



The Art of Contrast: Dichotomy between Light and Darkness in Architecture and Interior Spaces

Kashif Javed^a

^a*Pakistan Institute of Fashion and Design Lahore, 51 JIII Johar Town, Lahore, Pakistan, Email: kashif.javed@pifd.edu.pk*

DOI: <https://orcid.org/0000-0002-7508-8903>

ABSTRACT

Light and darkness are like two sides of coin and the thickness of coin depicts the transitional time duration between them. This the records, the potential of light in architecture and interior spaces depends as per the intensity of darkness within that space. Connecting this basic statement with the practice of observing and designing the spaces, one has to understand the relationship and interplay between the depth and dimensions of light and darkness within that space. On the other hand, it is darkness that defines light through its contrast and definition. This interplay gives the importance of light in human-designed environments and how its meaning changes in confined spaces. This paper explores the ways through which light exerts its influence in an architectural and interior context and how perception changes in the presence of darkness. Researchers and designers utilize this contrast and interplay to define and give specific character to their space designs.

Keywords: Transitional, Interplay, Architectural and Interior Context, Contrast and Definition

1. RESEARCH METHODOLOGY

A mixed-method approach may have been one of its characteristics, but it first considered light and shadow independently in different commercial and residential settings. Many articles have been written about light and its role in interior design by scholars, philosophers, designers and architects. This research hopes to offer a fresh perspective with consideration of the relationship and impact that light and shadow have within architectural and interior spaces. These ingredients are examined for the relation and effect of light and shadow in establishing an ambience that functions for commercial interiors. From this perspective, both the quantitative and qualitative approach will be applied in order to achieve an investigation with a better view regarding the effect of lighting and spatial design on the user experience and aesthetic appeal. This research will be aimed at the clarification of the perception of space and the dynamic relations between light and shadow as an appealing and useful environment, due to different lighting strategies.

The variance in shadow pattern is influenced by geographic location, time of day and seasonal changes. Looking into these differences gives a further realization about how light interacts with architectural forms and interior spaces while focusing how these interactions are then shaped by different environments. Such observations can further our understanding of the spatial and aesthetic aspects of buildings, yet subtly answer ways in which natural light would affect the perception of architectural space.

The final section will contain personal analysis by the researcher based on the findings of the research conducted. This will mean sharing reflections and insights gained from staying within spaces studied for a longer period. The vantage view which the researcher will offer will be based on data collected and experience witnessed within that period. The final section seeks to integrate the findings of the research and subtly nuance understanding with regard to light and shadow on the inside spaces of buildings from the experiential view. The subjective experiences will blend with the data-driven results and afford a holistic understanding of the interplay among light and shadow in the ambience and functioning of these set-ups.

2. INTRODUCTION

Modern design is becoming more interested in ways interior spaces influence a person's senses. People have come to look for places that exist in both residential and commercial spaces, sustaining sensation in all five senses: taste, sight, touch, smell, and sound. The sensory stimulation can substantially affect perception of the space and individual responses differ according to personal taste and experiences (Lehman, M. L. 2011).

According to Lucas, R., & Romice, O. 2008, the spatial design analysis looks into the way different interior spaces respond to light and dark, therefore creating sensory responses in the interplay between the two aspects. The ways these interact with one another will result in the experience of the user, bringing forth the subtlety involved in spatial design.

Greek architecture made a very strong legacy. Ancient Greece shaped the very essence of architectural design principles. Greek architects designed temples, churches, palaces, museums, town halls and theaters with due consideration to proportions and spatial relationships. Dimensions regarding length, width and height were all taken into close consideration while building the structure in order to form a coherent, functional space (Scranton, R. L. (1946). According to Song, J. 2010, the approach to proportion and spatial design underlies much of modern architectural practice, showing the importance which these principles have played and continue to play in the formation of impactful and at the same time, aesthetically pleasing environments.

