

# Significance and Value of the Alhambra Complex to Future Experimental Aesthetics

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## ARTICLE INFO

*Keywords:*  
Architecture  
Space  
Alhambra  
Future  
Experimental  
Aesthetics

## ABSTRACT

This article aims to conduct an in-depth study of the experimental aesthetics of the Alhambra complex, and we arrive at a number of valuable results. This includes an in-depth understanding of the Alhambra's architectural style and its aesthetic significance, as well as a discussion of its potential to influence future architectural design and aesthetic theory. In addition, we also discovered the potential value of the Alhambra complex in future experimental aesthetic research, providing profound inspiration for future research directions. Future research directions will include a deeper exploration of the aesthetic characteristics of the Alhambra complex and its impact on today's and future architectural aesthetics. It will also expand into a wider field of experimental aesthetics to explore its role in contemporary and future times. Values and possibilities in artistic creation. These results and future research directions will provide more convincing and enlightening conclusions on the research value of the Alhambra complex for future experimental aesthetics.

## 1. Introduction

### 1.1. Background of the Alhambra Complex

Few people return from a visit to Granada without being carried away by the beauty of the Alhambra. But enchantment is an old thing, and in the crowded ranks of those who have succumbed to the attraction of this Arabic palace, we need also to consider the interests that entice them. What could concern a psychologist? An art historian? A mathematician? An architect? As luck would have it, the immediate response offers surprises accentuated by the age we live in. Beauty, for the first two. The inexhaustible expressive capabilities of the Alhambra are demonstrated by many distinct, excellent, and little-known forms. For the specialist in mathematics, it is a field where, in addition, his knowledge and craft can find a more general meaning corresponding better to the enthusiastic claims of some publishers. Finally, if it is architecture, the link between performed work and the knowledge that allows for its creation is another problem that is sharply posed by the Alhambra. I would like to speak of a concern, a wish, and a proposal. The concern of an experimenter convinced of the difficulty of his undertaking in the current state of human reasoning, but one who also senses the inanity of humanistic illiteracy in sciences when too long isolated in their own achievements (*Jing Zhang, 2024*). The wish relates to the strange impotence of our culture that so restricts the intellectual values hidden in their aesthetic expressions. Finally, the proposal is to indicate what seems profitable to explore and establish the close link of our present-day aesthetic potential with these, because that too often borders upon the nebulous in the history and distance posed by periods as illustrious as they are from our own. Indeed, the unbreakable dependence of the aesthetic expression of a civilization to which the Alhambra belongs can, by evolution of our capacity to perceive meanings assignable to its artifacts, allow them to withstand veritable experiments.

## 1.2. Definition of Experimental Aesthetics

Experimental aesthetics (Fig. 1) is a scientific approach to questions about aesthetics and aesthetic phenomena. The questions can range from understanding how people normally respond to beauty, what effect art has on its consumers, the properties of artworks that make them appealing, the processes leading to the creation of a work of art, the judgment of artworks, art investments, and art policies to the consequences of experiencing artworks. Scientific research in aesthetics mirrors everyday and expert knowledge about arts and aesthetic experiences by using empirical methods and concepts from relevant fields such as experimental psychology and economics. While many research programs in experimental aesthetics rely on experimental data on actual rather than induced aesthetic experiences, others refer to reactions to sensory stimuli possessing aesthetic properties such as symmetry and mere exposure.

