

## Philosophy, Cognition, and the Cinesthetic Body

The role of cognitive film theory in current film studies scholarship is expletory at best. Creating controversy in the 1980s with Noel Carroll's aggressive renouncing of traditional, psychoanalytic film theory, cognitive film theory was seen as a threat to developing theories of film rather than a step in a new direction. As technology of the time was unable to support Carroll's call for empirical, scientific methods of understanding the spectator and the film, cognitive film theory was marginalized in the larger field of film theory. In the past thirty-years, however, developments in neuroscience and immersion technologies have aided in pushing for an answer to the question, "what makes a good film?". Or even more broadly, and perhaps in a more philosophical vein, "what makes a film, a film?". Though many scholars have come up with answers to these questions — like Musternberg's technical focus on camera angles, lighting cues, and shots — these answers are complicated by even more recent technologies such as streaming services and virtual reality. With thousands of movies available at the click of a button, does a film have to be conventionally *good* to be seen? Are filmmakers able to be more experimental with their films because of the medium? Suddenly, the philosophy of film as well as the role of the spectator becomes unclear. Film can be vastly more experimental and reach a broader audience while spectators have the freedom to choose their viewing environment. How does the role of the spectator change when experiencing digital media? In this paper, I argue that in the advent of new media such as virtual reality as well as the growing philosophical trends in cinema, the application of cognitive film theory is crucial to understanding the role of the spectator's body in relation to both the traditional and immersive screen. I will begin this paper with a brief overview of the traditions of both the philosophy of film and cognitive film theory. I

will then address current theories concerning the role of the spectator in cinema as well as virtual reality. Finally, I will consider Charlie Kaufman's philosophical thriller *i'm thinking of ending things* (2020) as a piece of non-traditional cinema on a digital platform that serves as an example of cognitive film theory in action.

## **I. Philosophy and Cognitive Film Theory**

Cognitive film theory developed in the late 1980s as a response to traditional modes of understanding and interpreting cinema. Carroll was the first to notably speak out against the conventional psychoanalytic methodologies for understanding and interpreting films in his book *Mystifying Movies: Fads and Fallacies in Contemporary Film Theory* (1988). Two years earlier, David Bordwell, Janet Stiger, and Kristin Thompson published *The Classical Hollywood Cinema: Film Style and Mode of Production to 1960* which aimed to call into question current Hollywood analysis of cinema; however, Carroll's remarks received much more attention as his aim was not to propose a new way of analyzing cinema, but to discredit any previous attempts at totalizing the cinematic experience claiming that previous theory has "impeded research and reduced film analysis to the repetition of fashionable slogans and unexamined assumptions" (234). Bordwell would go on to claim something similar in his article "A Case for Cognitivism" (1989) as he claims that contemporary film theorists desire to ignore cognitivism and constructivism in favor of more Lacanian and psychoanalytic theories fails to acknowledge the audiences' prior knowledge and understanding of the world. Bordwell claims:

To learn something, you must already know something else. So if your theory of cinema assumes that discursive conventions, being historically and culturally contingent, must be

learned, then the theory must either devise a new theory of concept acquisition or resort to some version of constructivism. (21)

For both Bordwell and Carroll, film theory's focus on psychoanalysis proved too hermeneutic – explication without explanation. Though differing in approach, both Bordwell and Carroll advocated for a less subjective, less interpretive model of film theory that not only included the spectator but also provided empirical data that could be traced and clearly supported on an objective level.

Much like cognitive film theory, the philosophical study of film came into popular conversation in the 1980s. Though the aesthetics and philosophy of art have been present as far back as Aristotle's *Poetics*, an attempt to classify and understand Greek tragedy as an art form, the attempt to address contemporary film through philosophy was problematic. In an attempt to classify what makes a film a film, philosophy first struggled to classify film as an art form. Hugo Munsterberg attempted to answer this question by asserting that specific technical devices such as the close-up and the flash-back are specific indicators of film's unique role in the world of art. As Thomas Wartenberg addresses in his comprehensive analysis of the relationship between philosophy and cinema, "The debates about what the philosophy of film should look like are really just being joined. This is because it is only recently that a scientific conception of the philosophy of film has emerged as a competitor" (Wartenberg). It comes as no surprise then that the philosophy of film is tightly interwoven in the study of cognitive film theory. As Wartenberg points out, philosophy is not the only advocate for the study of film scientifically: "This idea of modeling the discipline of the philosophy of film on the natural sciences has been prominent among *cognitive film theorists* (Bordwell and Carroll 1996; Currie 1995)" (Wartenberg).

