

# Color, Mon Dieu: A Case-Study Comparison Between The Church Of The Epiphany (New York City) and Kresge Chapel (Cambridge, Massachusetts)

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## 1. INTRODUCTION

This paper offers a case-study comparison of the atmospheric effect of the manipulation of color and light in two modernist religious spaces: The Church of the Epiphany by Belfatto and Pavarini in New York City, New York (1965-1967) and Kresge Chapel by Eero Saarinen in Cambridge, Massachusetts (1953-1955).

The chosen religious compounds are located in similar climates and with geographic coordinates in close proximity; as a result, the sites have similar locations for sun angles in summer and winter. They house the worship of differing religious practices and are located in urban areas (in contrast to previously researched Midwestern case-studies). As the religious building is a genre typically designed to invoke heightened spiritual experiences, the paper examines how the design choices of each architectural team affect the color experience inside. This proposed paper specifically exposes major massing decisions (placement of mass and volume of buildings), material choice, sculpting of light, proximity of color zones, and location of colors in relation to visitor experience.

[Author's Note: The paper probes further into a topic I began to address in a case-study paper on religious structures in the Midwestern United States presented at the International Color Association AIC 2011 Interaction of Colour and Light Midterm Meeting of the International Color Association in Zurich, Switzerland on 07-10 June 2011. The buildings analyzed were Annunciation Priory by Marcel Breuer in Bismarck, North Dakota (1959-1963); Christ Church Lutheran by Eliel Saarinen and Associates in Minneapolis, Minnesota (1949); and Mount Zion Temple by Erich Mendelsohn in St. Paul, Minnesota (1950-1954).] (See Figure 1 for light parti diagrams of the five spaces mentioned above.)

## 2. CHURCH OF THE EPIPHANY

In a religious context, light and golden color abound - think the Egyptian Sun God, Ra, or the shining flat halos of Cimabue or gold leaf sheets caked on auspicious statues by the devout people of Thailand, to only name a few [1]. More specifically in religious architecture, controlled and golden light makes its divinely meaningful

presence felt more often than not. The cross-shaped architectural plans of cathedrals were oriented with the altar area space facing toward the East; this placement allowed for light to shine through the stained glass windows and illuminate the holy altar area to magnify the divine effect. This tradition of strategic lighting carries on in Modernist architecture, albeit with varied mid-century twists. So much so that long before a visitor enters the case-study Church of the Epiphany, the light scoops territorialize the exterior with their powerful presence.

Walking up Second Avenue from the South, the Church of the Epiphany's spiky tower slices into the airspace above, flanked on the lower left by a large, thick tower blunted on angle at the top. (See Figures 2 and 3.) Another robust angled mass sits to the right of viewer entry (although the visual presence of this tower is more noticeable from the Western approach, due to current landscaping conditions). The visitor discovers, once inside, that the two squat towers are the light wells for the holy niches edging the entry and sanctuary spaces: the baptismal font and side prayer chapel. The strong massing presence of the light scoops on the exterior spells out the importance of light as a design feature.

The Church of the Epiphany's light scoops emit low drama and even - in spring afternoon light - anticlimactic, rather prosaic, and ineffectual actual light. Yet, the presence of skylights (which means a visual absence of ceiling) above the baptismal font, side prayer niche, and front altar still offers a perceived closer (and less impeded) connection to the divine forces above. (See Figure 4.) The disappointing interior luminance from the light scoops may have been an intentional design choice to convey a religious message of darkness and sin. Or, more likely, the light quality may be partially due to grimy and barred skylights in need of cleaning or poor placement of the skylights themselves. The light quality also suffers from the church site - hemmed in by the tall New York City skyline on surrounding blocks - as is typical in this crowded cityscape. (See Figure 5.) The sun just can't angle in as directly here as at Kresge Chapel where the site is much more open - even allowing light to bounce in from ground level, as will be discussed below. [The above

