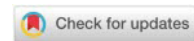


# TIME TRAVEL AND PARALLEL WORLDS IN CINEMATOGRAPHY

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**Abstract:** Time travel is one of the biggest themes of science fiction, to the point of being considered a genre in itself. The idea of going to relive the past, or to discover the future in advance, is an old human dream caused by the fact that the human being progresses through time in a constant but irreversible way. One of the earliest mentions of time travel is the character of Merlin the Wizard in the Arthurian cycle of the Knights of the Round Table, who visited past times. The Celts believed in the possibility of time travel and parallel worlds, from tombs, mounds to other mythological places. The theme of time travel is partly related to the world of prophecies, which was also widespread among ancient peoples. Physicists and philosophers, as well as today's science fiction thinkers and writers, have always been interested in time travel, the theoretical and surrealistic effects of light-speed travel, and the logical paradoxes that would arise from time travel.

**Keywords:** Time travel, parallel worlds, cinematography, Hawkins Stephen, Haugh Everette, Science Fiction

Field: Social sciences

## Introduction

For some specialists, "time travel" presupposes travel to a time that is different from the present being left, regardless of whether the action takes place in the past or the future, or an alternate history. Time travel can be done by a material body, a living being, but the transformation of the living being is also possible (coma state, deep sleep,). By the way, it is common to use a special device commonly called a "time machine" (Hawkins Stephen, 2010, p.4). Time travel is a concept treated in philosophy and literature as well as in the natural sciences, and it generates many paradoxes in these domains. Regardless of the incompatibility with the theories of general relativity or quantum mechanics, the means to achieve these ranges from the point of view of our civilization and the current technological level are considered hypothetical. When it comes to time travel, it is necessary to distinguish between travel in the past versus travel in the future. By the way, it is necessary to systematize the concepts of "time travel" and highlight interpretations that are not considered time travel. These are primarily: sleep, cryogenic freezing, the virtual reality simulator, crystal ball predictions, hallucinations, the effects of intoxicants, isolation, time zone change, etc. The concepts of "time travel" and "parallel worlds" are phenomena that are mutually related and interdependent both in literature and natural sciences as well as in cinema. They are mutually and interdependent, since the phenomenon of time travel cannot be effected if there is no other world, even assuming that it is simply a return to the past or travel to the future. However, the phenomena have a certain autonomy, given that "time travel" can only be realized spatially on the planet Earth in some other era, while "passing into parallel worlds" can be realized in the same time interval but in a different space: The concept of travel through time is inextricably linked to the modern understanding of time. From the beginning, it was a literary work intended to present the theses of an author about his vision of the future. From this point of view, the process of time travel is a kind of variant, a special aspect of the science fiction novel. From the above, the question of the definition of time travel and parallel worlds arises by itself. As usual, there is no single generally accepted definition of this phenomenon, but according to the most important experts, the most acceptable is the one formulated by David Lewis (David Lewis, 1976, p.145). The author starts from the simplest premise in the form of a question: "What is essentially time travel? Lewis thinks it implies a "lag between two identical times". Each passenger departs and arrives at his destination; the time elapsed between departure and arrival (positive or zero time) is the duration of the trip. But how to understand the time difference if the time between departure and arrival is not equal to the duration of his journey? How can two identical events, ie the departure and arrival of the passenger, be separated by two unequal delays? Another interesting definition of time travel is that of Chris Smeenk and Christian Wüthrich (Smeenk & Wüthrich, 2019, p.45), who equate time travel with the existence of closed time curves, as a Lorentzian variety of a material particle in space-time that returns to its starting point.