The desire for empirical modes of classifying and understanding cinema as well as answers to the questions about cinema's role in art-proper led to various experiments and models with cognitive film theory as their basis. Prior to Bordwell, Carroll, and Munsterberg, a Russian filmmaker named Kuleshov attempted to demonstrate the way in which he believed film differed as an art form from literature and theatre. Through editing, Kuleshov was able to demonstrate how the viewer makes inferences and projects emotion on the characters on the screen simply by showing the same image of a man and changing only what he was looking at. When looking at a small child in a coffin, the emotion interpreted is sadness. When looking at food, it is hunger. Despite the image of the man remaining the same, the audience perceived different emotions depending on the context of the photo itself (Figure 1). As developments in neuroscience surfaced, other modes of demonstrating and plotting cognition and the cinema emerged. Notable was Uri Hasson's *Neurocinematics: The Neuroscience of Film* (2008) where Hasson and colleagues "used functional Magnetic Resonance Imaging (fMRI) technology to look at what happens in the brain during film viewing" (Brown 280). Through this process, Hasson et. al. were able to demonstrate two things: (1) some type of cognition is inherent in the film viewing process and (2) in many instances subjects had the same neurological response to the same scenes in the films. This led Hasson to propose what he called Intersubject Correlation (ISC) implying that certain parts of the brain process certain aspects of cinema. In Brown's assessment of Hasson's work, he claims Hasson's discoveries lead to a specific conclusion:

that certain film styles induce greater rates of ISC than others and that the film style perhaps most close to natural vision (an absence of cinematic techniques like cuts, and an absence of a clear narrative) in fact involves the lowest amount of ISC. That is, we

perhaps tick less collectively during natural vision than during film viewing. (Brown 282).

Not only does Hasson and his colleagues' work prove cognition is an integral and plottable part of the view viewing experience, but they also attempt to provide an answer to the question of what makes cinema, cinema. According to Hasson, films that employ continuity editing have a greater ISC than films that do not. This in turn leads Hasson to suggest that films with higher ISCs are actually *more* cinematic than those with lower ones (Brown 283).

Only a few years before Hasson's experiment, Torben Grodal attempted to craft a method of his own for understanding the general aesthetics in film viewing. He called this model the PECMA model (perception, emotion, cognition, and motor action). His model, though less experimental and connected more closely with the philosophy of the mind, saw the process of film viewing as a four step process (Figure 2). First was the perception of the image where the brain "finds salient forms in the chaos of information that arrives through the eyes and the brain receives a small emotional reward every time it discovers a significant form" (Grodal 4). After determining what is worthy of perception, the brain then matches these worthy images with memories or prior knowledge. Next, the image moves to the cognitive phase where the spectator relates the image to the characters and the plot within the film. The final step of the model "involves the vicarious implementation of those action tendencies that are the end result of the emotional processing described previously" (Grodal 6). Supporting Bordwell's observations, Grodal's model suggests that one must address the prior knowledge of the spectator in attempting to classify and understand the spectator's relationship to the events on the screen.

