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DIGITALSTAGE

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DIGITALSTAGE. Spatial Analysis of 21st Century Digital Scenographic Installations

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Abstract

This paper aims to prove the interests, references, and objectives of the research project titled 'DIGITALSTAGE: Spatial Analysis of 21st Century Digital Scenographic Installations' (2022-2025), a project funded by the Ministry of Science and Innovation of the Spanish Government through its National Research Agency.

The main objective of the research project is to document, represent, and analyse, using digital architectural tools, the new spatiality that has been generated since the 1980s, particularly during the 21st century, in various scenographic installations (artistic, cultural, scenic, or audiovisual), due to the disruptive integration of digital software: videomapping, stagebots, sound environment, augmented reality, 3D modelling and projection, 360° vision, holograms, among others.

The aim is to provide the academic community with a cohesive analytical graphic methodology and documentation enabling, above all, the assessment of the significant spatial categories present in these stage configurations. In addition to the existing theoretical studies, it is expected to offer a new perspective by analysing their three-dimensional characteristics through procedures that have been already effectively used to comprehend and represent space in architecture, a discipline inherently focused on spatiality.

Keywords: Digitalstage, space, scenographic installations, research project.

DIGITALSTAGE. Spatial Analysis of 21st Century Digital Scenographic Installations

The aim of this research project is to document, represent, and analyse, using architectural tools, the new spatiality that have emerged since the 1980s, particularly during the 21st century, in various forms of scenographic installations (artistic, cultural, scenic or audiovisual). These developments stem from the disruptive integration of digital software, including video mapping, stagebots, sound environments, augmented reality, 3D modelling and projection, 360° vision, holograms, among others. This innovative multimedia approach has unlocked unprecedented avenues of expression and plastic configurations. The digital stage thus attains levels of illusion and immersion akin to those observed in the Italian theatre, but paradoxically more interactivity.

Figure 1

Le mouvement de l'air, 2015. Adrien M & Claire B.



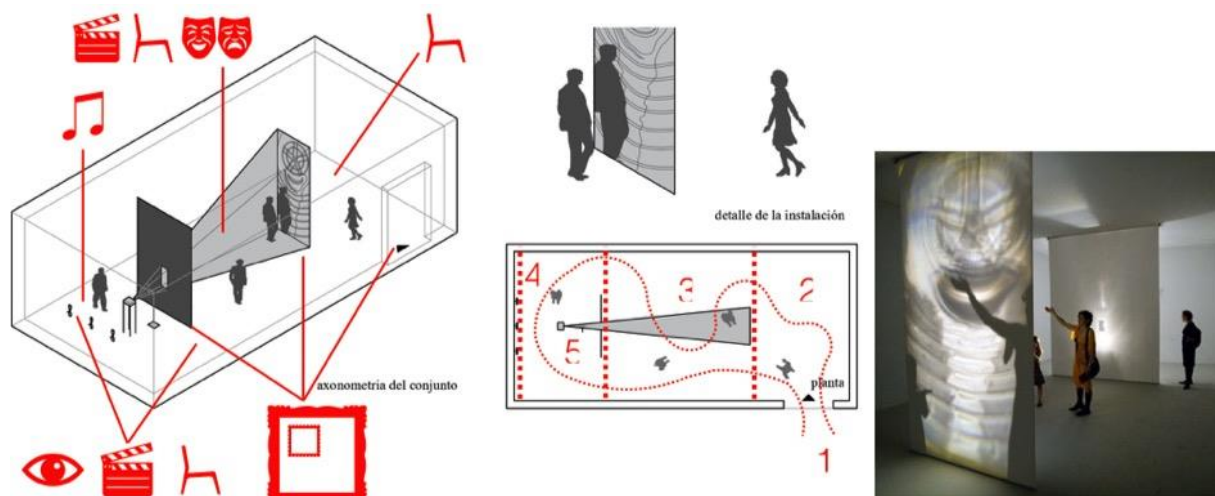
Digital scenography, if it doesn't fall into mere sensationalism, wields a spatial power previously unattainable. Firstly, it harnesses new technical resources, and secondly, it is a complex amalgamation of diverse media and disciplines, transcending the constraints of time and space, resonant with the "hypermodernity" of our era. Studying these installations can propel architecture beyond its self-referential confines. Furthermore, they represent experimental and flexible constructions, introducing innovative three-dimensional categories.