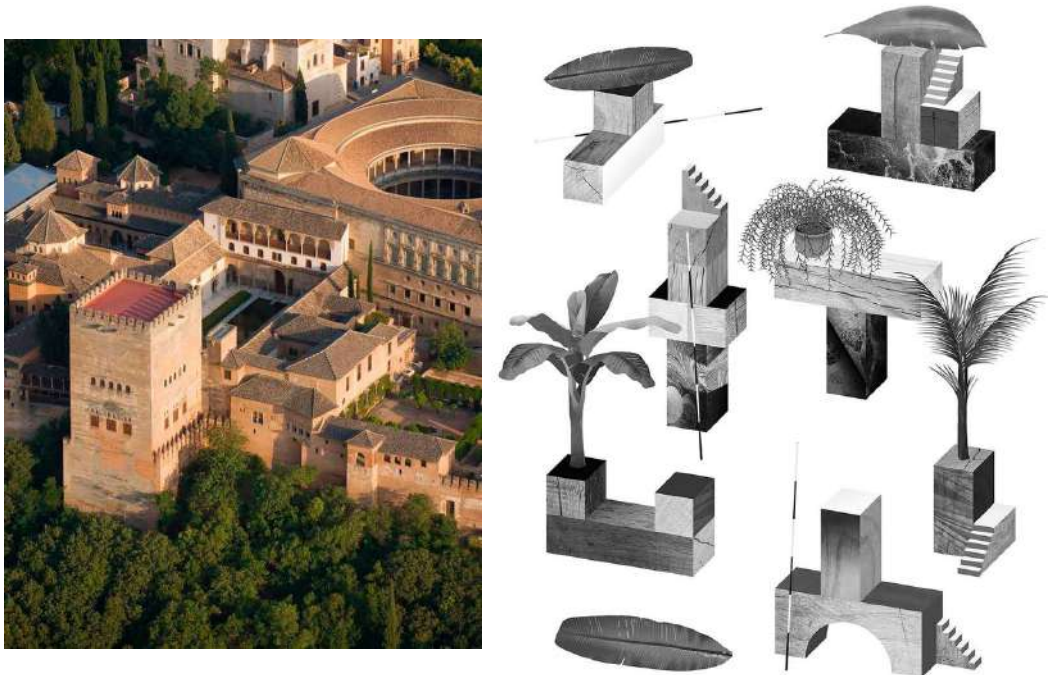


Fig. 1 Alhambra Palace and Experimental Aesthetics, Pictures and explanations by Jing Z. and Hvass&Hannibal

Recent science of aesthetics typically does not follow this definition. Philosophical and interdisciplinary studies of the nature of art, mathematical beauty, judgment of objects, and discrimination of art do not provide a suitable framework for research questions about consumer responses to actual artworks. They may support the development of alternative methodologies for theory building and testing, but they will not solve the major problems in experimental aesthetics that have to be based on empirical data complexity, unity of empirical orientations, and problems of the subject-object relationship.

## 2. Historical Philosophy and Aesthetics of the Alhambra

Philosophy of his time. Avempace, for one, had questioned the Ptolemaic system in his cosmological theory. Before this time, Ibn Tufayl had already espoused existentialism, and Ibn Bajja had for long been viewed as a Baileyan motionist. The contemporary attitudes of Avicenna and Averroes toward art and truth are well known. But the context in which these intellectual stirrings appear and the relation between these moral struggles and the actual construction of the complex remain enigmatic. To restore the intricate and comprehensive religious, artistic, and scientific background which infuses the intellectual atmosphere of the Alhambra, it is necessary to visualize the general objectives of this complex as they were perceived by its builders. This cannot be done properly without examining the historical role of the "resplendent" Alhambra as a small but very important epistemological mosque, where art,

poetry, beauty, and society can be willfully and intelligently exploited for religious and scientific purposes. To be concrete, the Alhambra was a unique regional stage in the age-old engagement of xenia in welcoming all kinds of philosophers, syllogists, and audiences with varying levels of engagement in various philosophical traditions.

### 2.1. The Philosophical Essence of the Alhambra Palace

In the first part of "A Sentimental Journey," Laurence Sterne wrote a "hermit's story" which is based on the dream of a fool, who lay in a haunted cell in the heart of the Alhambra. Sterne believed that the "sentiment" occurred to him because of the feeling of the person who saw and felt the same way many years ago—when the heart of the place was still alive with the "gaiety" and that only the heart of the place can "give information to the head"—"come and give me more," it was impossible to stay away from. This analogy is precisely the point of our research. The remarkable essence of the Alhambra is what makes it invaluable to us. We must figure out what this "invaluable essence" in the Alhambra is. This problem made Théophile Gautier spend three days—dressed as a musician or a Frenchman—in a state of living in Alhambra. We will not give a series of descriptions to understand the inside of the Alhambra, as legends, rumors, or texts familiar to us everywhere in our sights are described, but get it for objective, "invaluable" or "character-based" motivation determined by description. This approach may seem a bit philosophical, subjective, and boring but it is accurate and necessary for aesthetic practice, experimentation, and scientific research. The purpose of this paper is to bring together our own insights into artistic aesthetic practice, together with a considerable amount of diversified historical experience, analysis of the workings of the Alhambra complex in its functioning, research, and practical experimentation. It will complement the relevant scientific point of view.

