

Design Language: Design Criticism in Identifying Lexemes and Morphemes in Design

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Abstract

Designs of architecture, objects, or experiences, when perceived as a form of communication, can transcend the notion of aesthetics and become a powerful language capable of conveying meaning, evoking emotion, and fostering function. Through the lens of semiotics—the study of signs and symbols—this paper uses exploratory research methods to investigate the symbiosis of this theory and design in providing a framework for design articulation and substantiation. Further, the paper analyzes the role of design criticism in identifying lexemes (design terms) and morphemes (smallest units of meaning) in design language. Drawing parallels to linguistic analysis, it examines how critics dissect design elements to uncover recurring patterns, symbolic meanings, and cultural significance. Through case studies and historical context, the paper illustrates how lexemes like "minimalism" evolve through critique, while morphemes such as color, shape, and texture contribute to a design's overall meaning. Findings include the proposition that design criticism can serve not only as a reflection on aesthetics and form but also as a tool for dissecting the "linguistic" elements of design—components that construct the broader narrative or meaning in design works. The paper concludes with implications for using design criticism to assist in identifying design lexemes and morphemes.

Keywords : Design Language, Design Semiotic, Design Criticism

1. Introduction

Designs of architecture, objects, or experiences are inherently intertwined with language, as both are mediums through which ideas are conceived, communicated, and realized. Language, in its various forms, shapes perceptions, influences behaviors, and facilitates the exchange of knowledge and perspectives. In the realm of design, the utilization of language extends beyond communication to become a catalyst for creativity and innovation. This paper aims to explore the symbiotic relationship between language and design, with a specific focus on how a linguistic theory, particularly semiotic, propelled the direction of design. This is also to contribute to the ongoing debate among academics in architecture and design about whether there can be a design language:

“...[T]he semiological approach offers a promising way of organizing the academic study of architecture; hence the many books and articles over the last twenty years or so written in the semiotic style.” (Donougho, 1987, p.56)

There is also a dilemma within the profession regarding the interpretation and meaning of architecture and design works. The most controversial case was the Guggenheim Museum in Bilbao, Spain, which was designed by the renowned architect Frank Gehry (see Figure 1). As Alexander Lange, a prominent American critic asserts: “Gerry, a typical of contemporary architects courts metaphor and association.” (Lang, 2012, p.66-67). She went on to highlight how Herbert Muschamp wrote in an article for the New York Times Magazine in 1997 describing how he understood the museum:

“Bilbao is a sanctuary of free association. It’s a bird, it’s a plane, it’s Superman. It’s a ship, an artichoke, the miracle of the rose” (Muschamp, 2012, p.55). The controversy lies in the fact that the Guggenheim Museum in Bilbao, celebrated by

renowned architect Philip Johnson as “the greatest building of our time” (Griffiths, 2022), stands as a manifesto of freedom of association. However, critics like Herbert Muschamp have found its meaning problematic. In this light, this study argues that while semiology has been clearly adopted as a framework for design language, it has yet to shed light on how primary linguistic elements—lexemes (the root form of a word representing a single meaning or concept) and morphemes (the smallest unit of meaning contributing to a word’s overall meaning)—can be similarly applied to design language. Therefore, rather than clarifying meaning, semiotic theory has, instead, introduced fragmentation and confusion into the development of design language.

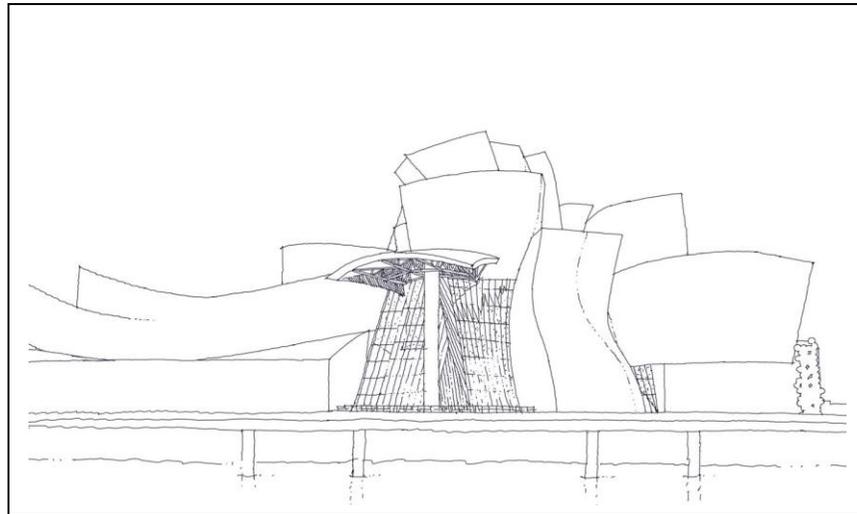


Figure 1: A sketch of the Guggenheim Museum in Bilbao, Spain.

