



The Cinematic Narrative of Space and Ambiguity Interaction: The Case of the Film *Arrival*

Beyza Sıla Selçuk, Independent Researcher, beyzasilaparas@gmail.com

Asu Beşgen, Karadeniz Technical University, abesgen@ktu.edu.tr

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Abstract

The study aims to explain the phenomenon of ambiguity through space -a shared construct of architecture and cinema- and to discuss how ambiguity-generating spatial indicators are produced through cinematic narratives. In this aim, the article focuses on the spatial potential for complexity, contradiction, and ambiguity, as emphasized by Robert Venturi. The concept of ambiguity accompanies the exploration and revelation of spatial potentials. Accordingly, the article takes the film *Arrival*, directed by Denis Villeneuve in 2016, as a case study. Rather than treating ambiguity as an accidental feature of the film, the study approaches it as a consciously designed aesthetic visual strategy. Through its non-linear temporal structure, the initially unclear purpose of the alien visit, and the spatial organization of the alien environment, the film creates layers of interpretive uncertainty. These characteristics make *Arrival* a productive case for examining how ambiguity operates within cinematic space. The main materials in the article include visuals from the film, as well as statements from the director and the design team. So, the study adopts a multi-layered analytical framework that combines spatial analysis and semiotic interpretation within a phenomenological perspective. Rather than being treated as separate methodologies, these approaches function as complementary analytical layers. To begin with, spatial analysis is employed to identify the physical and configurational properties of the selected scenes. Secondly, narratives are used to interpret the symbolic meanings embedded in spatial elements. Finally, a phenomenological perspective is taken as an interpretive layer to reveal the experiential and perceptual dimensions of space. In this way, the approaches collectively contribute to understanding both the physical and experiential meanings of cinematic space. The film's spaces are categorized as primary and secondary, and the analysis reveals how certain settings contribute to spatial ambiguity and reinforce the film's ambiguous narrative structure.

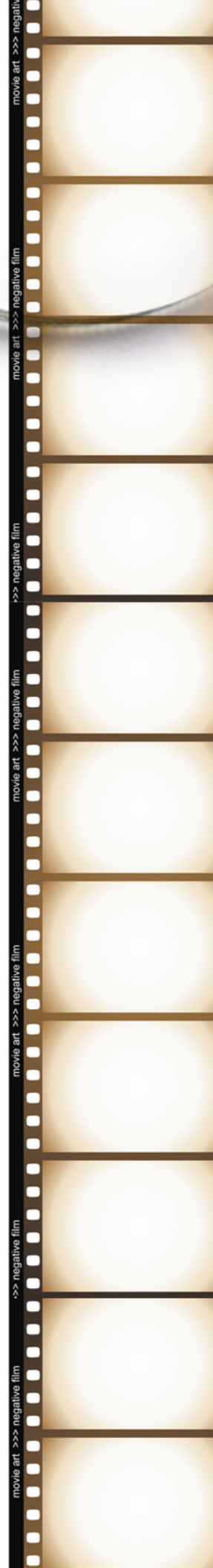
Keywords: architecture; space; ambiguity; cinema; *Arrival*



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Asu Beşgen

Introduction

Ambiguity generally refers to the coexistence of multiple meanings or layers of information within a given context and reflects the partial and incomplete nature of knowledge (Arıcı, 2009, p. 10). Rather than implying that meaning is entirely unknowable, this concept suggests that interpretation can remain open to different readings. In the context of artistic productions, ambiguity can be understood as a condition that allows stylistic differentiation to emerge within established aesthetic and narrative conventions. In this sense, ambiguity may contribute to the diversification of artistic expression and the development of different forms of representation (Aydın, 2022, p. 162).

Cinema and architecture have long been considered related disciplines, particularly in terms of their engagement with space. While architecture organizes the physical environment, cinema represents and reinterprets spatial experience through visual and narrative tools. In this context, space can be considered a common medium through which both disciplines produce meaning and shape perception. Therefore, addressing the concept of ambiguity through space

at the intersection of cinema and architecture may contribute to the development of an interdisciplinary perspective.

The main problem with this article lies in the limited attention in the literature to the potential of space, beyond being merely a physical background, to generate ambiguity as a component contributing to the formation of cinematic narrative. For this reason, it is considered necessary to examine ambiguity not only through spatial perception but also in relation to other narrative components such as time, character, and communication. In this context, the article aims to examine how ambiguity emerges from the relationship between spatial configurations and narrative elements in cinema, and to discuss the role of space in the narrative. Rather than suggesting that space alone produces ambiguity, the study examines how ambiguity emerges from the relationships between spatial arrangements and other narrative components, such as time, character, and dialogue.

Hence, the film *Arrival* was selected as an appropriate case study because ambiguity is strongly constructed through the representation of extraterrestrial beings and their spatial presence at the narrative's center. Throughout the film, ambiguity is constructed through elements such as the form, location, lighting, and texture of spaces, all of which can be evaluated within the framework of architectural and cinematic meaning production through a

scene-based analysis. To this end, the film's spatial structure is classified into primary and secondary spaces according to their contributions to narrative progression and meaning production. This distinction is made to reveal more clearly the spatial configurations through which ambiguity emerges. Considering all the spaces used in the film, it can be argued that the “*Arrival* as an object”, which is central to the narrative, constitutes the primary spaces. These primary spaces include the shell and its surroundings, the entrance to the shell, the hall, the interior of the shell, the partition wall/back surface of the shell, and the environmental condition resulting from the shell's disappearance. Secondary spaces in the film include Dr. Louise's home, the hospital, and the school. However, rather than strictly following this classification, the analysis is presented according to the order in which these spaces appear in the film. This approach makes it possible to follow the spatial and narrative progression as experienced by the viewer.

As a consequence, the study proceeds from the assumption that cinematic space can function as a narrative device that contributes to the emergence of ambiguity. Accordingly, ambiguity is approached not merely as a thematic element but as an effect arising from the relationships between the spatial organization of cinematic environments and other narrative components. In the remainder of the article, the theoretical framework concerning the

relationship between ambiguity and space is discussed, followed by an analysis of the spatial scenes in *Arrival* within this framework.

Conceptual Framework

Space is an open-ended concept that has been discussed across numerous disciplines and continues to be interpreted in new ways. Although a generally shared understanding of space can be observed in every era, individuals have always shaped spaces according to their own perspectives or the distinctive spatial understandings of the cultures to which they belong, as well as their efforts to create unique environments (Altan, 2012, p. 75).

