

Architectural Heritage in Cinema and Digital Filmmaking: Digital Reconstruction, Accuracy, and Public Interpretation

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Abstract. This paper explores architectural heritage representation in cinema and digital filmmaking through fictional, documentary, and hybrid modes. Using digital visualization and narrative analysis, it examines digital reconstruction, computer-generated imagery CGI, accuracy, and audience understanding. Selected case studies show how cinematic heritage can attract audiences while requiring evidence to avoid historical and architectural distortion.

Keywords: Architectural Heritage, Cinematic Representations, Digital Reconstruction, Public Interpretation, Heritage Accuracy.

1 Introduction

Cinema frequently recreates ancient architecture and historic settings, immersing audiences in the spatial and cultural atmosphere of past eras (Suri Savar, 2024). This immersive capacity extends far beyond mere entertainment, playing a significant and complex role in raising public awareness. Combining visuals with narratives influence the aspect of education, entertainment, and the interpretation of cultural and historical contexts, it can even influence audience perceptions and engagement with the cultural and historical contexts portrayed in films (Abdel-Latif & Omar, 2019), and impact also what is called the nation branding. Due to that branding, some countries have become favorable destinations for travelers, for example, after the big success of Avatar, The Lord of rings trilogy and The Hobbit movies, New Zealand has become a preferred destination for cinema fans who want to enjoy the nature of the country that has been shown in these films (Moustafa, 2022). Well, this general impact can be channeled to boost the awareness of architectural heritage by implementing or embedding the historical facts into the core of narratives in filmmaking, creating a connection between contemporary audiences and heritage, while respecting public behaviors and preferences, and gently guiding them toward more authentic heritage representation. Beyond raising the public's awareness of heritage, cinematic representation and its immersive

capacity also influence the understanding of architecture itself through spatial organization, materials, construction logic, and urban framing.

Thus, in this research, we approached cinema not only as a cultural medium but also as an informal architecture knowledge source that can reinforce or distort the built environment for the non-specialist audience. More specifically, the paper considers cinema as a public-facing form of digital heritage representation, where CGI, digital reconstruction, visual effects, virtual sets, and documentary visualization contribute to the presentation and interpretation of architectural heritage (Pietroni & Ferdani, 2021). The purpose of this research is to fill an existing gap regarding the absence of an established analytical framework for evaluating different modes of cinematic representation of architectural heritage. The existing studies explore the effects of cinema on cultural understanding. However, fewer studies compare different modes of filmmaking, such as fiction, documentary, and hybrid filmmaking, regarding their accuracy, responsibility, and audience engagement. This gap is particularly relevant for digital heritage studies, because reconstructed cinematic spaces may combine archaeological evidence, historical interpretation, and fictional invention without clearly distinguishing between them (Bajena et al., 2024). This research seeks to fill this gap by conducting comparative analysis on selected case studies.

2 Architectural Heritage and Cinematic Representations

2.1 Definition of Architectural Heritage in Cinematic Representation

Architectural heritage refers to buildings and urban spaces that carry historical, cultural, social, and artistic values transmitted across generations (Lopez-Menchero & Grande, 2011). In visual media, architectural heritage role as an active narrative setting that shapes the overall atmosphere, emotion, and storytelling. Films and documentaries, through framing, lighting, camera movement, and digital reconstruction, use heritage architecture to construct historical credibility, guide audience perception, and create spatial continuity between past and present that communicates cultural experience (Champion, 2015). Promoting architectural heritage could lead to a more cohesive historical urban area (Draghici et al., 2025), reducing risks (Azap et al., 2018) and increasing sustainability across urban planning policies.

2.2 Cinema as a Medium of Architectural Heritage

Cinema operates as a powerful medium for representing and transmitting heritage by combining visuals with spatial experience and narratives. Films function as sites of memory where architectural, urban and cultural experiences are recorded, fictionalized and experienced by audiences. Cinematic spaces—whether real locations or studio sets are described as counter-archives and forms of intangible heritage (Bačun, 2023b). They store affective memories of built environments and often become the only accessible version of places once changed or demolished. Film manipulates space differently from everyday perception, enabling alternative readings of architecture and urban form, transforming heritage into a field of critical experimentation (Bačun, 2023a).

3 Different Types of Cinematic Representations of Architectural Heritage:

3.1 Documentary Representation

Documentary films have a clear advantage in spreading scientific and cultural knowledge due to their narrative adaptability and available technical resources (Gallego & de las Heras, 2021). Research has confirmed the effectiveness of documentaries for both academic and general audiences (Gaunkar et al., 2022). Documentary filmmaking captures vanishing ways of life, combining the power of fictional filmmaking with the authenticity of stories taken directly from life. But what is documentary film?