To explore this notion, this study adopts an exploratory research method, which is particularly suited for investigating areas where little prior research exists or where existing knowledge is insufficient. Exploratory research is flexible and open-ended, allowing researchers to explore new angles, generate hypotheses, and identify patterns that can serve as a foundation for future studies. By focusing on literature review and case study analysis (Swedberg, 2020), the method facilitates the identification of new hypotheses or issues that have not yet been thoroughly studied. This approach is especially useful in fields like design, where emerging theories and practices can benefit from a more open-ended inquiry. The following outlines structure of the research method, which includes literature review and case study analysis:

1.1. The Modernism to Postmodernism Transition in Design Criticism

First, the study brings forward the discussion of language and design, with an emphasis on design criticism during the transition from modernism to postmodernism. This period is crucial as it marks a turning point in design thinking and critical discourse. Modernism emphasized function, simplicity, and universality in design, while postmodernism challenged these ideas, embracing pluralism, eclecticism, and historical references. This exploration of design criticism is based on the four major critical approaches namely formal, experiential, historical, and the activist of prominent critics during this transitional period (Lenge, 2012). This is to establish the framework for understanding how design criticism contribute to the perception of design as a form of language, where both visual and symbolic meaning became critical. It sets the stage for examining the deeper theoretical frameworks that connect language, semiotics, and design criticism.

1.2. Case Study Analysis: Applications and Critiques of Semiotic Theory in Design

The study then moves on to discuss the applications and critiques of semiotic theory in design, particularly as it gained prominence during the postmodern era. Semiotics, the study of signs and symbols, became an essential tool for understanding how meaning is constructed and communicated in design, offering new ways to critique and evaluate design

artifacts beyond modernist principles. By examining how semiotic theory was applied in design and design criticism during this shift, the study illuminates the symbiosis between criticism and practical application in design.

1.3. Synthesis: Lexemes, Morphemes, and Design Language

Lastly, the study synthesizes all the gathered information, applying it to the concept of lexemes and morphemes within the context of design language. This synthesis illustrates how semiotics in design evolved in the postmodern period enhanced both the design application and design criticism. Moreover, the study highlights the role of design criticism in examining the smallest units of meaning (lexemes) and grammatical units (morphemes) within design language, leading to a more flexible and layered interpretation of design forms and their meanings

2. Literature Review: The Modernism to Postmodernism Transition in Design Criticism

2.1. Evolution of Design Criticism

Within the architecture and design discipline, there exists the field of design criticism, which is vital to the progress and development of design. This field of study rests on a symbiosis between language and design, propelling design into different direction through dissemination of reflective thoughts to the public. (Lange, 2012). Design criticism, as a field of study, has undergone significant evolution over the decades, reflecting changes in design practices, societal values, and technological advancements. To understand this notion, this article traces the evolution of design criticism, bringing forward salient events, influential figures, and shifts in perspectives. Beginning with its emergence in the early 20th century, design criticism has evolved from subjective assessments to more interdisciplinary approaches, encompassing cultural, social, and ethical dimensions.

Design criticism, as a distinct field of inquiry, has emerged from the intersections of art criticism, cultural studies, and design theory. Initially rooted in subjective evaluations of aesthetic qualities, it has evolved into a multifaceted discourse encompassing broader societal, cultural, and ethical considerations (Collins, 1965; Lange, 2012). This evolution reflects the dynamic nature of design itself, as well as the changing landscape of contemporary society, which can be illustrated as follows:

2.1.1 Emergence of Design Criticism

Design criticism as a formal discipline began to take shape in the early 20th century, coinciding with the rise of modernism and the proliferation of industrial design. Influential figures such as Lewis Mumford, Reyner Banham, and Walter Gropius played pivotal roles in articulating the significance of design within the context of modern society (Lange, 2012; Mumford, 1965; Wojtowicz, 1990). Early design critics focused primarily on the formal qualities of objects, advocating for functionality, simplicity, and aesthetic coherence. However, this approach often overlooked broader socio-cultural implications, leading to criticisms of elitism and Eurocentrism (Donougho, 1987).

2.1.2 Expansion and Diversification

The postwar period witnessed a diversification of design criticism, as practitioners began to incorporate insights from anthropology, sociology, and semiotics. Figures such as Herbert Read and Roland Barthes introduced new conceptual frameworks that emphasized the cultural and symbolic dimensions of design (Barthes & Duisit, 1975). Concurrently, design criticism expanded its scope beyond traditional disciplines, engaging with issues of gender, race, and environmental sustainability. This interdisciplinary approach challenged conventional notions of aesthetics and functionality, fostering a more inclusive and socially conscious discourse (Huygen, 1997).