Since early periods, the concept of space has been interpreted in different ways across disciplines. While space is often described through physical and visual characteristics such as form, material, scale, and spatial organization, it has also been examined through experiential and relational dimensions, including perception, meaning, historical context, and socio-economic relations (Gürer, 2016, p. 31). As a result, space has begun to be evaluated as a field of potentialities within the framework of various spatial theories, such as “lived space”, “heterotopia”, “third space,” and “counter-site” (Ürem, 2019). Phenomenological approaches to space emphasize that spatial experience cannot be reduced to purely geometric or physical structures. Gaston Bachelard suggests that lived space exceeds geometric description, noting that “a house that has been experienced is not an inert box; inhabited space transcends

geometrical space” (Bachelard, 1958, p. 47). These perspectives indicate that space is not merely a physical container but a field in which meanings and experiences are produced. Building on this understanding, Michel Foucault introduces the concept of heterotopia to describe spaces capable of juxtaposing multiple and sometimes incompatible spatial orders within a single site (Foucault, 1967). This spatial multiplicity provides an important theoretical background for architectural discussions of ambiguity. In this context, Robert Venturi argues that architectural space can accommodate complexity, contradiction, and multiple meanings rather than pursuing a single unified order (Venturi, 1966/1977) as:

I welcome the problems and exploit the uncertainties. By embracing contradiction as well as complexity, I aim for vitality as well as validity. ... I like elements which are hybrid rather than “pure”, compromising rather than “clean”, distorted rather than “straightforward”, ambiguous rather than “articulated”, perverse as well as impersonal, boring as well as “interesting”, conventional rather than “designed”, accommodating rather than excluding, redundant rather than simple, vestigial as well as innovating, inconsistent and equivocal rather than direct and clear. I am for messy vitality over obvious unity. I include the non sequitur and proclaim the duality.

Alongside Venturi, Bernard Tschumi also states that the dualities of contradictions and uncertainties are elements that foster the development of architecture (Usta, 2020, p. 27). Space emerges through its inclusion of the concepts of time and life; therefore, what is ambiguous is spatiality itself (as cited in Serin & Aksoy, 2020, p. 9).

According to Maurice Merleau-Ponty, ambiguity is not a flaw of consciousness or existence, but rather one of their fundamental characteristics. Within this perspective, space is

understood not merely as a physical arrangement but as a domain that acquires meaning through human existential experience. Merleau-Ponty also notes that an audible rhythm can influence the flow of cinematographic images and generate the perception of movement, emphasizing that perception is shaped through the interaction between different sensory domains (Merleau-Ponty, 1945, p. 264-265). This suggests that experience is inherently ambiguous and that perception always remains open and incomplete in its structure. Building on these theoretical perspectives, and in the context of the study, ambiguity is considered not merely as a cognitive uncertainty or a multiplicity of interpretations, but as a phenomenon, which can be examined through three interrelated dimensions: Spatial ambiguity, experiential ambiguity, and perceptual ambiguity.

Such these three dimensions can be observed in Libeskind's Holocaust Tower at the Jewish Museum: The tower is accessed through a heavy metal door leading from a well-lit area. Upon entering, the visitor encounters a dark interior illuminated only by a narrow opening in the ceiling (Balkan, 2005). As the door closes loudly behind, the sound and the abrupt transition from light to darkness disturb the visitor's sensory orientation. Subsequently, the limited lighting and the vertical shaft of light descending from above make it difficult to immediately grasp the scale and boundaries of the space, thereby destabilizing spatial perception (Figure 1).

A similar spatial experience can be observed in Peter Zumthor's Bruder Klaus Chapel. Situated in a vast, undeveloped landscape, the chapel's tall and narrow form prompts reflection on its function and the reason for its presence. The ambiguity here does not arise from formal complexity alone but from the visitor's perceptual and sensory experience of the space. From the outside, the structure appears as a compact rectangular concrete volume, while the interior reveals a soaring conical cavity. This contrast between exterior form and interior spatial experience destabilizes the visitor's expectations and produces an experiential form of spatial ambiguity. This contrast between the exterior form and the interior spatial experience destabilizes the visitor's expectations. This contrast between the compact exterior form and the expansive interior space destabilizes the visitor's spatial expectations. Inside, the charred texture and scent of wood, together with the natural light descending from above despite the surrounding darkness, produce a multisensory environment that cannot be fully grasped through visual perception alone. As a result, the visitor is compelled to gradually reconstruct their understanding of the space through bodily and sensory experience, producing a form of experiential ambiguity (Figure 2).

Ambiguity, can also arise when one or more of the human senses such as sight, hearing, smell, taste, or touch are restricted (Zhong, 2015, p. 18). For instance, the Swiss Pavilion in Hannover serves as a resting area where Expo visitors can relax and listen to live music. Peter

Zumthor divides the interior into a labyrinth-like layout using wooden lattice structures. Within the space, people can hear sounds and perceive scents, yet they cannot clearly see what lies behind the walls. The combination of the smell and texture of the wood, together with the movement of people within the shared environment, produces a perceptual ambiguity in which sensory cues blur the visitor's immediate understanding of the spatial environment (Zhong, 2015) (Figure 3).



Figure 1: *Holocaust Tower*, Daniel Libeskind, Berlin, Germany, 2001 (Ribapix, n.d.).



Figure 2: *Bruder Klaus Chapel*, Peter Zumthor, Mechernich-Wachendorf, Germany, 2007 (Sveiven, 2011, January 27).



Figure 3: *Swiss Pavilion*, Hannover, Germany, 2000 (Halbe, n.d.).

Some installation works also enable space to be experienced differently by blocking certain senses or by confusing perception through sensory manipulation, thereby offering a new perspective on spatial experience. For instance, Olafur Eliasson's installation *Your Blind Passenger* allows only 1.5 meters of visibility inside a 90-meter-long tunnel filled with dense

fog. Under these conditions, visitors are forced to rely on senses other than sight as they move through the space and try to find their way (Figure 4). Eliasson aims to emphasize the significance of utopian potentials in an individual's relationship with the surrounding world (Kaya, 2014, p. 64). Similarly, James Turrell, in his work *Space Conditioning*, manipulates the viewer's perception by using the spatial void and invites them to experience the tension between what is actually there and what merely appears to be there (Figure 5). Another example, *Svizzera 240: House Tour*, created by a team of Swiss architects for the Venice Biennale, guides visitors through building elements designed at different scales, inviting them to reconsider and question spatial relationships (Mulla, 2021, p. 315) (Figure 6).