3. USER PERCEPTION AND EXPERIENCE

Light, as a medium of creative design, fundamentally affects user perception, resonates with the built environment, and shapes architectural experiences. Comprehending the way these aspects are influenced by different techniques of architectural and interior lighting is partly a question of sensory observation and partly one of scientific experiment. One of the most powerful moments of the research into the physical properties of light came in the 18th century through the work of Sir Isaac Newton. Newton showed that light was a spectrum of electromagnetic radiation through his work, *Opticks* or the *Reflections, Refractions, Inflections and Colours of Light*. Through this work, he resolved that white light was basically composed of a spectrum comprising different colors by passing sunlight through a glass triangular prism. From this spectrum, every color has its characteristics bound to affect the perception and experience of human beings. While Newtonian experimentation worked out the single isolation of light, it overlooked the very complementarity of darkness which gives meaning to our understanding of perception (Huynh, V. H. 2021).

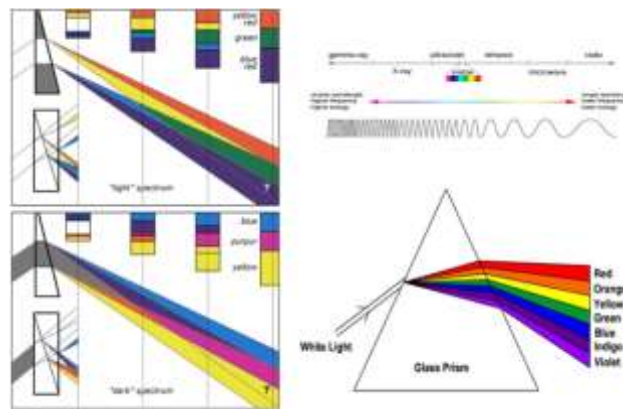


Fig. 1 - Electromagnetic Radiation, Light Prism Experiment Newton and Light Prism Experiment Goethe.

4. JHAROKHA: AN ARCHITECTURAL ELEMENT

A jharokha is an architectural element primarily found in Indo-Islamic design and is characterized as an overhanging window/balcony (Zulfiqar, Z. 2018). Figure 1 proves the play of light and shadow through a jharokha. The image captured in the frame shows the dynamic interaction of two doves - one in flight and the other seated. It is not a static interaction; instead, it is dynamic and a lively instance of how, within a fixed spatial entity, light and shadow can change it into a variable, ever-flowing space.

According to Bali, M. 2024, the dynamism created by light and shadow in a flickering presence adds to the space, an atmosphere that defies notions of fixity or permanence. More than just a structure, the jharokha, with its interplay of sunlight and shadow, transforms into an ever-changing form where the patterns of light and movement of pigeons are in a fluid continuous state of change.



Fig. 2 - Play of natural sunlight and shadow of enclosed balcony "Jharokha"

The experience of space is sometimes not just an understanding of a logical affair. The perception of such spaces may seriously be influenced by a subjective and even mythical standpoint. It is thereby accepted that the understanding of spaces should be symbiotically approached both rationally and

imaginably (Paiva, R. 2015). With this, the jharokha takes the embodiment of harmonious confluence between function and aesthetic, mystical and practical which get into a magnificent creation of sensate uniqueness.

5. CONNECTING TISSUES BETWEEN FORM AND SPACE

Any form, space or building that has not explicitly defined its purpose remains open to many uses. Often, it is through interaction that undefined spaces gain meaning from the end-user, who brings along an interpretation and a function into these environments. These spaces can possess an intrinsic character and significance which is not perceivable at once (Turgut, M. 2023). Most of these undefined spaces are based upon the play of light and shadow and its natural laws. This interplay does not only underline the aesthetic qualities of a space but it also sustains the functional identity of one. The dynamic relation creates a bonding factor between the space and its users. With the continuous shift of light and the evolving shadows throughout the day, character is changed of the space, portraying new facets and possibilities (Hanson, J., & Hillier, B. 1987).

