

Rethinking the Limits of Representation Concept in Architecture

Mimarlıkta Temsil Kavramının Sınırlarını Yeniden Düşünmek

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ABSTRACT

Architecture is a continually evolving and multifaceted discipline, enriched by alternative discourses and practices. Architectural representation, as both a communicative tool and a subject of inquiry, remains receptive to innovative approaches. These alternatives expand the conceptual and practical boundaries of the field, fostering interdisciplinary engagement and introducing novel perspectives on the notion of limits. While architectural representation is often constrained by established definitions and tools, its transformative potential lies in the ability of architects to transcend conventional practices and envision new possibilities. This study examines the work of Perry Kulper, Neil Spiller, Nat Chard, and Smout-Allen (Laura Allen, Mark Smout)—five visionary architects whose approaches provide alternative contributions to architectural discourse and representation. Through an analysis of their projects, this research identifies shared conceptual frameworks, referred to as “catalysts”, which highlight the intersections in their practices and their collective impact on the discipline. Kulper’s experimental mapping techniques, Spiller’s futuristic and technologically driven visions, Chard’s prototypes embracing ambiguity, and Smout-Allen’s environmental speculations collectively challenge and redefine the limits of architectural representation. These approaches facilitate the development of a more flexible, multilayered, and exploratory narrative framework, expanding the theoretical and practical dimensions of architectural production. By investigating their speculative methods, hybrid representations and personal narratives, this article underscores how these architects contribute to the transformation of architectural representation. Analyzing their work through the lens of catalytic concepts, it argues that their practices redefine representation as a dynamic, experimental, and interdisciplinary medium, fostering new opportunities for spatial exploration and architectural innovation.

Keywords: Architectural representation, exploratory, hybrid representations, personal narrative, speculative architecture.

ÖZ

Mimarlık, alternatif söylem ve pratiklerle zenginleşen, sürekli gelişen çok yönlü bir disiplindir. Mimari temsil hem bir iletişim aracı hem de bir araştırma konusu olarak yenilikçi yaklaşımlara açıktır. Bu alternatif yaklaşımlar, disiplinin kavramsal ve pratik sınırlarını genişleterek disiplinler arası etkileşimleri teşvik eder ve sınır kavramına ilişkin yeni bakış açıları sunar. Mimari temsil, genellikle yerleşik tanımlar ve araçlarla sınırlı olsa da dönüşüm potansiyeli, mimarların geleneksel pratikleri aşma ve yeni olanaklar öngörme becerisine bağlıdır. Bu çalışma, Perry Kulper, Neil Spiller, Nat Chard ve Smout-Allen (Laura Allen, Mark Smout) gibi beş vizyoner mimarın mimarlık söylemine ve temsiline alternatif katkılar sunan çalışmalarını incelemektedir. Bu araştırma, bu mimarların projelerinin analizinden yola çıkarak, pratiklerindeki keşimleri ve disiplin üzerindeki ortak etkilerini vurgulayan “katalizör” olarak adlandırılan kavramsal çerçeveler tanımlamaktadır. Kulper’in deneysel haritalama teknikleri, Spiller’in fütüristik ve teknolojik vizyonları, Chard’ın belirsizliği benimseyen prototipleri ve Smout-Allen’in çevresel spekülasyonları, mimari temsilin sınırlarını zorlayıp yeniden tanımlayan yaklaşımlar sunmaktadır. Bu yaklaşımlar, teorik ve pratik düzeyde mimari üretimin boyutlarını genişleterek daha esnek, çok katmanlı ve keşifçi bir anlatı çerçevesinin gelişmesini sağlamaktadır. Bu makale, bu mimarların spekülatif yöntemlerini, hibrit temsillerini ve kişisel anlatılarını inceleyerek, mimari temsilin dönüşümüne nasıl katkıda bulunduklarını vurgulamaktadır. Çalışma, bu pratikleri katalizör kavramlar üzerinden analiz ederek, mimari temsili dinamik, deneysel ve disiplinler arası bir araç olarak yeniden tanımladıklarını ve mekânsal keşif ve mimari yenilik için yeni fırsatlar sunduklarını ortaya koymaktadır.

Anahtar Kelimeler: Mimari temsil, keşifsel, hibrit temsiller, kişisel anlatı, spekülatif mimarlık.

Introduction

Architectural representation comprises productions that articulate ideas. At the same time, architectural representations are communicative tools within the field of architecture, having undergone numerous turning points from past to present. Analog and digital tools have laid the groundwork for new representational methods that continue to evolve and transform. Since each tool holds a unique representational potential, the varied and combined use of these tools has led to new modes of production. Furthermore, with contemporary technological advancements, including the integration of artificial intelligence into architecture, the emergence of complex design environments with blurred boundaries has become increasingly possible. According to Pérez-Gómez, the enthusiastic integration of digital media and digitalization into architecture may give rise to certain ethical and cultural concerns. While it may provoke resistance against technological power, it can also evolve into more moderate and harmonious relationships (Pérez-Gómez, 2005). Consequently, questions have arisen regarding the limits of architectural representation and the preservation of its originality. By examining the approaches and works of contemporary figures who maintain a personal and unique stance within hybrid productions amidst today's expansive yet fragmented data landscape, this study seeks to draw attention to the limits of the concept of architectural representation.

The concept of boundary can be encountered across numerous fields. In essence, a boundary can be considered the starting point of transformation, differentiation, the production of new discourses, and/or liberation. Naturally, a boundary encompasses much more than its definitions. Gepshtein and Malpas propose several categorizations to clarify the notion of boundary. Accordingly, boundaries possess characteristics that shape perception both physically and mentally. Physical boundaries refer to the tangible aspects presented by material tools, whereas mental boundaries allow for perceptual, immaterial experiences by the observer/reader (Gepshtein & Malpas, 2025). In this context, the boundary in architectural representation can be understood on two levels: on one hand, as physical limitations imposed by the material existence of representational tools; and on the other, as perceptual or cognitive boundaries arising from the radical use of these tools. The inclusion of the observer/reader, who seeks to establish communication with the narrative that the architectural representation offers, further complicates the notion of boundary. Furthermore, approaches that go beyond these boundary concepts and the integration of ideas from various disciplines into architecture also direct changes within the concept of boundaries. In this way, the pushing of the limits of boundaries brings forth new discussions.