Figure 4: *Your Blind Passenger* Installation, Tate Modern, London, 2019 (Eliasson, 2010).



Figure 5: *Space Conditioning* Installation, ABD, 2013 (Smith, 2013).

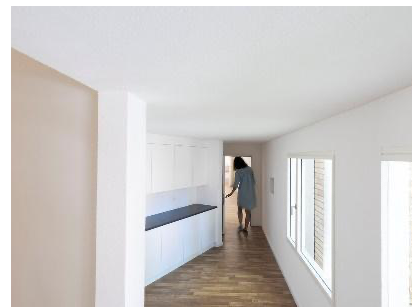


Figure 6: *Svizzera 240: House Tour* Installation, Venice Architecture Biennale, Italia, 2018 (AD Editorial Team, 2018, 12 June).

As a result of all these, the examples associated with ambiguity in the study are considered not merely as properties of spatial elements themselves, but as conditions that may emerge through the relationships and interactions established between spatial elements.

Cinema, much like architecture, makes use of space and spatial elements, additionally presents them as contextual settings in which the story unfolds. Although the primary material of cinematic space is the visual image, nothing is composed solely of visuals. For instance, a landscape that a viewer frequently observes or a street they have passed by every day for years may not hold the same personal meaning within the constructed framework of a film (Aliyev, 2017, p. 87).

Cinema narrative emerges through the combination of all cinematic elements such as character, typology, object, light, color, costume, space, and editing (Yaylalı, 2019, p. 215). These elements, through the fictional language of cinema, can direct perception. Space, as a fusion of reality and fiction, transcends the potential of its familiar meanings through factors such as the manipulation of time and characters, and the effective use of color and light, thus surrendering to ambiguity.

The director can create a cinematic space perceived entirely under their own control by using cinematic elements, thus guiding the viewer's experience. For example, director Stanley

Kubrick creates ambiguity through editing in his films. Kubrick, who employs cold cinematic atmospheres in *2001: A Space Odyssey*, almost never uses sensations that evoke human warmth. On the contrary, a constant distance exists between the characters and the viewer. This distance is constructed and emphasized through camera angles that highlight differences in the human-space scale (Figure 7). Even when his films do not end negatively, the narrative always remains open-ended in a state of uncertainty, thereby inviting the viewer from reality into entirely different and new stories (Köksal, 2015, p. 80).

Another example is Alfred Hitchcock, who creates ambiguity through space in his films such as *Rope*. In his works, as uncertainty increases, buildings become increasingly surreal, and eventually, fear can no longer be suppressed or released; the individual, through space, surrenders to fear (Beşışık, 2013, p. 70) (Figure 8).

Wes Anderson, on the other hand, creates ambiguity between the real and the unreal by using symmetry, color, and decor differently from these two directors. In his films, spaces aim to evoke positive emotions through the psychological effects of color (İnceoğlu, 2022, p. 202). Instead of realistically depicting cities in *The French Dispatch*, Anderson interprets the cities in which his stories unfold in his own distinctive way, creating spatial and temporal ambiguity;

the spaces he constructs are not real ones but caricatures of real spaces (Beyaz, 2022, p. 109)

(Figure 9).



Figure 7: A scene from *2001: A Space Odyssey: The Golden Room*, Stanley Kubrick, 1980 (Bulbapp, 2024).



Figure 8: A scene from *Rope* Brandon's Apartment, Alfred Hitchcock, 1948 (Mathur, 2017).



Figure 9: A scene from *The French Dispatch: A Street in an Imaginary French Town*, Wes Anderson, 2021 (Bumin, 2021).

In light of all these and many similar examples, the concept of ambiguity manifests in cinema both in terms of the movies' subject matter and their use of space. Within this context, the film *Arrival* is employed as the case study in this article to examine in detail how spatial configurations in cinema may facilitate the emergence of ambiguity. The film is adapted from Ted Chiang's short story *Story of Your Life* and received nominations in eight categories at the Academy Awards. The question "Why are they here?" appears alongside the image of an unfamiliar object positioned above the landscape and the promotional poster of the film also reflects this sense of ambiguous question (Figure 10). The object on the poster is depicted as a dark, elliptical form with smooth surfaces and no visible openings, details, or structural

components typically associated with spacecraft. Its minimalistic and monochromatic appearance, together with the absence of recognizable technological features, makes it difficult to clearly identify its scale, function, or origin, thereby reinforcing the film's atmosphere of uncertainty.



Figure 10: Posters of the film *Arrival*, Denis Villeneuve, 2016 (IMP Awards, n.d.).

As can be seen, the film centers on the arrival of non-human entities and their ships in twelve different regions of the world, and the subsequent effort to understand their intentions. To accomplish this task, the military draws on the expertise of linguist Dr. Louise and scientist Ian Donnelly who are in the leading roles. However, understanding the intentions of these entities proves to be more complex than initially anticipated, as effective communication requires learning their unique language. The interactions between humans and the non-human entities are shaped by partial understanding, misinterpretations, and uncertainties, reflecting the inherently ambiguous nature of language. From a semiotic perspective, the alien script may be interpreted as a system of signs whose meaning cannot be immediately stabilized and can only

be gradually understood through processes of interaction and interpretation. By the end of the film, Dr. Louise succeeds in deciphering this language and prevents a potential conflict arising from miscommunication between nations. At the same time, acquiring this language transforms her perception of time, revealing that the sequences presented as “flashbacks” throughout the narrative are in fact glimpses of the future. In this sense, the film not only addresses themes such as subjectivity, temporality, and human experience, but also suggests how linguistic ambiguity may shape processes of perception, interpretation, and decision-making.

Method

Every film, even during its scriptwriting stage, aims to convey multiple messages to the audience. To make these messages more comprehensible, elements such as costumes, sets, props, music, movement, and text are utilized. In *Arrival*, the sounds, colors, lighting, and spaces chosen by director Villeneuve and his team are designed as an integrated whole to support the concept of ambiguity, as will be seen in the following parts. The spatial configurations in the film -such as scene composition, lighting conditions, scale relations, and the interaction between characters and their environments- are examined as spatial signs. These elements are interpreted to understand how ambiguity emerges within cinematic space.

In this context, the study adopts a phenomenological perspective as a general theoretical framework to explore how spatial, experiential, and perceptual forms of ambiguity shape the viewer's experience and the meaning of space (Table 1).

