

Lighting Exercise

*During class we were each given a photo of a space where light had a dramatic effect and created a contrast with the interior. Mine was a very minimalist cathedral, where a gigantic cross stood tall as the epicentre of the interior. I found the way the fractions of light were being cast through the openings created by the cross quite astonishing. Using a "Thermal" app, we were able to see **the dramatic difference various types of light can create**. It reminded me of Le Corbusier's chapel, Notre Dame du Haut, where light is undoubtedly the epicentre. Small squares cut out from the concrete walls create a surreal atmosphere and accentuate the somberness of the space. Upon analysing and doing research about the building, I have come up with a list of characteristics regarding the lighting that truly stood out to me.*

Natural Light Integration: Le Corbusier placed significant emphasis on the integration of natural light into the Notre Dame du Haut. The chapel features strategically placed openings, including small windows, large glazed areas, and an oculus in the roof. These elements allow natural light to enter the interior in varying ways throughout the day.

The Oculus : This large opening, allows sunlight to filter into the space, creating dynamic patterns of light and shadow. This intentional use of natural light enhances the spiritual experience within the chapel and it creates a sacred feel, working hand in and with the purpose of the building, as light becomes a metaphor for the divine. Thus, the space created transcends the purely functional, traditional aspects of architecture.

Artificial Lighting Considerations: While natural light is a dominant feature, artificial lighting is also carefully considered. Le Corbusier designed specific fixtures to

complement the natural lighting and provide illumination when needed, ensuring that the chapel remains functional and welcoming during evening services or darker periods.

Material Selection: The choice of materials in the construction of Notre Dame du Haut also contributes to the play of light. The use of rough stone and other materials such as textured concrete interacts with light in a way that adds texture and depth to the interior.

It is safe to say, that Le Corbusier's Notre Dame du Haut is a remarkable example of the way light can be used as a fundamental element in the design of a religious space. The intentional integration of natural and artificial light and the consideration of the dynamic qualities of light and shadow all contribute to providing an immersive and sensorial experience for this visiting. The same effect is obtained in the example I received, through the massive cross opening.

Moreover, I generated an AI interior of a cathedral, meant to convey the same feeling as Notre Dame du Haut, through the intelligent and effective use of light.



Sources:

fig1: thermal qualities of the space I examined.- photo taken by me (Daria)

fig2- Notre Dame du Haut- www.fondationlecorbusier.fr

fig3- AI generated cathedral interior

Cimino, V. et al. (2022) Interaction between daylighting and artificial lighting in relation to conservation and perception, according to new illumination system of Sistine Chapel.

Journal of cultural heritage. [Online] 58256–265. Pauly, D. (2008) *Le Corbusier : the chapel at Ronchamp / Daniele Pauly*. [Online]. Paris ; Fondation Le Corbusier.

Steane, M. Ann. (2011) *The architecture of light : recent approaches to designing with natural light / Mary Ann Steane*. [Online]. Abingdon, Oxon ; Routledge.



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