Documentary films are a form of representation that presents a credible and trustworthy approach to real subjects through images and sound. Documentary images and sounds often approximate the actual appearance, atmosphere, and spatial experience of the filmed subject (Plantinga, 2005).

3.2 Fictional Historical Representation of Architectural Heritage

Fictional historical representation employs dramatized narratives to reconstruct architectural heritage, using it mainly as a story setting (Higson, 2003). Through In fiction, architectural heritage is imagined rather than documented. Architecture is reconstructed to create symbols and time gaps. The historical films, although capturing the attention of a wider audience and renewing interest in history, are not useful in documenting architectural heritage. Architecture is used as an image of interpretation rather than knowledge (Nichols, 2017). This can produce visually stimulating images that distract from regional, constructional, and stratified aspects of heritage environments. Additionally, fictional films emphasize visual completeness and continuity, often portraying heritage as complete and stable. This approach overlooks degradation, change, and reuse—important aspects of architectural heritage representation (Pallasmaa, 2011). While fictional historical representation shapes cultural memory and audience perception, it remains limited as a tool for accurate architectural heritage communication.

3.3 Hybrid Representation

Hybrid cinematic representation of architecture combines immersive narrative and documentary realism to depict heritage sites. It reconstructs historical spaces while ensuring material authenticity, spatial logic, and temporal consistency, engaging viewers while maintaining architectural accuracy. (Rosenstone, 1995). It involves through location shooting and set construction. All these techniques produce a multi-layered representation which meets the requirements while allowing the audience to view architectural spaces as authentic places of significance rather than imaginary constructs. (De Groot, 2016). Hybrid representation ensures intelligibility of architectural forms and spatial hierarchies. By incorporating architectural studies in film, movies using the hybrid method are not only aesthetically correct in their revival of lost or inaccessible heritage sites but also produce a two-fold effect on the viewer. (Nichols, 2017). Hybrid

films facilitate interactive architectural storytelling. By using narrative and architectural accuracy, films engage viewers in the subject matter, particularly in terms of materiality, texture, lighting, and space. This helps viewers not only visualize but also imagine how such places functioned in their historical period, as well as preserving the identity of the cultural heritage (Apostol, 2020). Architecture, therefore, becomes both subject matter and driver, making heritage an experiential, verifiable, and culturally significant medium. Hybrid cinema provides a framework for achieving narrative engagement and accuracy. The films illustrate an effective, educational, and emotionally engaging way of cinematically representing architectural environments, thus providing scope for further research in architectural visualization and heritage communication.

4 Ethical Challenges and Heritage Distortion in Cinema

Cinema, along with other cinematic media, plays a significant role in shaping our perception of history, locations, and traditions. They may stimulate our interest, provide better understanding, and convey valuable lessons, but must strike a balance between storytelling and factual representation. Filmmakers may prefer dramatic elements over accuracy. In the film "Pompeii" (2014), drama, romance, and aesthetics are prioritized over architectural accuracy, changing Rome's social structure, the volcanic eruption, and locations to maximize suspense. It may be visually captivating, but it is not accurate. Documentaries like "Pompeii: Life and Death in a Roman Town" (2003) feature archaeological elements, city planning, architecture, and daily activities, reflecting how archaeology and heritage influence film. Ethical considerations of heritage films go beyond accuracy, as misleading heritage films may result in a lack of respect for heritage sites, negatively impacting tourism, communities, and heritage sites. Cinematic media plays a significant role in shaping our cultural memory, and we may learn to accept cinematic representations as accurate historical accounts, affecting our values and attitudes toward heritage conservation. The Monuments Men represents an ethical approach to heritage conservation, focusing on the recovery of stolen art by the Allies during WWII. Although dramatic, it supports heritage conservation, accuracy, and ethics in architecture and related fields. The London Charter and Seville Principles provide guidelines for ethical digital reconstruction of heritage sites, emphasizing the need for open, accurate, and well-documented films using authentic sources according to the London Charter, while demanding strict scientific standards and differentiation between evidence and interpretation according to the Seville Principles, helping filmmakers avoid mixing heritage interpretation with historical events.

5 Methodology and Case Studies

This study utilizes a qualitative comparative case study method to explore the representation of architectural heritage in cinema through various reconstruction strategies and narrative frameworks. This study is grounded on the interdisciplinary approach to heritage studies, film studies, and architectural history with a focus on the analytical cases of selected films. The methodological focus is placed on how architectural herit-

age is reconstructed, visually communicated, and interpreted through fictional, documentary, and hybrid modes, with particular attention to digital reconstruction, evidential grounding, and public understanding.