### 2.2. Exploration of Spatial Aesthetics in the Alhambra Palace

The Alhambra exemplifies the richness of Nasrid architectural aesthetics through its intricate spatial dimensions. Perched on the scenic Sabika Hill in Granada, Andalusia, Spain, this masterpiece traces its origins back to AD 889, symbolizing profound cultural significance for Muslims across the globe. The Alhambra Palace is renowned for its exceptional Islamic artistry, prominently featuring specific spatial elements such as intricately crafted lattice windows that orchestrate mesmerizing patterns of light and shadow, alongside serene reflective pools that enhance the cultivated tranquility of the environment. The elaborately ornamented stucco ceilings invite contemplation through verticality, while the meticulously detailed tiling adorns various surfaces, elevating both visual and tactile experiences.

The robust marble constructions convey a sense of permanence and strength, while the captivating muqarnas decoration introduces a dynamic, three-dimensional quality to the interior realms. Geometric forms and elegant white arabesque patterns are notably prominent, establishing a symbiotic connection between aesthetic appeal and functional purpose. Furthermore, the incorporation of mosaic-like ceramic tiles reflects an advanced understanding of spatial design, blending a vibrant array of colors that not only captivate the eye but also maintain their brilliance over time, despite environmental challenges. This combination of elements articulately captures the essence of the Alhambra as a pinnacle of architectural beauty and spatial harmony.

The Alhambra Palace encompasses the grand Alcazaba fortress, the exquisite Nasrid Palaces, the enchanting Generalife Garden, and the elegant Charles Palace, showcasing a remarkable preservation of the intricate Moorish architecture in the vibrant city of Granada. Its architectural aesthetics profoundly exemplify the high level of sophistication inherent in Nasrid design, reflecting the intricate beauty and unique characteristics that are defining features of Islamic culture and art throughout history. The harmonious integration of diverse architectural elements imbues the palace with an inspiring architectural spirit, establishing a cohesive and engaging artistic environment that captivates visitors and scholars alike. The spatial aesthetics of the palace not only reveal the profound influence of Islamic culture but also highlight its significance in shaping the surrounding urban landscape in an aesthetically pleasing manner.

This site holds immense scientific and historical value, contributing to a deeper understanding of architectural and design principles that have influenced various cultures over the centuries. As a distinguished UNESCO World Heritage site, the Alhambra is esteemed and studied by scholars and practitioners across a wide array of disciplines, including architecture, fine arts, decorative art, interior design, and the broader spectrum of visual arts, thus ensuring its relevance and appreciation in the contemporary world.

### **3. The Alhambra's Impact on Eastern and Western Architectural Aesthetics**

The Alhambra has had an immeasurable effect on both eastern and western architectural aesthetics, principles, and character in its 750-year history. Outside of the Islamic Kingdom of Granada, it confirmed and further supported Islamic architecture theory and principles. For centuries, Mudéjar, Alhondigueras, and neo-Gothic styles have had a similar impact on Western aesthetics at all levels. The Alhambra's success has been confirmed by its rapid and longstanding global influence, one that has consistently and quite accurately informed people of its value in terms of psychological, physiological, sociocultural, and political characteristics that are received according to their cultural background, and that have found it to be of irreplaceable importance in its landscape. While, in general, architectural aesthetics information is more focused on the external image and style, it is believed that, in terms of public taste, the deeply held functional properties and romantic atmosphere of the entire spatial organization and its relationship with the landscape require deeper research. The innovative aesthetic characteristics of the Alhambra and its modern implications are part of a case study for a project.