Approaches and productions that transcend representation as a mere communicative tool provoke a reconsideration of its limits in architecture. The work of contemporary figures such as Perry Kulper, Neil Spiller, Nat Chard, and Smout-Allen (Laura Allen, Mark Smout) demonstrates that advancements in representation do not rely solely on technological progress. Each of these figures, concerned with the nuances of architectural representation, utilizes analog tools in hybrid methods, which in turn shape their personal narratives. Alongside this process, other significant concepts have also emerged. These figures, who approach architectural representation as a medium for experimentation and discovery, have expanded the meaning of representation. Therefore, recognizing the potential of this new environment encourages architects and researchers interested in architectural representation to explore new possibilities and relationships.

The aim of this study is to explore the practices and potentials of architectural representations in the context of personal approaches that blur the boundaries of architecture, particularly through the use of analog tools combined with hybrid methods, despite the advanced technological capabilities available today. Additionally, this research seeks to conceptually examine the layers of knowledge and narratives embedded within these personal productions. By addressing new architectural representation and narrative examples that challenge and/or blur the boundaries of architectural representation, the study aims to keep future possibilities current.

This research intends to focus on the works/productions of architects who prompt a reevaluation of the traditional concept of "representation" in architecture and offer new readings and tools through their contemporary practices. The discussions surrounding the emerging forms, environments, and concepts of architectural representation shaped by these productions can flourish. In other words, the study emphasizes the importance of exploring the aspect of knowledge generation in architecture, considering the changes in tools, methods, meanings, and practices within the concept of representation and narrative.

Conceptual Framework: Architectural Representation

Architecture is a discipline that encompasses both the processes of thought and discourse as well as physical production. In addition, architecture employs a variety of methods and tools for self-expression and communication (representation). According to Güler, architectural representation is the concretization of thought and image (Güler, 2004). Since the beginning of human existence, people have engaged in thought and production, making architecture an intrinsic part of their experience. Although architecture as knowledge often evokes the abstract form of new discourses and debates, it has also established relationships that nourish concrete values through physical productions. This mutual enrichment emerges as a result of spatial and structural design combined with the interplay of ideas, causes, and effects. Architecture as art, according to Vesely, is a representation of human practice (Vesely, 1987).

One of the critical turning points in the concept of the limits of architectural representation is the Renaissance period, which redirected architecture from craft to art. With the discovery of perspective, thought, perception, and ways of seeing evolved into new meanings, which found their place in architectural representation (Pérez-Gómez, 1982; Pérez-Gómez & Pelletier, 1992). The awareness that began with the Renaissance continued with another rupture in the 1960s. Architectural representation, once a technical language of architectural production, was redefined with the avant-garde perspective of the 1960s, which introduced a new concern (Butcher & Pearson, 2019). In other words, the meaning of architectural representation, once objective and static, was reinterpreted through the architect's personal approach and commentary, leading to new meanings and perceptions. In this context, the questioning of the meaning and limits of architectural representation became inevitable. The integration of new possibilities and experiences into the design process, and their transmission to the observer, generated novelty or synthesis.

The understanding that emphasized the primacy of drawings and ideas in the 1960s parallels the Renaissance period's view of drawing as art. The 21st century, however, contributes new productions and definitions to the concept of architectural representation from both periods. The adaptation of evolving computer technologies to architectural representation tools and

methods, or the architect's guidance of traditional tools and methods through their personal perspective, highlights the dynamic nature of architecture. This is because architecture, as a tool for exploration, holds potential as a force for questioning production and its causes (Wilkins & Burrow, 2013). As a result, it has become inevitable for architectural representation tools and methods (analog, digital, hybrid) to produce new narrative environments by generating various combinations and relationships.

The transformation of architectural representation from being merely a narrative of the building to a critique that encompasses abstract meanings and allows for questioning has facilitated architecture's relationship with new domains. Changes in perception and vision have led to new developments, and these developments have in turn transformed into new representations. In this context, architectural representation and narrative assume roles that expand their limits, intersect with other domains, or blur sharp boundaries.

The generation of new possibilities through awareness in the field depends on the architect's personal approach. Personal perspectives in architectural narrative can transform the technical and systematized language of architectural representation into either tacit or explicit knowledge. The meaning and interpretation of such knowledge vary according to the reader's personal perception and knowledge. This triangle of architect-production-reader creates concepts of architectural representation that the reader also engages with and contributes to. Through reciprocal interactions, multiple meanings and interpretations arise.

The emergence of "paper architecture" at the end of the 1960s introduced a new architectural language with layered meanings in architectural representation (Archigram, Archizoom, Ant Farm, Superstudio etc.). Speculative and manipulative approaches in architectural representation transformed architecture into a vehicle for critique and discourse. The architect's personal approach in shaping architectural representation has been influenced by evolving computer technologies, interactions between different fields of science and art, and the choice of representational tools and methods. Consequently, new ways of thinking have emerged. A key aspect of paper architecture—or intellectual architecture—is the ability to speculate on what could be. Speculation holds the power to expand future possibilities without limitations. It encourages engagement with the present and exploration of potentials in an ever-changing global context, strengthening the connection between architecture and exploration, thus rendering architecture multi-faceted and potential-laden.

Architecture is like an operating system that works on different realities in a complex mode. At the same time, ideology, emotion, sense, perception, and images enable the formation of exploratory and coincidental phenomena. Architecture, which internally blends various knowledge and objectives, derives the power to create its own internal balance from the architect and their approaches. What translates the architect's thoughts and approaches here are architectural representations: radical uses of tools that serve different purposes and narratives (Carreiro & Pinto, 2013). In parallel, when architectural representation is considered in terms of internal and external environments, two distinct definitions can be made. Internally, architectural representation serves as a conceptual and exploratory tool, while externally, it is a means of communication between architectural production and external environments/situations/people (Riahi, 2017). Representations that involve the reader in mutual

experiences exist as architectural or artistic works in their own right. Bafna examines the objectivity and subjectivity of architectural representations in two modes: traditional and creative. The traditional mode emphasizes technical/mechanical notations, while the creative mode contains imaginal intensities (Bafna, 2008). Looking at the architectural approaches from the radical direction of the past, one can argue that their languages in architectural representation were primarily focused on the imaginal mode, especially after the 1960s.