5.1 Case Study Selection

Case Study Selection based on:

- **Representational Strategy:** A unique mode of representing heritage in cinema is evident in the selected case, including fictional reconstruction, evidence-based reconstruction and hybrid historical narrative.
- **Architectural Reconstruction:** The selected case demonstrates various modes of representing the built environment and its reconstruction in cinema, including speculative reconstruction and evidence-based reconstruction.
- **Architectural Heritage Value:** Each selected case includes historically significant architectural environments and urban spaces, which allows the analysis of the representation of the past in the selected movies.
- **Public Engagement with Heritage:** The selected case shows varying degrees of influence on the public's understanding of the representation of the past in the selected movies.
- **Digital Reconstruction and Evidential Transparency:** The selected case allows the analysis of how cinema uses digital visualization, reconstruction, and visual interpretation to communicate heritage, and to what extent these representations distinguish between archaeological evidence and fictional dramatization.

5.2 Analytical Method

The methodological approach for the analysis was based upon a structured comparative interpretive approach, drawing upon the relevant theoretical literatures in the areas of heritage representation and visual reconstruction methodologies. First, the representational strategy and visual reconstruction methodology employed in each film were analyzed. Second, the role and importance of architecture in the overall narrative structure and spatial representation were evaluated. Third, the relationship between evidential grounding and visual dramatization was considered in relation to the theoretical frameworks for the representation of heritage. Finally, the possible implications for the broader audience in terms of architectural heritage were considered in relation to the theoretical literatures in the areas of media influence and heritage communication. Therefore, the case studies represent an illustrative set of analytical instances through which the theoretical relationships between the variables can be considered.

In order to deepen the comparison, the analysis concentrated on particular architectural and spatial features that appeared within the selected movies. These included such things as the layout of the city, public spaces, house architecture, the landscape surrounding them, and the appearance of the environment depicted in movies. One place for which such an analysis is particularly important is Pompeii.

The comparative indicators used in Table 1 are qualitative rather than numerical. The terms fictional, documentary, evidence-based, and hybrid describe the dominant

mode of representation, while speculative, evidence-based, and partly evidence-based describe the reconstruction approach. Digital reconstruction refers to the use of CGI, visual effects, or reconstructed environments. The values High, Medium, and Low are used as interpretive levels to compare digital reconstruction, evidential transparency, architectural heritage value, and public engagement across the selected cases.

5.3 Case Studies

Pompeii 2014: Chosen as a case of "fictional reconstruction" and illustrates a specific cinematic mode of representation. The movie can be used to examine the reconstruction of speculative architecture, the role of architecture in spatial narratives, and the impact of spectacular representation on the public's perception of heritage. It is particularly useful for analyzing how digital reconstruction and visual **dramatization** can produce immersive heritage images while reducing evidential transparency.



Fig. 1. Reconstruction of the Ancient City of Pompeii with Mount Vesuvius in Background (MacLean, 2014).



Fig. 2. General elevated view of Via di Mercurio from the top of the Torre di Mercurio (Rosen, n.d.).

Gladiator: Chosen as a case **study** for large-scale digital reconstruction of ancient urban environments, presents a unique methodology for representing monumental architecture and urban morphology.



Fig. 3. Russell Crowe as Maximus in a combat scene with a tiger from the film Gladiator (Scott, 2000).



Fig. 4. Interior view of the Colosseum in Rome showing the Hypogeum (Hamilton, 2023).

Pompeii: Life and Death in a Roman Town: The documentary has been chosen as a paradigmatic case of "evidence-based reconstruction" regarding archaeological research. It has a well-defined **approach** to representation, which is based on the methodology of researchers.

The Monuments Men: The movie has been selected as an example of a "hybrid form" of historical representation. The work can be used for the analysis of architecture as a form of cultural heritage in spatial storytelling, portrayal of significant spatial environments in history, and the relationship between narrative film and heritage awareness. Its hybrid quality makes it **useful** for examining the balance between historical communication, cultural symbolism, and audience engagement.

Troy: The film has been chosen as a paradigmatic example of the genre of speculative historical reconstruction in which architectural environments are mediated through interpretive design, and it enables the exploration of the ways in which cinema represents historically important environments in the absence of direct archaeological certainty.



Fig. 5. East Gate Cul-de-Sac and the Trojan City Walls (The Archaeology News Network, 2014).



Fig. 6. The unbreachable walls of the city of Troy from the 2004 film Troy (Petersen, 2004).

We can summarize the case studies selection in this table:

Table 1. Case studies selection and criteria.