#### **3.1. Intersections of Renaissance, Mannerism, and the Alhambra's Aesthetic Influence**

Some time after the conquest of Granada, the Crown of Castile and Aragon merged, over the course of the 16th century, to create a unified power within the Iberian Peninsula. This monarchy spearheaded its rule with an imperial aesthetic setting which was referred to as Renaissance. Although Renaissance architects and stucco workers worked under the auspices of numerous Romanesque ruins and, in fact, filled their buildings with plundered Romanesque artifacts, the most significant influence of the era occurred during the course of its actual creation. In effect, this aesthetic Renaissance transformed into an established standard European art which contained ancient airs but was not entirely defined along such lines. It was only the event painter who managed to bring the establishment arts to the ancient origins. As the angle of the painter illustrates, his way of creating during the 17th century was superseded by the mannerist population which looked for vitality, drastic diagonal movement, and chaos.

Nonetheless, while both the Spanish Golden Ages of the Habsburg period within the Spanish Empire and the Siglo de Oro within the Iberian Peninsula did take some part in Mannerism, the Alhambra was its most precise artistic pool. The Crown of Castile and Aragon's colonization of Granada, and especially the subsequent pouring of the city's inhabitants into the Realejo district, resulted in this water flowing from the empty Moors. At the very gates of the Alhambra's patronage doors, even at the same doors of the Court of the Lions, a generation later consoled in order to raise its Christian Renaissance palatial buildings and gardens. With their neighbors, the famous High Court in Seville at the castle of La Giralda, the neighborhood of the Alhambra, the west suburb of the Generalife, with Friar Leandro and his brother made the architecture of San Lorenzo villa ranch house, shifted to Esperanza windlass, Alcázar de Almería, and the family. Although the Alhambra was being plundered and renovated for centuries, in the end it was established as a creative source of new architectural themes and plans, which were a part of the Iberian Peninsula's future aesthetic edition.

#### **3.2. The contribution of the Alhambra in the field of world aesthetics**

The Alhambra is a valuable historical treasure, and its art and architecture are among the best in the world. It is a universal artistic and cultural model, and its symbolic significance, forms of beauty, techniques, conceptions, and themes lie in its aesthetic values. Its popularity and dominance prompted comprehensive investigation. It made important contributions to the establishment of aesthetics. The history of these studies has its own independent set of characteristics. And though the academia pursued the mystery of beauty, the initiative, identity,

and characteristics of the Alhambra made its research a special road, a road to beauty. The history of the Alhambra reflects the mutual influence and common development of Western and Eastern civilizations. On the one hand, the Oriental trends in Europe brought the European public the Oriental description of literary works, the spread of Eastern culture, and thus the emergence of many styles or movements influenced by the Alhambra. These include Gothic Revival, Arabesque, Neo-Arab, Arabomania, and Japonism, which presented the spirit, modes of artistic practice, or social orientation of Arabic style. On the other hand, the process of the Alhambra being influenced is also the process of the Islamic Golden Age descending into the West. The research of the Alhambra embodies a fusion and breakthrough in two cultural perspectives governed by a cross-cultural viewpoint, which will provide insight and value on the operational mechanisms and the styles of new art.

#### **4. Experimental Aesthetics and the Alhambra**

In view of the fact that experimental aesthetics has done so little to clarify the nature of aesthetic experience, the Alhambra complex affords an excellent opportunity to delineate more sharply the boundaries of aesthetic experience. Research to date has contributed to an understanding of some of the factors affecting the evaluation of certain environmental stimuli, but the concept of aesthetic perception. Although the gallery and gardens are certainly strikingly beautiful, there is no evidence that they were ever formally recognized as artifact, nor would it seem likely that the inhabitants would have had the free time to reflect upon such matters when survival dominated their existence. Indeed, the development of an art appreciation which transcends the functional mundane uses of buildings and landscape may not have taken place until Greece discovered the original brief for the gallery. Lack of appreciation of the significance and value of the Alhambra as a background for experimental aesthetics is probably due in large measure to widespread mechanistic reluctance to acknowledge nature as the idealized norm of physical beauty and refinement of mind. The Alhambra gardens and every one of the antique and medieval gardens, without exception, are monomesic in the sense that they have reached a level of vegetative order and are capable of maintaining this order without need for artifice, the presence of artefacts, i.e., the garden and water, provide space, reason, purpose, focus, organization populating interpretation/function, enclosure and record-keeping legacy. These attributes are combined with others that describe both the atmosphere and materials to enliven it – the beauty of outdoor space.