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## Real or virtual travel

Some authors accept the existence of two time dimensions, and others predict scenarios involving several "parallel" universes, each of which has its own four-dimensional time-space, as D. Duchá and Mike Lockwood (Deutsch 'Lockwood, 1994, p.68) consider ). But the essential dilemma is whether traveling to another time dimension or another parallel universe is actually real or virtual travel? Examining the possibility of going back in time through a hypothetical universe described through the metric of Kurt Gödel-(Yourgrau, Palle, 2021, p. 54) results in his claim that time can be a kind of illusion. that is, another dimension of space, which leads to a "cube with 4 dimensions", i.e. Tesseract or Hypercube. Starting from the previous thesis, the theme of "time travel" is marked through the capital works of the writer Herbert George Wells (*The Time Machine*) and Jules Verne "Paris in the 20th century" (*Paris au XX seicle* , 1994, p. 66). These are science fiction works that differ on several grounds and are phantasmagorical in nature. Thanks to the science fiction novels of the 19th century, a solid foundation was created for lovers of this type of literature that intrigues the reader, makes him wait, think and fantasize about time travel. In the eyes of the reader, the time-traveling protagonist strives to express contemporary adventure in a convenient way. The time traveler naturally shares the prejudices, ways of thinking and curiosity of the reader. Such a match or mismatch with the reader's tastes or expectations can only stimulate writers to approach much more interesting and daring narrative possibilities with surrealist dimensions. Thus, Herbert George Wells's "time explorer", a Victorian and apparently a socialist, describes the terrifying degenerate society of 802701 from "his time". It was the inventions that appeared at the time of Wales, such as underground factories, the progress of the mechanization of cities, the construction of skyscrapers, iron towers... that inspired the author's surrealist curiosity. Another author René Barjavel, (*Le Voyageur imprudent*, 1944), continued the same idea about the distant future ("100,000 years") and the biological degeneration of humanity. His traveler was fascinated by the changes of civilization. As with Wells, the scientist is able to understand the incomprehensible (the future) and communicate it to the reader.

## The idea of time travel

The idea of time travel developed with the idea of general progress in several domains. Although it was expected that the future would create great changes, still the average people did not understand the evolution, changes, progress in a simple way. It is enough to scratch in the past and state that people did not think in the same way as they did tens or hundreds of years ago. For example, the idea of time travel would not have occurred to the ancient Greeks, because the understanding of the philosophers of that time time was cyclical. Moreover, the changes were slow and barely perceptible in proportion to human life. Gradually, the notion of progress, of evolution, of changes will change people's vision of time. The ancestors will begin to separate the past from the present and the future. These notions certainly existed in the understandings of the ancient Greeks, but they rarely dealt with the "future" because it itself was not allowed to be nurtured. That would call into question the prophecy of the Pythia of Delphi. (Nicolas-Cabane, Kremmer, Faure, Commentles (2020) The idea that the future would bring surprising things to inspire the romantic interest of philosophers emerged with the beginning of the Renaissance. Although not a true science fiction novel, *The New Atlantis* by Francis Bacon (1561-1626), is undoubtedly a kind of anticipatory novel about the city of the future governed by wisdom and science. Of course, the travelers do not cross time, but oceans. Yet it is really a "future" city that Bacon describes, and is very different from Plato's "ideal" city. Bacon describes a perfect society achievable with the help of science, and therefore was achievable in the future. (Bacon, 1627) It was only in the second half of the 20th century, when the narrative process of time travel wore out, that authors became interested in the paradoxes generated by this phantasmagorical hypothesis. Indeed, time travel, and especially in the past, made it possible to shorten destiny. After all, anyone who "traveled through time" faster than ordinary mortals knew the future and could deal with it. Early science fiction stories feature characters who fall asleep, sleep for years or centuries, and wake up in a changed society or are transported into the past by supernatural means. Some of these stories such as "L'An 2440, rêve s'il en fût jamais" (1770) by Luis Sebastian Mercier, *Rip Van Winkle* (1819) by Washington Irving, *Looking Backward* (1888) by Edward Bellamy) and *When the Sleeper Wakes* (1899) by H.G. Wells) show precisely time travel and parallel worlds. In these stories, prolonged sleep, aided by the popular mechanism - time machines, was used as a means of time travel. Although it is not known with certainty which first work mentioned travel to the past, *Memoirs of the Twentieth Century*, by Samuel Madden (1686-1765), deals with a series of letters from future British ambassadors (1997) to diplomats of the past. In these documents they described the political and religious

circumstances of the future. The narrator received the letters from his guardian angel, who according to Paul Alkon's "Origins of Futuristic Fiction" Samuel Madden's *Memoirs of the Twentieth Century* states that "the first time traveler in English literature was the guardian angel".

