibsen, and Kafka were conscripted; in Paris there were

Jean Genet, André Gide, André Malraux, and the expatriate Samuel Beckett; the Norwegian Knut Hamsun and the Romanian Eugene Ionesco belong to the club; artists such as Alberto Giacometti and even Abstract Expressionists such as Jackson Pollock, Arshile Gorky, and Willem de Kooning, and filmmakers such as Jean-Luc Godard and Ingmar Bergman were understood in existential terms.

On the existential view, to understand what a human being is it is not enough to know all the truths that natural science—including the science of psychology—could tell us. The dualist who holds that human beings are composed of independent substances—“mind” and “body”—is no better off in this regard than is the physicalist who holds that human existence can be adequately explained in terms of the fundamental physical constituents of the universe. Existentialism does not deny the validity of the basic categories of physics, biology, psychology, and the other sciences (categories such as matter, causality, force, function, organism, development, motivation, and so on). It claims only that human beings cannot be fully understood in terms of them. Nor can such an understanding be gained by supplementing our scientific picture with a *moral* one. Categories of moral theory such as intention, blame, responsibility, character, duty, virtue, and the like *do* capture important aspects of the human condition, but neither moral thinking (governed by the norms of the good and the right) nor scientific thinking (governed by the norm of truth) suffices.

“Existentialism”, therefore, may be defined as the philosophical theory which holds that a further set of categories, governed by the norm of *authenticity*,

is necessary to grasp human existence. To approach existentialism in this categorical way may seem to conceal what is often taken to be its “heart” (Kaufmann 1968: 12), namely, its character as a gesture of protest against academic philosophy, its anti-system sensibility, its flight from the “iron cage” of reason. But while it is true that the major existential philosophers wrote with a passion and urgency rather uncommon in our own time, and while the idea that philosophy cannot be practiced in the disinterested manner of an objective science is indeed central to existentialism, it is equally true that all the themes popularly associated with existentialism—dread, boredom, alienation, the absurd, freedom, commitment, nothingness, and so on—find their philosophical significance in the context of the search for a new categorial framework, together with its governing norm.

Appendix G

Virginia Woolf's Biography

Adeline Virginia Woolf (1882–1941) an English writer, one of the most important modernist 20th century writers and a prominent figure in the use of the stream of consciousness technique. She was born into an affluent household in London.

Her childhood abruptly ended in 1895 with her mother's death, entailing her first mental breakdown, followed by her half sister's death, two years later.

Woolf attended the Ladies' Department at King's College London and studied classics and history. Encouraged by her father, she began writing in 1900, after her father's death in 1904 and another mental breakdown she moved with her family from Kensington to the bohemian Bloomsbury, adopting a free-spirited lifestyle. It was in Bloomsbury where she formed, in association with some intellectuals, the artistic and literary Bloomsbury Group.

In 1912, she married Leonard Woolf. Throughout her life, she was seriously troubled by her mental illness as she attempted suicide at least twice and was hospitalised many times because of bipolar disorder, a disease which had no cure at that time. At the age 59, she died by committing suicide, drowning herself in a river.

During the interwar period, she was a prominent part of London's literary artistic and literary society. She published her first novel, *The Voyage Out* in 1915. She is best known for her novels *Mrs. Dalloway* (1925), *To the Lighthouse* (1927) and *Orlando* (1928). As she is known for her essays as well, *A Room of One's Own* (1929).

She has become one of the main concerns for the 1970's movement of feminist criticism, allowing her works to attract much attention. Her works have been translated to many languages.

Appendix H

Mrs. Dalloway, Orlando and The Waves

Virginia Woolf's novel *Mrs. Dalloway* (1925) details a day in Clarissa Dalloway's life. Clarissa is a fictional high-society woman in England. As one of Woolf's best-known novels, it has originally been created from two short stories "Mrs. Dalloway in Bond Street" and "The Prime Minister". It addresses the depiction of Clarissa's preparations for a party she was hosting at her house that evening. With an interior perspective, the story moves backwards and forwards in time and sometimes from in the characters' minds, some others from outside their minds constructing a full image of Clarissa's life, as well as the portrayal of the inter-war social structure.

Orlando: A Biography was published in 1928. Inspired by the tumultuous family history of the aristocratic poet and novelist Vita Sackville-West, Woolf's close friend. It is arguably one of Woolf's most popular novels; it consists a history of English literature in satiric form. It describes the adventures of a poet who changes gender from man to woman and lives for centuries, meeting some of the most prominent figures in English literary history.

The Waves (1931). The novel is considered as Woolf's most experimental work. It mainly consists of soliloquies of six characters; Bernard, Susan, Rhoda, Nellville, Jinny and Louis. The seventh character Percival is of similar importance, even if readers never encounter him speaking in his own voice. The soliloquies are separated by nine brief third-person interludes describing a coastal scene at different stages in a day from sunrise to sunset. Through the characters' soliloquies, Woolf explores concepts related to individuality, self and community. The characters are distinct from one another but they shape a composition about a silent central consciousness.