##### **4.1. Definition of experimental aesthetics and its future**

The concept of aesthetics originates from the Greek term "aesthetics," which signifies elements deeply connected to sensory perception. Within the vast realm of architectural aesthetics, various space-specific elements and aspects emerge, such as form, spatial relationships, texture, and light. These components play a significant role in how built environments are perceived and interpreted by individuals and society at large. This comprehensive discourse on architectural aesthetics encompasses rich cultural narratives that center around the notions of subjectivity, beauty, critique, artistic value, and the overall experience of spatial environments. As such, experimental aesthetics applies a scientific lens to better comprehend the complex feelings that are elicited by various architectural forms and spaces. This empirical approach employs rigorous psychological research methodologies to delve deeply into how architectural works are experienced and evaluated by diverse audiences.

Experimental aesthetics within the field of architecture meticulously examines the shared attributes of spatial perception, placing a strong emphasis on the intricate connections between aesthetic evaluation, socio-economic influences, psychological and physiological responses, and the rich diversity of individual experiences. By establishing rigorous empirical evidence concerning universal principles of architectural beauty, this approach diligently investigates the multifaceted elements that shape our aesthetic experiences. It also seeks to reveal quantitative correlations in the dynamic interactions that occur between architects and their audience, illustrating how each group influences the other in significant ways. As we continue to progress in this field, we witness a surge in extensive datasets related to architecture. This, when combined with groundbreaking advancements in artificial intelligence, heralds an exciting new framework for understanding these intricate dynamics in increasingly complex urban environments.

Architecture undergoes continual adaptation and transformation in direct response to technological advancements and evolving societal needs. Future inquiries will strive to extract valuable insights that will enable us to quantify and analyze these notable shifts within the ongoing evolution of human architectural expression and creativity, ultimately propelling cultural development into new realms. In this regard, the Alhambra in Granada stands as a vital case study, offering rich and invaluable material for examining the intricate intersection of architectural content information through the lenses of experimental aesthetics and cognitive science, thus enriching our understanding of this fascinating subject matter.

#### 4.2. Alhambra as a reinterpretation of postmodernist architecture

Postmodern neophiles who cite and celebrate their tradition often repeat the assertion of the indisputable Euro-Atlantic character of their proclaimed inheritance. By applying the postmodern premises of genre pluralism, metonymical representation, and decorative autonomy to the symbolism of a completely different, non-European culture, one should be able to give rise to an architecture that not only rescales the Arab utopia with all its mythical potentialities but, in doing so, avoids its degradation to picturesque kitsch. Although recent experimental aesthetic efforts are making a return to avant-garde morphology, fractal and non-fractal geometry, and constructive assemblage in order to pursue their most ambitious and genuine aims, the actual rediscovery of history's potential to offer us genuinely different kinds of useful pretext may still be a distant dream.

The all-out rejection of the myth of the Alhambra utopia would mean either the voluntary abandonment of the entire Western postmodern architectural project or the necessity to base a new widespread non-Eurocentric postmodern architectural project upon different, equally visionary roots. The rejection of the postmodern myth of the Alhambra utopia would, therefore, lead to the historical impossibility of a non-Eurocentric architecture fulfilling the non-Eurocentric utopia. The Alhambra represents the unique Euro-Atlantic project of the conscious assemblage of multiple physical, social, and symbolic protective structures intersecting upon themselves with no interchange of the links of the chains in order to obtain the full isolation of the rich and powerful from the rest of humanity.

### 5. The Alhambra's guiding value for the future of experimental aesthetics

The architectural aesthetics of the Alhambra, alongside its rich Islamic art, exemplify a multitude of distinct elements such as intertwined tendrils, geometric tessellations, and interlocking polygons, all harmoniously combined with natural forms. These elements exhibit a deep-rooted symmetry—collections of operations that preserve the integrity of the aesthetic experience. The framework of Islamic art relies heavily on limited symmetry groups, characterized by a few fundamental units that create intricate patterns. This principle is fundamental to the design of the Alhambra, where minor alterations within these symmetry groups can yield a vast array of creative outputs from a select set of designs.