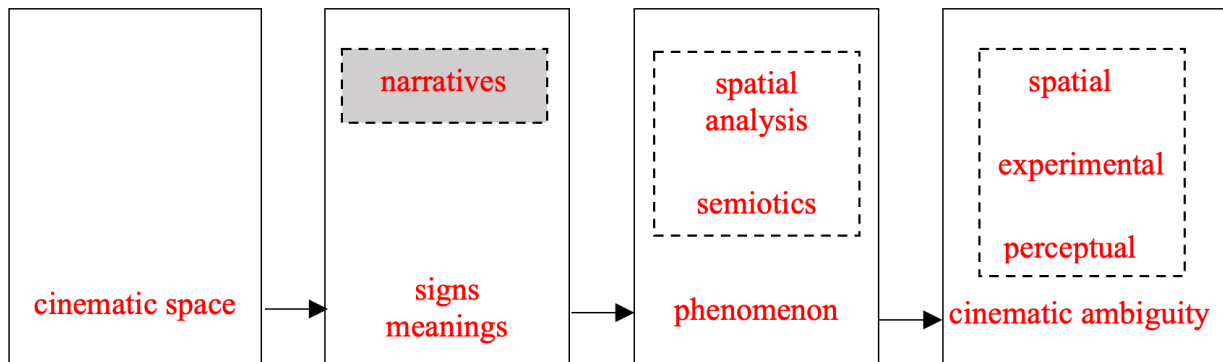


Table 1: The content of the analytical method.

Within this broader framework, the narratives are employed to examine the signs and meanings embedded in the film's spatial configurations. In contrast, spatial analysis and architectural theory provide complementary perspectives on how cinematic space is constructed and represented in the film from a general semiotic perspective.

Semiotics generally examines the relationships between different forms of expression. It questions the origin of meaning, its functions, how it can be represented, and how systems of meaning are classified and evaluated (Kıran, 2009, p. 3); it is a discipline that investigates what the visible intends to signify in reality (Çiçek, 2016, p. 27). David Bordwell argues that while semiotics produces meaning, ambiguity in contemporary criticism signifies polysemy.

According to him, a critically significant film is ambiguous, polysemic, and dialogic. Through his analysis of Orson Welles's films, Bordwell associates implicit meaning with the ambiguity of reality and suggests that in Welles's works, ambiguity is conveyed through themes, character depiction, and cinematographic elements (Bordwell, 1989, pp. 99, 211, 46). As a result, semiotics emerged as a theory established by figures such as Ferdinand de Saussure, Charles Sanders Peirce, and Roland Barthes; over time, it developed across different disciplines and became particularly effective in the field of cinema, which incorporates both sound and visual elements (Çelik, Arslan, Yıldız, & Kalp, 2023; Kırımlıoğlu & Şen, 2024; Kaya & Erbay, 2024; Günyol & Ergin, 2025).

Returning to the discussion of *Arrival*, the meaning of the “*heptapod*” language, which is one of the film's main elements, emerges not through decoding individual symbols but through understanding the relational structure among them. The interaction of ambiguity, which is addressed in the study, with other related concepts also contributes to its formation. This situation can be associated with Saussure's approach, which considers language as a system of signs. Saussure's dyadic sign model provides a theoretical framework widely used in film analysis, enabling the systematic examination of visual and written signs. According to Saussure, language is a system of signs that expresses ideas, and linguistic signs consist of

socially shared associations that gain collective recognition and exist as psychological realities. In this sense, the linguistic sign does not unite a thing and a name but rather a concept and a sound-image. A sign, therefore, consists of two components: the signifier (signifiant) and the signified (signifié). The signifier refers to the perceptible form of expression, while the signified denotes the conceptual meaning associated with that form (Saussure, 1959, p. 16-67).

In this context, Christian Metz conceptualizes cinema as a language-like system in which cinematic expression emerges through the combination of different modes of expression. According to Metz, the “matter of expression” in cinema consists of five primary elements: Moving photographic images, dialogue, sound effects, music, and written materials. Cinema, therefore, can be understood as a complex system composed of multiple codes that are reorganized within the “textual system” of each film, generating specific processes of meaning production (Tröhler, 2018, p. 20-21). Furthermore, Metz emphasizes the position of the spectator within the cinematic experience, discussing the subjective dimensions of film perception through the concepts of the cinematic apparatus (*dispositif*) and the “code of the spectator” (Tröhler, 2018, p. 20-21). This perspective suggests that meaning in cinema is not produced solely through the organization of visual elements but is also closely related to the viewer’s perception and experience.

This theoretical framework provides an appropriate basis for examining cinematic narratives in which visual and auditory elements operate together to produce meaning. Accordingly, spatial configurations, objects, atmosphere, and visual composition in the film are treated as signifiers, and the meanings they evoke are interpreted within a semiotic framework. The phenomenological perspective, in turn, offers a complementary approach for interpreting how these spatial signs influence the viewer's experience and perception of space.

The study examines the overall cinematic narrative and spatial structure of the film *Arrival*; however, the analytical sample is limited to spatial scenes that exhibit ambiguity. These scenes were identified according to the study's theoretical framework, which conceptualizes ambiguity through spatial, perceptual, and experiential dimensions. In this context, ambiguity is not treated as an inherent property of individual images; rather, it emerges from the meanings implied by visual elements and the relationships and interactions established among them within spatial compositions. Accordingly, particular attention was given to spatial situations in which scale becomes uncertain, orientation is disrupted, or atmospheric conditions -such as lighting and sound- affect the viewer's perception of space and contribute to an ambiguous spatial experience. The data for the study consist of scene records obtained through repeated viewings of the film, statements from the film crew, examinations of visual elements, and

comparative readings of similar conceptual analyses in the existing literature.

Findings and Discussion

Based on a phenomenological approach and narrative analysis, the study examines the multilayered meanings of spaces in the film *Arrival*. The primary spaces include the shell and its surroundings, the entrance to the shell, the hall, the interior of the shell, and the shell's partition wall/back. The secondary spaces include Dr. Louise's home, the hospital, and the school. Within this framework, the analysis focuses on how spatial, experiential, and perceptual ambiguity emerge through the spatial configurations and cinematic composition of these environments.

The film opens with a view of a late-afternoon landscape from Dr. Louise's home (Figure 11). In this scene, the colors are quite faded, and the lighting is almost non-existent. In the second scene, Dr. Louise is seen touching a baby's hand, and her face carries an ambiguous expression that combines both sorrow and happiness. This opening sequence introduces perceptual ambiguity through dim lighting, muted colors, and emotionally indeterminate facial expressions, preventing the viewer from immediately determining the scene's temporal and emotional context.



Figure 11: The narratives of *Arrival*: The beginning scene: Dr. Louise's home, Dr. Louise and her daughter.