Appendix I

Narratology

Narratology or the theory of Narrative refers to the study of narrative as a genre, or narrative structure. Fludernik (2006) describes it as: “The study of narrative as a genre. Its objective is to describe the constants, variables and combinations typical of narrative and to clarify how these characteristics of narrative texts connect within the framework of theoretical models (typologies)” (Fludernik, 2006).

Many scholars have defined the term in the same way, suggesting that narratology is basically concerned with the study of the formal features of a narrative. However, Schmid (2010) emphasised a very crucial aspect regarding this theory, he argued that there is a criticism warning writers that Narratology is not that limited, implying that it actually must not be restricted to the mere analytic process, as this generally leads to objective analyses or interpretations, which will be in turn devoid of any free interpretation or critical thinking (Schmid, 2010). This view suggests that narratology should broaden its scope, allowing some free association between the study of the formal features and the synthetic truth evoked by critics’ reflection.

Prince (1982) adds that Narratology’s main concern is to investigate the similarities and differences between narratives, in fact, he declares that Narratology is not concerned with: “ the history of particular novels or tales, or with their meaning, or with their aesthetic value, but rather with the traits which distinguish narrative from other signifying systems and with the modalities of these traits” (Prince, 1982). Thus, from all these claims, it may be deduced that Narratology is not confined to abstract levels of a given narrative, neither it is intended to only deal with the interpretative

aspect of narratives, but it rather explores the structure of narratives along with the basic features which eventually form shape to what a narrative is and its distinguishing features from other forms.

Focalisation is an aspect in Narratology referring to the perspective through which the story is told. It is very similar to point of view in literature. The term “focalization” was first coined by the French narrative theorist Gerard Genette and it consists in: “the submission of (potentially limitless) narrative information to a perspectival filter” (JAHN, 2007). Simply put, focalization reflects the relationship between the focalizer telling the story and the focalized or the object being seen or described. The focalizer may be a character in the story describing different scenes and characters through his own perspective. Both the focalizer and the focalized are elements that are to be studied separately but in some cases the reader is exposed to a situation in which both happen together and cannot be separated as in the stream of consciousness novels.

Appendix J

Psychoanalysis

In each piece of literature, there are some clues to guide the reader to a deeper understanding of the literary work, of the author of the work, and even of the inner workings of the individual reader. Using psychoanalytical theory to analyze a work of literature allows the reader to consider how the writing represents the author's repressed desires, fears, and impulses. Psychoanalytical analysis also considers how the literature presents the author's isolation from events or even the denial of the existence of certain events and circumstances through identification of the inner workings of the mind. Modern psychoanalytic theory, based largely on the work of Dr. Sigmund Freud, provides the literary critic with a guide to discovering, revealing, and examining the truths that are hidden in literary works. In addition to appealing to and revealing the unconscious desires of a work's anticipated audience, authors reveal their own unconscious desires in their writing. The key components of psychoanalytical theory are the struggle among Freud's Id, Ego, and Superego; Freud's understanding of the unconscious; and literature as a representation of the inner workings of the mind. Psychoanalytic theory is a useful tool for evaluating literary works to gain a richer understanding of the work, the author, and the reader. One of the key components of psychoanalytic theory is Freud's concept of the Id, Ego, and Superego.

Freud is well-known for his attention to sexual desires as the primary need of the id. Psychoanalytical theory applies Freud's Oedipus complex to literature by seeking images in the text that reveal the author's unconscious sexual fantasies and desires. These images provide the critic a richer understanding of the writing, as well as insights into the minds of the author and the reader.

Psychoanalytical theory works from this belief and seeks images in a text that will provide an illustration of the author's unconscious life. Even when an author is not writing autobiographically, the speech and behavior of the author's characters and the descriptions of settings and events are usually imbued with some of the author's personality, desires, and fear. In analyzing a literary work, the critic discovers clues to his or her own unconscious life by recognizing that the critic's identification and interpretation of the images in a work is informed by the critic's unconscious. By projecting the author's motivations on the characters of a literary work, sexual ideas may be revealed in the work. Similarly, displacing the author's concerns to a subject in a literary work, or reversing a situation by attributing feelings to the object of those feelings can reveal sexual and other psychological undertones in the work.