This discussion aims to establish a systematic methodology for examining the creative processes inherent in such architectural aesthetics. By investigating this framework, we can elucidate the sophisticated ways in which ancient artists represented familiar sensations through innovative designs across the palace complex. Additionally, we propose a comprehensive dynamical symmetry approach to accounting for the aesthetics at play, highlighting the foundational properties of guiding design elements and their transformative potential.

Furthermore, by designing an experimental or stylistic system that incorporates multi-level, multi-layered, and multi-scaled perspectives, we can potentially cultivate a structured method for artistic education. This approach would strengthen the rules-based and algorithmic understanding of interactive relationships among high-level symmetry motifs prevalent in both Western and Islamic art, thereby enriching the architectural dialogue between these cultures.

#### 5.1. Technological Innovation of the Alhambra

The complex of La Alhambra, the Generalife, and the Albaicín, situated on the Sabika hill, presents a remarkable variety of patterns reflective of the ornamental arts inherent in Islamic civilization. These intricate designs possess the potential to significantly influence future experimental aesthetics in architecture. Although a comprehensive analysis of these patterns is still pending, their openness ensures that they are readily available for study by diverse

scholars. In this context, the Alhambra serves as a vital resource for those engaged in experimental aesthetics, offering two distinct advantages. Firstly, it functions as an open-air laboratory, accessible to a broad audience, and features numerous decorative motifs ripe for examination. Secondly, the carefully delineated environment permits researchers to regulate both the positioning of observers and their movement within the space, thereby enhancing the study of architectural aesthetics and sensory experiences.

The significance of environmental ornamentation in future experimental architecture lies in their variety, quantity, and contextual constraints. Accessible examples are challenging to locate, as they frequently exist within showcased structures that have limited public access. A main critique of the Alhambra as an architectural study site is that, although it showcases a plethora of patterns worthy of examination, many observers are placed in an artificial context. They are not genuinely experiencing the space; instead, their visits can resemble an "artificial lab." During an authentic visit, individuals navigate the complex amid a diverse crowd, including families with children, tourists capturing photographs, those on guided tours, school groups, and researchers from varying disciplines. Importantly, these diverse users unknowingly serve as filters for newcomers who approach the architectural patterns with a detached curiosity. This dynamic can selectively stifle the open exploration that advocates for environmental aesthetics often seek.

## 5.2. Digital reconstruction and visualization

A more intricate and complex consideration arises from the ever-expanding possibilities of architectural perception as various technologies continue to advance at an incredibly rapid pace. It is increasingly evident that a multitude of innovative architectural solutions can coexist harmoniously, delivering benefits to all stakeholders involved in the process. All new methodologies created for experiencing the awe-inspiring Alhambra should be wholeheartedly embraced and meticulously implemented without any limitations. The new world we inhabit brings forth new public expectations that revolve around communication strategies and innovative accessibility options specifically designed with the distinct needs of the visually impaired or disabled community in mind. Meanwhile, it also creates opportunities for the exploration and appreciation of diverse aesthetic dimensions surrounding this extraordinary monument. These exciting developments exemplify contemporary interpretations of the enduring allure of the Alhambra, which continues to captivate and draw interest to this remarkable work of art and architecture. Such advancements not only facilitate understanding but also foster a deeper connection with the rich cultural heritage that the Alhambra embodies. As we continue to engage with and reinterpret this historic site, we pave the way for more inclusive experiences that honor and celebrate its profound significance.

Ways of perfecting the experimentation on the Alhambra could be achieved through various interventions, whether they are continuous or more punctual, utilizing a range of distinct digital means and advanced devices. These technological means are becoming increasingly sophisticated, not just in terms of visualization but also in their closer approximation to the actual appearance of the monument. They are often employed by conservation professionals when critical decisions need to be made regarding fundamental debates surrounding the preservation and presentation of the site. The emotions that some of the reconstructions of different periods in the history of the monument, as well as its various restoration states, have evoked, serve as a powerful reflection of the amount of information or artistic value that these innovative products can generate. These interventions not only assist in understanding the historical context but also enhance the visitor's experience, allowing a deeper connection to the Alhambra's rich heritage.