Dr. Louise's home is spatially ambiguous in its location. No other buildings or developments are visible around the house. Dr. Louise's introverted character is conveyed through indicators such as muted color tones in scenes depicting the house, the absence of lighting, and the house's very austere furnishings (Figure 12). In some of these scenes, Dr. Louise speaks with her mother on the phone about the aliens' arrival on Earth; however, her facial expression conveys neither clear anxiety nor fear. While holding a drink, she watches the news reports about the areas where the entities have landed, maintaining a seemingly calm demeanor. Through Dr. Louise's character, the director cultivates ambiguity and deliberately avoids providing the audience with a clear indication of whether the aliens' arrival is beneficial or threatening to humanity. The house's isolation within the surrounding landscape creates spatial ambiguity about its geographic context, reinforcing the character's emotional detachment from the outside world. In this sense, the house functions as a space that reflects Dr. Louise's internal emotional state and shapes the viewer's interpretation of the unfolding events.



Figure 12: The narratives of *Arrival*: Secondary space: Dr. Louise's home.

In two consecutive scenes, Dr. Louise is seen walking in two different spatial environments. In the first scene, she walks along a circular path in a hospital corridor dominated by blue tones. In contrast, in the following scene, she walks linearly through a school corridor characterized by red tones. The sequential use of blue and red color palettes, together with the contrast between circular and linear movement, creates a perceptual tension between the two scenes. The absence of cuts during the walking sequences further emphasizes this contrast, contributing to an ambiguous perception of time and space (Figure 13). The first scene depicts a future event in which Dr. Louise perceives time multidirectionally, whereas the second scene depicts the present, in which time is experienced linearly. Here, perceptual ambiguity emerges through the combination of color contrast, camera movement, and temporal sequencing, which blurs the boundaries between space and time.



Figure 13: The narratives of *Arrival*: Secondary spaces: Hospital and school.

With the aliens' arrival on Earth, the number of students at the school noticeably decreases. In the scenes set at the school, muted color tones again dominate the visual composition (Figure 14). The reduced presence of students and the subdued color palette suggest the disruption of everyday life without directly visualizing the global crisis, thereby producing a subtle spatial ambiguity.

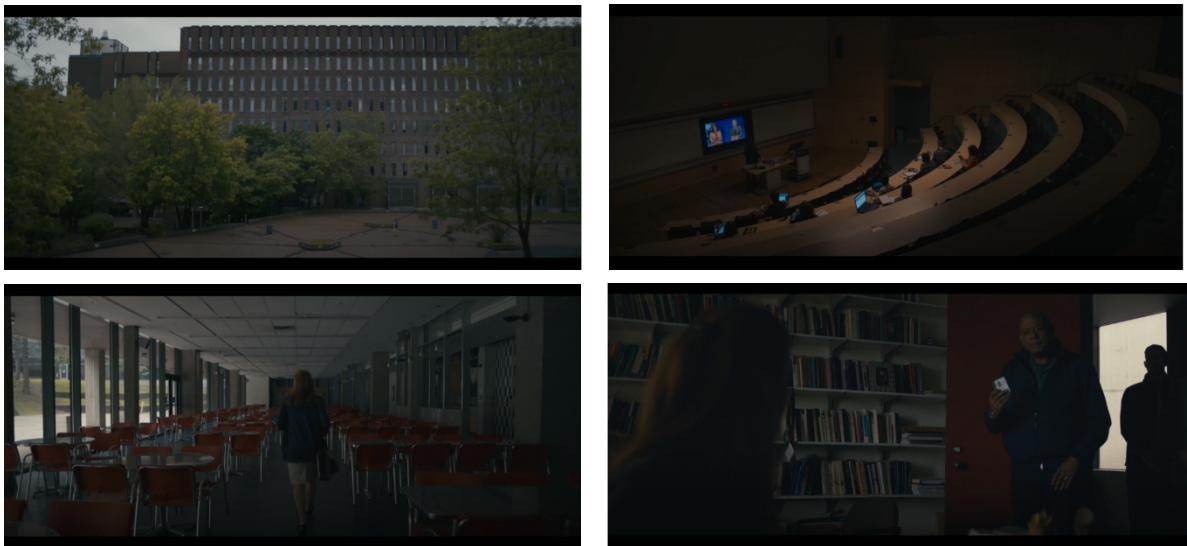


Figure 14: The narratives of *Arrival*: Secondary spaces: School.

Following the disruption of daily life, colossal alien spacecraft descend upon twelve different regions of the world, causing unrest in many countries. Dr. Louise is assigned the task of learning the aliens' language and travels with her team to the areas where the ships are

located. The ships are surrounded by an ambiguous, cloud-like atmospheric layer that spreads across a wide area, becoming visible even before the spacecraft itself becomes visible. This layer functions as a signifier, prompting viewers to question their perception and preparing them for the encounter with the ship. From a semiotic perspective, this cloud-like atmospheric layer serves as a visual signifier, indirectly indicating the presence of an unknown entity behind it. The spacecraft itself appears massive, looking far larger than the nearby military tents despite being located at a considerable distance. In several scenes, the director enhances the ambiguity of the ship's scale by intentionally leaving its boundaries outside the frame (Figure 15). The absence of a stable reference point within the frame prevents the viewer from accurately determining the object's scale, thereby reinforcing spatial ambiguity.

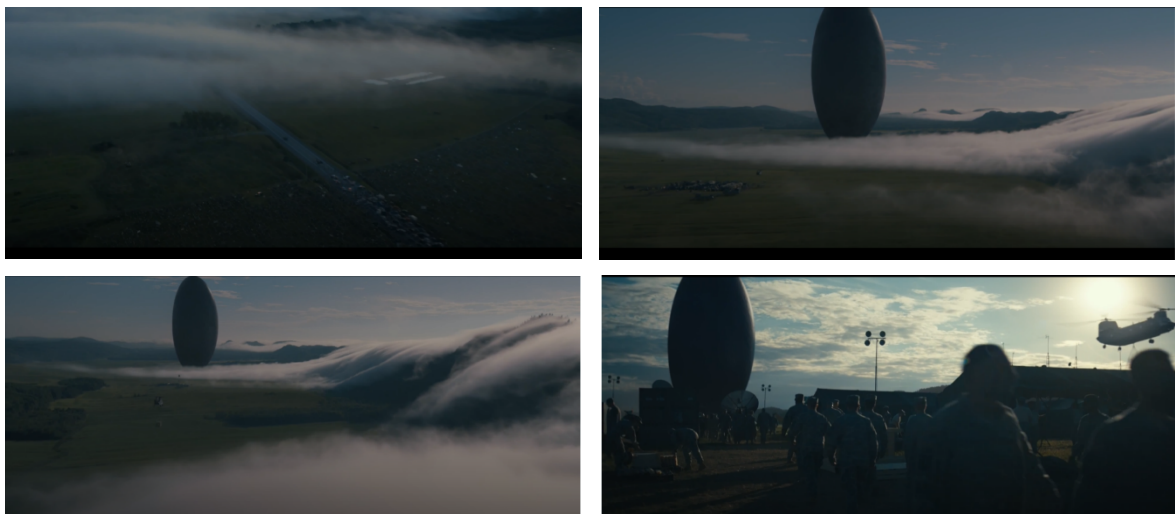


Figure 15: The narratives of *Arrival*: Primary spaces: Shell and its surroundings.