## Science fiction and the paradoxes of the multiverse

The science fiction anthology "Far Boundaries (1951), by August Derleth, states that one of the first time travel stories is "An Anachronism; or, Missing One's Coach" (1838) published in the *Dublin Science Fiction Magazine* by an unknown author, (*The Dublin University Magazine*). Time paradoxes are just contradictory situations. For example which is often referred to as the "grandfather's paradox". A time traveler returns to the past, confronts his grandfather with the opportunity to kill him? This example is first found in the aforementioned writer René Barjavel in 1943. The absurdity lies in the fact that because of the grandfather's murder, the grandson would not exist and could not travel to the past. "More and more people in science are convinced that time travel is possible." "I have been working on the paradoxes of time travel for the last three years and I am more and more convinced that time travel is possible, and American and Australian scientists also claim it," writes Sandra Lorenzo, (2019, p. 2). The theory of multiples worlds initiated by Hugh Everett, (1930-1982), theoretically predicted such a possibility. However, this theory still cannot prove that time travel is possible, due to the paradoxes of coherence. Barack Shoshani (2022) Time travel is a recurring theme in science fiction novels and movies. But whether they are the work of scientists, historians, police officers or simple tourists, these time surveys are not without problems. Going back in time and then back to the current time of the traveler, faces the well-known paradoxes that threaten the existence of time travelers as well as the "course of history" itself. ". Parallel worlds: People have long thought about the possible existence of parallel worlds. Numerous legends and myths, books and science fiction films talk about it. Even the Italian philosopher Giordano Bruno talked about the existence of "other inhabited worlds". A few centuries later, when science stopped being afraid of the word "other universes" it sank into oblivion. The general progress of science and society has changed the former concepts of the world. But the dilemma arose: If parallel worlds really exist, what could they be? In the modern era, scholars talk about the Multiverse, that is, the idea that suggests that there are an infinite number of parallel worlds. However, it is still not possible to test the hypothesis of a "multiverse" behind which Stephen Hawking, Neil DeGrasse Tyson, Brian Green Michio Kaku - (Quora, 2023) So far only NASA has located the "Cold Spot" in 2004, and the "strange place" is 1.8 billion light-years away from Earth. Some believe it is just an illusion created by the expansion of the universe.

## The genius of Nikola Tesla

Today, the idea of a multimedia universe as a set of independent "planes of existence", whose laws of nature differ from ours, is being cultivated. In this way, magical, unusual phenomena that quite often happen to individuals can be logically explained. Nikola Tesla, one of the greatest scientists of the 20th century, had his own contribution in this domain. According to Tesla, "autonomous reality" meant the existence of a parallel world. It is a reality that exists simultaneously and independently of our reality. It can be of different sizes: from a small geographical area to the entire universe. In the parallel world, events take place in their own way, it differs from our world, both in certain details, and radically, in almost everything. The physical laws of the parallel world are not necessarily similar to the laws of our world. So, for centuries we coexisted quite tolerant of each other. At some point, the boundaries that separate us become almost transparent, and ... uninvited guests appear in our world. Unfortunately, some of our "guests" do not leave much evidence to establish good neighborly contacts, but the choice of neighbors is not up to us. The closest to us are the elemental spirits, with whom we are also familiar from the sensations of our childhood from legends, epics and fairy tales.. You can easily make friends with them or establish contact, get their help. With the inhabitants of parallel worlds it is a little more difficult, in order to communicate with them we need certain portals and exits. Nikola Tesla believed in the existence of parallel worlds. He wrote down." Death does not exist, and with that realization the fear of it disappears. And remember: no person who ever existed died. They turned into light and as such they still exist. The secret is to return those light particles to their original state. (S. Djuric, 2022, p. 34) In his latest article, Stephen Hawking revealed a technique to prove that parallel universes exist. However, this is a theory that, like the others, has yet to be proven. Did Stephen Hawking deliver the last gift to science before he died on March 14, 2018? The media revealed that the genius physicist worked, together with Professor Thomas Hertog, on an article started in 2017 that was supplemented four days before his death. (Durand