## 6. Environmental Sustainability and the Alhambra

The Alhambra is placed in a complex and fragile environment, which requires the establishment of management measures and actions that can guarantee the equilibrium and sustainability of its actual surroundings. Nevertheless, the fact is that the significance of the Alhambra, which takes from the imperishable mountain that forms a part of it, acts as a backdrop and frame, and has been considered one of the essential reasons for its value forever. The beauty of the Alhambra without the general shape of the rock peak, although the forms and size of the monument have been defined by its relationship with the mountain that acclimatizes and clothes it. The conversion of the context that forms a part of the Alhambra into a kind of natural oasis is an expression of its beauty and efficiency.

There are no cosmetic formulas with premeditated intentions of hiding or minimizing the negative consequences of the urban overflow that the Alhambra is suffering. Just for this reason, understanding what a monumental complex is requires being conscious that the conservation and maintenance of the immediate environment must be kept in high consideration, including the existing urban framework within or around it. The greenery, in itself, must be understood as an essential condition that determines the limitations that the monument can impose on its monumental, decorative, and functional possibilities. Runnable efforts, like the rescue of the Hall of the Queen, can offer the public at least one other space of the first order in the Court of the Lions, where situations seem to impose the conjunction of administrations to undertake short-term measures for the recovery and improvement of the urban surroundings that have been subjected to more abuse and physical deterioration. It should not be strange to think that such an eminently cultural and aesthetic activity, as visiting the Alhambra, can also reside in a paradisiacal, clean, and tranquil place if the landscape is not properly taken care of.

#### 6.1. The Role and Enduring Influence of Sustainable Design in the Alhambra

Without question, the aesthetic value of the Alhambra did not arise merely from a dedicated and singular focus on making a sustainable building material choice; however, this crucial topic is one that will be addressed in this section in a manner that is both very brief yet is also comprehensive and concise. When considering the significant and influential role that sustainable design plays in our current world, as well as the ongoing and vibrant debates centered around it today—debates that continue to evolve and impact numerous fields across the spectrum—we come to understand the profound implications it has upon the future of experimental aesthetics. A particularly provocative and thought-provoking question thus comes to the forefront of our conversation, demanding not only engagement but also a careful, comprehensive, and thoughtful response. The question itself is multifaceted and quite profound: 'Has that which we as designers now refer to as "sustainable" or "green" design in our contemporary vocabulary, practices, and discussions truly equated with that which we have historically and traditionally referred to as "adaptable design" in the more classical language of architecture and its enduring principles?' This inquiry not only highlights the complexities inherent in our current discourse but also invites deeper and more nuanced reflection on the changes in our values and perspectives regarding sustainability and adaptability in the built environment throughout various points in history, from the distant past to the present. In doing so, we can better understand the evolution of these ideas and the ways in which they influence our current practices, theories, and beliefs about design in this dynamically changing world we inhabit.

Even to liberal English speakers, this particular question will, upon first glance, seem to rank as one of those quintessential examples of what might be considered a rather dumb or uninformed question. However, upon a more careful and thorough examination of the underlying implications, one will find that not only is this a crucial and significant question, but also that it addresses many core deliverables that are essential in the ever-evolving realm of building design and construction. It is, in fact, about as heavy a question as they come, given its far-reaching implications and the depth of thought it necessitates. Nonetheless, if no other value whatsoever is assigned to this inquiry, the simple observation that the SCI Index is not zero clearly establishes that the traditional style of design, specifically as represented by the celebrated and historically significant Alhambra palace and its accompanying fort buildings, indeed possesses a discernible and notable green design bias. Even if this bias is faint or perceived as paltry on the SCI Index scale, these traditional architectural styles serve as powerful indicators of a particular class of building design that has withstood the test of time. They persist as significant representatives within the field of architecture, so much so that these enduring traditional features remain irreplaceable forensic evidence representing robust design potential and long-term success in a variety of architectural endeavors, thereby contributing positively to our understanding of sustainable practices intertwined with historical significance.