Figure 16: The narratives of *Arrival*: Primary spaces: Entrance to the shell.

The spaceship opens its entrance every eighteen hours and remains suspended approximately twenty-eight feet above the ground. This short distance from Earth represents the interaction between the familiar and the unfamiliar, the near and the distant. When first seen up close, it appears very different from the typical UFOs depicted in American science fiction films. The film's director and designer refer to this spacecraft as the shell. It has an oval shape, a hard, stone-like texture, and a dark, coal-like color. The shell's unusual geometry and minimal surface features make it difficult to associate with conventional technological objects, thereby contributing to spatial ambiguity. The director and designer intentionally crafted the shell to appear extraordinary and mysterious, imbuing it with deeper meaning (Figure 16). Concept designer Patrice Vermette explains this in his interview (Morgan, 2016, November 10) as:

The idea for the shape of these frames is Denis, the director. He had seen a photograph of a strange exoplanet outside our solar system, an oval-shaped planet, which inspired the ship's exterior design. It was

intended to appear alien to human civilization. The oval shape was slightly modified, one side was made concave, and the dark coal color was chosen to resemble a polished stone surface.

In the film, Dr. Louise and her team use a lever mechanism to enter the shell. As they are lifted, an unknown light source becomes visible inside (Figure 17). The director intended this light to evoke feelings of both danger and awe (Morgan, 2016, November 10). Gravity operates differently within the shell, and to fully enter it, the team must use the altered gravitational conditions to jump. During this transition, the characters move from a vertical to a horizontal orientation at the shell's entrance. From a phenomenological perspective, this destabilization of bodily orientation disrupts the viewer's habitual perception of space, producing an experiential form of spatial ambiguity. Patrice Vermette, the film's concept designer, comments on this aspect (Morgan, 2016, November 10) as:

Additionally, we wanted to contrast this with the modest effort required to access the alien technology. The military and scientific teams would approach the alien shell from behind white vans, then board a scissor lift to reach the portal and ascend from the ship's dark interior. A realistic approach was adopted to ground the story in plausibility. Deciding to make the ship vertical posed a challenge for us. We solved this by imagining that a change in gravity could occur once inside the ship. This required the teams to take an extra leap of faith. Our scientific and military teams would need to open their minds a little more before meeting the aliens, thereby jumping into a gravity shift that would carry them to the far end of a dark corridor, separated from the rest of their world.

In the space inside the shell where the team encounters the aliens, the wall joints are curved, and the walls are black like the ship itself (Figure 18). According to the film's designer, the wall texture was created to resemble sedimentary rock, representing the layers of history

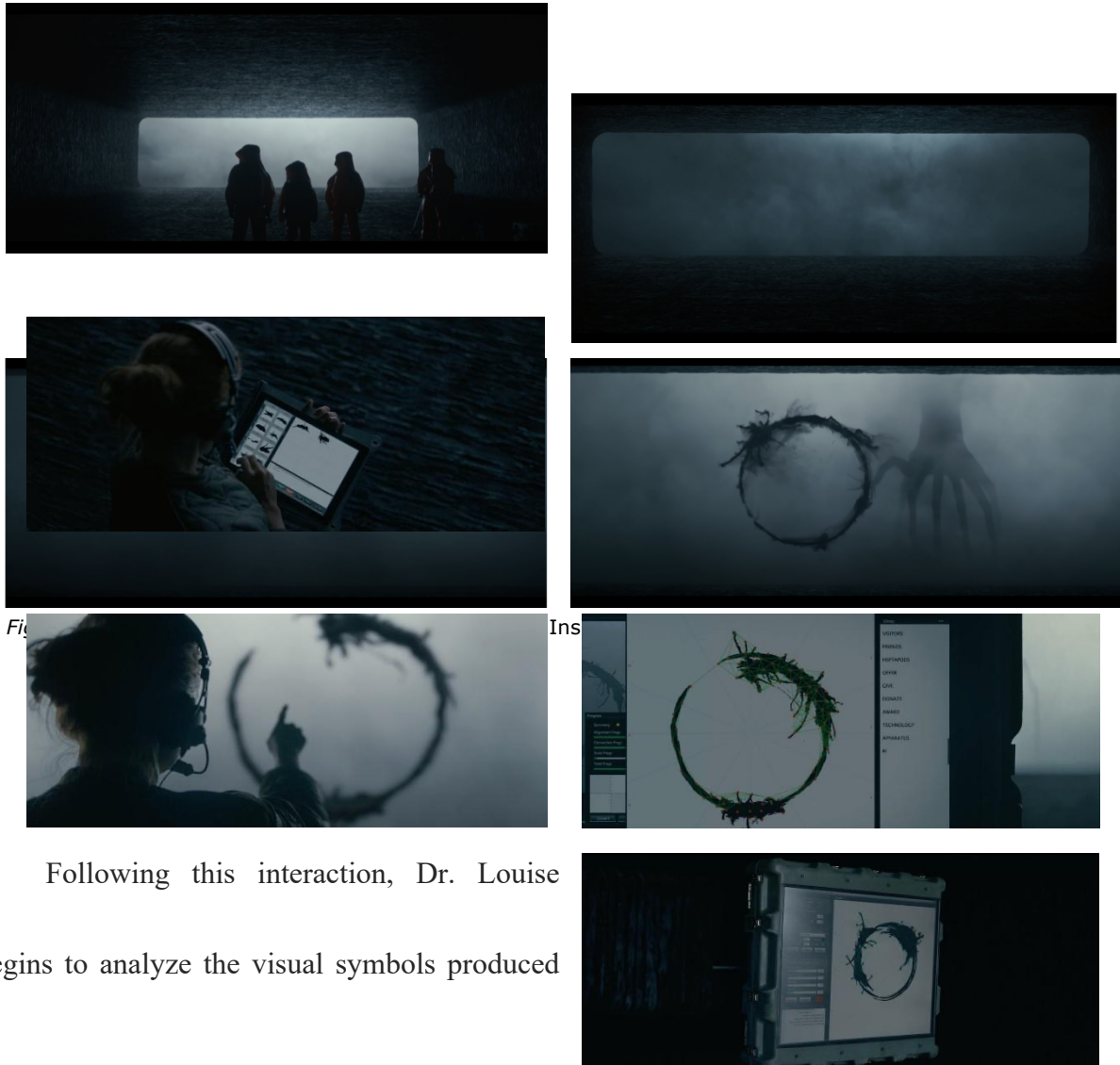
and wisdom of the alien civilization. The designer intended this main chamber to resemble a classroom to establish subtle connections between the aliens and Dr. Louise (Morgan, 2016, November 10). Additionally, the designer aimed to create a contrast between the sense of calm in the shell's dark meeting room and the chaos experienced in the white military tents.