Analogous to brief essays, they diverge from architecture primarily in their more fictional essence, with a diminished emphasis on utility. These installations create the configuration of space not solely through geometric delineations, but also via phenomenological elements: light, imagery, graphics, atmosphere, and sound.

This architectural research project focuses on a contemporary form of scenography. Its methodology is predicated on a reasonably grounded assumption: the graphic tools employed in architectural analysis and spatial definition can offer valuable insights into understanding digital stage installations, which aspire to create both physical and illusory environments. This hypothesis has been substantiated through prior comparative studies examining the spatial dynamics across architecture and various artistic disciplines. With the collaboration of the international team of the University of Valladolid Recognised Research Group ESPAClar, the investigations have explored the interplay between architecture and diverse fields such as video games, graphic narrative, cinema, exhibition design, as well as the sculptural works of Oteiza, Chillida, Judd, and Christo & Jeanne Claude.

Figure 2

Anar-hi anant (2000). *Eugénia Balcells*. *Graphic and Planimetric Analysis by ESPAClar Research Group Diagrams*.



The field of digital stage installations serves as a rich source of insight for architectural practice, given its reliance on sketches and assembly instructions for design and execution. Over time, these drawings become vital resources for the analysis of the works. Thus, our research proposes to begin by compiling preparatory documentation from a curated selection of stage productions. Subsequently, to enhance and systematise this information, we aim to conduct spatial explorations employing dihedral, axonometric, and 3D systems, supplemented by dynamic digital models illustrating variations in configuration and lighting. This approach will not only facilitate the documentation and definitive definition of the works for permanent or

reproducible purposes but will also enable: 1) the analysis of their spatial attributes, 2) comparison across different installations, and 3) classification into various formal typologies.

To streamline the selection process for case studies, we will focus on digital stage productions staged since the year 2000 within the proximate European context (Spain, Italy, Portugal, France, etc.). This geographical focus is chosen because the researchers are embedded in this cultural milieu and have access to pertinent audiovisual documentation. Where feasible, preference will be given to works that are currently accessible for attendance or for which recordings are available. We aim to analyse a minimum of three examples from each of the primary modalities, including digital art installations, experimental theatre, musical events, urban video mapping, video-dance, entertainment shows, multimedia exhibitions, museum installations, circus performances, among others.

Some of the thematic lines to be explored include: the relational power of the void, the spatial value of shadows, projections and superimpositions, narrative and phenomenological space, ephemeral architectures, interaction with digital graphic, and the modelling of scenographies and the depth of the screen.

Background and Conceptual Framework

In numerous technical and artistic aspects, digital stage resources diverge significantly from the traditions, even as they persist in the primal aspiration to craft illusory spaces for narratives and rituals – already implicit in the flickering shadows cast by fires in caves. However, conceptually, their genesis can be traced back to three pivotal innovations of the 20th century:

- 1) The post-dramatic theatre, which emancipates itself further from textual constraints.
- 2) The interactivity inherent in virtual environments within video games.
- 3) The advent of multimedia environmental formats epitomised by the art installation.