	Representa- tional Strategy	Architectural Reconstruc- tion	Evidential Transparency	Digital Recon- struction	Architec- tural Her- itage Value	Public En- gagement with Heritage
Pompeii 2014	Fictional	Speculative	Low	High	Medium	High
Pompeii	Evidence-Based	Evidence- Based	High	Medium	High	Medium
The Monu- ments Men	Hybrid	Evidence- Based	Medium	Low	High	High
Gladiator	Fictional	Speculative	Low	High	Low	Very High
Troy	Fictional	Speculative	Low	High	Low	Very High

5.4 Comparative Analysis

Fictional representation: (Pompeii 2014, Gladiator, Troy) Narrative, visuals, and drama are given more importance than historical accuracy in such movies. Buildings, their designs, and timelines can be adjusted according to the script. Architecture provides context, drama, but not historical accuracy. Visual storytelling is a powerful tool for engaging the audience but can lead to the dissemination of false information about urban planning, social structures, and historical events.

Evidence-Based representation: (Pompeii: Life and Death in a Roman Town) The films are founded on empirical evidence, such as human remains, graffiti, buildings, and urban planning. Reconstruction is *also* emphasized, **demonstrating** the evidence used. Architecture is used as evidence for historical times, encouraging the analysis of the evidence. Audience engagement is moderate, assisting in the comprehension of historical knowledge.

Hybrid Representation: (The Monuments Men) This movie combines dramatization and historical accuracy. It uses architecture and historical sites to create the cultural story. The movie emphasizes the significance of art and culture. It helps the viewer understand the significance of cultural and historical sites. The hybrid approach increases viewer *engagement* and education about heritage sites. It shows the symbolic and educational use of architecture.

General Patterns Across Cases: Evidential grounding is also seen in architecture: stronger evidential *grounding* results in architecture as historical knowledge, whereas weaker evidential grounding results in drama and spectacle. Hybrid approaches show that narrative depth and accuracy are achievable in public engagement and education. Speculative reconstructions emphasize the tension between entertainment, visual storytelling, and heritage portrayal, making transparency essential for correct interpretation and credibility. Cinematic representations are co-constructed by filmmakers and heritage experts, making heritage mediation interpretative rather than purely representational. In the case of Pompeii, the fictional film presents streets, public spaces, and the city's relation to Vesuvius mainly for spectacle and emotional effect, while the documentary interprets them through **archaeological** evidence and urban history. This comparison shows that digital reconstruction can either strengthen heritage communication or distort it, depending on evidential transparency.

Implications for Heritage Representation in Cinema: Heritage representation in cinema requires a balance between visual engagement, narrative value, and methodological accuracy. The hybrid approach helps ensure heritage integrity while remaining engaging for the public. Critical **media** literacy also plays an important role in shaping the effect of cinematic representation on public perception. The findings reinforce the

importance of *collaboration* in creating responsible and informative representations of architectural heritage.

6 Discussion

The review reveals that representations of cinematic architecture inherit a theoretical tension between evidentiary reconstruction and narrative mediation. The production of films is subject to economic and aesthetic constraints that often prioritize narrative intelligibility and emotional engagement. These constraints are often in tension with frameworks of heritage representation that prioritize evidentiary transparency and methodological accountability. The review reveals that a more accurate and engaging representation of architecture is achievable and that architecture can operate as both a narrative and a structure of historical knowledge. This supports recent research that prioritizes interpretive mediation over binary notions of accuracy and dramatization.

The review reveals that cinematic representations of architecture are a co-produced process involving filmmakers, heritage institutions, and audiences. The process of public interpretation is subject to a range of factors, including audience critical literacy and contextual knowledge. Therefore, the process of communicating architecture and heritage through cinema is an interpretive process, rather than a straightforward transmission of historical knowledge.

7 Conclusion

The analysis shows that cinematic representations of historical built environments are mediated by different relations between evidential reconstruction, narrative structure, and visual representation. The research findings show that the methodology of reconstruction and representation determines the role of architecture in cinematic representations of heritage, such as historical evidence, symbolic environment, or narrative device. The focus of fictional reconstruction is experiential immersion, evidential reconstruction is associated with interpretive transparency, and hybrid approaches are mediating positions between these approaches. The research emphasizes that awareness of methodology and interpretive transparency is essential in mediating architectural heritage visually. Cinema has great potential in influencing public engagement with historical environments; however, this potential is best actualized by a balance of visual representation, evidential grounding, and heritage interpretation. In this sense, digital filmmaking techniques can contribute to the documentation and public communication of heritage, but only when the difference between evidence, interpretation, and fiction remains clear. The development of responsible cinematic representations of heritage depends on a sustained collaboration between filmmakers, heritage professionals, and educators, and a greater focus on interpretive transparency and audience engagement, as well as greater attention to digital reconstruction as a form of heritage representation.

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