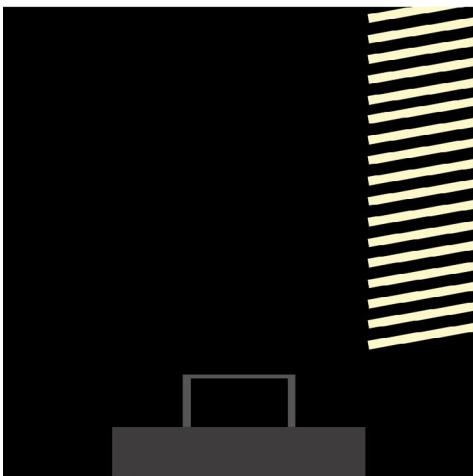
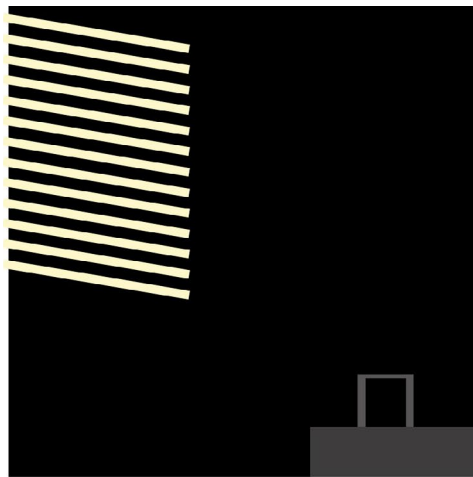
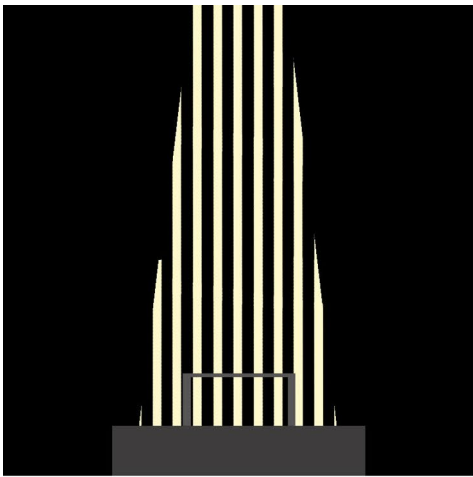


Figure 1 – Diagrams of the sculpting of light in the five spaces. Clockwise from top left - Kresge Chapel facing the altar, sectional view of Mount Zion Temple, sectional view of original chapel at Annunciation Monastery, Church of the Epiphany facing the altar, and Christ Church Lutheran facing the altar<sup>1</sup>.

interpretation may, in fact, be too charitable. It could also be argued that the space ineffectively makes use of the promise of light shown in the exterior massing and that the building, as a whole, fails to move visitors in a way that could be defined as positive enough to encourage a return visit - except out of religious obligation.] Belfatto and Pavarini's church provides almost no sense of intimacy, even in the offset niches that end up feeling more like vacuous caverns or over-scaled chemistry test tubes. In this context, the word "masses" offers an interesting double meaning: the name of the scheduled religious

services and also the idea of throngs of people that function more as numbers than as shining individuals.

[In fact, the church offers an emotive feeling similar to Fascist architectural masterpieces such as the Milano Centrale train station. As a traveller emerges from long escalator tube at the bustling Italian thoroughfare, the transit tunnel frames a first exterior view: a grand horse statue foaming at the mouth. Navigating the tight underground passage only to be emotionally trampled upon by a fiery horse, the visitor ingests a palpable message of powerlessness. Once past the huge, seemingly threatening equine and inside the station, the vibe of vulnerability continues for the visitor waiting for a train to arrive. The Fascist iconography and strong frieze imagery, the large shell of space at an inhuman scale, and the whirring noise of people and trains reverberating in the circulation hall encourage the tangible perception of the individual self as one meek, weak entity in a vast system.]