So where does the philosophy of film come into play? As Grodal suggested in the final step of his PECMA flow, the cognitive process requires a sort of "motor action." Grodal defines

this further by claiming that unlike paintings in a gallery, the artist has more control over what the viewer perceives thus making films “well-suited to simulating affordances, or lack of affordances, for action” (6). Where cognitive film theory is said to be lacking in emotional engagement, the philosophy of film steps in and offers two theories that may help in understanding Grodal’s motor action. First, *simulation theory* supposes that through imagining a scenario, one is required to engage with his or her emotions. Wartenberg compares this process to a computer program where the “emotions are running *off-line*” (Wartenberg). He elaborates by explaining that though the spectator is feeling the emotions associated with the events and characters on the screen, they are running off-line and thus the spectator is not inclined to act on those emotions by yelling or storming out: “The simulation theorist says that the reason for this is that, when we experience an emotion off-line that would be distressing in real life, we may actually enjoy having that emotion in the safety of the off-line situation” (Wartenberg). Though the emotions felt by the spectator in respect to the screen may be unpleasant, philosophy of film seems to suggest that the ability to experience these feelings in a controlled environment is part of the appeal of film itself. The other theory presented by Wartenberg is the *thought theory*. This theory, similar in many ways to the simulation theory, presupposes that we can have emotional reactions to thoughts themselves. While watching a film, it is our own thoughts, our fear that the villain will kill the hero, or that the hero will not make it back in time, that propel our emotional responses. Yet, we are still acutely aware that the film is fictional and thus we do not feel we are responsible for defeating the villain or saving the hero. Wartenberg claims that, “As a result, there is no need, says the thought theorist, for the complexities of simulation theory in order to explain why we are moved by the movies.” Of course, both theories leave many questions unanswered, but still they demonstrate the ways in which the philosophy of film and cognitive

film theory aim to answer similar questions about the spectator and the role of the spectator's body in film.

To end this section on the history of cognitive film theory and the philosophy of film addressing one of the most common critiques of the practice would be misleading not to mention untruthful. While cognitive film theory has gained popularity in recent years, Bordwell and Carroll's "intensely cerebral" methods of examining film and cognitive science have been heavily debated (Voss 145). Using Sobchack's term the 'cinesthetic body,' Christine Voss as well as Francesco Sticchi argue that Bordwell and Carroll's understanding of cognitive film theory is entirely disembodied and leaves no room for the spectator (Voss 145). That being said, I argue that the addition of the philosophy of film to cognitive film theory helps to remedy this issue.

## **II. The Cinesthetic Body in Cinema and Virtual Reality**

As virtual reality grows in popularity so does the desire to understand how and if cinema compares as an immersive experience. Most newer film theories agree that despite being passively seated, the spectator is anything but passive. While watching a movie the film viewer is "cognitively active in selecting, encoding, and constructing their part of the filmic discourse" (Hutson et al. 2). Hutson and his colleagues found through tracking spectator's eye movement when presented with two scenes — one with context and one without — that eye movement remained largely the same. Despite not knowing they should be paying attention to the car in the scene, spectators seemed to focus on it nonetheless. In their conclusion, Hutson et al. reinforce what Spielberg labels the "Tyranny of Film." In other words, film has the ability to actively manipulate perception. What the film is unable to do, however, is manipulate the cognitive

process. While both groups focused on the car, only the contextualized group were aware of the stakes — the couple in the car was in danger. The group without the context, on the other hand, did not comprehend the imminent threat. In both instances the groups were forced to perceive the material given, and though both focused on the same aspects of the scene, their comprehension of the scene was different (Hutson et al. 20).

In a similar experiment, Valentijn T. Visch et al. tested the “effect of cinematic immersion on two central-processing mechanisms: emotional experience and genre categorisation” (1439). Focusing, for our purposes, more on the emotional and cognitive experience, they identify two types of emotions: “The first based on the illusion of being physically present in the fictional world... the second type of emotions is based on the viewers’ awareness that the fictional world is presented by way of artefact” (Visch et al. 1440). They predicted that higher immersion would result in higher levels of FW (fictional world) emotions with lower A (artefact) emotion. Through the use of a 3D projection and a CAVE (immersive virtual reality theatre) they concluded that “all viewer emotions, regardless of their being FW or A emotions, increase with increasing viewer immersion” (1442).