Figure 17: The narratives of *Arrival*: Primary spaces: Hall.

Between the aliens and humans, a partition wall blocks airflow, and behind this wall, a cloud-like layer, also visible around the ship, creates ambiguity about what lies beyond. The aliens emerge from this misty layer and write on the partition wall. In the film's early scenes, both the aliens themselves and the language they use remain ambiguous. Overall, ambiguity emerges not from space itself but from the relationships and interactions between spatial elements such as color, texture, and form. The interplay of these elements within the spatial

composition can influence the viewer’s perception of the spatial environment. The cloud-like layer and the partition wall also reinforce this sense of ambiguity.



Following this interaction, Dr. Louise begins to analyze the visual symbols produced

Figure 19: The narratives of *Arrival*: Primary spaces: Partition wall (first symbols).

by the “heptapods” more systematically (Figure 19). The use of digital interfaces and comparative visual references demonstrates an attempt to interpret the alien language as a structured system of signs. This process involves identifying the relationships among signs to reveal their

underlying meanings. Therefore, the scene illustrates the gradual transition from ambiguity to interpretation within the communication process.

In the film's later scenes, Dr. Louise advances the communication process she has



established with the aliens. At this stage, she is

Figure 20: The narratives of *Arrival*: Primary spaces: Partition wall (complex symbols).

seen

communicating with them without wearing protective equipment. When one of the aliens extends its finger toward the partition wall, Dr. Louise responds by placing her hand on the same spot, creating a form of tactile communication between them. This moment indicates that the interaction between humans and the “*heptapods*” has evolved into a more direct form of communication. In the following scenes, Dr. Louise is seen writing a symbol on the partition wall using the “*heptapod*” language for the first time. This development may appear unexpected from the audience’s perspective. Subsequently, the “*heptapods*” produce more complex and

comprehensive symbols on the partition wall (Figure 20). Although Dr. Louise and her colleague Ian initially believe that fully decoding this writing may take a long time, possibly even years, in later scenes, they begin to make partial interpretations by examining the frequency of recurring symbols and the meanings of the individual symbols they have already identified. From a semiotic perspective, this situation suggests that the “*heptapod*” language can be understood as a system of signs in which meaning emerges not from individual symbols alone but from the relationships among them.



Figure 21: The narratives of *Arrival*: Primary spaces: Behind the shell’s partition wall.

In the film's final scenes, Dr. Louise communicates directly with the aliens behind the partition wall and enters their environment. The space occupied by the aliens is covered with a dense, cloud-like layer. The ground has a form unlike anything seen on Earth and is white, resembling travertine (Figure 21).

At the end of the film, steeped in ambiguity, the disappearance of the shell, that is, the alien spacecraft, occurs in a mysterious scene. The aliens vanish without leaving any trace, apart

from the gift they brought, the language, disappearing in a manner resembling evaporation, with no specific direction or orientation (Figure 22).

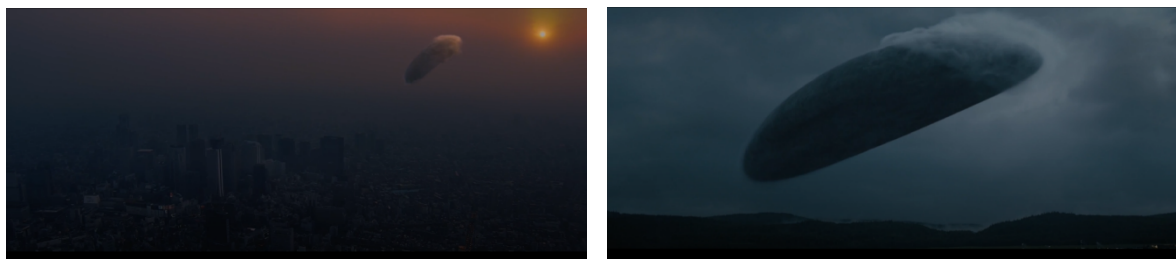


Figure 22: The narratives of *Arrival*: The end scene: Disappearance of the shell and its surroundings.

When these scenes are considered together, it becomes clear that in *Arrival*, ambiguity is produced not only through narrative content but also through cinematic strategies such as spatial arrangements, use of light, scale relations, and perceptual orientation. In particular, the spacecraft's interior (the shell) and the encounter with the “*heptapods*” emerge as the settings where this condition is most evident. The shell’s formal characteristics, the unconventional gravity system, and the transformation of spatial orientation generate an experiential sense of uncertainty for the viewer. In addition, the presence and modes of communication of the “*heptapods*”, as well as Dr. Louise’s facial expressions, can be considered among the elements that reinforce this ambiguity. While language plays an important role in creating ambiguity in the film, it can also be interpreted as a tool for understanding the aliens. In this context, ambiguity appears not only at the linguistic level but also at the spatial, experiential, and perceptual levels. It is related to how the viewer perceives and experiences space.

The director, at times, emphasizes the intended messages through multiple overlapping signs. In the film, the multidimensional nature of time -an element that plays a crucial role- is reflected both through actions, such as Dr. Louise's walking sequences, and through objects, such as the aliens' circular written language. Similarly, the dimensions and modes of existence of the aliens are conveyed through signs such as the shell that cannot fit within the frame, the vast, clouded chamber where the aliens appear, and the shell's instantaneous disappearance without any directional movement. Upon examining the figures, it becomes apparent that the film's scenes share similarities in both color and spatial composition. The director uses color to convey the film's somber, ambiguous atmosphere. Overall, the film is dominated by muted tones. According to Pallasmaa (2014), when one sense diminishes in intensity, the others come to the forefront. In this context, the use of color in the film may be interpreted not only as an aesthetic choice but also as a visual element that influences how the viewer perceives and experiences the spatial environment.