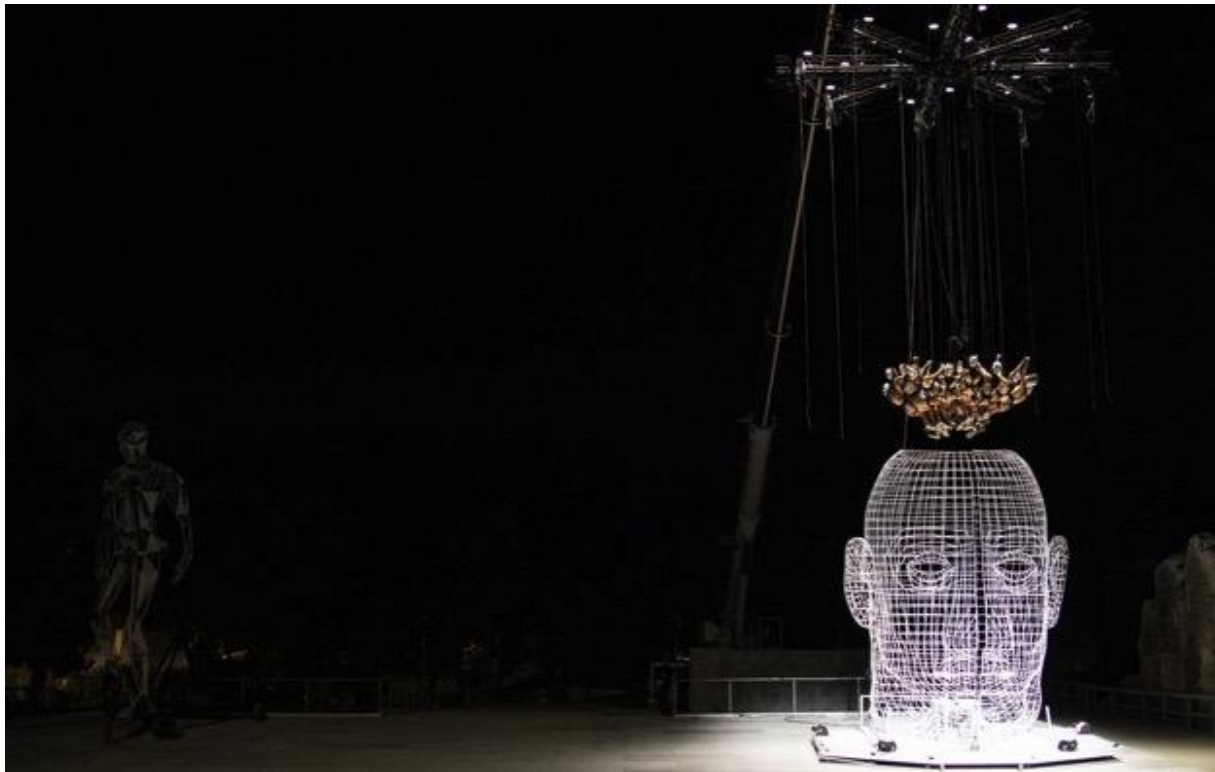
The research project will primarily draw upon the latter precursor of digital scenography: the art installation. This choice is motivated by the recent completion of another research project on the topic and by the spatial nature of art installations, which aligns even more closely with architectural design — the field to which most group researchers belong, including a member who has conducted his doctoral research on the spatial dynamics of video games.

In terms of dramaturgy, contemporary virtual stage designs continue the challenge initiated by Georg Fuchs in 1909 to "re-theatricalise the theatre", liberating the scenic aspect (mimesis) from the predominance of the verbal element (logos). This evolution has even ventured into performances solely reliant on imagery, light, rhythm, or sound environments, sometimes devoid of narration or live actors (Sánchez, 2002, p. 15). To achieve this, new audiovisual media have perpetuated the stage's ongoing rejuvenation proposed throughout the twentieth century, from the contributions of Appia and Craig to those of Wilson and Lepage, who

expanded the realm of theatre to include the objects, spectators, images, sounds, and lighting. This experimentation has led to innovative theatre models such as the Hellerau Festival House (1911) by Tessenow and Dalcroze, the Endless Theatre (1924) by Kiesler, the Total Theatre (1926) by Gropius, and Le Corbusier's "espace indicible" (1948), the "*boîte à miracles*", and the Philips Pavilion (1958).

Figure 3

Las bacantes (2021). *La Fura dels Baus*



As early as the 1960s, the Italian theatre witnessed the emergence of multimedia experimentation by artists such as Nono, Kaslik, and Svoboda (Venice, 1961), Puecher (Pavia, 1967), and Carmelo Bene (Milan, 1974). The 1980s saw pivotal developments with events like the Festival of Electronic Arts (Rennes, 1988) and the total-performances by La Fura dels Baus - justified their *Binary Manifesto*. In the 21st century, advancements in software have facilitated dynamic real-time interactions, closely intertwined with the immersive scenarios found in video games (Darley, 2002; Márquez, 2015).

As far as installations are concerned, digital scenography shares with them a new spatiality resulting from the interaction between container, object and viewer.

in order to introduce a diegesis or generate sound and visual atmospheres. This hybrid format is at the basis of the most innovative scenographic manifestations and can be used as a backdrop for the present project, thanks to the fact that the subject of this ESPAClar research group is the spatial categories in architecture, installations and other artistic disciplines.

