Radboud University

“It’s About Time”…

…the Mapping of Spatial Temporality in the Cinematic World of Christopher Nolan

Bachelor Thesis Arts and Culture Studies

Maroš Pulščák

Supervised by László Munteán

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Table of Content

Introduction

The idea of time and space has become a long admired topic in the sphere of cinema. When we look at the beginning of the film in the late 1890s, the idea was shifting around the new ways of the perception of time and its interrelation with space. This might suggest the understanding of possible modern temporality as a symptom of a dystopian movement of fast-paced life. However, cinema in its fundamental origins refers to the moving image, "a form that consists of structured sequences" that affects the created world on the screen through its perception of time in a specific place (Ivakhiv VII).

Therefore, one thing is definite, "from its inception, cinema has privileged time" (McGowan 4). In one way or another, every film in the history of cinema mastered time. It does not matter what films explore, they essentially take temporality as their subject due to the fundamentals of the medium in which cinema functions. Thus, time plays a privileged role, as it distinguishes cinematic art from all other art forms. That is how "time shapes" film's status "as a work of art" (McGowan 4).

However, some films explicitly incorporate the idea of temporality and spatiality on a deeper level. It can be argued that in these films, the idea of temporality and spatiality is intertwined within the narrative of the film, not just the medium itself. Films that work with these ideas create maze-like, multi-linear narratives, where time does not function as an imaginary path that flows in one way, but rather as space, where movement is not tight up to one direction, but it is free to many. An area where temporality function as a place, with architectural patterns, clear paths that lead to different directions, with the complexity of multilinear levels and perspectives. The cinema of Christopher Nolan serves as a fitting case study to examine this complexity.

Christopher Nolan is a British/American director and screenwriter who is considered to be one of the most admired directors of the 21st century. His specific craftsmanship could

be understood as a high-class standard in the cinematic world of the postmodern era. Within the span of 25 years, Nolan made many films in a vast range of different genres. However, two explicit aspects connect them all, temporality and spatiality. I would argue that in the films of Christopher Nolan, time conflates with space, where temporality obtains characteristics of spatiality, in which movement and mappings are possible. For this reason, the main goal of this research is to find answers to the following question: *How does Christopher Nolan's cinematic world conflate temporality and spatiality through the use of cinematography and narration?* I am going to explore this question through the lens of three films *Interstellar*, *Inception* and *Tenet.*

Theory

In order to discover such answers, the theories formulated by Lynch, Virilio and Lefebvre will accompany the analysis of time and space conflation and will be used to examine the maze-like structures on different multilinear levels that films represent. Firstly, cinematic temporality is radically different than the time in the real world, and in "Nolan's hands it is often tortured into new shapes that bears little resemblance to real-world time" (Furby 249). However, the "real-world time" differs evidently from our subjective perception of time, which becomes more pliable. Human thoughts flow easily at any possible speed, from memory to the present moment, distant past and imaginary future. There is no questioning of place and time in our thoughts, and the same applies to the ways in which cinematic time functions. Almost every film narrative uses some time travel functions, as they re-order and re-create time, shrink and pre-long duration, and alter the narrative events. McGowan connects this to a postmodern 1990s trend, in which films focus more explicitly on the relation between narration and time (31). When we take a close look at the films of Christopher Nolan, the idea of time travel is very vivid within the narrative structure, which

implies the use of temporal manipulation that is very much present within the perception of the postmodern cinema.

Postmodern thinkers classify the world, as a place where a contemporary man is left alone without a meaning, but also left without the items, that would most likely help him to outreach the truth, to comprehend reality and see the objectified version of the world. As Boggs argues in *Postmodernism the Movie*, it typically questions already established social classes and discourses, and at the same time, it illustrates the society in the 'metaphorical pit' of fragmentation, chaos and violence. Postmodern cinema analyses and reflects on human's environment, using fragile and fragmented narrative, motives sliding on the edge of social mayhem, death for the classical heroes, and broken beliefs of social values. Therefore, the films of Christopher Nolan represent a fitting example.[1]

It can be said that these films that precisely deal with the idea of time travel create a "relationship between the spectator and films that play with the fantasy of not being anchored to the ongoing present and of being able to move around in time" (Furby 249). It is quite difficult to define the functionality of cinematic temporality and spatiality if we consider a film to be a self-closed autonomous text. I would argue that the film was and remains an interesting medium, not because "of its autonomy guaranteed by some putative medium specificity but precisely because of the fluid permeability of boundaries separating the screen and its surroundings" (Yoshimoto 33). For this reason, it is not surprising that film has often been compared to the urban space, architecture and different pathways by many academics from various fields.

One of the interesting takes on cinematic temporal and spatial relations could be found in the work of French philosopher Paul Virilio. He points out that the central role of

[1] This paragraph is retrieved and paraphrased from my academic paper *Leonard and His Unreliable Narration or Postmodern Cinema of Christopher Nolan* for the course American Popular Culture.

cinema lies in the "virtualization of reality and the actualization of the virtual" (Virilio qtd. in Yoshimoto 33). He writes that from the aesthetics of the appearance "of a stable image—present as an aspect of its static nature—to the aesthetics of the disappearance of an unstable image— present in its cinematic and cinematographic flight of escape—we have witnessed a transmutation of representation… it was Hollywood that was the first Cinecittà" (Virilio 25). What can be deducted from his quote, is the fact that Hollywood represents the first "time machine", a city of living cinema, where stage-sets and reality became one, a place where dead and living emerge, a place where advanced technologies are "combined to form a synthetic space-time" (Virilio 26). This might shape the understanding of space on the screen, as the action on the screen is usually perceived as a real present moment, on a certain location, not staged in the studio. However, the propositional synthetic space-time theory does not replace, nor answers the question of cinematic spatiality and temporality but gives a first idea of cinematic space. Therefore, it is crucial to look for other ways of mapping temporality and spatiality. There is a need to search for more solid interference between the cinematic perception of space and spatial understanding of cities and architectural environment.