So what does this say about the spectator’s body and the role it plays in the cognitive process of film? First, Hutson et al.’s experiment suggests that cognition and comprehension in film viewing are inseparable. Viewing only part of a scene removes the cognitive aspect of Grodal’s PECMA model. Without cognition, the ability to relate previous character choices, movements, and scenes to the larger plot of the film is rendered impossible. This then suggests that the environment in which a film is viewed can alter comprehension. In an increasingly digital age where movies are available to start and stop at whim and where the cinema is mobile, the filmmaker no longer has control over the spectator’s gaze. Though the colors and framing on



the screen may position the spectator's gaze, environmental factors outside of the film itself may distract the viewer causing him or her to miss the couple getting into the car resulting in comprehension that is led only by the lack of context. With new media streaming services, the Tyranny of Film no longer holds its spectators' bodies hostage. Before, being forced to sit in a dark theatre, with no control over when the movie begins or ends, and often without distractions such as cell-phones, the spectator's body was passive. Now, the body is an active participant in new media films as we can pause, rewind, fast-forward, turn our attention away from the screen, or watch as we are riding the subway or going on a run.

In this way, the role of the cinesthetic body in streaming cinema has become much like the body in virtual reality. As virtual reality itself grows in popularity, a number of ways to experience the immersive experience have developed. Some experiences immerse the spectator in-so-far as they can control when and where the camera moves while watching a predetermined sequence of events. Others allow the viewer to directly interact with the world — moving objects, walking to and from rooms. Even these intense simulations differ in their approach to constructing the role of the spectator in the immersive world. Rather than streaming cinema where the body is active in the world and the navigation of the film, virtual reality allows the cinesthetic body to be active *within* the world of the film.

Just as streaming cinema is determined by the spectator's relationship to the environment, so is virtual reality. In a 2016 study, Bailey et al. used the embodied cognition approach to explore the effect of virtual reality on outside perception: “according to an EC approach, cognition is grounded in the body's relationship to the environment. Mental representations are stored through a multimodal system that integrates memory, perception, action, and introspection” (222). Though their study revealed no significant correlation to virtual

environment and external world perception, they still questioned the effect of “virtual embodiment on the users’ behaviors and attitudes” suggesting that perhaps environment alters our cognitive process of viewing and comprehending both virtual reality and cinema (223). One notable aspect of Bailey et al.’s study is the lack of the physical “self-avatar” in their immersive technologies. Though they were able to manipulate the environment of the participants in a way that made it preferable to use one hand rather than the other, the simulation provided did not place the spectator *in* the virtual world. In other words, when the spectator looked down, they did not see a projection of their own body, but rather disembodied space.

The idea of disembodied space in virtual reality leads to one such cognitive debate concerning the effectiveness of the immersive experience without the presence of a self-avatar. In 2016, Ye Pan et al conducted an experiment to test the effectiveness of a self-avatar on the ability of the spectator to more effectively move throughout the space. After asking participants to do the same task — organize numbers on the desk in front of them according to the pattern they saw before— trying once with no self-avatar and once with a self-avatar they concluded that “an active self-avatar may alleviate the mental load of doing the spatial rotation exercise and thus improve letter recall. The results are further evidence of the importance of an appropriate self-avatar representation in immersive virtual reality” (67). That being said, the role of the cinesthetic body in virtual reality is less complicated by the immersive nature of the experience. Just the ability to move one’s head in a different direction to experience a different perspective already both physically and cognitively engages the spectator’s body in a way that cannot so clearly be done through cinema alone. So how, then, does the cinesthetic body present itself in cinema proper? Is there a place for the spectator’s body in cognitive film theory? In the next section, using the example of Charlie Kaufman’s most recent film *i’m thinking of ending things*,

I will demonstrate the way in which the film itself serves as an exploration of the cinesethic body and the relationship between the present spectator and the omnipresent screen.

### III. Cognitive Film Theory and the Cinesthetic Body in *i'm thinking of ending things*

In 2020, Charlie Kaufman, noted writer of *Eternal Sunshine of the Spotless Mind* (2004), wrote, directed and released a new film on Netflix titled *i'm thinking of ending things* (2020). Those familiar with Kaufman's work should not be surprised to hear the film described as a philosophical thriller as many of Kaufman's previous films deal with philosophy and time (*Being John Malkovich* (1999) and *Anomalisa* (2015) to name a few). Yet, it seems in his most recent film, Kaufman takes his love for the abstract and philosophical a step further. Unlike *Eternal Sunshine of the Spotless Mind* and *Being John Malkovich*, *i'm thinking of ending things* ends without explanation. If it is supposed to be a philosophical thriller, it provides little understanding of life at the close of the film. Instead, viewers walk away confused by the lack of plot and storyline within the film as characters age and de-age, change clothing, profession, name, and preferences right in front of their eyes.