2.1.3 Critique and Advocacy

By the late 20th century, design criticism had evolved into a platform for both critique and advocacy, addressing pressing issues such as consumerism, globalization, and technological innovation. Design critics such as Victor Papanek and Ezio

Manzini brought to light the idea of socially responsible design, calling for greater consideration of ethical and environmental concerns (Bush, 1984; Huygen, 1997; Manzini & Coad, 2015). Concurrently, postmodern theorists like Rosalind Krauss and Hal Foster problematized the notion of authorship and originality, challenging the hierarchical structures of design discourse (Foster, 2010; Krauss, 1981).

2.1.4. Digital Age and Beyond

The advent of digital technologies has further transformed the practice of design criticism, facilitating new modes of dissemination and participation. Online platforms, blogs, and social media have democratized the discourse, enabling a wider range of voices to contribute to the conversation (Eyman, 2015). At the same time, digitalization has raised questions about the role of criticism in an era of instant feedback and viral trends. Contemporary design critics navigate these complexities while remaining attuned to ongoing debates surrounding globalization, urbanization, and social justice.

Moreover, digital technology has significantly transformed design criticism, shifting it toward design journalism with the rise of online platforms like Dezeen, ArchDaily, and others. These platforms have democratized access to design critique, enabling real-time, global discussions about architecture and design. Prominent critics, such as Alexander Lenge, contribute to platforms like Dezeen, shaping public discourse with accessible, often multimedia-driven content. Unlike traditional design criticism, digital platforms offer immediacy, interactive formats, and diverse voices, making design journalism more engaging and widely available to both professionals and the public (Rethinking the Future, 2024). New digital platforms such as Tik Tok is also emerging as a new media for architecture and design discourse (Overstreet, 2020).

2.1.5. Discussion

The evolution of design criticism as a field of study reflects broader shifts in design practices, societal values, and technological advancements. From its origins in subjective evaluations to its current embrace of interdisciplinary perspectives, design criticism has continually adapted to changing contexts and concerns. Furthermore, semiotic theory popularized by design criticism, was also adopted by architects and designers as the framework for “design language,” which poses that architecture, objects, and experience that have been designed actually carry meaning that can be decoded by users and spectators. The following discussion aims to shade light into this intertwining relation between semiotic, criticism, and design practice.

2.2. Case Study Analysis: Applications and Critiques of Semiotic Theory in Design

2.2.1. Semiotic Theory and Design

Design has often been perceived as a process focused on form, function, and aesthetics. Designers often draw on linguistic elements such as symbolism, metaphor, and narrative to imbue their creations with deeper layers of meaning and significance (Maciuika, 2000). When approached through the lens of semiotics, design can be understood as a language composed of signs and symbols that communicate specific messages to its users. Semiotics, originally formulated by Ferdinand de Saussure (Saussure, 1983) and later expanded by Charles Sanders Peirce (Peirce, 1931–1958), provides a framework for analyzing how meaning is constructed through sign systems. In design, semiotic analysis can be applied to understand how objects and systems communicate with users, not through words, but through visual, tactile, and spatial cues. According to Saussure, signs consist of two components: the signifier and the signified. The signifier is the tangible, perceivable part of the sign (such as a shape or color), while the signified is the concept or meaning associated with it. Peirce expanded this theory by introducing a triadic model of the sign, comprising the *representamen* (the physical form of the sign), the *interpretant* (the meaning inferred by the viewer), and the object (the actual thing being referred to). Peirce’s framework allows for a more dynamic interpretation of signs, where meaning can evolve based on the context in which the sign is encountered (Nöth, 1990; Parmentier, 2016).

In the field of design, semiotic was adopted via the influence of Jacques Derrida and Charles Jencks (Jencks, 1969; Jencks, 1977; Patin, 1993). This triadic model can be used to explain how users interpret different design elements. For example, a red stop sign communicates not just because it is red and octagonal, but because it has a shared cultural meaning understood through social conditioning (Jencks, 1969). Charles Jencks is widely recognized for his groundbreaking work on postmodern architecture, and his 1969 essay *Semiology and Architecture* and later the 1977 book *The language of post-modern architecture* stand as a significant contribution to the field. Jencks explores how architecture, traditionally seen as a functional art form, functions similarly to language by communicating through signs. Semiology, or the study of signs, allows us to

understand how buildings and their components convey meaning, evoke emotions, and represent cultural values. By applying a semiotic lens to architectural design, Jencks encourages architects to create designs that go beyond form and function to engage in deeper symbolic communication. The following summarizes his salient points that laid groundwork for semiotic in design.

2.2.2. Architecture as a Language

Jencks' theory posits that architecture operates as a "language" composed of signs and symbols, similar to verbal or written language. These signs—such as shapes, materials, and spatial arrangements—carry meaning, both explicit and implicit. The shift from modernism to postmodernism, according to Jencks, marked a crucial moment in architectural history, where architects began to consciously manipulate semiotic systems to encode meaning into their designs. For instance, while modernist architecture emphasized simplicity, universalism, and functionalism, postmodern architects began to use symbolic elements to reference historical styles, cultural movements, or social phenomena.