According to David Harvey, there are "three distinctive ways of understanding space and time: absolute, relative, and relational" (133). Absolute space could be classified as empty, fixed, and mainly independent from time. It is a space of coordinate axes, which with the use of mathematical calculation and measurement, allows identification of an individual person, object, and place in terms of the unique location they occupy (Yoshimoto 34). On the other hand, the relative space could be understood as something inseparable from the process, movement and most importantly time. However, because of the constant movement, it is almost impossible to unify the space into one coherent reality. Nevertheless, as absolute space, relative space possesses the ability to be measured as well, "but the mathematical

calculation of relative space must always take into account temporal valuables" (Yoshimoto 34). Relational space is a space that cannot be measured nor qualified. Therefore, it is space where processes "produce their own space and time is fundamental to the relational conception" (Harvey 136). Relational space represents a place of dreams, fantasies and memories, in which time and space conflate into one. It can be said that cinematic space resembles all absolute, relative, and relational. However, the cinematic understanding of absolute and relative temporality and spatiality is very much dependent on relational space, which is tamed by the temporal and spatial relations, and the architecture of the external world. For this reason, I propose a theory of Kevin Lynch.

Kevin Lynch's theory on the image of the city aims to make sense of the collective perception of city space. He deduces that the public image of the city is the overlap of many individual city images. His theory might be understood as a combination of action and space: It can be comprehended as "how well the spatial and temporal pattern of a settlement matches the customary behaviour of its inhabitants" (Lynch 70). He classifies the city space into five elements: paths, edges, districts, nodes and landmarks.

With these distinctions, he laid the foundation for the progressive development of cognitive mapping. By distinguishing paths as channels along which the observer moves customarily, Lynch draws our attention to the different functions of the city space, in order to move and orient ourselves in the environment. Through the categories of nodes and landmarks, Lynch maps the flow of movement in the city that congregates in strategic locations and direct the city walker in a certain direction as well as pointing toward the physical objects (landmarks) that serve as a reference for the orientation in the space. According to Lynch, the image of the city is important because the "ability to recognize objects in our environment is critical to our ability to act and function in places effectively" (71). In addition, it is convenient to present Lefebvre's trialectics of space.

Lefebvre's trialectics of space explores and categorises space as socially constructed through daily practices (Merrifield 526). His first category, conceived space, is designed by the architects and their urban plans with an emphasis on space as capital (Merrifield 523). Lefebvre understood perceived space as the unconscious, habitual rules and laws that dictate who, what, where and how one can use particular spaces (Merrifield 324). Lastly, lived space enables an individual or communal participation with space and a potential platform for resistance (Merrifield 523). These trialectics are always intertwined with the movement and, therefore, it might be helpful with the understating of the dynamics in the cinematic space.[2]

Methodology

The fundamental research method of this thesis is film analysis, which will serve as a tool to explore the conflation of temporality and spatiality in Nolan's films. According to David Bordwell, a film theorist, the film analysis makes an effort to "understand films and the processes through which" they are "made and consumed" (n.p.). He further continues that film analysis functions in a matter of "breaking up whole phenomena into relevant parts and showing how they work together" (Bordwell n.p.). For this reason, to properly explain time and space conflation, the three films of Nolan will be separately discussed in relation to temporality and spatiality, where each concept will provide a link from one stage to another.

Firstly, this research will focus on the explanation of cinematic temporality and spatiality and their symbiotic relationship in the film *Interstellar (2014)* through the narrative and mise-en-scene analysis. Secondly, the discoveries and knowledge found in *Interstellar* will be transferred to *Inception* (2010). While the first chapter explains the interrelations of time and space, the second chapter focuses on the mapping of the architectural patterns of temporality. Through the mise-en-scene and signs and symbols

[2] These paragraphs are retrieved and paraphrased from my academic paper *Creative Project* for the course City Culture.

analysis, the theoretical framework by Kevin Lynch and Henri Lefebvre will represent a terminological apparatus that will uncover and connect the theories to temporal spatiality in the cinematic world of Christopher Nolan.

In this regard, the theories of cognitive mapping and trialectics would be used to decode the perception of space, as well as how to map the spatial-temporal environment where time gains spatial qualities, a maze that can be mapped through the use of paths, edges, districts, nodes and landmarks. In the third chapter, spatial temporality will be discussed in regard to the film *Tenet (2020)*, which represents the peak of Nolan's complexity up to date.

Similarly, as in the second chapter, the theoretical framework of Lynch and Lefebvre would operate as a terminological apparatus that might reveal the functionality of inverted space, and hopefully a method for mapping time and space conflation in *Tenet*. For this reason, the third chapter will propose the extension for the theory of cognitive mapping, through which temporal spatiality could be mapped. In this thesis, I will try to lay down the basis for the complex conflation of temporality and spatiality in the sphere of cinematic art.

Chapter 1

Cinema is a Time Machine

In terms of time and space, the films of Christopher Nolan are extraordinary. Nolan does not use time as most filmmakers. Rather, he incorporates the essence of temporality and spatiality into the narrative of the films, which causes labyrinth structured, multi-linear plots, where temporality turns to space and movements are unchained to many directions. Therefore, it can be said that Nolan uses narration not only as a 'time machine' but also as a tool that manipulates temporality. This aspect is vivid throughout Nolan's work, but in order to properly explain time as a physical dimension, *Interstellar* serves as a basis to analyse this phenomenon.

According to Vivian Sobchack, Nolan is fully aware that cinema is a time machine. She states,"[Nolan] has expanded- and compounded- the relativity of space-time and its effects by layering them in the multiple dimensions not only of *Interstellar's* narrative but also of film's overall structure and its immersive mise-en-scene" (n.p.). This means that *Interstellar* possess two different types of cinematic time. The one where temporality is manipulative, and the one where there is an element of freedom within the narrative that allows free movement within the narrative space. This proves that Nolan is aware of the possibilities of cinematic temporality. The fact that the film proposes the possibilities of temporal movement, which are set against the laws of physics, makes *Interstellar* a perfect example to introduce the cinematic conflation of time and space. In this chapter, I will focus on the functionality of time and space conflation in the film *Interstellar*, and the perception of time's spatial performance.