In the realm of installations, digital scenography mirrors a novel spatiality stemming from the interaction among container, object, and viewer. This interaction aims to establish a diegesis and to create immersive sound and visual atmospheres. Such a hybrid format underpins the most innovative scenographic expressions and serves as a fitting backdrop for the current project because of the focus of the ESPAClar research group - on spatial categories within architecture, installations, and other artistic disciplines.

As a conceptual underpinning for the entire proposal, it is pertinent to consider the genesis of the two most innovative spatial aspects shared by installations, digital scenography, and video games:

- 1) Their multimedia format as a novel total work of art.
- 2) Their scenic dimension.

In New York during the 1960s, post-avant-garde movements, particularly Minimalism, initiated a revaluation of the art object, characterised by a focus on its specific environmental context, transcending "allusions and illusions" (Judd). The traditional concept of sculpture as a site-specific monument underwent revision (Maderuelo, 2008). The abandonment of pedestals and the prior notion of self-referential art became widespread. Artworks began to engage the spectator through scale relationships and sought to extend their influence into the surrounding space. This expansion of the artwork's sphere of influence and the progressive semantic convergence between architecture, sculpture, and scenography, encapsulated by Rosalind Krauss as the "expanded field," emerged slightly earlier than in the American context. Nevertheless, a group of Italian architects and artists, including Fontana, Baldessari, and Castiglioni, had already explored proto-digital exhibition installations in the 1950s, albeit still reliant on analogue media.

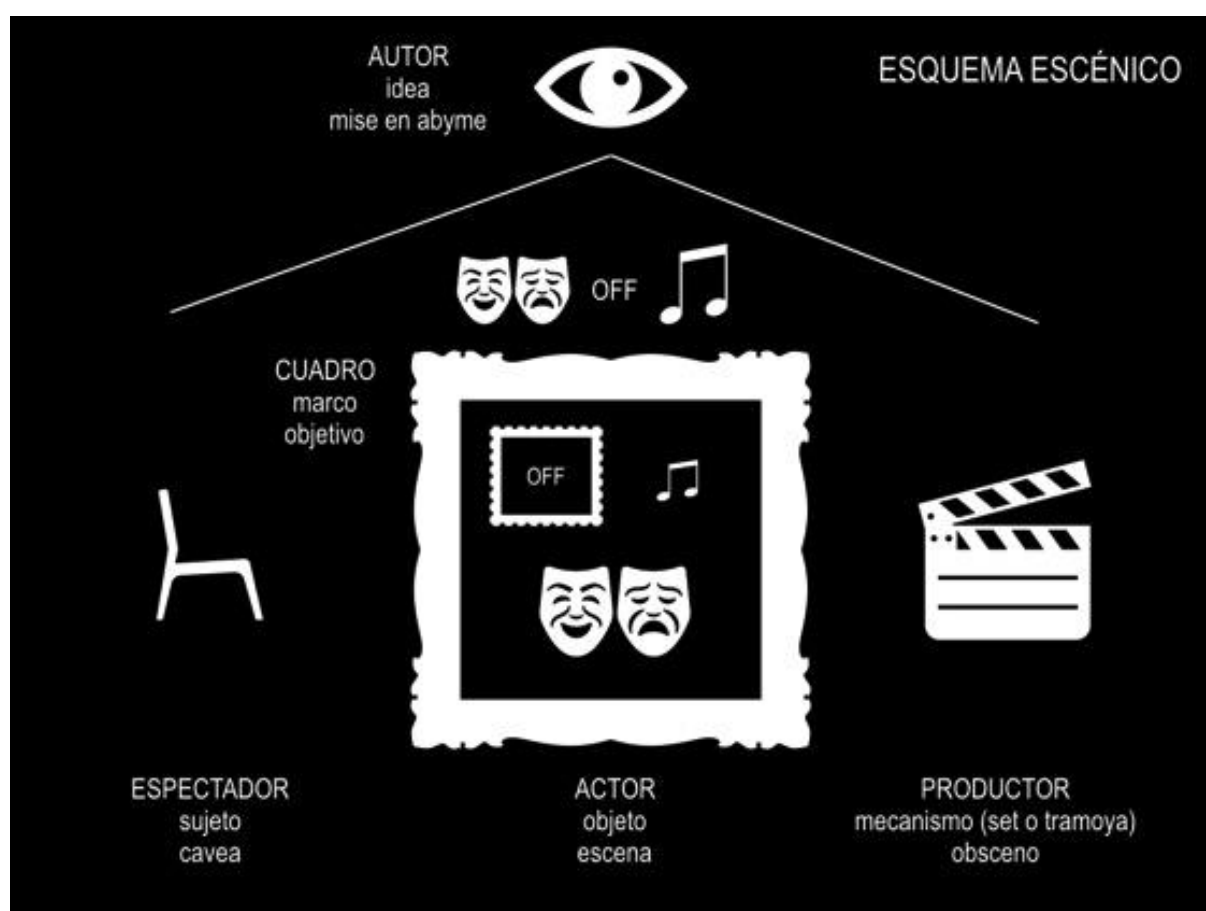
By the late 1960s, the exhaustion of the minimalist paradigm led to the "dematerialisation of the object" (Lippard, 2004), a hallmark of conceptual and project art. The significance of light (Flavin, Turrell, Eliasson) and video (Nam June Paik, Bill Viola) also surged and continues to influence artistic practice to this day. Subsequently, a new plastic medium began to emerge, known as installation, montage, or environment. This medium is characterised by its hybrid format and accentuation of its scenographic nature.