Free Association

Psychoanalytic therapy was basically established on the fundamental rule of free association as a prominent feature for deciphering and interpreting phenomena like dreams, daydreams, hallucinations, delusions, and enactments occurring in various normal and pathological states, juxtaposing formulaic interpretations with free associations and process interventions. (Lothane, 2019)

Free association is a method used in psychoanalysis and in psychoanalytic literary theory to investigate a character's or an author's psyche in literature. It basically relies on a word, an image or idea as stimuli to a series of words, images or ideas not forcibly linked in a logical relationship. The technique is much encountered in modernist writings, where it is reached as a result of careful organisation of the associated thoughts (Cuddon, 1991, p. 289). Modernist writers, namely Joyce and Woolf

significantly used this technique in their stream of consciousness works for its aesthetic significance. First, this technique broadens the scope and the levels the writing presents and helps the writer to tackle the characters' subjective experience in a rather narrow objective time-space scope. Second, this technique cuts from the traditional narratives. Through this technique, characters are able to think about others or recall memories related to other characters just by looking at some related things, allowing consciousness to move freely among past, present and future and from one space to another. During the association process, the objective and psychic or subjective time fuse; as the past memories, future expectations and present consciousness happen simultaneously and alternately; resulting in a structure of confusion in space-time and in sequence. Third, this technique may imply contrast and satire when writers gather moments and events happening at different periods in time and different space. Hence, this technique is highly important for writers who attempt to describe the real world of consciousness. (Sang, 2010)

Joyce and Woolf combined the stream of consciousness and free association techniques to portray the characters' inner world that was stimulated by the physical outer world, still not bound nor restricted by the objective time and space, but rather imposing the modernist subjective view.

Résumé

Les êtres humains ne vivent certainement pas dans le vide, ils sont constamment et naturellement entourés de myriades de concepts, d'objets et de phénomènes. À cet

égard, c'est un processus très naturel pour l'esprit humain d'essayer de conceptualiser ces phénomènes, bien que ce ne soit certainement pas une tâche évidente. Les philosophes et les penseurs, des temps anciens à nos jours, ont fait de leur mieux pour comprendre et donner une image simplifiée des divers concepts existants; le temps et l'espace ne font pas exception. Puisque toute entité dans ce monde, a fondamentalement deux définitions, la première est fournie par la vérité synthétique et l'autre par l'analyse. La présente recherche tente de fournir les deux, en utilisant une approche multidisciplinaire, en décrivant et en examinant les multiples perspectives ayant exploré la nature des deux concepts. La thèse est divisée en quatre chapitres; le premier chapitre se compose principalement de la définition scientifique du temps et de l'espace du point de vue de la physique avec un bref exposé sur les points de vue philosophiques concernant ces concepts, le deuxième chapitre comprend une explication psychologique sur la perception de l'esprit humain du temps et de l'espace à travers le langage, alors que le troisième chapitre conceptualise la vision humaine des deux concepts à travers la littérature reflétant la perception du temps des écrivains et des romans, il analyse essentiellement le roman Ulysse de James Joyce, en plus de trois romans de Virginia Woolf, Mme Dalloway, Orlando et les vagues. Le quatrième chapitre conclut la thèse offrant une perspective religieuse sur la conceptualisation du temps et de l'espace, il décrit la façon dont ces concepts sont présentés dans l'Islam à la fois à travers le Saint Coran et le Noble Hadith, pour fournir plus tard une corrélation entre les traitements philosophiques et littéraires avec les traitements spirituels du temps et de l'espace.

الملخص

من المؤكد أن البشر لا يعيشون في فراغ، فهم محاطون بشكل دائم وطبيعي بعدد لا يحصى من المفاهيم والأشياء والظواهر. في هذا الصدد، من الطبيعي

جدًا أن يحاول العقل البشري تصور هذه الظواهر، على الرغم من أنها بالتأكيد ليست مهمة سهلة. لقد بذل الفلاسفة والمفكرون، منذ العصور القديمة وحتى يومنا هذا، قصارى جهدهم لفهم وإعطاء صورة مبسطة لمختلف المفاهيم الموجودة؛ الزمان والمكان ليسا استثناء. نظرًا لأن كل كيان في هذا العالم له تعريفين أساسيين، يتم أخذ التعريف الأول من خلال الحقيقة التركيبية والآخر عن طريق التحليل. يحاول البحث الحالي تقديم كليهما، باستخدام منهجية متعددة التخصصات، يصف ويفحص وجهات النظر المتعددة التي استكشفت طبيعة المفهومين. الأطروحة مقسمة إلى أربعة فصول. يتكون الفصل الأول بشكل أساسي من التعريف العلمي للزمان والمكان من وجهة نظر الفيزياء مع عرض موجز للآراء الفلسفية المتعلقة بهذه المفاهيم، ويتضمن الفصل الثاني شرحًا نفسيًا لإدراك الروح البشرية للزمان والمكان. من خلال اللغة، بينما يصور الفصل الثالث النظرة الإنسانية للمفهومين من خلال الأدب الذي يعكس تصور زمن الكتاب والروايات، فإنه يحل بشكل أساسي رواية يولييسيس لجيمس جويس، بالإضافة إلى ثلاث روايات لفيرجينيا وولف، السيدة دالواي، أورلاندو والأمواج. وتختتم الأطروحة بالفصل الرابع حيث يقدم منظورًا دينيًا حول تصور الزمان والمكان، ويصف كيف يتم تقديم هذه المفاهيم في الإسلام من خلال القرآن الكريم والحديث الشريف، لربط المفاهيم الفلسفية والأدبية للزمان والمكان بالمعالجات الروحية.