The light inside the Church of the Epiphany, during mass on a spring Saturday afternoon, showcases – in the midst of this empty inhumane space – spasmodic glimmers of glory and a glimpse of hope with shining saturated greenish yellow rays hitting parishioners during the service. (See Figures 6 and 7.) Here, select

Figure 2 – Approach to Church of the Epiphany



Figure 3 - Light wells expressed in building massing



Figure 4 - Cross-shaped skylight above altar (Church of the Epiphany)

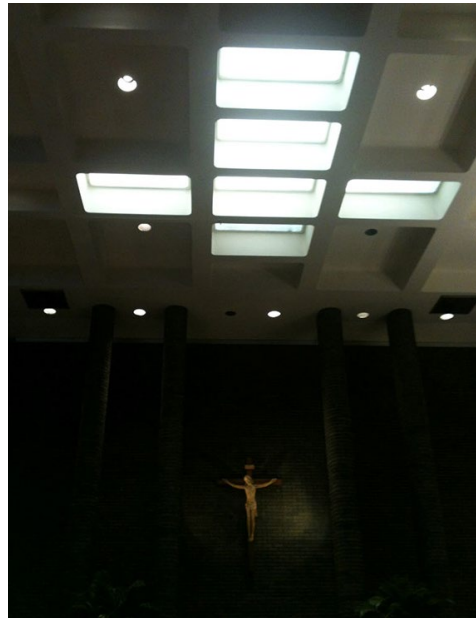
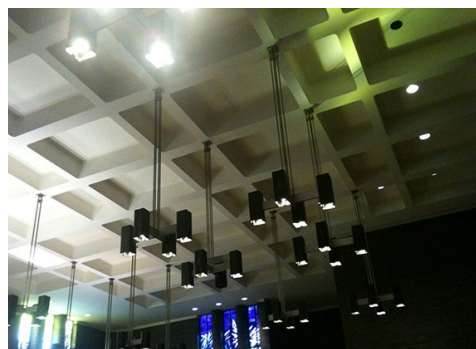


Figure 5 - Yellow glow in upper right coming from lower left (Church of the Epiphany)



groups of parishioners are momentarily lit with the sun's angled light, sparking a slightly upbeat note in the sanctuary space. This color moment seems to convey that the presence and prayer of individuals matters for a bit. The parishioners embalmed in the glow seem momentarily not nameless, special and bright even, in the midst of this large, dark building envelope.

Yet, the chromatic light loses some momentum as it bounces off of neutral, unmemorable floor materials and on the procession of drab brickwork wrapping around the sanctuary. The cool and warm grey pavers in the walkways soak away some of the light color, as the waxy, nearly matte finish dulls this light from the window. (See Figures 8 and 9.)

Note here that the yellow rays have a greenish cast. The resultant sour yellow provides just a tinge of the upbeat positivity of yellow hues. But, mixed with a dour, almost sickly green, the yellow is depleted by a wash depicting a color of physical weakness (as in nauseous or ill). Just as the repeated rituals of repentance, expected obedience, and required presence at mass of the Catholic faith provoke human guilt, so too can the yellow-going-green hue convey ideas of a flawed people, at the whim of God, clearly here to meticulously serve God's will in hopes of a personal redemption.

The color and light zones – spaced far apart and composed of matched up jagged shapes of glass in Belfatto and Pavarini's compound - feel sparse and inadequate although they take up a significant amount of wall square footage. The windows, lighting the main space, are supplemented by the rigid grid of cross-shaped pendant lighting hung from above. Even the mundanely wide circulation routes leave the visitor lacking fulfillment. Alas, the sense of order, controlled shaping, and scale convey an inapproachable, all-powerful message of God. Gratification does not seem to be lastingly calculated into the design of this dark and hollow spatial experience. As such, the light and scale design choices in this vastly impersonal church space can be interpreted as an obvious, but important, physical manifestation of prominent views of the Catholic Church.

All is not lost (with or without God), as it can be argued that the Church of the Epiphany – although miserable to visit and disappointing on the interior - paved the religious road for churches to come.