With its interdisciplinary nature and presence in everyday life, architecture possesses the capacity and voice to generate critical awareness of political, cultural, and ideological matters, among others (Bafna & Kim, 2018). As a tool and process for exploring our ways of perceiving and interpreting the world, architectural representation is not merely an end product. Here, representation is a means and process of knowledge production, reflecting the relationship we establish with the world (Bolt, 2004; Stavric et al., 2007). Supporting this view, Cantley describes architectural representation as an inquiry into the unknown (Cantley, 2013). When considered as a vehicle for both personal expression and knowledge production, representations gain new roles by questioning, restructuring, conveying, exploring, discovering, or interpreting data. Representation, evolving from a unidirectional outcome into a multifaceted medium, has shed its conventional definitions (Martens et al., 2006). When analog/digital tools are incorporated, we encounter open-ended architectural objects—these are the potentials offered by architectural representation. These potentials can be examined from multiple perspectives. They may prompt us to explore the limitations of individual representational tools (analog-digital), the new relationships formed through various combinations of these tools, the integration of design processes into representation production, the architect's aspiration to invent new representational tools, or the questioning of personal creativity. These are possibilities with the intention of becoming reality. Therefore, representations are tools that can offer much more. In the following section, examples that differentiate both the conceptual and practical aspects of architectural representation are discussed. The discussion includes how representation as an expressive tool in architecture transforms into a new medium through its associations with other concepts.

Methods

This study utilizes a qualitative research methodology to examine alternative approaches to architectural representation from an interdisciplinary perspective. The study employs literature review, case study analysis, and conceptual framing methods.

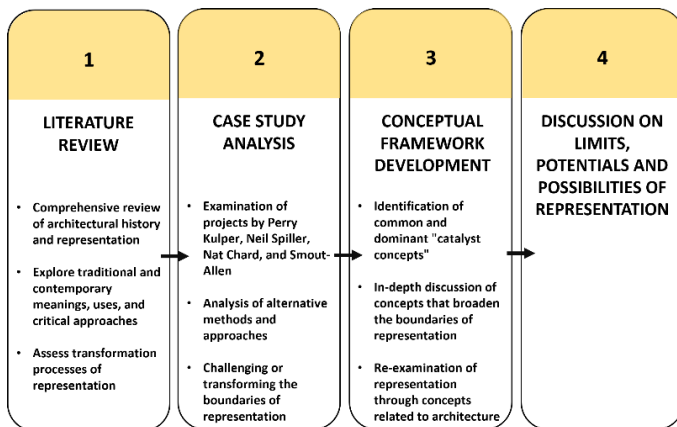
Firstly, a comprehensive literature review on architectural history and representation was conducted. This review was aimed at understanding the multifaceted and layered structure of representation within the field of architecture and assessing the transformation processes of this structure. The literature review was structured to include both traditional and contemporary meanings, uses, and critical approaches to architectural representation.

Subsequently, the projects of visionary architects working on alternative architectural representation methods were examined through case study analysis. In this context, the works of Perry Kulper, Neil Spiller, Nat Chard, and Smout-Allen were analyzed to assess the innovative strategies they present in architectural representation. Through the literature review, the alternative methods and speculative approaches of these architects were

analyzed, and traces of alternative forms of expression in architectural representation were explored. The selected case studies in the study consist of projects that challenge or transform the boundaries of architectural representation.

Finally, the common and dominant concepts among the analyzed projects were identified. These concepts were defined as “catalyst concepts” and formed the foundation of the discussion in the article. Additionally, other concepts were identified during the study, but the most prominent and common concepts that broaden the boundaries of architectural representation and contribute to transformative processes were selected for in-depth discussion. Furthermore, concepts outside the catalyst category, but with some degree of influence, were also considered, though the discussion focused primarily on the common and dominant concepts. In this context, the research process progressed through both the creation of a conceptual framework and the analysis of the works of the selected architects. The study focused on the boundaries, potentials, and possibilities of architectural representation, and the meaning and position of representation were re-examined through concepts associated with architecture.

Figure 1.
Diagram of the research methodology (created by the author).



Results

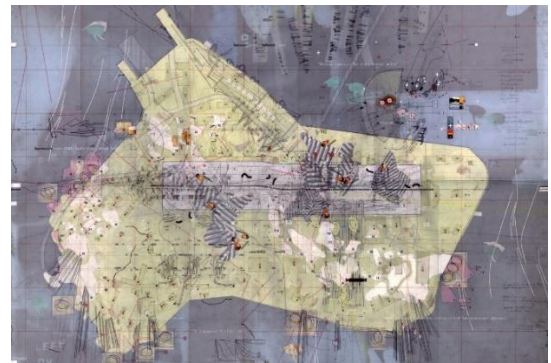
Alternative Approaches in Architectural Representation

Perry Kulper

Surrealism and the 1960s school’s contemporary figure, architect and academic Perry Kulper, has redefined architectural representation with his unique approaches. He has classified various concepts within a discipline and clearly presented his new personal styles of architectural representation in light of these concepts. One of the key points in Kulper’s work is the ability to establish a “relational synthesis” with concepts and tools, much like assembling the pieces of a puzzle. According to Kulper, concepts (such as relational drawings, composite drawings, thematic drawings, etc.) act as “catalysts” for architectural representation (Kulper, 2024). The architectural productions generated with these catalysts bring along various possibilities. The important thing is not to identify what is right or wrong. This is because misreadings and perceptions can lead to numerous assumptions and speculations, which can in turn foster critical thinking and advancements in production. In this context, the uncertainty and extraordinariness derived from surrealism in art and literature can be an ideal choice for the inquiries and limit concepts within architecture and architectural representation.

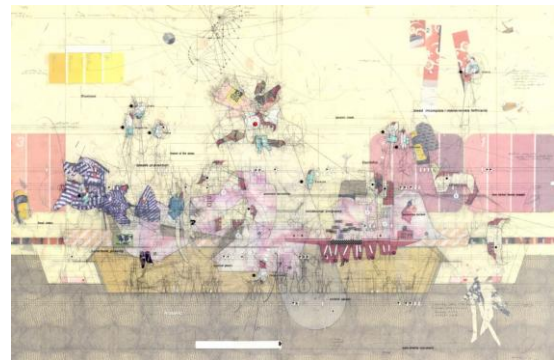
Kulper’s “David’s Island” (1997) project (Figure 2), which he characterizes as surrealist and speculative, stands as one of his initial works. This competition entry, created within the “Strategic Site” category, offers narratives that touch upon the island and the sea’s historical structure, possible future developments, touristic activities, geological and geographical references, and other elements (URL-1). Kulper combines collage and mapping with literary tools, thus producing a hybrid work. Beyond the two-dimensional representation, the plan synthesizes the limits, actions, and possibilities within space and time. In other words, the visual narratives present spatial relationships with tacit and explicit knowledge, some aspects of which are left for the reader’s interpretation.