2.2.3. Semiotic Structures in Architecture

Jencks identifies a key departure from modernism's minimalist approach in postmodern architecture, where semiotic analysis allows for a plurality of meanings. In postmodern buildings, forms no longer serve purely functional purposes but are carefully chosen for their symbolic weight. A façade may simultaneously reference classical architecture while subverting traditional conventions, thereby creating a dialogue between the past and present. This layering of meanings challenges the viewer to interpret buildings through multiple lenses, enriching the overall design experience.

A prominent example of this semiotic richness is seen in Robert Venturi's Vanna Venturi House, where the house's exterior plays with expectations of scale, symmetry, and classical references while still functioning as a domestic space. Jencks uses examples like these to argue that postmodern buildings are inherently more complex because they deliberately incorporate these semiotic layers into their design.

2.2.4. Semiotic Critique of Modernism

Jencks critiques the modernist movement for its rejection of historical references and symbolic meaning in favor of pure functionalism. Modernist architects, like Le Corbusier and Mies van der Rohe, advocated for a "form follows function" approach, prioritizing efficiency and rationality in design. This resulted in minimalistic structures devoid of ornamentation or symbolic content, which, according to Jencks, stripped architecture of its communicative potential.

Jencks argues that by ignoring semiotic principles, modernism failed to resonate with the general public, who often found modernist buildings cold and alienating. He contrasts this with postmodernism, where semiotics is deliberately employed to reconnect architecture with cultural symbols, historical styles, and public engagement. In this way, postmodern architecture becomes a more democratic and inclusive form of design, accessible to a broader audience through its use of familiar signs and references.

2.2.5. Application of Semiotics in Contemporary Design

Jencks' work has had a lasting impact on the field of architecture and design, influencing not only postmodern designers but also contemporary architects and designers who continue to explore the relationship between form and meaning. His seminal design work for the Cosmic House became the hallmark for the application of semiotic theory in architectural design (see Figure 2). In the house, each architectural element relates to human body and its relationship with the universe through the use of metaphors and symbols ranging from high art to popular culture kitsch. Jencks employed the concept of *gesamtkunstwerk*—the total work of art—by designing every elements such as furniture and objects to tell a story. Each area was composed according to a "symbolic programs" to guide the understanding and reading of the house.

This exemplifies the application of semiotic theory in establishing design lexemes and morphemes. Design lexemes – historical symbolism such as Classicism, Egyptian, Gothic applied in furniture design—were juxtaposed with morphemes, which is the spatial design such as changes in levels and room divisions. The progression through the space allows one to read and understand the narrative in a comprehensive way. For example, the Four Square Room (see Figure 3) uses "mirrors and split levels" to create "spatial jokes and ambiguities" (Jencks Foundation. (n.d.). As the house was the center of debates and discussions about postmodernism, these lexemes and morphemes spoke to other prominent architects such as Richard Rogers, Norman Foster, Michael Graves, Rem Koolhaas, and Zaha Hadid through their direct experiences. This can be inferred that these architects went on to establish their own lexemes and morphemes based on what were experienced and discussed at the dinners and parties regularly held in the house (Jencks Foundation, n.d.).

In the context of contemporary design, semiotics was applied to foster more meaningful connections between buildings and their users. Architects and designers frequently incorporate symbols and cultural references to create buildings and spaces that resonate with specific communities, environments, or historical moments. For example, the much-celebrated Daniel Libeskind's Jewish Museum in Berlin uses sharp angles, voids, and irregular forms to symbolically represent the trauma of the Holocaust (see Figure 4). These forms can be read as design lexemes while disorienting and dynamic changes of levels and axis are morpheme signifying "foreboding" feeling. In this case, the synchronizing of architectural forms and interior

spaces transcends aesthetic choices into profound semiotic meaning.

Jencks' semiology of architecture thus remains relevant as designers explore how to use signs to address social, political, and environmental challenges in architecture. Charles Jencks' *Semiology and Architecture* (1969) and *The language of post-modern architecture* (1977) provides a critical framework for understanding architecture as a semiotic system. By applying principles of semiotics, architects can move beyond functional design to create structures rich in symbolic meaning and cultural reference. Postmodern architecture, as Jencks advocates, uses signs deliberately to communicate on multiple levels, thereby enhancing the viewer's experience and interaction with the built environment. Jencks' contributions have not only shaped postmodernism but continue to influence contemporary architectural practices, making semiotics an essential tool for architects seeking to create meaningful and contextually relevant designs.

The case study analysis reveals how lexemes and morphemes in design are communicated through both direct experiences and design theories. This highlights the unique nature of design language, which is interpreted through the interaction between the human body and the physical space it navigates. In postmodernist design, new lexemes and morphemes emerged, which were widely adopted by architects and designers. This is evident in the innovative forms and unconventional spaces characteristic of many 21st-century buildings. These elements became integral to the design language, reflecting how postmodernism reshaped architectural norms and expressions.