As a film with a significant philosophical basis, it seems that cognitive film theory is crucial to *understanding* the film, not just *interpreting* it. An interpretation of the film is surface in many ways — the young woman is not real, she is a creation of a much older Jake's fantasies, and it becomes somewhat clear at the close of the film that the repeated motif of "I'm thinking of ending things" is not referring to a relationship but to Jake's suicidal thoughts. The film's preoccupation with age and aging suggests a philosophical contemplation of life and what it means to grow old when "age is very unkind." But again, these observations are surface level observations. Yes, the film invites its viewers to contemplate life and perhaps suggests that one

makes the most of the time they have; however, these interpretations leave little room for the viewers *feelings* towards and about the construction of the film itself.

Using models of cognition, beginning first with Hasson's ISC model, Hasson would argue this film is less cinematic than traditional cinema. With its discontinuity between scenes as well as the constant re-defining of the characters, it is difficult to predict how and when a spectator will relate to the world of the film. I would like to challenge Hasson here, briefly, and suggest that the very discontinuity of the structure would perhaps create its own set of data. What parts of the brain fire when we recognize something has changed? Where do we see the most activity when we are confronted with actions or spaces that do not make sense? When the young woman first meets Jake's family dog Jimmy she is unnerved by the way he repeatedly shakes his head first to dry himself and then, it seems, he continues because he is unable to stop. This scene is perhaps one of the first scenes in the film that really suggests something unnatural is occurring. I wonder if in these moments as spectators when we are recognizing the unnatural nature of the film, if similar parts of our brains are firing, attempting to problem solve, to make sense of the scenes before us.

If we view the same scene of Jimmy shaking through Grodal's PECMA model, we most likely come to the same conclusion. We perceive Jimmy, the room, the rug on the floor, the cracks in the walls, but we choose to focus on Jimmy simply because he is moving in the center of the screen. Through association, perhaps our own memories of our dog at home or an old childhood friend's pet, we understand that this behavior in a dog is normal for a short while but the repetition of shaking his head back and forth is not typical canine behavior. We then move to cognition — an attempt to connect this scene, our understanding of its unnaturalness, to the larger story of the film. Is there something sinister going on here? Is the dog being mistreated?

This leads us, finally, to motor action. We *feel* unnerved. Just as the young woman questions what she is seeing, a look of despair and uncertainty flashing across her face, we as the spectator have come to the same conclusion — something is terribly wrong here. Yet if we look at this scene only through interpretation — only through the hermeneutic lens — all we understand is the young woman is made uncomfortable by the dog. It is misleading to label the dog as the source of her uncomfortability. It is not the dog itself that makes the young woman uncomfortable, but the dog's actions and her prior knowledge of standard canine behavior.

It is not just about the spectator coming to the same conclusion as the character, however, as is clear in a later scene in the film. When the young woman finds Jake's childhood bedroom after dinner, she is met by his father — now much older and suffering from dementia — and Jake who is feeding his now immobile, sickly mother. Though as spectators we know that no significant amount of time has passed between the last scene and this scene (the entire film occurring in one evening), the young woman seems unphased by the sudden passage of time. Where we *perceive* the father as being older and grayer, *apply* our prior knowledge of time and aging, and come to the *conclusion* that time is moving unnaturally in this narrative, the young woman perceives the unnatural motion of time as natural. She is not concerned with the discontinuity but instead accepts it to be part of the narrative.