Interstellar is set in the near future, where Earth's ecosystem is falling apart, and humanity is on the edge of starvation. The film's protagonist Cooper, a NASA trained pilot

and farmer, lives on a farm with his two kids Tom and Murph, and his father-in-law, where they plant corn to sustain themselves. Murph tells Cooper that her room is haunted by a ghost who sends her messages. While trying to decode the messages, they find a secret NASA base, where they meet Professor Brand, who is in charge of the research to find a solution for Earth's dying ecosystem. For this reason, Cooper and two other astronauts are recruited by NASA for the mission of interstellar travel. They travel through the wormhole named Gargantua with the hope to find new inhabitable planets known as Mann, Edmunds and Miller. As Cooper and Murph have the strongest bond in the film, Murph feels abandoned by Cooper. When Cooper decides to travel to space, his timeline drifts apart from Murph's, which escalates into time dilation. Time dilation in relativity and physics refers to a difference in elapsed time or, in other words, the running of time in a different manner. For instance, when Cooper and his team are on the planet Miller, for every hour they spend on the planet, seven years pass on the Earth. After many problems that Cooper encountered on his journey, he travels into the core of the wormhole, where he enters the tesseract, which seems to be a constructed space-time place, which allows him to send messages back in time to Murph, who figures out the way to save the human race. At the end of the film, Cooper meets Murph, who now is 110 years old, while Cooper only aged for a few years. By meeting up with his daughter at the end of the film, he fulfils the promise that was given when he left 10-year-old Murph on the Earth.

In *Interstellar*, no one masters time. In most time travel films, there is at least one character that controls temporal and spatial relations, which means that the character knows where, and when to travel. According to Furby, this need comes from the never-dying urge of impossibility to move in time, the same way we move in space (251). In our everyday life, we are obliged to follow one speed and direction of movement in time, thus we cannot move freely as in space. However, in *Interstellar*, "space and time do not function as a transparent

framework within which a narrative unfolds itself; instead, it is precisely the fundamental undecidability of spatio-temporal relationships that appears as the centre of the narrative's own（im-）possibility" (Yoshimoto 24), which makes *Interstellar* go against the flow of conventional cinema. While in films like *Back to the Future* (1985), "the idea of time travel often encourages narratives about travelling freely around performing heroic and epic rescues," in *Interstellar*, Cooper is trapped between time and space as everyone in this "extra-diegetic world" (Furby 251). According to Thorne, a physicist that closely worked on the film, "physical objects ... such as people … cannot travel backwards in time. … So, in particular, Cooper can never travel to his own past" (263). As the main protagonist gets deeper into the darkness of space, the viewer encounters the first discontinuation through the speed of temporality. When Cooper and his team land on the planet Miller, they find out that time flows slower than on Earth. This was caused by the fact that Miller orbits around the wormhole. As Thorne states, time on Miller "flows sixty-thousand times more slowly than on Earth," which was caused by the dilation of time (163). The viewer realises that after Cooper and his colleague came back from the few hours expedition, they find out that their co-astronaut aged over 20 years whilst staying on the spaceship. The time dilation has grave consequences on the mission, as Murph is already in her thirties now, which complicates the promise that Cooper gave before he left. While most of the film's story circulates around temporality, the true spatial-temporal spectacle comes at the end of the film.

Towards the end of the film, Cooper decides to travel through Gargantua's core to obtain information about quantum gravity that would lead humanity to salvation. This escalates to the point where Cooper is stuck between two singularities, which brings him into the tesseract (see Fig. 1). The tesseract could be described as a "hypercube," with four spatial dimensions and one temporal (we would only comprehend three spatial dimensions), which "looks like two cubes, inside each other" (Thorne 253). It is "a strange realm that resembles an

infinite hall of mirrors, except that the mirrors are the book-covered walls of the library... which appears to stretch endlessly in all directions, represents the wall of books at each point in time" (Maxwell). According to Thorne, Cooper as a human, and therefore a three-dimensional species, cannot "experience the tesseract's fourth spatial dimension" (254). Therefore, what we see is a three-dimensional representation of a four-dimensional space, which has been created by the humans from the future for Cooper, "as a way for him to perceive the further degree of freedom that they inhabit" (Maxwell). As Cooper floats in this space, he starts to realize that the tesseract is somehow positioned next to Murph's bedroom. Cooper starts to push books off the shelves to "communicate with his daughter, who received his communications earlier in the narrative," which makes Cooper the mysterious ghost that young Murph mentioned at the beginning of the film (Maxwell). The tesseract is not only allocated next to the Murph's bedroom at one certain moment in time, but rather it has "potentially infinite facets, each one docked alongside the bookcase at a particular moment, and the whole representing Murph's bedroom at every possible moment" (Furby 253). For this reason, it can be said that the tesseract functions like a labyrinth throughout time, which contains a "physical representation of all possible times in Murph's bedroom, from childhood to when she is a physicist. By navigating through the Tesseract, Cooper is able to view Murph as a child and adult" at the same time (Vacker). Therefore, in the tesseract, time does not function as a path of one direction and speed, but as a place with architectural patterns. It is a time with a physical dimension, a space-time continuum, where "all possible moments in time for this very specific space co-exist", which enables Cooper to send the message to Murph that is in the past (Furby 253).

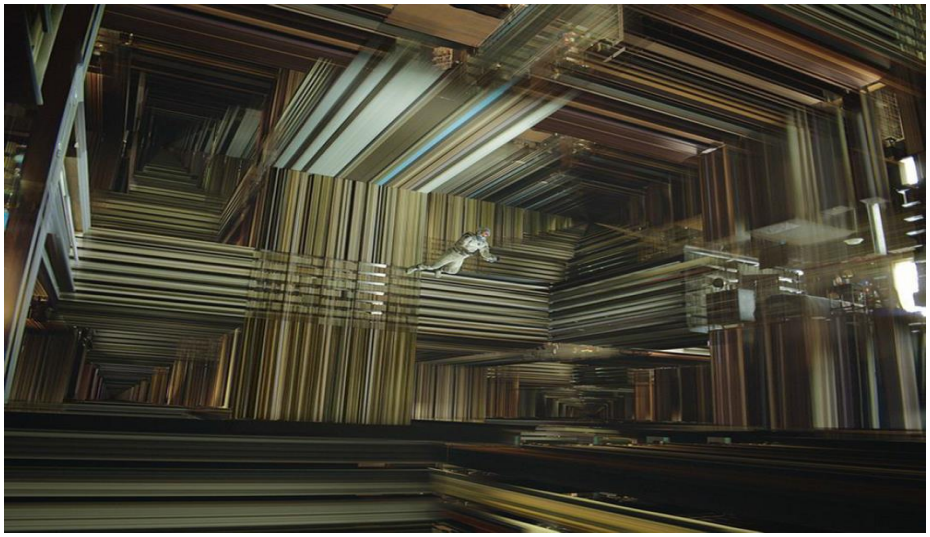

Fig. 1: "Cooper in the Tesseract". *Interstellar*, 2014, 02:22:49. Warner Bros, Blue Ray.