When viewed through a semiotic lens, design reveals itself as a complex language composed of signs and symbols that influence how humans interact with their surroundings. For designers, understanding the semiotic function of design is crucial as it enables more thoughtful, intentional, and culturally resonant creations. In this semiotic framework, every design decision becomes a communicative act, where users are no longer passive recipients but active interpreters, engaging with and responding to the encoded messages within objects and spaces. This interplay of meaning-making enriches the interaction between people and the designed environment.

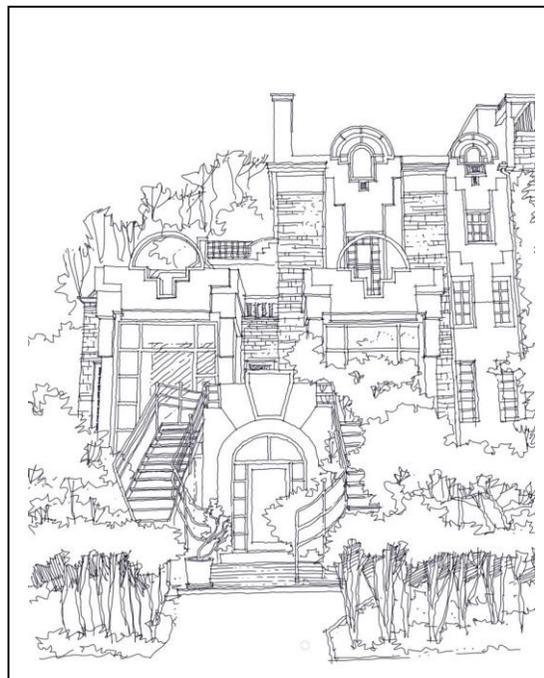


Figure 2: A sketch of the exterior of the Cosmic House, a postmodern landmark by architect Charles Jenck and Sir Terry Farrell

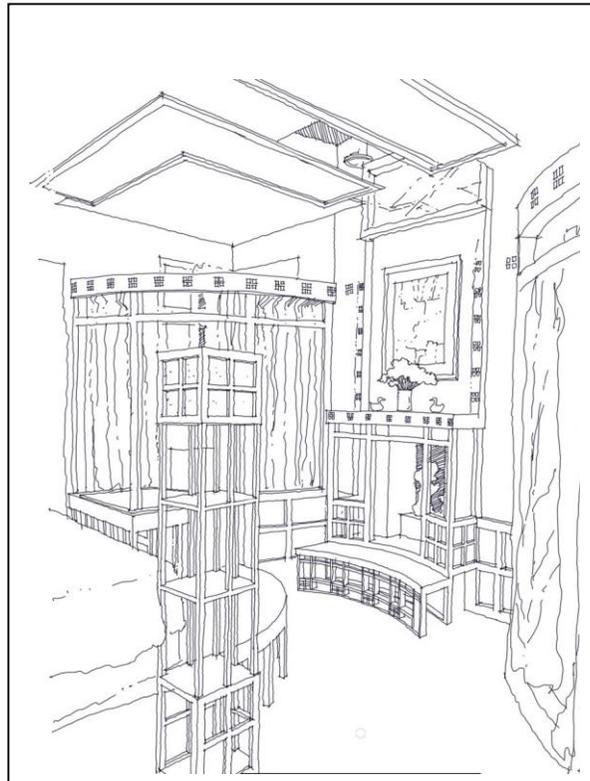


Figure 3: A sketch of the interior of the Cosmic House, a postmodern landmark by architect Charles Jenck and Sir Terry Farrell.

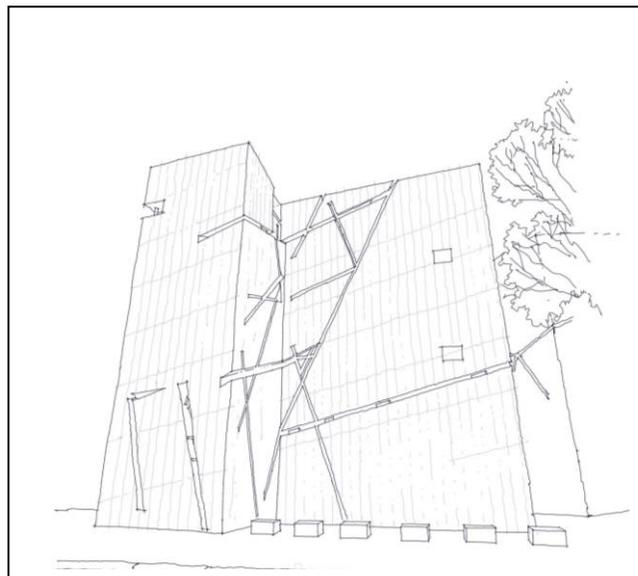


Figure 4: A sketch of Daniel Libeskind's Jewish Museum in Berlin.