Parenti, 2023, p.1)

## The inspirations of cinematography

Several elements are essential to make the transition between universes. The cinematography was inspired by the literature, but also developed its own image using the specific setting of the stage. On screen, several elements make up a kind of equation of the crossing of worlds: a convention of the modalities of the passage in a way. Transition from one parallel world to another in the cinema: These states, or transformations in the films occur one after another or simultaneously and are essential for the hero to be able to make a transition between different rents of reality. First: To pass from one universe to another, the hero must cross a symbolic threshold - a door, opening, mirror, screen - that is associated with movement (fall, forward, upward or downward movement, movement in time or space). In order for him to cross this threshold, or to be able to cross it, "his consciousness" has to be changed – for example by reducing vigilance. Second: Without the transformation of his consciousness, he cannot perceive the new universe. Third: He must change the situation to change reality. A modification of the physical world also occurs, blurring the boundaries of the universe. Fourth: the transition implies the presence of a means of transport between the worlds. This machine accompanies, guides or shows the way or participates in changing the state of consciousness of the hero. Therefore, the initial transition from one world to another is not instantaneous: it is a multi-step process. Some directors follow this pattern literally to the end, while others combine it according to their taste. The quintessential example of this pattern is found in the film "Le magicien d'Oz" (Victor Fleming, 1939). A tornado swept away the house Dorothy was sheltering in, blurring the boundaries of the world. After the shock to her head, Dorothy fainted. Then the heroine wakes up - clues show, however, that this is a false awakening, in fact it is a moment of transition to another universe: Dorothy sees through the opening of the window a facing screen, scenes and characters from her everyday life that are transformed into other beings. The movement between universes is done by the house, lifted by the tornado, which rises and then falls. Dorothy will then cross the threshold of the house, which opens to the world of color: this is the final stage of the passage. One of the peculiarities of the film is that it can visually mark the transition from one world to another or oppose them through black and white and color. In *The Wizard of Oz*, reality comes in sepia tones, while the fantastical universe is in color. In *A Matter of Life and Death* (Michael Powell et Emeric Pressburger, 1946), earthly life is depicted in lavish Technicolor technique. The soul carrier especially appreciates being there and escaping for a moment from the heavy black and white of what lies beyond. In Alex Proyas' *Dark City*, (1998), the city is plunged into darkness throughout the film. Earth is colonized by inhabitants of another world who have already passed into a parallel world without knowing it and are unconsciously seeking to return to the original world. In *Videodrome* (David Cronenberg, 1983) offers a television screen as a portal to a parallel universe, in which the main character will literally sink. Once passed, the door opens a passageway like a bridge or staircase connecting the two worlds. Stairs generally symbolize the passage between the world of the living and that of the dead. In our culture, the beyond is associated with the notions of heaven and hell, which the collective imagination has long located "above or below us." In *Heaven Can Wait* de Lubitsch (1943), Henry Van Cleve descends a magnificent staircase to report to the underworld, where he has so often been told to go; in *A Matter of Life and Death*, an endless and vertiginous staircase, even more automatically, rises to the sky. In relation to - *The Matrix* (Andy et Larry Wachowski, 1999), the transition begins in the tunnel leading to a new universe: there, Neo is waiting for the car that will lead him to his initiation into the new world. The passage is also through a tunnel in Pavel Juracek's *Case for the Beginning Hangman* (1970), inspired by Jonathan Swift's *Gulliver's Travels*. Fifth: The role of the transmitter in the parallel worlds is the most emblematic figure in the films. The White Rabbit from *Alice in Wonderland* remains as the "Carrier". This story has permeated the literature of the fantastical worlds so much that cinematic parallel universes regularly refer to it. We find it tattooed on the shoulder of the girl to follow him in *The Matrix* or the dressed rabbit in the German series "A case for two".