In light of these discussions, the cinematic narratives of *Arrival* are presented in Table 2.

cinematic space		sign & meaning	phenomenon	cinematic ambiguity	
primary spaces	Shell and its surroundings.	A cloud-like atmospheric layer. The inability to fully capture the scale of the spacecraft within the frame.	The tension of encountering an unfamiliar being and a massive alien spacecraft.	The actual scale of the alien spacecraft cannot be determined.	perceptual ambiguity
	Entrance to the shell.	A spacecraft positioned high above the ground with its physical characteristics.	An unfamiliar, gravity-defying, and a mysterious alien spacecraft.	The structure and true nature of the spacecraft cannot be clearly identified.	
	Hall.	A transitional surface where gravity shifts, along with the light source.	The transformation of bodily orientation with spatial perception.	Embodied orientation and spatial perception lead to a state of uncertainty.	
	Inside the shell.	The physical properties of the interior space. The partition wall. The “heptapods” by the symbols.	The interaction with an unfamiliar life form. The encounter with an unknown language system.	The meanings of the symbols written on the partition wall, and their purpose for coming to Earth cannot be understood.	
	Partition wall (first symbols).	Circular symbols and technological devices.	An attempt to interpret an unfamiliar language system.	With the establishment of relationships among symbols, language began to acquire a more structured form.	
	Partition wall (complex symbols).	Dr. Louise touching the partition wall and writing “heptapods”.	Direct contact established through bodies.	Dr. Louise’s writings as the symbols are unexpected.	
	Partition wall (complex symbols).	Multiple interconnected circular symbols.	A cognitive effort to decode the language system.	Although some symbols in the “heptapod” language begin to be deciphered, the relationships among many symbols cannot initially be established.	
	Behind the shell’s partition wall.	The removal of the physical barrier; the partition wall.	Direct encounter and proximity.	The boundary between humans and aliens is redefined.	
secondary spaces	Disappearance of the shell and its surroundings.	The shell dissolving and disappearing into the sky.	The resolution of the tension created by the arrival of the “heptapods”.	The manner in which the “heptapods” depart from Earth cannot be understood.	spatial ambiguity - experiential ambiguity
	Dr. Louise’s home.	Low lighting. The view from the window. The relationship established with the baby.	The calmness of everyday life and maternal affection.	The temporal and emotional context cannot be clearly determined.	
	Dr. Louise’s home.	An isolated house. The expressions on Dr. Louise’s face.	A sense of detachment from the outside world.	It remains unclear whether the arrival of the aliens is harmful or not.	
	Hospital and school.	In two consecutive scenes, two different color tones and two different walking patterns.	The body’s interaction with space.	No clear inference can be made regarding time and space.	
	School.	Empty desks. Decreasing number of students.	A sense of social uncertainty and crisis.	The exact nature of the events occurring worldwide cannot be fully understood.	

Table 2: The cinematic narratives of *Arrival*.

Lotman (1990, p. 64) argues that a text constructs an “ideal reader” who is expected to participate in the production of meaning actively. This concept helps explain how ambiguity functions in *Arrival*, since the film does not present meanings as fixed or fully determined. Instead, elements such as the aliens’ circular language, the cyclical perception of time, and the indeterminate spatial boundaries require the viewer to interpret and connect these signs. In this sense, the viewer occupies a position similar to Lotman’s “ideal reader”, actively reconstructing meaning from the relationships between spatial, experiential, and perceptual ways. Accordingly, the primary and secondary spaces in the film can be understood not only as physical environments but also as experiential and interpretive contexts shaped through the viewer’s engagement.

Conclusion

Space, as an interdisciplinary concept, has been interpreted in different ways across architecture, cinema, and related fields. In the study, the concept of ambiguity is examined through the film *Arrival's spatial configurations*. Rather than making broad and general claims about cinema or architecture, the study focuses on how ambiguity is constructed within specific spaces in the film.

Within the scope of the study, ambiguity is addressed through three interrelated dimensions: Spatial ambiguity, experiential ambiguity, and perceptual ambiguity. The analysis

of selected scenes indicates that ambiguity in *Arrival* is constructed through the interaction of spatial elements such as scale, atmosphere, lighting, and orientation. For instance, the cloud-like atmospheric layer surrounding the shell, the uncertainty regarding the spacecraft's scale, and the partial visibility created by the partition wall function as spatial devices that alter the viewer's perception of space. Similarly, in the scene depicting the entrance to the shell, the manipulation of gravity and the shift in bodily orientation create a phenomenological experience that destabilizes the viewer's habitual spatial perception. These examples suggest that cinematic space can be considered not only as a physical setting but also as a structure that produces meaning through cinematic elements such as framing, atmosphere, and movement.

From a semiotic perspective, these spatial elements function as signs that guide the viewer's interpretation of the unknown. The shell itself becomes a visual sign representing the encounter with an unfamiliar entity. At the same time, the partition wall establishes both a physical and symbolic boundary that regulates the interaction between humans and aliens. In this context, ambiguity in the film does not emerge as a fixed property of space itself but rather through the relationships established between spatial elements and the meanings produced through these relationships.

In addition, the film's use of language plays an important role in creating ambiguity. The writing system used by the "*heptapods*" functions not only as a means of communication but also as a system of signs that shapes meaning-making. Throughout the film, Dr. Louise's attempt to decipher this language demonstrates how initially obscure symbols gradually become interpretable. In this sense, language operates not only as a tool for communication with the aliens but also as a sign system that influences how viewers perceive space, time, and events within the film.

One limitation of the study is that the analysis is based on a single film. Future research may examine ambiguity strategies in films from different genres or conduct comparative analyses of cinematic space across works by different directors. Furthermore, studies investigating the potential for ambiguity in film spaces generated by artificial intelligence and digital architectural applications may also contribute to the literature.

In conclusion, within the scope of the study, ambiguity is considered as a spatial strategy that activates the viewer's processes of perceiving and interpreting space. The analysis of *Arrival* suggests that cinematic space does not function merely as a background for the narrative; rather, through elements such as scale, atmosphere, lighting, and orientation, it can serve as a narrative component that shapes the viewer's perception and contributes to meaning.

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