2.3. Critiques of Semiotic Theory in Design

Design has long been acknowledged as forms of communication, yet the effort to formalize design as a structured language, akin to written or spoken languages, has faced significant theoretical challenges. One of the central difficulties has

been the failure to systematically identify the fundamental building blocks of design—the design equivalents of lexemes and morphemes in linguistic theory. Without these basic units, the attempt to create a coherent "design language" has been fraught with ambiguity and inconsistency. This critique explores why architecture and design theorists have struggled to establish such a language, focusing on the elusive identification of these basic design elements and how this failure has impeded the development of a clear theoretical framework.

2.3.1. Lack of Clear Design Lexemes: The Search for Fundamental Design Units

In linguistics, lexemes are the basic vocabulary units that convey meaning independently, such as words in a language. For design theorists, the challenge has been identifying a comparable set of elements that could serve as universal design "words." While some have suggested that basic geometric forms, colors, or materials might function as design lexemes, there has been little consensus on what these core units should be:

“Now, if the linguist tries to discover what basic units communicate verbal meaning and finds such things as phonemes and morphemes, then it would be highly appropriate if the architectural explorer found ‘formemes, funcemes and techemes’ – those fundamental units of architectural meaning.” (Jencks, 1969, p.7)

For example, architectural movements such as Modernism attempted to reduce design to simple, universal forms—rectangles, circles, and primary colors—that were intended to communicate clarity and rationality (Kaufmann, 1946). Yet these forms, while widely used, never achieved the kind of linguistic precision that lexemes in language possess. The problem lies in their ambiguity: while a square might suggest modernity in one context, it might represent stability, monotony, or even oppression in another. This lack of fixed meaning has undermined efforts to create a standardized design language based on universal lexemes.

Theorists like Le Corbusier and Walter Gropius sought to develop a formal vocabulary of architectural elements, yet their efforts were often highly contextual and tied to specific cultural or historical movements, limiting their universal applicability (Gropius, 2019). As a result, what was supposed to be a clear, rational design lexicon often became overly abstract, leaving users and critics to interpret meaning in subjective ways.

2.3.2. Morphemic Subtleties in Design: Ignored, Oversimplified, and underrepresented

In linguistic terms, morphemes are the smallest units of meaning, such as prefixes or suffixes, that may not stand alone but significantly alter the meaning of a lexeme. In design, morphemes might be thought of as details—nuances of texture, form, or material that add meaning to a larger design element. More importantly, morphemes can also be compared to spatial design that can alter the meaning of lexemes (forms and/or styles) through progression through space. Design theorists, however, have often overlooked or oversimplified these subtle elements, focusing instead on grand gestures or large-scale forms while neglecting the smaller details that significantly influence how a design is interpreted. Furthermore, the concept of spatial design is often more difficult to comprehend, which leads to its underrepresentation in design language.

Architects such as Frank Lloyd Wright and Louis Sullivan paid attention to such morphemic elements, embedding ornamentation and material details into their designs (Menocal, 1991). Yet in broader theoretical discourse, these smaller design features were often dismissed as decorative or secondary. Modernist architects, in particular, viewed ornament as unnecessary and even detrimental, leading to an oversimplification of design that ignored the meaningful role of small-scale elements (Maciuka, 2000).

This oversight created a gap in the theory of design language. Without an understanding of how small design details (morphemes) influence the perception and meaning of larger forms (lexemes), theorists were unable to fully explain how design communicates with users on multiple levels. This inability to account for the layers of meaning in design has been a critical shortcoming in establishing a comprehensive design language.

2.3.3. The Challenge of Context and Interpretation

One of the most significant difficulties in establishing a design language based on lexemes and morphemes is the role of context in interpretation. In language, the meaning of a word or morpheme is often stable, but in design, meaning can change dramatically based on cultural, historical, or situational factors. This fluidity has made it difficult for theorists to pin down a

stable set of design elements that can function universally across different contexts. For instance, a material such as concrete may signify strength and modernity in one context, but coldness or industrial alienation in another. Similarly, colors carry varied meanings across cultures—red might symbolize danger in one society and prosperity in another. Additionally, the subtleties of spatial design can be perceived and experienced differently based on an individual’s bodily awareness and physical conditions. This variability complicates the effort to create a standardized set of design lexemes and morphemes, as

their meaning is highly dependent on the user's background, experience, and cultural context.

Theorists who attempted to define universal design languages, such as the International Style or the Bauhaus movement, often failed to account for these contextual differences, leading to critiques that their designs were sterile, disconnected, or culturally insensitive (Huxtable, 1981). The absence of a flexible system to interpret design lexemes and morphemes within specific contexts has hindered the establishment of a truly functional design language.