### 3. KRESGE CHAPEL

If the Church of the Epiphany embodies a hollowness and, at best, a lacking reward-verging-on-punishment, tidy Kresge Chapel offers a potent, radiant counterpoint. Critics argue that architect Eero Saarinen's religious

spaces “adopted open or centralized plans and iconic forms that unified clergy and congregation, performer and audience” [4]. This intimacy in plan is reiterated in sectional design and material choices to offer the visitor an experience akin to the comforting embrace of a close friend – an escape from worldly affairs and from the intellectual pursuits that abound on a renowned campus such as the Massachusetts Institute of Technology.

A visitor approaching Kresge Chapel from the South naturally follows a prescribed path along a long walk. A strong wall along the East side of the land and a grove of small trees define and favorably isolate the chapel site from the enormous expanse of the university campus.

After entering the building, the circulation route to the chapel forces the visitor to take a sharp left through a naturally lit hallway. This physical movement – a sharp turn – encourages a change in perception. A visitor can abruptly leave the day’s trivialities aside, perhaps setting the scene for shifting into a mode to ponder spiritual existence.

The hallway wall is covered in nearly monochrome green abstract stained glass, seemingly verdant. Upon crossing the threshold into sanctuary space, the ceiling height rises. The area is darker than the adjoining hallway, and eyes must adjust to absorb the essence of the space. The outside goes on of undergraduates and backpacks, mere steps away, feel remote, separate from this interior cavity. Here inside, the altar area is lit strong and specific from above. The side lighting seems muted, eerie, almost intangible, and elusive in quality. In only a few paces, there has been a strong shift in light quality and spatial experience.

The sanctuary volume itself rests elegantly simple and stoically geometric. The cylindrical building envelope wraps a very small space, approximately 54 feet in diameter [5]. A mere 120 or so seats are set within the space; the chairs are easily movable and, although ordered, do not seem to be ruthlessly arranged. The chairs - caned with a rough straw - remind of the casual, modest pragmatism of a visit to a Scandinavian country cottage in midsummer. The interior feels flexible, not constrained by certain religious dogma, yet still specific, spiritual, and memorable. The interior wall undulates lightly, further exposing prominent textural variations in the texture of the brickwork. With a lack of religious iconography inside the sanctuary itself, the decor consists solely of material color and light variations.

Once again, as at the Church of the Epiphany, a light well is located directly above the altar. Here, however, the oculus-shaped puncture in the building envelope provides a hotter, buffered yet concentrated light. This light reflects off of the



Figure 6 - Yellow glow hitting the parishioners’ bodies (Church of the Epiphany)



Figure 7 - Yellow glow on floor (Church of the Epiphany)



Figure 8 - Light from North-facing window with candle glow in entry (Church of the Epiphany)

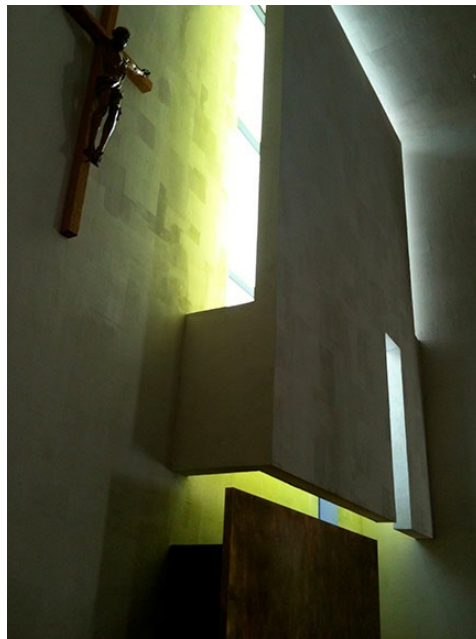
Figure 9 – Approach to Kresge Chapel



Figure 10 - Light wells from exterior (Kresge Chapel)



Figure 11 - Chapel of St. Ignatius by Steven Holl in Seattle, Washington)



shiny, Harry Bertioia-designed metallic sculpture streaming down from above. So, too, the marble altar, up on a platform, reflects light off of its smooth shiny whitish surface. (See Figure 10.) This combination of color, light, and material leaves the altar area highly charged, giving off a blinding glow.