However, as time switched its position with space, Cooper can move freely in time but only whilst being in the tesseract. Or in other words, he is able to move in time but he is unable to move within space. For instance, light "can pass from Murph's room to Cooper, but not from Cooper to Murph's room, precisely because no light can escape from a black hole" (Vacker). The fact that Cooper can communicate with Murph, who inhabits "the usual three dimensions of space and the linear, fixed dimension of time" might suggest the singular independence of temporality (Maxwell). While Cooper straightforwardly communicates and sees Murph, she is unable to see or respond back. This means that what we call time "is actually a fraction of a dimension (i.e. a fractal dimension) and that the complete emergence of a new world view will consist in the coming to awareness of the fourth, temporal dimension as a full integer" (Maxwell).

While *Interstellar* is the only film of Nolan that occurs around the topic of outer space, it might be the only film that has the least complications with narrative past. While many of Nolan's protagonists have traumatic past, Cooper's past is "not finished, not closed off from the present, and he is able to communicate with his daughter in the past, and visit her in the future", which shows the freedom of the movement as in time, like in space (Furby

253). *Interstellar* demonstrates that what we experience as space-time "constitutes the coming to consciousness of a further degree of freedom", something that resembles another spatial dimension, which can take a form of a bookshelf, sign, crossroad or even a street (Maxwell). Therefore, temporality can be traced by the qualities of narrative time, which can be created by the characters of the film, like Cooper's message, or labyrinth, which can serve as the "means of mapping time's contours" (Maxwell).

Chapter 2

Mapping Architecture of Time

In the first chapter, I showcased that time in *Interstellar* does not function as a linear path of one speed and direction but as space where characters are able to move in any direction within its cinematic space-time. In this chapter, I am going to proceed to the temporal spatiality of *Inception*, where I will bring the theories of Kevin Lynch, Henri Lefebvre and Paul Virilio. These theories will serve as a metaphorical tool, through which I will map *Inception's* cinematic space-time.

According to Walter Benjamin, architecture like cinema "presents material to a simultaneous collective reception" (Benjamin qt. in Virilio 69). This could be explained in a way that architecture within the medium of the film highlights the possibility of conflation and interface. Therefore, the architectural visuality in the cinematic space does not act as one aspect, but it represents "all aspects, all points of view and lines of vision…in constructed space" (Virilio 70). As mentioned earlier, the perception of cinematic temporality and spatiality could be understood as all, "relational, relative, and absolute" (Yoshimoto 35). However, the interpretation of relative and absolute space-time is conditioned by relational space and its spatial-temporal correlation that underlines the external world (Yoshimoto 35). For this reason, if there is no established correlation between cinematic location and the outside world, the cinematic temporality and spatiality would be unmappable. It is spatial and temporal relations that make the medium of the film an extraordinary interface between the unstable and the stable (Yoshimoto 35). However, in order to be able to map temporality as space in mind-bending films like *Inception,* where time and space function on five different levels, it is necessary to take into consideration the architecture of the constructed space. While most of the narrative action in *Interstellar* happens in space, in *Inception,* most of the

narrative time takes place in the inner world, the subconscious of the human mind, the vast landscape, where we can experience beyond-dreams possibilities.

Inception's main protagonist is Dom Cobb, a thief who can enter into anyone's dreams and extract the most valuable thoughts and secrets from people's minds. Because of Cobb's illegal abilities, he has become one of the most wanted men in the world. At the beginning of the film, Cobb is being approached by Saito, a millionaire antagonist who offers him a clean slate of criminal record for one nearly impossible mission. The aim of the mission is not to steal but to plant an idea into the mind of an heir of billion-dollar corporation. Tempted by the possibility of seeing his children again, Cobb forms a team of professionals, Cobb as a leader, Arthur as a fixer, Ariadne as an architect, Eames as a thief, Yusuf as a medic, and Saito as a bankroller. The planting of an idea is a dangerous act, as they have to create inception. The inception method has to be performed on three different levels, which means that they have to enter a dream, within a dream, within a dream, where the team attempts to insert an idea into the mind of Fisher, the new owner of the company. This task is not the first one, where Cobb performs inception. The first time was prior to his wife's death, when he seeded the idea into her subconscious that the real world was not real. This thought led directly to her suicide in the mistaken belief that she needed to die to wake up from a dream. In *Inception's* universe, death is one of the "methods of escape from the dream world" (Furby 254). While Mal is dead in the real world, she still exists in the subconscious of Cobb's mind, which represents the element of threat for the team to complete the mission.

In the narrative structure of *Inception's* story world, temporality and spatiality are fluid. The various dream levels are designed by the architect that transforms the subconscious space into the form of a labyrinth that seems like a 'real place' taken out from the real world, where the monitored subject cooperates without any suspicion. For this reason, the dream

space is shared, and it is based and generated on the reality of the people that are present within the dream space. Therefore, the dream space could be understood as a perceived space, which is one of the categorizations of Henri Lefebvre's trialectics. Within the context of Lefebvre trialectics, the perceived space is a space that functions as the unconscious, where habitual rules and laws dictate who, what, where and how can one use a certain space (Merrifield 324).

This illusion of constructed everyday experience creates an architectural landscape, in the so-called cinematic city. According to Lefebvre, from the context of the *Right to the City*, he states that there is a need not only "for creativity, for the *oeuvre*" but mainly the "need for information, symbolism, the imaginary and play" (147). This might be applied to *Inception*, where the architect needs to convey the information and the symbolism of the real world but master the dream-space as a labyrinth, where the subject remains in the oblivion, assuming that he/ she is located in the outside world. The dream world in *Inception* needs an architect, so that team can easily orient within the maze-like dream space. Lefebvre continues that the *Right to the City* "cannot be conceived of as a simple visiting right or as a return to traditional cities…it can only be formulated as a transformed and renewed *right to urban life*" (158). This can be explained in the way that *Right to the City* is shaped by the participants in the city space. Since the dream space is being adjusted by every person from Cobb's team, the dream space is superimposed by many individual images of the city. Thus, the dream space is being shaped by the perception of the collective experience of constructed labyrinth-like space. While it resembles the theory of Lefebvre, the functions of space could be linked to Kevin Lynch and his theory of cognitive mapping.

