

Térforradalom...  
**Együttes fényélmény a mai téralkotó művészetben**  
**Doktori (DLA) értekezés rövid ismertető**

Revolution in space...  
**Collective experience of light in spatial art of today**  
DLA dissertation

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## Brief Summary

When developing the topic of the dissertation, important motivating roles were played by both my theoretical-esthetic convictions and my personal-practical experiences born in connection with my finished works. I was able to try out virtually every possible effect light can give, by way of forming objects and shaping the spaces surrounding them. Aided by my personal experiences, I was able to seek – and often uncover – connections in the light-shadow phenomenon associated with our material world. Then the *deliberate shaping* of these became my aim over the last twenty years. The novelty of the experiment and the discovery can be included in lighting design alongside configuration and image, if I use it like an experientially composed effect that can be broken into phases, which appears like a musical composition. The more strongly emphasized formal elements among the options I offer for getting to know space are often like this, portraying the sometimes hidden material structure or architectural connections by means of light. Conceptual content related to lighting also is projected onto the material environment by way of the shadows of forms, and in this way becomes more definable in the scene.

Technical progress and changes in outlooks today offer the opportunity for light to be designed in a building as an artistic component *in its own right*. Light design is an art, with the architecture of the building defining, shading or emphasizing it, where individual spatial elements can also appear as *luminous forms*. New possibilities in lighting technology have become important tools in the spectacular reformation of structuring and surface configuration; they expand the possibilities of the use and experiential impact of space.

Alongside natural light, *artificial* light is gaining a new function that is more significant and determining than ever before. The *malleability* and *programmability* of external and internal light conditions also influence the architectural appearance. In regard to quantitative and qualitative design of light effects, both designers and users-receivers become more *sensitive* under the new „lighting climate” conditions. Improving the *culture* of creating with light is the task of artistic design, but as a tool for architectural and communal communication, a new possibility for the user when making use of space. The aim is a *shared spatial experience* and the intense impact of the unique light experience embedded in it, which aids in developing balance in a people’s dynamic energy by harmonious arranging of environmental effects. Lessons learned and summarized in the research appear in contemporary architecture as an *inevitable requirement* in both new and reconstructed buildings.

## Theses

The *aim* of the dissertation is to cast light on the connections related to light in the current outlook in architectural design. The thought and conceptual facets to be uncovered each serve as the basis for a modern stylistic trend and – in connection with this – for introducing it based on examples to societal interpretation.

Demands arising in practice, whose outlining the paper undertakes, are fed from two sources; on the one hand, by the recent few decades' rapid development in materials produced and light-treating (deflecting, modifying, etc.) technology as *technological knowledge*, and on the other hand. The changed attitude of modern man, his relationship with himself, his fellow man, and his environment, *transformation of his definition of himself*.

The starting point for my aims was that according to the expectations of developed societies, architectural design provides satisfactory solutions to tasks when it is well thought-through and makes use of light effects and formal elements in the space with *uniform ideas*. These shade or illuminate the building not only in an external sense, but as a complicated composition in accordance with the creative and complex ideas of architecture, design, and media. This makes the light effect a sort of *immanent effect* which responds to the architecture in all its components. It makes it possible to interpret man's current *interactive and becoming dynamic relationship* with the material environment, while also changing rigid, static masses into ones filled with life which can be better experienced. My preliminary theory – and the aim the paper wishes to confirm in practice – is to explain what the designer's and user's unique considerations relating to illumination of a built environment can be when developing and receiving the overall effect. Based on the comprehensive interpretation, designed portrayal of light intersperses the local culture and the possibilities offered by technology with the artistic effect.

A part of my aim in the disquisition was selective study of the professional literature according to the aforementioned considerations. Through a few historical and modern examples I consider important, this study revealed what a creative approach to architectural and interior design related to light is as it starts from various schools of thought. The professional literature primarily provides a view of practices in use in other regions, in natural environments different from those in Hungary, but the theoretically-based formulas or ideas can also be found in spatial relationships suitable to the Hungarian climate and Hungarians' habits. Exploring and interpreting this is one of the basic aims in the writing of this paper.

Those philosophical-religious-metaphysical views that are touched upon in the paper can be set in the background of thinking about space as applied to the Hungarian environment, if we make the climate conditions, traditions, our material heritage and descriptions of these into objects of our inquiry in the space formation relationships related to light. The information gained from the professional literature complements my dissertation's other content source and is also its important motif, a series of model experiments ripening in my own *practice* as a designer. I discuss this in separate chapters, that it is in connection with the design process and also with the aid of the *model studies* that spatial examination of light effects and natural features, and tracking the path of natural or artificial light can be explained. This is a basic tool in deliberate light design, through which the building's architecture can be spectacularly formed with the forms of the lighted spaces, walls, and other actual and virtual object phenomena.