2.3.4. The Reductionism Problem: Oversimplifying Design Complexity

Another reason for the failure to establish a design language is the reductionist approach that many theorists have taken. By attempting to boil down design into a few basic forms or principles, they have often oversimplified the complexity of design communication. Just as a language cannot be fully understood by looking only at its most basic words or grammatical rules, design cannot be reduced to a set of simple forms without losing its richness and depth of meaning.

Movements like Minimalism sought to create a "pure" design language by stripping away all extraneous elements, but in doing so, they often failed to account for the emotional and cultural resonance of design. Minimalist spaces, while visually clean and rational, were frequently criticized for feeling cold, uninviting, or inhuman—an indication that their designers had not fully considered the morphemic details that create a sense of warmth, connection, and meaning.

This reductionist tendency has also been present in digital design, where the pursuit of clean, flat interfaces often overlooks the importance of micro-interactions and subtle visual cues that enhance user experience. By focusing solely on the "big picture" elements of design, theorists and practitioners alike have struggled to develop a nuanced language that can communicate on both the large and small scales.

2.3.5. Technological and Cultural Evolution: Constant Shifts in Design Lexicon

Another challenge is that design language evolves rapidly, influenced by technology, culture, and global communication. Unlike spoken languages, which evolve slowly over time, design lexemes and morphemes can shift dramatically within a short period due to advancements in technology or changes in cultural trends. For instance, the rise of digital interfaces has introduced entirely new design lexemes (e.g., icons, swipe gestures), while traditional elements like materials or forms have taken on new meanings in virtual spaces.

This constant evolution has made it difficult for theorists to establish a fixed or lasting design language. Every time a set of lexemes or morphemes is identified, new technologies or trends emerge, rendering the previous system outdated or incomplete. The rapid pace of change in design practice has outstripped the ability of theorists to keep up, leading to a fragmented and incomplete understanding of design language.

The struggle of architecture and design theorists to establish a coherent design language is rooted in the complexity of identifying fundamental units of meaning—lexemes and morphemes—within the design process. The ambiguity of design elements, the neglect of subtle details, the variability of context, and the tendency toward reductionism have all contributed to this challenge. Furthermore, the rapid evolution of design in response to technological and cultural shifts complicates the effort to define a stable design lexicon. To overcome this, a more flexible, context-sensitive approach that accounts for the large and small elements of design as well as spatial qualities may be necessary to fully realize the potential of design as a structured, communicative language.

3. Findings and Synthesis: Design Criticism and Its Role in Identifying Lexemes and Morphemes in Design Language

Design criticism is essential in uncovering and analyzing the linguistic structures within design, particularly the lexemes (design terms, concepts, and styles) and morphemes (details and spatial design) that compose design language. This study illuminates how design criticism usually dissects the visual, spatial, and functional components of design, identifying meaningful patterns and symbols that contribute to the broader discourse of the field. Further, design criticism can be

considered as a bridge that connects design works with the public allowing for better understanding and appreciation leading to design literacy. Design literacy is an important skill that can contribute to the development of design works as the public learns to distinguish between good design and bad design in a more complex sense rather than depending solely on marketed value. Conversely, design literacy can keep architects and designers in check creating a balanced design environment. History has shown that users and consumers play a vital role in the development of design works especially where the environment

is a growing concern.

3.1. The Linguistic Parallel in Design

In linguistics, lexemes represent meaningful words or phrases, while morphemes are the smallest units that convey meaning. In the context of design, lexemes manifest as design terms and concepts—such as "minimalism," "organic design," or "sustainability." These terms encapsulate design movements, styles, and philosophies, much like how words capture broader ideas in language. Design criticism allows for the identification of these lexemes, helping to define and refine design discourse.

Through critical analysis, design lexemes evolve and become integral to the way designers communicate ideas. For instance, the concept of "minimalism" in design may start as a general term, but through repeated critique and analysis, it becomes a specific lexeme with rich associations to particular aesthetics, materials, and cultural references.

3.1.1. Morphemes in Design

Morphemes, the smallest units of meaning in language, have their counterparts in design as well. These are the subtle details and spatial configurations that enhance the meaning or function of a larger design element but may not hold independent significance. Design criticism is especially adept at uncovering these smaller, often overlooked elements. For example, in architecture, critics may focus on material choices, surface textures, or spatial configurations. While these elements may not dominate the overall aesthetic, they provide essential nuances that affect how a space is experienced and understood.

A critique of a building's materiality (the smoothness of concrete, the grain of wood) or spatial design (open-plan arrangements or segmented spaces) can reveal morphemic details that enrich the spatial lexeme of modernism or warmth.

3.1.2. The Critical Lens: Historical and Social Context

Design criticism also involves situating lexemes and morphemes within historical and social contexts. Similar to how words and symbols acquire meaning through societal use, design elements gain significance based on cultural or technological shifts. For example, modernist design lexemes such as "functionality" and "simplicity" evolved during the 20th century as reactions to ornate styles, aligning with industrial and social changes.