Kevin Lynch describes the theory of cognitive mapping as a skill that requires us to comprehend the objects and symbols in the environment, which is crucial to our ability to perceive and orient ourselves in the city space (71). While there is a possibility to link the

concept of cognitive mapping to the functionality of the space in *Inception*, temporality changes the way we understand the dream space. In the dream space, temporality is constantly changing, as minutes in the real world become hours in the dream space, and the deeper one goes within the subconscious space, the more time stretches, so from days become months, and in the last third stage, one can spend decades. Therefore, *Inception's* dream space is a combination of patterns of time and constructed space with physical characteristics that do not serve as a mirror to a different world, but rather as a mediation that can be mapped through a cognitive approach.

One of the key narration elements in *Inception* is that dreams are always connected to each other, even though each of them has its own distinctive space, and each of them exists on a different temporal level. This means that what happens on the first temporal level, has consequences on a deeper level. Aylish Wood in her essay *Inception's Timespaces: An Ecology of Technology* primarily focuses on the connection between VFX and mediation of technologies. However, she also examines the relations between the space and the narration of *Inception*, which I find useful within the context of this chapter. She states that Cobb's wife Mal kills herself because his "insinuation of an idea in one reality gains traction in another; the whole purpose of the planned inception is to implant an idea ...that will have ramifications in the real world. Events in dreams have consequences: everything is connected" (Wood 537). Within the narrational space of *Inception*, there are certain objects and architectural patterns that have the potential to be used as a means of mapping for the cognitive dream world of the subconscious. As previously mentioned, Lynch differentiates urban space into five categories of paths, edges, districts, nodes and landmarks (47). Lynch's theory, like the dream space in *Inception*, draws our attention to various functions of space, with the purpose of orientation within the constructed environment. The complexity of dream space and the means of mapping can be further explained in the scene where Ariadne, the

architect, learns about her possibilities in the subconscious space. Understanding the architectural position of paths, edges, districts, nodes, and landmarks allows Ariadne to "emerge not just as the architect, but also as a character" (Wood 542). For this reason, she gains the ability to recognize certain objects in the labyrinth-like environment of dream-space, which allows her to orient in the space without any complications. This can be linked to the theory of Lynch, where the use of cognitive mapping allows the people in the urban space to "act and function in places effectively" (Lynch 71).

For instance, one of the most memorable moments in *Inception* (see Fig. 2) is when Ariadne folds Paris over itself. In this sequence, Ariadne manipulates architecture, which allows her to map a flow of the movement within the dream space. She represents both Daedalus and Ariadne from the Greek myth of Minotaur, as she reshapes the space by causing the paths, edges and intersections to bend according to her vision, by which she is able to direct the subject in a specific direction as well as pointing toward the physical objects (landmarks) from the real world that serves as a reference for the orientation in a dream space. Later on, she uses two created mirrors to extend the view of the bridge, which causes the pre longing the bridge into infinity from both directions. This trick causes Ariadne and Cobb's reflections to multiply, which links it to temporal functionality.

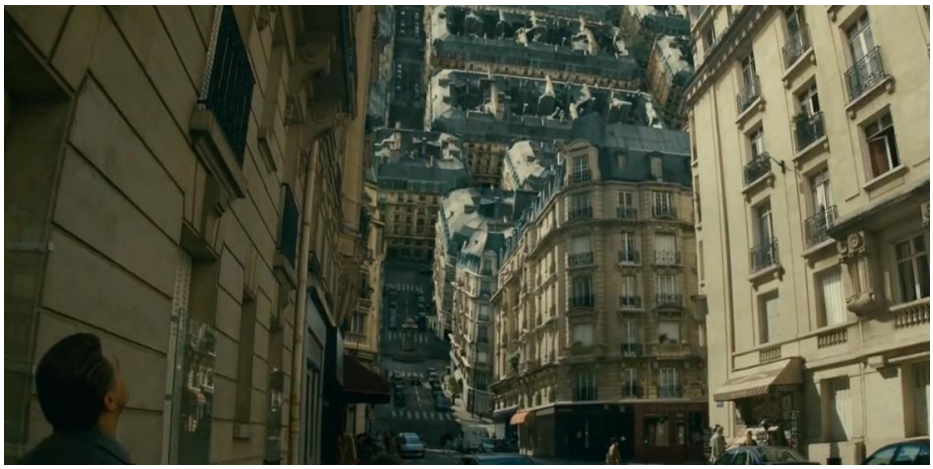

Fig. 2: "Ariadne folds Paris over itself". *Inception*, 2010, 00:30:09. Warner Bros, Blue Ray.

Virilio states within the context of cinema and space that "coming together time means inversely, distancing oneself in space" (74). This can be linked to the temporality of the dream space. It can be deducted that Ariadne moderates the perspective of the viewers in the dream space, as she breaks "through the surface spectacle of her constructions" (Wood 542). She can move freely through the distinction of space, just as Ariadne and Cobb can walk "vertically onto the folded over streets of Paris, they can enter into the extended spaces created by Ariadne" (Wood 542). Therefore, Ariadne's character breaks through the fundamental understanding of dream space, as she remediates the understanding of the cognitive mapping of the dream space for the viewers. If she would not possess this ability of mediator, the team and assumably the viewer would end up in a difficult position of disorientation. Lynch points out this problem in the context of the urban space, "where major paths lacked identity or were easily confused one for the other, and the entire city image was in difficulty" (52). The theory of cognitive mapping can be further used in the exploration of space-time in *Inception*; however, I will leave it for now, as the theory would represent an important aspect in chapter three.

In the narrative world of *Inception*, the perception of reality seems to be clear, as the characters find themselves in reality when they wake up. While most of the characters are able to distinguish between the dreaming world and reality, Cobb questions reality precisely because of his wife Mal. Mal is dead in the real world but fully alive in Cobb's subconscious, "from where she disrupts his plans and taunts him about the status of his reality" (Wood 536). Travelling through the dream levels makes one question the true nature of reality. For this reason, every member of the team has a totem, which ensures them about their state of presence. The sense of mediation that is present through these objects allows them to "alter an input as they modify the meaning or the elements they are supposed to carry" and serve as a backdrop "for human action" (Wood 538).