Figure 2.
David’s Island, Perry Kulper (Kulper, 2013).



In fact, Kulper offers a new architectural representation language with his approach that encourages programmatic thinking. He creates new virtual environments through new/redefined terms and classifications. Additionally, his approach contributes to speculative narrative by emphasizing the exploration and consideration of possibilities. On the other hand, since it diverges from traditional architectural representation language, the interpretive aspects stand out more than technical knowledge. This may make it unclear whether it will be difficult or easy for the reader to understand/interpret.

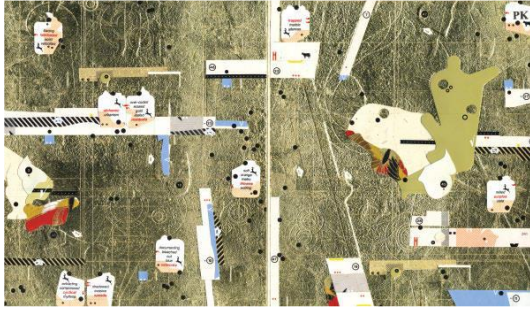
Figure 3.
Central California History Museum, Perry Kulper (Kulper, 2013).



Perry Kulper’s “Central California History Museum” representation (Figure 3), which combines the physical environment with analog tools, serves as an example of hybrid methods. Kulper uses graphite, tape, paper, and paint particles together. In addition to his composite drawings, he assembles pieces through collage. It is a hybrid representation where both visual and literary arguments are synthesized, and spatial knowledge is conveyed through personal narratives. By using spatial layering, drawings, and materials, he creates a new personal narrative.

Perry Kulper's "Alchemic Urbanism Passport Project" presents speculative and multilayered interpretations of the city (Figure 4). Through a combination of drawing, visual and literary tools, and various materials, Kulper creates a hybrid representation that highlights the multi-lingual and multi-directional nature of architectural representation. Each tool used offers different narrative potentials and represents the urban energy of the city. Kulper's approach, with its abstract meanings, tacit knowledge, and both closed and open narratives, explores the city as a space for urban discovery, opening up new possibilities.

Figure 4.
Alchemic Urbanism Passport Project, Perry Kulper (Kulper, 2013).



Kulper, who explores new and/or different drawing-representation forms by simultaneously using various representation tools and methods, states that he also produces alternative approaches according to the concept of the catalysts he defines. Many of the tools and figures used in visualization can assume diverse and multiple roles. Most visualizations are primarily abstract in content. The emphasis is on the creation of a synthesis and production space where ideas converge, beyond the mere provision of metric and theoretical knowledge through drawing (Kulper, 2013). As an architectural representation approach, Kulper's method evolves into a hybrid one through the use of multiple analog tools. The process may proceed randomly. The focus is more on the process, perception, and the use of multiple representation languages rather than the final product. This usage may sometimes create the impression that two-dimensional drawings are transformed into three-dimensional or digital productions. It could also be described as a form of manipulation.

In fact, Kulper has continued to use drawing as an analog tool, staying within traditional architectural representation methods. Despite the popularity of using digital and artificial intelligence tools today, his works emerge from the freedom offered by analog and traditional techniques. There is no uniformity. Kulper tends to challenge the potential of analog tools, in other words, he prompts the reconsideration of the concept of limits in architectural representation. He has carried out spatial speculations through layered narratives. According to Asar and Dursun Çebi, layering prepares the ground for discussions about many things that can or cannot be represented in architecture. These discussions, particularly in the context of design ideas and actions, nourish one another. However, layered representations can sometimes conceal information that only the architect themselves would know. These representations can transform into more ambiguous and intuitive narratives (Asar & Dursun Çebi, 2020). Kulper has developed his conceptual and thematic framework based on this production, shaping his theoretical knowledge. In this way, the dynamic roadmaps for new discourse and production have become clearer. Furthermore, Kulper's architectural representations, in addition to the taught architectural visualizations, are works that offer the reader the

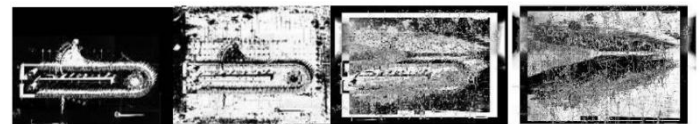
opportunity to interpret. In this sense, architectural representation has become a tool for discovery for the reader. The explorer, or the one who discovers, is the reader. Architectural representation no longer simply materializes architecture but presents a narrative as much as the reader's knowledge and imagination. Rather than solidifying architecture, spatial relationships have been synthesized through expected or unexpected speculations.

Neil Spiller

Architect and academic Neil Spiller, inspired by the approach of Lebbeus Woods, is notable for his experimental approaches to architectural representation. Spiller synthesizes spatial and social expressions with personal narratives, creating a fusion of real and virtual worlds. His work moves toward profound, layered meanings, and he perceives "drawing architecture" as a way for architects to use representation as a psychoanalytic tool (Spiller, 2013). Spiller's multidisciplinary work combines analog techniques with digital, augmented realities, transforming the drawing space into a source of new worlds. For him, this space allows for manipulations that lead to desired or undesired outcomes—creating what he refers to as "drawing architecture" or "intellectual architecture", an infinite universe of possibilities and narratives.

By revisiting his drawings and exploring new possibilities, Spiller also creates different narratives and virtualities. He questions the concept of "limits" by connecting architecture with concepts from other fields. In this regard, Spiller constructs new virtual narrative worlds by associating architecture with areas such as pataphysics, biology, mythology, and semiotics (Spiller, 2024). Following the passing of Lebbeus Woods, he developed a spatial narrative structured like a storyboard (Figure 5). Incorporating mythological elements, Spiller portrays Elektra's spatial journey and the transformations throughout this process within a virtual setting he has crafted. As Elektra continues her journey within the garden, she gradually disappears from sight. "Walled Garden for Lebbeus", as a product of personal imagination, provides insights into the relationship between space and time. In other words, it serves as an example of architectural representation where speculative narratives form a composition of spatial relationships.