A series of lower light scoops surround the base of the building, allowing light to bounce off of the exterior moat and into the cylindrical volume. The lower windows themselves hide from the view of seated parishioners with a half wall, allowing for the light of the overhead oculus to take the foreground while the moat-reflected light gently illuminates lower portions of the surrounding enclosure. The oculus focuses attention; the lower light wells provide ambient

light, a sense of nurturing softness around the sides of the space.

For the building's design, architect Saarinen stated that he was looking to recreate a travelling moment in the Greek isles. On a night in Sparta, he spotted the moon above in combination with a faint illumination along the horizon. Saarinen looked to reproduce this "other-worldly sense" here in the Kresge Chapel experience [6]. The resultant experiential interiorscape shines with light from above and soft enveloping halos from the ground. The small, cylindrical volume of the interior, the quality of light, and the warmth of materials in the sanctuary space create a meditative quality and a soft attitude of inclusiveness, reinforcing the non-denominational principles of this space.

#### 4. ANALYSIS

Comparison to contemporary religious "color containers" in varied geographical locations and time periods can identify precedents, legacies, and effects of the modernist spaces under scrutiny.

The breaks in the building envelope (of both Kresge Chapel and Church of the Epiphany) clearly reference windows in early churches (from thick walled Romanesque cathedrals to lacy Gothic monstrosities). The wall punches remind, to be sure, of Modernist icons such as Le Corbusier's Notre Dame du Haut to contemporary holy venues such as Fuksas Architects' gem in Foligno, Italy [7]. [See Figure 11.] Indeed, the ceiling punctures at Rafael Moneo's Iesu Church in San Sebastian, Spain – as in a myriad of sacred shelters including Belfatto and Pavarini's New York City venue – float above to illuminate the altar and ancillary chapels [8]. And, Tadao Ando's famed glowing gapped cross in the wall at Church of Light proves a minimalist interpretation of its precedent windowed cross on the sanctuary ceiling plane at the Church of the Epiphany. (The design also nicely incorporates the religious traditions of facing churches to the East which here "allows for light to pour into the space throughout the early morning and into the day, which has a dematerializing effect on the interior concrete walls transforming the dark volume into an illuminated box") [9]. This combination of sacred light effects proves fruitful in an edgy, Modernist way. These buildings, and many more religious structures, access that Modernist sacred space pile of techniques with shining results.

Projects such as the much lauded crape by Steven Holl in Seattle, Washington (1994-1997) blend atmospheric qualities with conceptual qualities to drag the sacred light toolbox solidly into contemporary creative space. The design of this Seattle masterpiece focuses on seven light

wells. Holl slyly angles the light wells to produce an inventive atmospheric space; light dumps in from above from each of the cardinal directions. To boot, the seven light chutes directly reference the seven tenets of the chapel's branch of Catholicism, highlighting different facets of Catholicism than the ones spatially exemplified at the Church of the Epiphany. The conceptual and experiential results are described as:

Seven bottles of light in a stone box; the metaphor of light is shaped in different volumes emerging from the roof whose irregularities aim at different qualities of light: East facing, South facing, West and North facing, all gathered together for one united ceremony. Each of the light volumes corresponds to a part of the program of Jesuit Catholic worship. The south-facing light corresponds to the procession, a fundamental part of the mass. The city-facing north light corresponds to the Chapel of the Blessed Sacrament and to the mission of outreach to the community. The main worship space has a volume of east and west light. At night, which is the particular time of gatherings for mass in this university chapel, the light volumes are like beacons shining in all directions out across the campus [10].

The chapel's design brilliantly reinforces Jesuit Catholic religious ideologies with built form and light manipulation. Just as at Kresge Chapel, the lighting inspires in both its spirituality and its ethereality:

*"What makes the interior so arresting and enigmatic are the halos of softly pigmented light sliced through by shocking patches of otherworldly color" [11].*

Not only does the building's concept intellectually captivate, but the space haptically fulfils sensory input channels of those who inhabit it. As such, this magnificent pairing of exquisite space and idea offers intellectual and experiential rewards in divine abundance.