Furthermore, I will try to explain how characters can move through space-time in the dream world. When characters transfer themselves to the second dream level, the labyrinth space is constructed as a hotel building. Throughout the film, this dream level loses its gravity which is caused by the temporal consequences between the dream levels. In this sequence, on the first dream level, the van where the team is located is falling off from the bridge. Since the flow of time varies on each dream level, the time on the first level slows down, and level two loses its gravity (see Fig. 3). The artificial gravity that was constructed on the second level loses its ability due to the temporal actions that are simultaneously happening on the first dream level. Therefore, these temporal consequences connect different dream levels, which create a space where characters can move through time. The temporality changes its functions from maintaining time continuity to a time that has spatial characteristics. Thus, the different levels of dream space change into one meta-space that produces freedom of movement within its temporality (Wood 540). While they are able to travel through time and space, the temporality in the dream world shapes their subconscious, which makes the characters question proficiency of the real world.

Fig. 3: "Second dream level with no gravity". *Inception*, 2010, 01:38:06. Warner Bros, Blue Ray.

The present time for Cobb does not progress but repeatedly "spirals back to his significant moments, fuelled by guilt, traumatic loss and regret" (Furby 256). While there is a significant difference between *Interstellar* and *Inception*, there is a similarity, mainly because of "the manner in which time is dilated in the various dream levels" (Furby 256). Similarly as in *Interstellar*, there are also five different temporal levels. The real world, the first dream stage, where ten hours in the reality corresponds to a week in a dream world, the second stage where reality resembles six months, the third stage, where reality seems like ten years, and limbo that resembles eternity. Limbo carries "religious connotations, being part of Dante's landscape of hell… a liminal space where time stands still and where the subject is caught waiting, suspended between states" (Furby 256). The totem he has, "the spinning top is symbolic… of his marginal atemporal existence" (Furby 256). This is caused by the fact that the dream world has its own laws of temporal fluidity, and therefore, there is no guaranteed shift from one temporal state to another. For this reason, the viewer will never find out whether Cobb escaped from limbo or remained stuck between temporalities.

Chapter 3

The Mapping of Reversed Space

In *Interstellar*, it was suggested that time does not operate as a path of one speed and one direction, but rather as space, where movement is free in many directions. Through the maze narrative of *Inception*, it was discovered that time and space conflate to one meta-space in the world of the subconscious, where temporality is connected through different levels of dreams. While both *Interstellar* and *Inception* carry a resemblance in terms of temporal and spatial conflation, the film *Tenet* functions distinctively. In *Tenet*, time does not conflate with space; rather they both work together hand in hand within its cinematic world. *Tenet* as a word is a palindrome, which has a specific function of readability back and forth. Already the name of the film suggests that time flows in two directions, forward and reversed. As the relationship between time and space functions in a different manner, the primary focus of this chapter will be the proposition of how *Tenet* might be understood and mapped in the terms of temporal-spatial relations. In this chapter, I will examine *Tenet* through the theories of Kevin Lynch and Henri Lefebvre.

Tenet starts with a death of a secret agent that is being referred to only as The Protagonist. After the film's title credits, he wakes up only to find out that the death was a test, and he is being recruited to prevent an international disaster. As he is slowly diving into the espionage world, he finds out that the most powerful person and the antagonist of the film, Sator is able to communicate with the future whilst being in the past. While the protagonist, Neil and his team are trying to stop Sator, they find out that he is armed with the ability to travel backwards through time. Kat, an abused wife of Sator joins the team, as she is being threatened to never see her son Max again. Throughout the complicated narration of the

film, reversed timelines and surprises, they are able to prevent Sator's disaster. However, at the end of the film, the Protagonist finds out that he is the creator of Tenet, that Neil and himself have been recruited by his future self, and that Neil will die in the past. Whilst Kat and her son Max are being saved, there is a possibility that Max is actually Neil that came from the future to save the Protagonist in the past.

Tenet's temporal functions are intertwined with its timelines. The central concept of the film is that the future invented a device that is able to create time inversion. When a person or item is sent through this device, it starts to travel in time backwards at a constant pace. Many films that deal with the topic of time travel have their protagonists travel variously from point B to point A without any complications. In *Tenet*, "the inverted person moves backwards in time at a steady rate" from the point in time B to point in time A (Swaminathan n.p.). In contrast to *Interstellar* and *Inception* where spatiality simultaneously changes and expands with temporality, the space in *Tenet* remains singular. For this reason, all the other characters or the people in the film that remained in the regular flow of time will see inverted characters doing everything backwards. Despite the fact that space remains unchanged, spatiality could be perceived from several different perspectives in time. Because of the inversion, a single character could perceive the same point in time and space from multiple perspectives whilst being part of different timelines.

For instance, in the airport sequence (see Fig. 4), the Protagonist and Neil have to destroy a painting from Sator's vault that is located underneath the airport. In order to get to the vault without noticing, they crash a plane to the airport building, which causes distraction from their act. After they open the vault they do not find a painting that they have been looking for, instead, they find a machine that looks like a turnstile. Two masked men jump

out of the turnstile, which are two protagonists from the future. At this point in time, there are three protagonists in one particular place following different timelines.

Fig. 4: "Airport sequence with three Protagonists". *Tenet*, 2020, 00:45:36. Warner Bros, Blue Ray.

The understanding of this space can be further explained with the assistance of Lefebvre's theory. While Lefebvre's theories primarily focus on the perception of urban space, I will try to use his discoveries and apply them to the spatial-temporal relations in *Tenet*. According to Lefebvre space is intertwined with time. The way to comprehend the historical starts in the present, then it follows back to past "and for new foresights of future again returns to everyday life of now" (28). This can be linked to the airport sequence. The first Protagonist is set in the present moment; therefore, he is the one that guides the viewer through the narration of the film. The second Protagonist is inverted. He is the one that travels back in time and comes from one of the sides of the rotating gate. Lastly, the third Protagonist is the one that comes from the future and reverts himself using the rotating gate. The third and second protagonists emerge together through the gates, as both of them are one week from the future. The third Protagonist that is inverted reverts himself back in the forward direction of time, and "he exists the turnstile in the current time as a time traveller" (Swaminathan n.p.). Neil starts to chase him but when he discovers that it is the Protagonist,

he lets him go, as he knows to not interfere with the future. The second Protagonist is inverted and starts to fight the Protagonist from the present moment.