Figure 5.
Walled Garden for Lebbeus, Neil Spiller (Spiller, 2024).



In his multi-faceted works, particularly in "Dee's Trunks" from "Communicating Vessels", Spiller does not merely combine architectural representation tools but instead merges the architectural representations he produces, prompting new interpretations and spatial assumptions. The generated representation becomes part of architectural representations. In addition to the composite unity of drawing techniques such as plans, sections, elevations, and perspectives, it transforms into a layered unity of another representation. With its speculative and personal narrative, the tacit and explicit knowledge within the architectural representation transcends spatial reading and reveals the artistic aspect of architecture. The task of reading and interpreting left to the observer carries a subjective dimension, as the representation before them is akin to a painting filled with complex and personal narratives (Figure 6).

Figure 6.
Dee's Trunks, Neil Spiller (Spiller, 2024).



Another of Spiller's works, "Communicating Vessels" (Figure 7), presents a personal narrative of a landscape from his own life (Spiller, 2016). The spatial elements are synthesized and manipulated within the created virtual universe using a monochromatic language. The architectural representation, reminiscent of surrealist painting, can be examined from multiple perspectives. The plan and elevation drawings also contain personal narratives and tacit knowledge. The reader/observer is able to generate new meanings through their interpretations. Virtual synesthesia can offer spatial experiences shaped by perception and sensation, each activated by different readings.

Figure 7.
Communicating Vessels, Neil Spiller (Spiller, 2016).



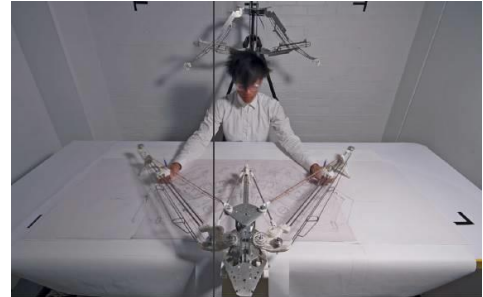
Nat Chard

Nat Chard, an architect and academic, is also one of the figures who has expressed his personal discourses through alternative architectural representations. According to Chard, contrary to the interdisciplinary position of architecture, the tools of architectural representation are in a limited cycle. The field of architecture has the potential and freedom to create its own drawing tools. He has sought to explore the potential for production in this regard (Chard, 2005). Furthermore, in relation to the explicit and tacit knowledge conveyed in architectural education, some of his architectural representations are seen in the experimental architectural practices he conducted in the Unit X25 MArch studios. These are analog tools (Figure 8) that involve the designer in the design process (Chard, 2021).

Chard, who highlights the ability of architecture to generate its own representational tools in parallel with its expansive, inclusive, and dynamic nature of producing sub-disciplines, presents new and original representations. Focusing more on processes than the final product, Chard emphasizes the importance of involving the architect in the drawing environment and process. Through the creation of his own representational tools, Chard explores the critical and experimental facets of architecture (Chard, 2021). He conducts his experimental and speculative productions using these self-created representational

tools. Spatial relationships and captured images are instantaneous outputs of the process, and thus, each repeated action is independent from the other and yields different results. The aim of questioning and provoking alternatives in architectural representation is realized through experience.

Figure 8.
An example of an analog tool is provided by Syafiq Jubri, 2016 (Chard, 2021).



"Drawing Instrument 2" is one of the experimental drawing tools created by Chard (Figure 9). It records the paradoxical images created by light and shadows on the surface of the drawing. The environment is dark. The box projector represents the world. The camera and the drawing surface are positioned outside. Perspective images reflect onto the picture plane from different angles. The models on the picture plane, in turn, create paradoxical shadows. Different records are produced than what is intended to be represented. Sometimes, only "things" emerge – personal things. This can also be interpreted as a metaphorical representation of the relationship between the human body and the city in a critical context. However, all the records and interpretations that can be obtained depend on the observer's own production (Chard, 2024). Such discussions essentially question how uncertain situations are addressed in the architectural process. The emphasis is not on definitiveness, but rather on experiencing the process through observation and interpretation. Beyond determining right or wrong or achieving certainty, meanings/things are sought.

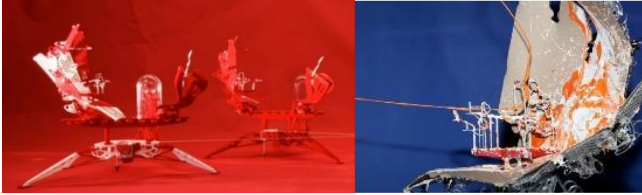
Figure 9.
Drawing Instrument 2 and the drawing it produces, Nat Chard (Chard, 2024).



One of the underlying reasons for Chard's drawing instruments is to capture speculative, real-time data. The instantaneous results generated by actions, objects, and spatial readings address the relationship between time and space. "Drawing Instrument 5", though perceived as a robotic tool with a manipulative body, is an analog instrument with four versions (Figure 10). It consists of a chassis, a paint catapult, a drawing surface, beams, and legs. Each tool is capable of launching paint relative to its position in relation to the other. The processes that make the experience more enjoyable and meaningful for the observer are the photographs of the paint in motion, which form a series of instantaneous moments. Subsequently, the marks left by the acrylic paint on the surface are photographed. Chard

approaches drawing from a different perspective, using constructs to materialize the concept of time, bringing forward the notions of “moment” and “thing”. The fact that each action takes place in the present moment and exists within space, through architectural representation, speaks to his exploration of different approaches and interpretations of presence.

Figure 10.
Drawing Instrument 5 and the drawing it produces, Nat Chard (Chard, 2024).



Smout-Allen

Both architect and academic Laura Allen and Mark Smout, working together as “Smout-Allen”, continue their research and production on the future and landscape. Recognized within the English architectural tradition and practice, Smout-Allen focuses on exploring the harmony between humans and technology through landscape and architecture (Richardson, 2010). Emphasizing the relationships established between nature, humans, and technology is crucial for designing new forms of nature. Their work and practices in this direction are referred to as “augmented landscapes”. Through augmented landscapes, they aim to understand and enhance natural processes, using technologies to augment them (Smout & Allen, 2007). Smout-Allen often supports this through speculative projects. In this context, architecture appears as a tool that emphasizes sensitivity to nature and the environment.