## 5. CONCLUSION

A case-study comparison of the atmospheric effect of the manipulation of color and light of these two American East Coast Modernist religious spaces provides a toolbox of techniques for use of color and light in contemporary design. (See Figure 12.) As outlined above, these techniques can create heightened experiential spaces, manifest a client's religious ideology, and convey large scale socio-cultural messages.

Further exploration, outside of the space allotted in this particular paper, could analyse these religious spaces during many times of the day and over the course of all of the seasons in the year. This data could provide a counterpoint to possible weather patterns and varied lighting conditions that may alter visitor experience on more inconsistent visits. Exploration of the space during all hours of religious service (and even during the hours occupied by the clergy and staff) could provide a further wealth of information on ritual and use in relation to color and light decisions. Critical examination could then extend from the visual analysis methodologies presented here to scientific color and light data collection of units of luminance in conjunction with calculations compensating for sun angles, roofing material surfaces, incoming light from nearby surfaces (such as a mirrored skin of a skyscraper or a snow covered ground), and similar.

More words (or possibly volumes of text) are surely needed to tackle the historical iterations of items in the toolbox, as this paper can only gloss over several rich and varied threads of thought. A thorough scouring of Western religious buildings throughout the entirety of architectural history could further enlighten on chronological developments and refinements in techniques outlined here, as well as point out some innovative one-off moments or oddities in

Figure12 – Toolkit for Sacred Light



the continuum of religious space design. As more chromatic explorations launch in mainstream contemporary architecture and interiors (and as Mid-Century Modernism has become a popular contemporary cultural trend), designers need more wealth and variety in color application for the creation of emotionally loaded spaces. Technology forces our world population to have screen-based (and often hand-held) experiences of color and light at a nearly constant frequency. For fulfillment and inspiration, people need physical environments offering tactile and encompassing atmospheric experiences as well. This vein of research builds more robust repertoires of techniques for successfully manipulating color with meaningful intentionality in spiritual and secular spaces of the present day and beyond.

## BIBLIOGRAPHY

[1] But, first, let us review that the long, culturally-established tradition that light = sun = divinity /god/ goodness/glorious. To examine just a few of the roots of this narrative tradition, remember that in fairytales, gold is the symbol of good. Heros and heroines are gold-haired, wearing gold garb and weaponry, sprinting horseback in metallic forests. Even from southern climes where towheads are less common, the fairytale protagonists are frequently blonde. The presence of the coloring and light reflectivity of these golden items symbolizes the radiance of the sun. So, too, in contemporary culture's modes of storytelling, the Hollywood cinema technique of backlighting heros and heroines exemplifies this method of heightening a perception of a figure's glory and/or goodness [2] [3].

[2] Harry M. Benshoff, Sean Griffin. *America on Film: Representing Race, Class, Gender, and Sexuality at the Movies*. Malden, MA: Blackweel Publishing, 2004, p. 236.

[3] Max Lüthi, *The Fairytale: As Art Form and Portrait of Man*. Translated by Joh Erickson. Bloomington, IN: Indiana University Press, 1984, pp. 13-16.

[4] Walker Art Center and Minneapolis Institute of Art, *Eero Saarinen Shaping the Future, No. 72*, Minneapolis, MN: Walker Art Center and Minneapolis Institute of Art, June 6, 2008, p. 3.

[5] [www.kubuildingtech.org](http://www.kubuildingtech.org).

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[7] <http://www.designboom.com> Andrea DB, "Doriana Fuksas Interview", August 26, 2011.

[8] <http://www.architectural-review.com/> Michael Webb. "Raphael Moneo's Iesu Church in San Sebastian."

[9] <http://www.archdaily.com/> Andrew Kroll, *AD Classics: Church of the Light/Tadao Ando*, January 6, 2011.

[10] <http://www.stevenholl.com/>

[11] <http://www.stevenholl.com/> quoting Sheri Olson from *Architectural Record*, July 1997.