The first Protagonist represents the 'present', the second Protagonist represents 'the historical', and the third Protagonist represents 'the future' that comes back to the past. For this reason, the space-time in *Tenet* could be linked to Lefebvre's conceptualization of space. He identifies space as a social place that is shaped by the presence of its actors (Lefebvre 57). Or in other words, space is produced by social agents and their actions. Therefore, the "production of space produces its own space" (Lefebvre 28). Here, all three Protagonists are coming from different timelines, but they all meet at one point in time and space. Thus, by doing so, it might be assumed that they shape the spatial-temporal environment and create new space, which may escalate into time and space conflation. However, it may also be linked to Lefebvre's concept abstract space. For Lefebvre, space is a product of complex social constructions, which affect spatial perception. Abstract space represents a space where contradictions shape a new space. He states that abstract space is not defined "by the empty spaces" nor on the basis of "what is perceived...it is not transparent and cannot be reduced either to logic or to a strategy... It also relates negatively to something which it carries within itself and which seeks to emerge from it: a differential space-time" (Lefebvre 50). He further continues that an abstract space harbours certain spatial contradictions (Lefebvre 52).

These spatial contradictions rise from older contradictions that are being thrown away by historical time (Lefebvre 52). This could be linked to the second protagonist that became inverted, as his presence creates a temporal contradiction. Furthermore, Lefebvre states that while there are 'old contradictions', new ones emerge, which are "liable eventually to precipitate the downfall of abstract space" (Lefebvre 52). This resembles the fight between the present/first and second protagonist as the present protagonist does not know that he is

fighting himself, and the second protagonist cannot interact within the timeline. On one hand, it eliminates the old relations while it creates new ones on the other. Although Lefebvre talks about space in different context, it is, in a particular way which I explain below, applicable to *Tenet.* Because of its negativity, the abstract space "carries within itself the seeds of a new kind of space…'differential space', because, inasmuch as abstract space tends …towards the elimination of existing differences or peculiarities, a new space cannot be born (produced) unless it accentuates differences" (Lefebvre 52). Therefore, when all three protagonists meet, spatiality as they know it changes, which might resemble the theory of abstract space as a new time-space is created. While everything that is mentioned above is just a hypothesis, I believe that this constellation of space might assist in understanding/ interpretation of the space-time perception in *Tenet*.

Furthermore, I will lay the proposition for the mapping of *Tenet's* space-time through the theory of Kevin Lynch. In the motorway sequence in Tallinn, the Protagonist and Neil are trying to retrieve plutonium from a moving vehicle before it would get to Sator's hands. They manage to obtain plutonium; however, Sator hijacks them whilst being inverted. The entire sequence ends in a warehouse where the Protagonist encounters the inversion turnstile for the first time. In order to retrieve the plutonium back, the Protagonist goes through the turnstile and becomes inverted. Up to this point, the method of cognitive mapping functions similarly as Lynch describes in his theory, where the skill to "recognize objects in our environment is critical to our ability to act and function in places effectively" (Lynch 71). However, everything changes when the Protagonist gets inverted (see Fig. 5).

Fig. 5: “The Protagonist gets inverted”. *Tenet*, 2020, 01:35:57. Warner Bros, Blue Ray.

As Lynch identifies, there seems to be a public image of any given environment, which is composed out of many different individual images that help to operate within the environment (46). As previously mentioned, these images could be separated into the categories of paths, edges, districts, nodes, and landmarks. Lynch states in the context of the urban space that most people recognize only paths, as they represent predominant way to orient in the city (Lynch 49). However, Lynch stresses out that in the process of way-finding, the “link is the environmental image, the generalized mental picture of the exterior physical world that is held by an individual. This image is the product of both, the immediate sensation and of the memory of past experience, and it is used to interpret information and to guide action” (4).

In *Tenet*, the Protagonist walks out of the warehouse, he is inverted, but the world is not. His mental image of the environment is distorted, and the perception of the external world is fragmented, primarily because of the inversion of time. While Lynch focuses on the functionality of urban space, the theory could be linked to *Tenet’s* space-time, as the Protagonist encounters “mystification, labyrinth, or surprise in the environment,” in the same

way as the city walker in the Lynch's urban space does (5). For this reason, I propose a theoretical extension for Lynch's theory. While Lynch's theory focuses on the cognitive mapping of the city space, I will try to incorporate his theory into the spatial temporality of *Tenet*, which will focus on the mapping of space-time.

The theory of cognitive mapping could function in the forward timeline of *Tenet*. However, the ability to invert time changes the trajectory of its function and order. When the inverted protagonist steps out of the warehouse, he perceives the flow of time in reverse. He does not enter a new dimension (*Interstellar* or *Inception*); he enters the same world, where space is perceived on a specific level of subjectivity. Since time functions in reverse, the relationship between characters and space shifts as well. Concerning the urban space, Lynch states that it is crucial to focus on the memory "of past experience... to interpret information and to guide action" (4). The protagonist's way to guide himself in the reversed space is to focus on the memory from the reversed past, to navigate himself in reversed space-time. While Lynch's theory focuses only on space, there is a need to change the functionality and characteristics of cognitive mapping, in order to incorporate temporality into the equation. For this reason, the five distinctions of cognitive mapping gain new abilities. Paths represent timelines, edges become shifts in timelines, districts are distinctions between the reversed and regular flow of time, nodes represent the moment 'after' in the reversed space, and landmarks focus on a significant moments in time.

According to Lynch, paths are channels through which people move in the cities (47). However, in the narration of *Tenet*, multiple timelines move through the forward and reversed flow of time. Lynch emphasizes that paths are predominantly significant, as they organize the mobility in the environment (47). Therefore, in terms of *Tenet*, paths have to function equally, as in time, like in space. Through the memory of reversed past, the characters are able to move and orient in the space-time environment. Because of the

inversion, the characters cannot jump from one point in time to another. They move backwards at a constant pace in time, which equals the possibilities for mapping the temporal spatiality in *Tenet*. Therefore, in *Tenet's* inverted space-time environment, paths represent inverted and reversed timelines, through which the characters can move, orient and function. This explains how the Protagonist is able to follow Sator and himself in the past. Through the cognitive approach, the Protagonist and the characters see timelines as paths through which, similarly as in the context of urban space, they organize the mobility of the space-time environment. Here, paths gained the ability to function not only through space but also time.

Within the city space, edges represent breaks in continuity in the urban environment (Lynch 47). In *Tenet*, they might be applied to the inversion turnstiles, as entering the turnstile breaks the continuity within the space-time, which causes the characters to shift their temporal position in space. The example that illustrates this could be the airport sequence, where the present protagonist meets his future and inverted self.