In addition to using architecture as a tool, Smout-Allen creates unique works alongside traditional architectural representations, thus developing their own language of representation. Kanekar describes Smout-Allen’s work as representing the process of the formation of the new by showing changes across past, present, and future times (Kanekar, 2015). Spiller (2007) defines their work as organic productions in light contact with the earth, influenced by contemporary, minimalist, and cubist styles. Smout-Allen (2008) argues that drawings cannot always represent a singular purpose, stressing that the design process itself is important, existing as part of and as a tool within that process. The relationships architectural representations establish with the environment and humans, their visual transformations, and perceptions enable the production of new forms of representation. In other words, the production itself also exists as a representation.

Working on the changing conditions of North Norfolk, Smout-Allen’s “The Retreating Project” focused on the rocky parts of the village that are sinking into the sea. The work began with identifying the issue and included architectural drawings, the production of drawing tools, evaluating collected data, and integrating it into the design process, sometimes shaped by the potential offered by incidental events (Smout & Allen, 2008). In order to evaluate some possibilities affecting the area, three different functional ballistic tools were designed. Since the drawings worked in tandem with the ballistic tools (Figure 11), the resulting data in this context would occur depending on the experience.

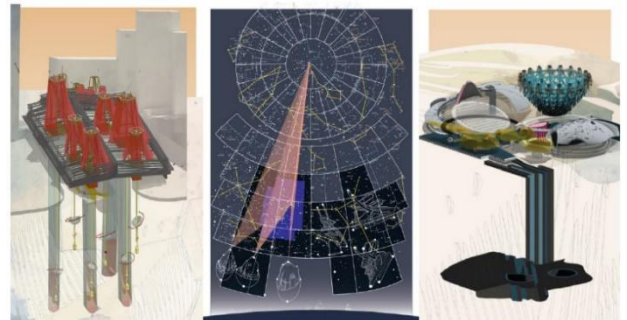
Each of these ballistic tools serves a distinct purpose. Therefore, the materials, techniques, and selected scales used in their construction have been carefully determined to suit their respective goals. Tools functioning between the earth and the sky contribute to the mapping of the landscape (Smout & Allen, 2008). The Ballistic Devices are launched into the sky to gather data, which is then used in the process of knowledge production (Figure 11). Notably, these devices stand out not so much for their measurement function but for their existence and representation. In other words, the Ballistic Devices can be evaluated in two ways. First, as a tool of representation, they fulfill the task of measuring environmental data in conjunction with drawings. Second, due to their uniqueness, these devices represent a new stance within the context of architectural representation methods and tools, acquiring a sculptural quality.

Figure 11.
Ballistic Devices, Smout-Allen (Smout & Allen, 2024).



The “Los Angeles Concept Project” by Smout-Allen and Geoff Manaugh is a landscape project that includes topographical and infrastructural arrangements, as well as sky analyses (Figure 12), (Smout & Allen, 2008). The project presents a new city model through analyses of land and soil structure, earthquake risks, urban infrastructure, constellations, and oil deposits. By mapping seismic, geological, and tectonic movements, the hypothetical city is explored. The city is represented in a speculative language, discussed through potential scenarios, and assumptions about the future are presented. Through this example, a utopian description of the vertical relationship between the earth and the sky is illustrated. The urban structure of Los Angeles is transformed into a new narrative through speculative architectural representation.

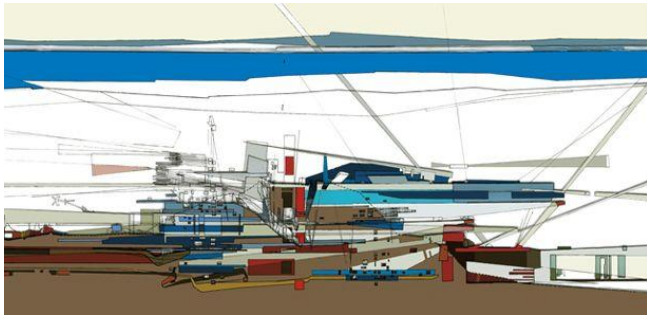
Figure 12.
Los Angeles Concept Project, Smout-Allen-Geoff Manaugh (Smout & Allen, 2024).



Smout-Allen’s “The Geofluidic Landscape Project” emerges as an example that not only establishes relationships within its socio-cultural context but also operates speculatively (Figure 13). The structure adapts to the tidal patterns of its location, transforming collected data into knowledge through the flow of knowledge. The tidal water is transferred to a geofluidic computer for

processing. Water is physically moved through a system similar to an elevator, activating certain parts of the structure and generating movement (Duyser, 2010). This method facilitates the manipulation of tidal water, providing ease for the local community. One of the most intriguing aspects of this project is how the structure goes beyond mere placement on the landscape to produce a new model that integrates with the surrounding environment and nature. In other words, it represents a collaborative effort between nature, landscape, and architecture.

Figure 13.
Geofluidic Landscape Project, Smout-Allen (Smout & Allen, 2024).



The duo, who initially set out to explore the future of nature and humanity's relationship, has created original works and continues to do so. The act of creating their own architectural/landscape data tools for collecting data is itself a labor-intensive endeavor. On the other hand, the forms of representation they use are highly impressive, containing tacit and closed knowledge. When viewed in this context, the representations they produce invite a variety of interpretations.

Considering the landscape as a space that serves the purpose of questioning architectural representation tools is crucial for understanding Smout-Allen's works and their architectural stance. While they assign the role of a questioning tool to architectural representation, they also guide the reader/observer/user through new perspectives in the design process by utilizing the experimental and exploratory layers of landscape within an ecological framework. Smout-Allen associates the tools they create with nature, recording possibilities. By sometimes resurrecting forgotten tools and inventing new ones, Smout-Allen produces opportunities to experience concepts of space and time through these tools. Generating possibilities opens the door to the new. Smout-Allen derives these possibilities from their experimental productions influenced by the natural environment. This is a journey into the discovery of the unknown. The emphasis is not on whether the outcomes are correct or incorrect, or productive or unproductive, but rather on the processes. Augmented Landscape stems from Smout-Allen's search for new meanings in the concept of landscape. By enabling the holistic perception and interpretation of tools and devices, it serves as an example of Gestalt Theory. It reinterprets and presents accepted knowledge in an unfamiliar way, offering it to the user experience.