## 6.2. Integrating Aesthetic Education: Learning Through the Alhambra Experience

This section of the paper provides a comprehensive exploration of several architectural dimensions related to an extensive research project that has been diligently conducted by the authors at the Alhambra site. Throughout this inquiry, it juxtaposes a series of empirical findings that focus on the intricate functional interrelations among the various elements of the Alhambra complex. These findings have been meticulously gathered over a substantial period of approximately ten years. Alongside this, the paper engages with established deductive aesthetic theories that are well-known for their prominence in architectural discussions. It carefully details the notable architectural characteristics of the Alhambra complex, shedding light on these features through the lens of the empirical insights that have emerged during the research. The comparison illustrates how these theoretical perspectives, which are rooted in tradition, can coexist in a manner that is not only harmonious but also synergistic. This thoughtful integration combines modern scientific philosophy with a practical theory of value, which serves to deepen the appreciation of the architectural significance of the Alhambra. Moreover, it reinforces the intrinsic coherence of this historic site, allowing for a richer understanding of its value in the realm of architecture and culture. Through this multifaceted analysis, the paper aims to contribute to ongoing discussions surrounding architectural theory and practice.

Given that a combination of inductive and deductive methods offers as comprehensive a picture of man as we can possibly derive from our observations, we hope to demonstrate that it is the empirical observations of the inductive methods expressing our biological heritage that enable us to use our aesthetic sensitivity in this way to enhance our learning, harmoniously linking the way in which we do our work today with future ideas from the discipline. The selected empirical data used in the study are the end-of-day inverse lighting of the architectural elements of the complex, the acoustical response obtained using the handclapping test, and the man-made and water-created microclimate of the building. All this data had been carefully recorded and analyzed following a scientific procedure over a long time to ensure the reliability of the information.

## 7. Future Directions in Experimental Aesthetics

One of the goals of the present study is to provide a methodology that will enable future experimental studies of aesthetic evaluations to be linked more strongly to the structural content of the elements under consideration in the stimuli. Future studies may add utility to the general paradigm under discussion, as well as to the understanding of evaluations of the specific stimulus space that is these data. It should be mentioned here that the breadth of our data may be valuable because it may be examined under a variety of different theoretical frameworks, not just that assumed to exist. This general methodology may be tested as long as particular levels of standardized objective content can be examined as elements that are derived from artistic canons that have been predetermined. Such a framework may also answer questions about the specific responses to the content by the perceivers. Lastly, the provided data and applied methodology apply particularly well to works of space, rather than works of time. We had assumed that both may not be studied together or summarized in the same way.

Given the considerable importance of the content to the subject at hand, one particularly significant potential experiment that could yield valuable insights might involve asking participants to actively vary the descriptions of the scene or the individual building elements that are represented or contained within some of the presented stimulus frames. This experimental approach would allow researchers to measure any resulting differences in evaluation, perception, and response. Such a carefully designed study would contribute significantly to enhancing our understanding of how intricate details about the scene genuinely matter in the perception process, and aid in guiding the design and vocabulary associated with these evaluations effectively.

We had previously suggested that, interestingly, the details surrounding the elements would be essential primarily when viewing at oblique angles, as this can significantly alter the perception of the scene. Future experimental investigations may provide a more stringent and controlled condition of measurement compared to the evaluations that are presently being carried out. Furthermore, rather than relying on inadequate priors that are encoded in various regions of perception—whether those regions are present or absent—it is worth noting that basic levels of analysis, which are easily accessible within the domains of art historical narratives and architectural lexicons, may possess far better foundations for understanding.

These foundations may serve as visually significant components that align closely with the natural perceptual and attentional processes that individuals engage in during the observation of architectural elements. Future research endeavors may therefore play a crucial role in helping to eliminate the current circular definitions that exist within the prevailing explanations surrounding these phenomena. Additionally, such research could reveal where those established theories actually perform far better than anticipated, specifically for the distinct perceptual tasks that are being studied in depth. By widening our scope of inquiry, we can uncover nuanced insights that further the conversation around perception in architectural contexts, ultimately leading to richer discussions and advancements in understanding how observers interact with built environments.

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<https://www.amazon.com/dp/9999321593>  
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- 2024 Public on SSRN: Innovative Advantages and Development Trends of Biomaterials in the Construction Field,  
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