This critical lens allows designers and scholars to trace the evolution of design lexemes and morphemes across time, offering a deeper understanding of their contemporary significance. Collins (1965) emphasizes that the interplay between history, theory, and criticism allows for richer interpretations, adding depth to the understanding of both design and language.

3.2. Implications for Future Study: Design Criticism and Its Role in Identifying Lexemes and Morphemes in Design Language

Design criticism serves as an essential tool in breaking down the semiotics of design language, facilitating a deeper understanding of how design communicates through both visual and linguistic elements. Future research can explore how design criticism assists in identifying "lexemes" (the smallest units of meaning) and "morphemes" (structural elements) within the language of design. A proposed future study could: (10 point blank line)

3.2.1. Expand Semiotic Frameworks

By using linguistic methodologies such as morphology and syntax, future research could develop a semiotic framework tailored specifically for analyzing design language. This framework would focus on how designers employ symbolic structures to convey meaning, much like how lexemes and morphemes function in verbal language. Using tools like structuralism and post-structuralism, researchers can examine how design elements (e.g., form, color, material) function as lexemes, while compositional rules serve as morphemes in creating coherent visual "sentences" in the design.

3.2.2. Interdisciplinary Approach

A multidisciplinary approach could be adopted, combining insights from design theory, linguistics, cognitive psychology, and semiotics to explore the cognitive impact of design language on audiences. This approach would help in understanding how design is "read" by different viewers, and how cultural, historical, or contextual factors influence the interpretation of lexemes and morphemes in design.

3.2.3. Computational Analysis

Future studies might also benefit from computational analysis, using artificial intelligence and machine learning tools to analyze large design datasets. These tools could help identify recurring design lexemes and morphemes, analyze trends in visual grammar, and model how design criticism shapes the evolution of design language over time. Tools from natural language processing (NLP) could be adapted to study design texts and critiques, extracting lexemes that describe design features and mapping their usage over time.

3.2.4. Case Study Integration

Empirical research through case studies could offer valuable insights into how different design genres (e.g., architecture, fashion, industrial design) utilize their unique set of lexemes and morphemes. Case studies of landmark design projects, analyzed through critical lenses, could offer practical examples of how design criticism reveals the underlying structures and meanings embedded in design works.

3.2.5. Pedagogical Application

Understanding the semiotic structures within design language also has educational implications. Future research could investigate how design students benefit from learning semiotic principles in design criticism. Pedagogical studies might explore whether explicit instruction on design lexemes and morphemes enhances design literacy, fostering more nuanced design creation and interpretation. This future study would contribute to both design theory and practice, establishing a more robust framework for understanding and teaching the language of design.

4. Conclusion:

The study revealed that design lexemes, when viewed through the lens of semiotics, can be understood as architectural or design stylistic formations that communicate specific cultural and aesthetic meanings. These lexemes, such as Modernism or Postmodernism, act as recognizable elements of design language, providing a visual vocabulary that informs how designs are interpreted within a cultural context. On the other hand, design morphemes correspond to details and spatial configurations, the fundamental structures that organize how these styles are applied within physical environments. Spatial design, such as open-plan arrangements or segmented spaces, forms the "grammar" of design, determining how lexemes (styles) interact within a given space to shape user experiences.

Through the case studies analyzed, it became evident that postmodernist design embraced a more dynamic interplay between lexemes and morphemes. New styles and forms of spatial configurations emerged, moving away from the rigid modernist principles. These changes were widely adopted by architects and designers, resulting in innovative and unconventional architectural forms. These findings underscore the role of both stylistic choices and spatial design in conveying meaning, thus highlighting how postmodernism reshaped the interaction between design elements, contributing to the evolution of architectural norms in the 21st century.

Moreover, this paper affirms the direction set forth by scholars in the architecture and design discipline that design can benefit from being viewed as a mode of communication. Through the lens of semiotics, design can become a language that conveys meaning and evokes emotional responses. Furthermore, linguistic frameworks, specifically semiotic theory, can reveal how design elements, much like words and phrases, form patterns that communicate deeper significance. Most importantly, this paper illuminated how the identification of "lexemes" and "morphemes" within design, can be applied in the interpretation of the symbolic, functional, and cultural meanings embedded within various design works.

Historical examples and case studies revealed that the evolution of design concepts illustrates how critique can shape the understanding of a design's narrative. This emphasizes the role of design criticism as more than an evaluation of appearance. Design criticism can also serve as a tool for interpreting the intricate "language" of design, offering insights into how design communicates at both a functional and symbolic level. This highlights the potential for design criticism to contribute to both the articulation of design concepts and the evolution of design language itself. In this regard, the development of design language can lead to more responsive designs and bring about positive changes to human development and well-being as well as to the society.

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