Comparisons and Discussion

When examining the distinctive architectural approaches and works of contemporary architects and academics such as Perry Kulper, Neil Spiller, Nat Chard, Laura Allen, and Mark Smout, certain concepts emerge as central. The concepts that stand out in architectural representation production have led to undeniable interconnections and collaborations. Essentially, these concepts provide fertile ground for the creation of new meanings, interwoven with one another. The architectural representation

productions of the individuals in the case study, along with their approaches to the discipline of architecture, are shaped by their use of architectural representation tools. Below, the focus is on questioning and expanding the limits of the concept of representation in architecture in light of the prominent concepts (Figure 14). Additionally, architectural representation encourages the generation of awareness and differentiation. In the process of pushing the limits of architectural representation, the questions "how?" and "why?" arise as the primary inquiries to be addressed. The image below was prepared to identify the concepts where the unique architectural representation approaches of the selected architects intersect. The highlighted concepts were regarded as catalysts for alternative approaches in architectural representation, and the discussions were expanded in that direction.

Figure 14.
Conceptual Catalysts (created by the author).



Hybrid Methods

The real and virtual environments offered by analog and digital tools present hybrid formations in many ways. In light of technological advancements in today's world, the method and characteristics of how representation tools are used have also become variable. The diversity of new knowledge produced by the combination of physical and virtual environments and the tools used raises questions about the limits of the concept of representation in architecture. This is because the expressive power of each tool is reshaped through its interaction with other tools. Hybrid methods emerge from the combined use of different tools or environments (analog-digital, analog-analog, digital-digital) and can be multidimensional. One important point here is how the composition created by the interdependent use of these representation tools contributes to architectural representation. Another point is the opportunity representation offers for interpretation and narration, enabling the receiver to engage with the material. These aspects of architectural representation move beyond its function of providing theoretical knowledge to architects, offering an opportunity for others to read and interpret. In other words, hybrid representations are the formations that constitute the multi-dimensional and multi-lingual nature of architectural representation.

The transformations accelerated by digitalization and technical advancements in the 20th century have opened new possibilities in the field of architecture as well. Sheil argues that these developments are not one-dimensional in architecture; rather, they must be considered in relation to history, culture, society, and meaning-making. Furthermore, digitalization and the creation of new tools serve as key "catalysts" for change (Sheil, 2005). Each analog and digital tool holds different narrative and

representational powers. Moreover, the combination of these tools in different ways creates distinct narratives and modes of representation. This transforms architectural representation into a multi-lingual and multi-dimensional tool. On the other hand, according to Carpo, the technical nature of digital tools, which work based on command inputs, limits possibilities since they prevent random formations (Carpo, 2013).

Architecture is a broad discipline capable of producing transmedia works that draw from various fields such as art, science, technology, culture, social issues, politics, and history. Its ability to cross disciplinary boundaries allows it to touch upon many aspects of life. By processing tools from different disciplines, architecture can create new tools and/or methods. Given this potential power, the concept of limits in architecture is inherently blurry. Therefore, the tendency of architecture to push the limits of representation is inevitable.

Experimental and Exploratory Approaches

Representations themselves provide an environment for experimentation and exploration, and the process of creating the tools for representation is equally experimental. The analog tools produced in the case example to present an alternative are personal tools that prompt a reconsideration of architecture and generate architectural knowledge. These tools also serve as concrete examples of the idea that there could be other architectural representation tools, fostering awareness in the process. These creations break the perception that new tools are solely tied to technological advancements.

Beyond being just architectural representations, experimental representations open new doors in the context of generating spatial possibilities, inquiry, and critical thinking. They offer opportunities to think and create based on what already exists, what has the potential to exist, or what might not even exist at all. Productions and discourses that challenge traditional stances help to enrich the meaning and function of the concept of representation in architecture. In fact, it is not so much about what is right or wrong, but about being present in the process and moment—always in search of something. At times, the designer or even the reader/observer is included in the moment and process, allowing experiences and discoveries to be recorded. New alternatives are generated. In this regard, Wilkins and Burrow interpret the architect's final production as the "final draft" (Wilkins & Burrow, 2013), because drafts are part of the design process and contain readings that are open to exploration. These readings occur in relation to the sense of sight. The inherent nature of the conjunction of seeing and experience directs the reader/observer towards the effort of finding answers (Riahi, 2017). In fact, this is a visual and imaginal experience. Architectural representation, by transcending the representational tools that constitute it, promises itself as a tool for visual experience.

As a tool of discovery, architectural representations are actions that seek out the unknown, guided by imagination. Each action leads to different possibilities and opens various doors for the architect. This can be exemplified through drawing. When a person transfers the reflections of their imagination, which they have constructed in their own mental space, onto a sketch, each drawing action leads to the emergence of different spatial possibilities. Perhaps these are simply "things". This is one of the essential strengths of architecture. By maintaining its relationship with many fields, architecture fosters the exploratory approach to architectural representation in terms of generating new knowledge or rethinking existing concepts.

Speculative Architecture

Speculative architecture, which questions the concept of limits in architecture, reflects the more liberated side of the discipline. Detached from the practical aspects of architecture, such as building production and marketing, speculative architecture reveals the architect's own inner world, discourses, and critical narratives. Architectural representations, with this evolved purpose, move away from the traditional limits of representation and intersect with the boundaries of other fields, sometimes blurring or even erasing them. Thus, architectural representations are not merely architectural productions; they evolve within the context of readings that reflect on or challenge the past, present, and future. These can be utopian-dystopian or real-future syntheses. The productions, which are also shaped by the architect's own approach, represent the changing face of architectural representations.

The critical and speculative stance allowed by paper architecture, which emerged as a response to periods of political and cultural coldness, is the reflection of the architect's spirit and imagery through various forms of expression (Cook, 2014). According to Norell, the speculative stance in architecture is not only about producing discourse but also about stepping away from human prejudices to realize the act of "seeing" (Norell, 2022). Kulper (2020) aligns with this idea by encouraging viewing the world through new eyes and perspectives, pointing out that this awareness is essential for the "visionary architect". Speculative productions can exist as abstract and critical modes of thinking. They especially carry the responsibility of raising awareness through the expression of architecture's social, political, and interrogative aspects. As speculative representations, they may include both ordinary and extraordinary elements and environments, making them open-ended. Dunne and Raby regard speculative productions as products of imagination, suggesting that they do not necessarily belong to one universally accepted side (Dunne & Raby, 2013). In other words, speculative architectural representations do not have to be understood or accepted by everyone.