The latter part of the 20th century witnessed the culmination of the dissolution of disciplinary boundaries. The art object relinquished its centrality to become a component of a more intricate and virtual system, where the conveyance of messages and connections (McLuhan) assumed significance, reflecting the emergence of the communication society. This shift from the material object to the conceptual (Marchán, 1972) was also evident in installation art, which, owing to its scenic qualities, increasingly incorporated audiovisual media and prioritised ideas, texts, photographs, documents, and maps.

The interest in exploring the relationship between the artwork and its context inevitably led to a heightened sense of "theatricality," a notion that Fried critiqued Judd and Morris for in his text *Art and Objecthood* (1967). Within this framework, the artwork became receptive to spatio-temporal and subjective considerations that were inherent in architecture and the audiovisual domain and have since been amplified across various artistic disciplines. From these attributes of hybridisation and theatricality, the postmodern conception of artwork gradually evolved towards a relational, multifaceted, and audiovisual definition, which, in diverse manifestations, has persisted into the current era of hypermodernity.

Figure 4

General Scenic Scheme. ESPAClar Research Group Diagram



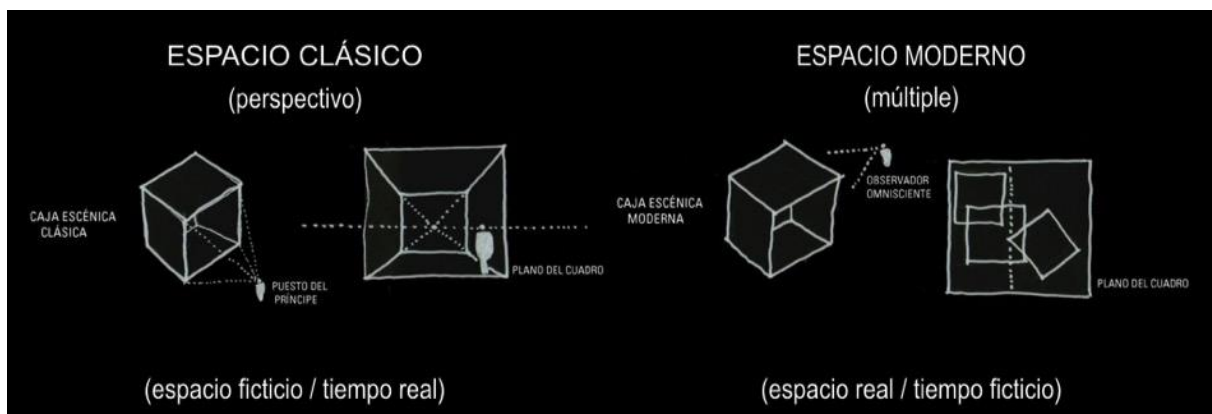
As a foundation for exploring the specific topic of digital scenography, it is pertinent to briefly delineate the fundamental elements that constitute the scenic event. This entails the framing of reality through a "frame," through which the "spectator" observes an "actor" who narrates using various resources provided by a "producer." Overseeing this entire mechanism is the "author," who creates, directs, and observes omnisciently. The author has at their disposal a "*mise en abyme*," which primarily encompasses three spaces (De Blas, 2009): 1) the "*cavea*," where the subject/spectator/camera resides; 2) the "scene," where the object/actor is observed but not directly seen, implying an offstage space; 3) the "obscene,"

which constitutes the production set, situated behind, above, or to the side of the stage, typically concealed from view.