In this last example, the returning narrator differs from the outgoing rabbit: it is the village idiot who returns Gulliver to his starting point, lying in the back of the cart as a victim of the plague that has caused the entire town to evacuate. Sixth: The role of the mirror. The mirror as a gate is very symbolic, in the crossing of worlds. He is present in mythology, surrealist stories or in the universe of Lewis Carroll, the author of the filmed novel "Through the Looking Glass" (1871). In this romantic tale, Alice enters the absurd world by passing through the mirror of the fireplace. Just like a mirror, which reflects a faithful but inverted reflection, the order of things is reversed in the mirror world. You have to run to stay in place, run away from where you want to go, eat cookies to quench your thirst, etc. Disney studios have successfully



adapted Carol's stories for the big screen. This 1945 cartoon introduces the notion of multiple universes (multiverse) In Cocteau's *Orpheus* (1949), the main character passes into the afterlife through his own reflection. The director achieved the desired effect of the image with the reflective surface rising into the glass at the moment of the crossing. here and in the Walt Disney cartoon, the reflection in the water replaces the mirror image. This scene is a return to the myth of Narcissus, who falls in love with his own reflection, to the point of death. Cocteau only uses the symbol of the mirror in this film for the transition to the afterlife. The mirror is associated with consciousness and self-image and represents a door to the self. In "Solaris" (Andrei Tarkovsky, 1972), the entire planet functions as a kind of mirror, reflecting the unconscious of those who approach. It unconsciously recreates emanations and captures fears, desires, memories. For Neo, entering the Matrix revolves around the mirror. The mirror plunges into him, into his trachea, transforms into a mirror for himself. Following the mirror principle, the concept of multiple worlds implies the possibility of multiple locations and multiple selves. In a parallel world, could I be someone else? If we think of ourselves as others, or if we want to be others, the mirror universe allows us. This is how characters gain powers in parallel universes that they don't have in the "real" world. Alice, in the mirror world, becomes queen. All the works mentioned above belong to the domain of science fiction. Science fiction is a narrative genre, mainly literary (literature and comics), cinematic and video game. As its name suggests, it consists of telling fiction based on scientific and technical progress obtained in a more or less distant future, sometimes for a fictional past (time travel) or in a parallel universe that is not yet possible in the current state of science.

## Conclusion

Science Fiction (SF) implements the classic themes of time travel, interplanetary or interstellar travel, space colonization, encounters with aliens, confrontation between the human species and its creations, including robots and clones, or planetary apocalyptic a disaster. The plot of science fiction stories can take place on Earth (utopias, dystopias which are often counter-utopias), in space (spaceships, exoplanets, space opera), or both. Stories can describe hard science with biopunk, cyberpunk and postcyberpunk (robotics) starting from current knowledge (scientific, technological and ethnological) This study will also represent a small cross-section through science fiction and its numerous genres and subgenres. From Biopunk, Ribopunk, Cyberpunk, Dystopia, through Planet Opera, Post-Cyberpunk, Postapocalypse, Fantastic Realism, to Science Fantasy, Space Opera, Strempunk, Uchronia, or alternative history, SF genres in Cinematography have multiplied. Each of these genres and subgenres has its own identity, uniqueness and artistic expression. They are also analyzed in detail in this study.

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