The speculative approach occupies an important and bold position in architectural representation. It challenges views that consider architecture merely as the production of buildings and the art of drawing. By pushing the limits of architectural knowledge and architectural representation, it takes the observer/reader on a journey. Architectural representation, fed by speculative stances, offers new possibilities, allows for individual interpretation, and prepares the observer for exploration. In this context, a new environment is created, and a new process of understanding, comprehension, and perception begins. The feedbacks and immersion moments inherent in the nature of architecture and the design process continue in multiple directions (Rapp et al., 2020). The continuation of the process will vary depending on the combinations of architectural representation tools used and personal preferences. Therefore, the number of resulting products is likely to be endless.

Personal Narratives

Architectural narratives, as seen in the case study, have a flexible framework. Key elements within these narratives—space, time, events, and situations—are shaped according to what the narrator wishes to include or exclude. These narratives can be objective, but they are also open to personal interpretations. Thus, these narratives can serve to present parallel images that lie between the rational and the experimental, or the specific and the general. In fact, narratives can become a tool for

manipulation.

Narrative forms multifaceted relationships with architecture. Architectural narratives are not just physical tools; they are instruments that connect with the world and extend beyond that connection (Escoda Pastor, 2014; Psarra, 2009). However, the two most prominent elements in architectural narratives are space and time. The architect, as the narrator, may present the architectural narrative in a theoretical language, while also incorporating personal narratives. The meaning within the produced architectural narratives is shaped by whether they contain explicit or tacit knowledge (Ryan, 2014). Architectural narratives offer readings where personal approaches are conveyed, and experimental and spatial knowledge is processed. Additionally, they can present different spatial readings to the reader/observer, either openly or instantaneously. In this way, the visual representation of architectural narrative allows the reader/observer to experience their own personal journey, guided by the images created within them (Croset, 1988). Through a complex set of concepts, narrative has become one of the terms that broadens the multilingual structure of architectural representation. The use of different representational tools has brought multiple narratives and readings together, opening the door to new spatial possibilities.

The development of language in architectural narratives is crucial in expanding the limits of architectural representation. In parallel, the creation of unique representational languages by architects enables the generation of new and alternative possibilities in architecture.

Conclusion and Recommendations

Architecture is a discipline that generates its own knowledge while also reinterpreting existing knowledge, drawing from and influencing various fields. Architecture, by its very nature, seeks to expand and evolve within the world it inhabits. While in the past, its existence leaned heavily on craftsmanship, in subsequent periods, architectural practices and concepts have undergone transformative milestones, evolving in both theoretical and practical terms. The spiral nature of architectural knowledge, in other words, architecture's expansion by building on past knowledge, is reflected in its modes of communication.

Architecture is represented through the use of architectural representation tools and methods. In other words, the architectural discipline exists by producing spatial designs, architectural critique, discourse, or new representations. The predominance of visual tools in architectural representation stems from the nature of the discipline itself and the culture of architecture. Architecture, visually, encompasses both art and science, as well as nature. Traditional tools have always existed and have evolved with technical advancements that refer back to these tools. Analog and digital tools can be seen as two allies in expanding the limits of architectural representation, as each tool holds its own expressive power, and their combinations can lead to fruitful results. However, the most important factor is the vision of the architect who utilizes these tools.

Architectural representation is not merely the visualization of a design but rather a process in which spatial thinking is explored, transformed, and reinterpreted. Representation should be regarded not as a tool that delineates the boundaries of architecture but as one that expands, transforms, and questions them. Analog and digital methods, experimental drawings, speculative mappings, and narrative strategies function as catalysts for alternative modes of architectural representation. In

this context, representation extends beyond being a reflection of objective reality; it can be understood as an interdisciplinary field of interaction. Situated at the intersection of architecture, art, technology, and narrative, this realm enables both the exploration of spatial possibilities and the generation of new discourses.

This study examines the architectural representation approaches of contemporary figures such as Perry Kulper, Neil Spiller, Nat Chard, and Smout-Allen, all of whom are influenced by the architectural trends of the 1960s. Interestingly, despite the intense use of technological advancements and artificial intelligence in the present, these figures persist in using analog tools and creating personal and unique architectural representations based on their own theories and knowledge.

These figures do not only challenge the limits of architectural representation but also lead to a transformation in the identity of the architect. The architect is not merely a designer of buildings, a presenter, or a dreamer. Rather, the architect is a "visionary" who connects the past and the future, a "researcher" who understands hypothetical thinking, a "designer" with spatial and dimensional planning skills, or a "discoverer" who generates new or reinterprets architectural knowledge.

The architectural representations of each individual are reflections of their personal knowledge. These reflections in architectural representation are analyzed in the study through hybrid methods, experimental-exploratory approaches, personal narratives, and speculative architecture practices. Beyond being a tool for inquiry and reasoning, the extraordinary approaches in architectural representation, such as rethinking theories and representations, establishing connections with new concepts, etc., are valuable initiatives that foster and enhance awareness within the culture of architecture. Additionally, these approaches can be seen as actions that give courage to the multi-dimensional and inclusive nature of architecture. Transmedia examples that have adapted to architecture continue to maintain their contemporary and modern stance by adding new dimensions to communication tools. The use of analog, digital, or hybrid methods and tools, along with the courage to use them, represents the preferences of architecture in this process. It is a necessity because architecture must continuously challenge its boundaries and remain flexible in its relationships, especially within the context of digital humanities.

Speculative productions, representations, or discourses that connect with the future can also be seen as critical reflections of the spirit of the time/era. They may adopt abstract or critical language in response to contemporary political, social, economic, imperial, and capitalist issues. The radical stance that emerged in the 1960s continues to persist or evolve today. A positive outcome of this ongoing influence is that architectural practices and representations have led to an expansion of the boundaries of the architectural discipline. Hopefully, this expansion will continue with the dynamism of architecture and encourage and guide architects to produce alternative approaches and discourses, opening up new potentials in the field.

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