It is the desire to make sense of — to understand — paired with the *simulation theory* of philosophy, that makes cognitive film theory imperative to understanding philosophically grounded films such as *i'm thinking of ending things*. In the final moments of the film we learn the film itself has been an experiment in *simulation theory*. Jake, now an old man, is imagining what it would have been like to go out with the girl he met at the bar. Knowing nothing about her, Jake creates scenarios in which he takes her home to meet his parents alongside scenarios in

which he wins a nobel prize, and one in which he is the star of the high school's production of *Oklahoma!*. Through these imaginary scenarios he *feels* the emotions associated with them – sadness, pride, loneliness. Unlike Grodal's model, however, his motor action does not remain in the simulation. Instead, these feelings manifest physically as he strips down and wanders into the snow, presumably ready to commit suicide. In some ways, this meta-performance mimics our cognitive process of watching the film. We are watching these scenes and scenarios play out, all of which we are aware are imaginary, yet we are still having emotional reactions as a result of our phantom experience.

Similarly, the character of the young woman, constantly re-characterized and re-named, serves as a representation of the cinesthetic body. By the end of the film, she becomes the self-avatar of the spectator. Like the spectator, she is the only character untouched by the unnatural movement of time, yet she accepts its movement as natural in the world of the film. Her perceptions and understanding of the world are manipulated by her prior experience – specifically her experience with media such as art and poetry — just as the spectator brings his or her perceptions and prior knowledge to the theatre. Seemingly, she is the main character, the focus of the film with which the spectator identifies, yet as the film progresses it becomes clear she is a creation of the film itself. A fantasy of the true main character Jake, she, like the spectator, is a phantom body. Finally, just like the cinesthetic body in the cinema, her presence though real and unreal at the same time is crucial to the understanding of the film. As the philosopher Dr. George Berkeley once said, “If a tree falls in the forest and nobody's around to hear it, does it make a sound?” Without the cognitive presence of the cinesthetic body, film has no audience, no subject, and ultimately no meaning.

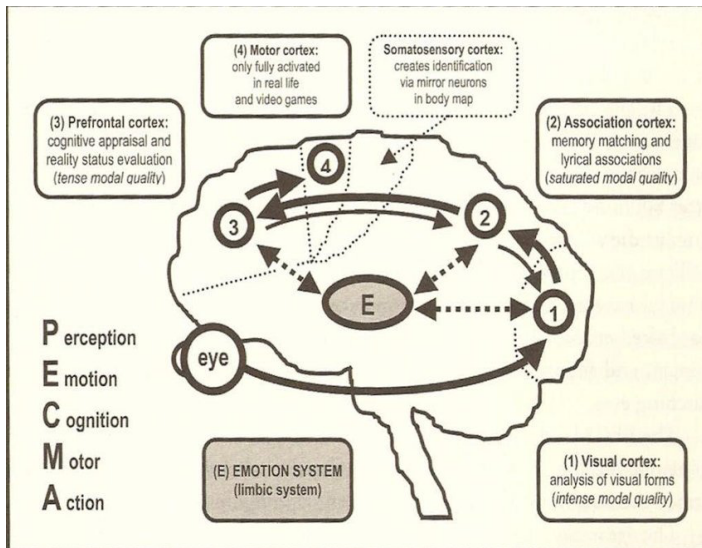
#### **IV. Conclusion**

Though cognitive film studies remains in the margins of film studies as a whole, I am suggesting here it is because of a lack of philosophical focus alongside cognitive ways of viewing film. As demonstrated through various experiments and cognitive models, it is difficult to contest that cognition plays a role in understanding film. It seems, however, the question is not whether or not cognitive film theory is crucial to understanding cinema, but instead whether or not can we understand cinema through cognitive film theory alone. As demonstrated through the focus of this paper on new media such as streaming services and virtual reality, the role of cognitive film theory has significantly changed in the face of technological developments. Where it was once a mode of exploration, it has now become a crucial part of identifying the spectator's role in the cinematic universe. There is still much work to be done in developing the relationship between the cinesthetic body and digital media, specifically through empirical studies of how environmental factors such as place and space affect viewer understanding and interpretation of streaming cinema. In the meantime, however, I assert that the first step to understanding our innate desire to relate to and exist within the action on the screen is to incorporate both philosophy and cognitive film theories — starting inside and moving out.

Figure 1



Figure 2





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