Essentially, light and shadow give fluidity expression to these spaces through their adaptation and beginning of resonance with the human experience. Thus forms an underpinning for the deeper connection between space and user through a never-ending dialogue between the natural elements and the architectural form, making each interaction unique and personal. According to Chernyshov, E. (2008), the modern era deals with light as an element in architecture and interior is reflective of humans' relation with the sun and light itself but also to the broader relation with nature and one's place within it. This historical development, considering the current situation in architectural and interior design practice, explains better the existing approach to light during design. Most architects, designers and architectural writers have emphasized the profound role of light in the shaping of contemporary architecture and interior. With the emphasis on light, however, the cultural significance is as a whole an open area of exploration and debate. This underlines that light remains a factor in the development of architectural, interior spatial concepts and practices and reveals how its wider cultural meanings remain open to question.



Fig. 3 - Showing the corner of building with light passing through a cemented jali and creates the story of shadows.

6. PHILOSOPHY IN PRACTICE

The best-known architects and designers always pick up diverse concepts and philosophies that may inspire the way they are bound to implant these ideas in form and space. This process, however, is that which never grows static; it only endures through a sequence of learning and unlearning phases interposed by resolved experiments. Philosophy, in practice or research, forms the guide par excellence, giving the very approach to design governing the final outcome.



Fig. 4 - Model representation of poetry inspired spaces designed as a project based on interpretation of philosophy into design.

Consider the example of an interior space planning and furniture layout methodology that is drenched in openness. It starts with the sparing but strategic utilization of the space, where every object is placed in a manner to meet the objectives as outlined by the client. The basis for the design comes from the application of this concept of openness in contributing not only to the ambiance of the setting but also to the link between the inside and the environment. One can think of it more in the sense of connecting the interior environment with the outdoor landscape, ensuring that the space serves its function and also bears a meaning and character. Openness efficiently respects the regulation of easy movements from one zone to the other, thereby encouraging a feel of freedom and fluidity overall.

The philosophy of design reigns in the principle that space should be engaging and interactive. More than just allowing one to move between, it gives an opportunity for users to relate to objects through the experience of space consciously made available to them. It highlights the criterion of creating an environment where viewing the design would provide for engagement with the space and not just by the definitions of objects. This approach to space planning and furniture layout is essentially a commitment to a philosophy of simplicity and depth, where every design decision furthers an overarching philosophy of openness and connection.



Fig. 5 - Practicing the philosophy in interior space planning layout of residential project 7,676 sq. ft.

The process of light and shadow integration in interior spaces has to begin right in the early stages of design. Some basic steps will create the individual character in a project. By drawing upon nature and considering scholar views, the designer can filter the insights through his or her creative processes on his or her journey to define and refine the spaces created. Quite often, the architects and designers develop personal ideologies that drive them, whether expressed through written theories or realized in physical spaces. Their unique philosophies reflect how they interpret and apply the interplay between light and shadow to finally affect the character and ambiance of their projects.

7. CONCLUSION

The research is set to spread light on an essential, almost disregarded relationship in architecture and interior design: that of light and shadow. So central is this relationship to the practices of architects and designers throughout history, it decidedly influences how spaces are envisaged and built. Nature has a very important role in this process, working from initial brainstorming to the very final stages of executing a project. In the academic discourse, as well as within the practice of architects and interior designers, play with light and shadow is an element that cannot be ignored. Their interplay contributes to the special character which shapes, on the one hand, the aesthetics and functionality of space.

Ultimately, it depends on the inspiration and drive of the designer. In a very thoughtful configuration of these factors, designers create settings in order to elicit meaning and engagement for the user. Ebb and flow of light and shadow become parts of everyday, transforming the perception of space and enriching the experiences of people living within it. This research would advance in the themes of light and shadow to become even more critical in the creation of meaningful and useful architectural and interior spaces.

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This article is presented by me. I declare that this manuscript is original, has not been published before and is not currently under consideration in any other journal. Moreover, I declare that no funding was received for this paper.

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