This general framework has been manifested in various forms depending on the period and medium of expression, yet two primary configurations can be discerned (Suárez, 2010, p.163): the classical stage mechanism, characterized by its immersive nature, and the modern one, which tends to be more interactive or relational. In the classical model, the prominence of the text and the fixed focal perspective of the observer at the centre of the frame (“the prince’s place”) are notable, with a clear separation between the observer, the scene, and the concealed props. On the other hand, the modern arrangement is more relational, encouraging a dynamic and omnipresent gaze that encompasses the stage, set, and scenery. Additionally, the traditional dominance of the dramatic text has been challenged, with an emphasis on incorporating imagery and engaging the spectator with the space, object, and author.

Figure 5

Classical and Modern Scene Box. ESPAClar Research Group Diagram



The State of the Art

Digital scenography has a relatively brief history, with its inception being considered in the 1980s. However, the envisioned possibilities only became feasible with the advent of the 21st century, as advancements in software technology rendered them achievable. Consequently, the field is presently characterised by practical considerations from its creators, with limited analytical discourse.

Dramaturgical critics have primarily undertaken the task of theorising the characteristics of the digital scene in recent publications. Notable examples include *La escena moderna* (Sánchez, 1999), *La máquina escénica: drama, espacio, tecnología* (edited by de Diego and Vázquez, 2000), *Digital Visual Culture* (Darley, 2002), *Dramaturgias de la imagen* (Sánchez, 2002), *Escenografía aumentada* (Suárez, 2010), or *La escena del siglo XXI* (López Antuñano,

2016). Additionally, studies focusing on virtual space in video games and mobile devices are emerging, exemplified by works like *Una genealogía de la pantalla* (Márquez, 2015).

As for the academic architectural bibliography, digital space has received scant attention, although the reflections of Paul Virilio provide a solid foundation. Over the past two decades, there has been a greater interest in extracting spatial insights from stage events in general, as evidenced by titles such as *La escenografía: cine y arquitectura* (Vila, 1997), *La caja mágica: cuerpo y escena* (Quesada, 2005), *Des-velos* (Trovato, 2007), *El teatro como espacio* (De Blas, 2009), and *Música, color y arquitectura* (De Blas, 2010).

Given this context, it appears pertinent to undertake specific research into digital scenography from the perspective of space and architectural design. While drawing from the dramaturgical sources mentioned above and the literature on stage space, the primary focus will be on publications related to artistic installations. This choice is informed by the shared multimedia format between new virtual stage productions and artistic installations. Additionally, publications on space in architecture and other artistic disciplines produced over the last fifteen years by members of the ESPAClar research group will be incorporated.

Originality, and Contribution to Knowledge Generation

In contrast to the aforementioned dramaturgical speculations on the digital scene or, more broadly, on scenographic and virtual space within video games, this proposal introduces a dual innovation:

- 1) It addresses the specific theme of the new spatialities within the multimedia scene.
- 2) It does so both conceptually and also through graphic and analytical architectural representation, employing techniques such as planimetric surveys, dynamic three-dimensional models, operational diagrams, or comparative typological tables. By adopting this approach, it facilitates the integration of architecture with external references beyond its traditional boundaries.

This aims to provide with a new methodology for graphic analysis and to draw theoretical conclusions about digital spaces.

Therefore, the primary added value and innovation of the proposed research would stem from the application of architectural design resources, interpretation, and representation to a related field such as digital scenography, thus offering a less conventional perspective.

The timing of this proposal appears opportune due to the already existing perspective on the emergence of digital technology in stage performances since the early 21st century. Sufficient time has elapsed to evaluate the credibility of various creators, including Wilson, La Fura, Lepage, Katie Mitchell, Ivo van Hove, Guy Cassiers, Klaus Obermaier, or Adrien M & Claire B, who have amassed years of coherent, published, and critically acclaimed work.

In summary, the project seeks to combine the security of previously developed procedures with the innovation of applying them to a different discipline. While it builds on the foundation of a prior Research Projects focusing on related spatial themes, the new Project proposes employing the methodologies and conclusions derived from previous one in a new field, such as the scenic manifestations.

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