The *train of thought* of the dissertation:

In accordance with my starting point and my preliminary hypothesis and according to the architectural possibilities of light artistry and light design, in my dissertation I first examine a few characteristic examples from ancient times and the Middle-Ages of the philosophical-religious-metaphysical views regarding light. Motifs and methods for thinking about light, having the relationship between man and himself, man and his creative activity, and man and his environment hiding in the background and strangely influencing the architectural (and artistic) perspective of the given age. Many examples from our architectural heritage refer back to those cosmological-theological ideas in Christian thinking that offer balance between the opposites of light and darkness, the present world and the world to come, material and spirit, because they believe in the dual, emanating and returning movement of the divine and of light.

Following the above in the train of thought I turn to changes in spatial effects built on light in *modern architecture*, more closely, from the second half of the twentieth century; to new possibilities in light composition, and then to focused broadening of the role of light in the flow of information. These thoughts are presented by means of explanations of light phenomena in photos or exhibitions of light modeling. I analyze the balancing effect of natural and artificial illumination by describing light's movements in the changes over time intervals in the four-dimensional space of the spectacle.

Another part of the train of thought separately discusses those *conditions* necessary for realization of the new type of space-light relationship, as a part of the content and esthetic formulas joined together in a module-system. Models built in this topic area and formulas usable in lighting systems are suitable for being built into a uniform material, formal, functional or symbolic system of connections according to the intention of the designer of the material environment.

I move on with a presentation of sacred and secular *architectural examples*, posing questions that arise in connection with the material-like quality of light. How does light that turns into a virtual (immaterial) construction material work, what information does it contain, does the light-spectacle projection have value, and how do the material structures and the surfaces alter the spectacle? How does the effect of twinkling, glinting, lighted, shadowed and matte surfaces, transparent, translucent, opal and color-changing surfaces, as well as the effect of the new type of lighting materials blend with other environmental elements? The answer is given in the form of pictures of finished buildings, such as the buildings of Corbusier, Chareau and Buvoet's Glass House, the Austrian High School building in Budapest or Nouvel's Paris work (the Arab World Institute) and the works of Tadao Ando, as well as the Frankfurt headquarters for the Hombrich Artistic Foundation. The series of examples is concluded with a presentation of lighting solutions formed during dialogues on my *own work*, the „Water Mirror Residence” in Győr.

The closing chapter turns back towards the spectacle complex's *environmental balance* questions. Based on this, it is possible to summarize the determined personality of the lighted space and the cultural medium and the role of the user or receiver in design formation of the building. The spectacle created using the basics tools of natural and artificial light offers such a perspective in the building because the spatial elements can be characterized by the

effect of programmed light settings and changing colors in the active and balanced composition of spatial elements.

#### *Conclusion:*

Based on the above, it became obvious that further development of the esthetic culture of operating with light is at once the task of artistic design and a newly developing possibility for personality growth in the user-receiver. This, as a process taking place in the built environment as a social-communication space takes effect through an increasing number of channels, including the frequent appearance of virtual space experiences. So the *aim* of practice conceived in space and light design is development of an approach that, for example, in public presence contributes to the development of the individual's dynamic *energy-balance* by means of experiencing a light experience. This environmental school of thought makes possible the birth of inner harmony through light effects. The dissertation refers at several points to the efforts of other arts (photography, film, theater, etc.) and certain disciplines (physiology, psychology) as well as the intellectual streams developing in fine art by means of projected images. These thoughts are the source of further inventions in new architectural tasks, which will serve to satisfy the formal and environmental needs of the future.

#### *Research results:*

The aims, tools, and approaches of architectural design must change in such a direction that an understanding, sensitive, and more differentiated use of lighting than ever before will be necessary when using new tools for lighting. This means incorporating and causing unfamiliar modalities and effects in the *play* with light, if for example the aim is awakening the *communicative* possibilities of spatial formation. It is an important goal of architecture to help the entire value and phenomenon world of esthetics gain a *plural composition* in newly composed creations where traditional stylistic elements still characteristic of our age in many places are not present. Lacking a single dominant and normative esthetic expectation or artistic common language, such buildings are open to interpretation. In this way, architecture can divide into such levels in its light effects in which participants in the creative and receptive process discover the artistic expression of their *own* worlds, and later the possibility of re-creating the ideas. Explained differently, within perception it is more and more the case that the *pictorial world* developing in the individual becomes important and acceptable, as for instance was obvious earlier in the use of ornamentation or pictures projected onto walls. Even without prior knowledge being given, the role of renewal is strengthening in the interpretation of phenomena, because the creative and receptive process is *becoming* a permanently transforming *process*. Periodically changing light phenomena are being built into the series of daily experiences (for example as light-seeking or light-avoiding or other light-oriented methods and options for observation) and intensify the individual's activity in forming the spectacle. After the initial uncertainty there will be observable *development of harmony and internal psychic balance* as well, if the built space provides the opportunity for it.

The chief result of the research was transplanting those theoretical conclusions into practice whose realization provides the architect with the opportunity and later also inspires the feeling in the user that his work in the given space creates a *synthesizable, unique image experience*. In the architectural space deliberately formed based on light effects, the result of „overall

effects” causing *internal balance* is that between the individual and the material world an interaction realized in the spectacle comes into being, which is *creative vision*.

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