In Lynchian terms, districts represent areas distinguished by individual characteristics (Lynch 47). However, I propose the use of districts in a way to distinguish normal and reversed flow of time. By the specific characteristics like the use of oxygen mask, backwards movements, and inverted bullets, the Protagonist can distinguish whether characters or objects follow the inverted or forward timeline. Nodes within the urban space function as focus points for orientation within the environment (Lynch 47). Therefore, in *Tenet*, according to my proposition, nodes would function as a moment 'after' in real-time, and a moment 'before' in reversed time. When the Protagonist inverts himself, he knows that he has to follow Sator to the moment before the car crash, as it was the moment in which he retrieved the plutonium (see Fig. 6). By following the timeline to the moment 'before', the Protagonist can orient himself in the environment. Lastly, from Lynch's perspective, landmarks represent the external objects for the orientation within the city space (48). In

Tenet, they might be visualized as the concrete moments in time. After the car chase sequence, the protagonist, Neil and Kat travel through time and space to Oslo airport, where they would reverse themselves back in the natural flow of time. This act at the airport represents the fixed concrete moment, since after they reverse themselves back, they are allowed to follow the natural order of time. Therefore, within the extension of this theory, landmark does not only represent a moment, but also a specific place. This can be noticed through the presence of spatial paradox within the timeline or unchangeable moment. Throughout the film, there are more concrete moments, which could resemble the landmarks that character could use in order to locate themselves in the space-time environment.

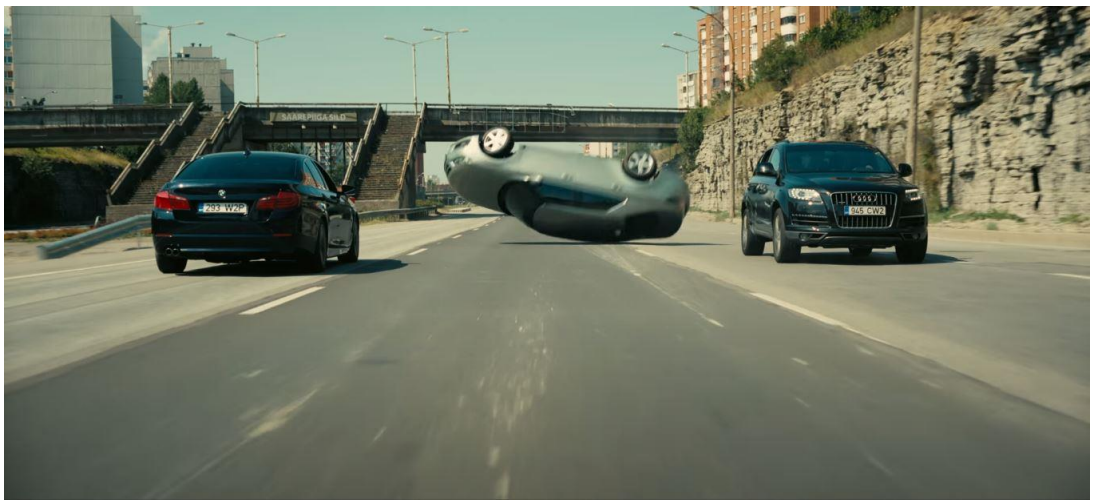

Fig. 6: "The moment before car crash". *Tenet*, 2020, 01:20:03, Warner Bros, Blue Ray.

Tenet and its incorporation of time-space spectacle might represent the most complex Nolan film up to date. Mainly because of the complex functionality of time, many aspects in *Tenet* remains unresolved, assumingly for the freedom of interpretation. While there might be many possible interpretations of cinematic temporality and spatiality, I decided to use the theories of Lefebvre and Lynch to take a rather unconventional approach that would possibly enrich the understanding of *Tenet's* space-time functionality. For this reason, the proposed extensions might represent a new perspective on the way we look at the functions of space-time on screen.

Conclusion

In this thesis, I stated that cinema has privileged time. This phenomenon is noticeable throughout the years of development of the cinematic medium, which strictly distances itself from the other mediums of art. While the discourse surrounding temporality is rather distinctive and complex, cinematic temporality resembles the perception of time from the position of the human mind. From the perspective of human memory regarding time, there is no question of speed, space, past or future; and the same can be applied to the cinematic perception of space-time. Therefore, cinema can be perceived as a medium that breaks the boundaries of space-time where the narrative re-orders and alters spatial and temporal understanding.

However, the wave of postmodernism brought new insights into the discourse of cinematic space-time. In the sphere of postmodern cinema, temporality and spatiality are being challenged and refashioned in a way that temporality obtains characteristics of spatiality, which hypothetically creates an environment where movement is free through time and space. For this reason, the three films of Christopher Nolan served as a basis for the analysis, whether time can function as space.

I argued that Nolan is fully aware of the temporal-spatial possibilities that the cinematic medium represents. In the films *Interstellar*, *Inception* and *Tenet,* temporality has a very specific role, as it does not function only as a flow of actions that has one direction and speed, but rather as a labyrinth that structurally resembles constructed space where Nolan's characters can travel through the space-time continuum. Throughout the research, I discovered that in the context of Nolan's films, time does not only function as space but also shares the similarities of orientation and guidance in the constructed environment, which can be linked to the theories of urban space. The unconventional use of the theories by cultural/urban thinkers within this context broadens the understanding of the cinematic space

in *Interstellar*, *Inception* and *Tenet*, as well as provides the proposition for the mapping of temporal spatiality. The extension of urban theories, primarily of Lefebvre and Lynch, could be further used to explain and possibly map other films that incorporate the topics of space-time within the narrations.

The sense of understanding and mapping of the space-time in *Interstellar*, *Inception* and *Tenet* is very much connected to the characters and the environments in which the films are set. Through this, I discovered that the possibility of remediation of space-time is not only achievable through analysing different environments but also through the analysis of the characters that can shape and move within the environment. Despite the cognitive approach that was used in the analysis of these films, every film had one protagonist that was somehow connected to the temporal functions of a certain space. The presence of these characters might be interpreted as guides that navigate viewers through the temporal spaces of these films.

While this thesis laid down the propositions of the basic concepts for the understanding and mapping the space-time in films, deeper research needs to be made with more complex analysis and use of thinkers such as De Certeau and more. For future research, I propose to analyse Christopher Nolan's *The Following, Prestige* and *Memento,* where one could focus on the discontinuity and oblivion of the 'postmodern men', in relation to cinematic time and space.

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