

Light and Shadow. The importance of light in the Church of S^{ta}. Maria and the Church of Light, of Siza and Ando¹

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Abstract

Natural light is a major element of contemporary architecture, by its influence, both in terms of construction or aesthetic. During the first decades of the 20th century, it was perceived as synonymous with hygiene; from the 1950s, with metaphysics.

Álvaro Siza Vieira, renowned Portuguese architect, developed a very personal insight on the topic of light, rooted in the principles of accuracy and synthetic. It was developed through several of his works, among which stands the Church of Santa Maria, Marco de Canaveses (built between 1994 and 1996).

Tadao Ando, celebrated Japanese architect, has a different understanding of natural light, rooted in the traditional Japanese culture, whereby the potential of light are revealed only by the shadow. Ando's works are a reflection of these teachings, emphasising, among them the Church of Light (built in Osaka between 1987 and 1989).

Comparing the two churches, taking into account the aforementioned parameter (subject of this paper), we understand that despite the obvious differences (notably in the colours and textures of the materials from churches and openings) both architects view light (although each in its own way) as of fundamental importance regarding concept, aesthetics and objectives (creating a sense of depth, austerity, silence and serenity, idiosyncratic of buildings of this nature).

Although Western and Eastern cultures remain distinct, causing a direct impact on projects, such projects are contemporary and present common goals pursued by their authors.

Resumo

A luz natural é um dos principais elementos da arquitectura contemporânea, pela influência que exerce, quer em termos construtivos quer estéticos. Nas primeiras décadas do século XX era vista como sinónimo de higiene; a partir dos anos 50, como matéria metafísica.

Álvaro Siza Vieira, conhecido arquitecto português, desenvolveu uma visão muito pessoal sobre a temática da luz, arraigada aos princípios do rigor e sintetismo. Desenvolveu-a em diversas obras, entre as quais se destaca a Igreja de Santa Maria, de Marco de Canaveses (edificada entre 1994 e 1996).

Tadao Ando, renomado arquitecto japonês, possui um entendimento diferente da luz natural, radicada na própria cultura tradicional nipónica, segundo a qual as potencialidades da luz só são reveladas pela sombra. As obras de Ando são um reflexo destes ensinamentos, destacando-se, entre elas, a Igreja da Luz (construída em Osaka entre 1987 e 1989).

Quando comparadas as duas igrejas, tendo em conta o citado parâmetro (tema do presente artigo), entendemos que, apesar das evidentes diferenças (nomeadamente nas cores e texturas dos materiais das

1 Translated by Ricardo Hans.

igrejas e nas aberturas) ambos os arquitectos dão à luz (embora cada um à sua maneira) importância fundamental, em termos conceptuais, estéticos e de objectivos (criação das sensações de profundidade, austeridade, silêncio e a serenidade, característicos dos edifícios da natureza dos analisados). Embora as culturas ocidental e oriental continuem a ser distintas e a influenciar directamente os projectos, estes são contemporâneos e os objectivos a atingir pelos respectivos autores apresentam traços comuns.

要旨

建築および美観の両観点において与える影響という意味で、自然光は現代建築における主要要素の一つである。20世紀初期の数十年間、自然光は「衛生」の同意語と見られていた。その後、50年代以降、形而上的にとらえられるようになる。

著名なポルトガルの建築家、アルヴァロ・シザ・ヴィエイラは、光をテーマとし、精密さの原則と総合主義（サンテティスム）に根ざした非常に個人的な洞察力を磨いた。マルコ・デ・カナヴェーゼスに建造されたサンタ マリア教会（1994～1996年建設）が群を抜くのだが、それを含む数多くの手がけた建築で、その洞察力を高めた。

日本の著名な建築家、安藤忠雄は、自然光について伝統的日本文化に根を張った異なった捉え方をする。その捉え方によれば、光の潜在的可能性は影によってあきらかになる。安藤の建築物は、これらの認識を反映する。彼の建築物の中で、この教訓を特によく体現するのが光の教会（大阪：1987～1989年建設）である。

この修士論文で主題とする先に引用したパラメータを考慮に入れ、前述の二教会を比較するとき、二つの教会には明らかな違い—具体的には教会建物および開口部の色と建材の質感での違い—があるにもかかわらず、両建築家とも各人がそれぞれの方法で、ここに分析した教会建造物の特色である奥行き、簡潔さ、沈黙そして静けさの感覚の創造というコンセプト、美観、到達したいとする目標の点において、光を最も重要視していることが理解できる。

この二人の建築家のプロジェクトに直接影響をおよぼしている西洋文化と東洋文化は異なるものであり続けるにもかかわらず、彼らの創り出す建造物は現代的であり、両建築作家が追及するゴールには共通の特徴が見られる。

Keywords:

Natural light; shade; contemporary architecture; churches.

Luz natural; sombra; arquitectura contemporânea; igrejas.

自然光; 影; 現代建築; 教会。

The thought of architecture nowadays is inseparable from the word “light,” for various reasons. First and foremost, it is the element that enables us to discern the architectural space; the connection between it and its objects; the detail of the spaces and lastly, very

important, their meaning, interpretations and suggested emotions (which depend exclusively of the architect's concept, the purpose of the space and the intentions of the owner).

In effect, natural light has become one of the greatest challenges of contemporary architecture in recent decades,² not only for its fundamental features,³ but mostly for its ability to move people, as advocated by Alberto Campos Baeza.⁴

For modernist architects, and for reasons inherent to the history of Europe itself (the end of World War I, the subsequent need of new housing and the considerations about the rebuilding of the cities destroyed in the conflict), the understanding of natural light resulted from the need to meet the demands of the modern man, who claimed, among other things, an accelerated response to the progress made in the fields of hygiene and habitability,⁵ and a solution that would soothe the prevailing spirit, anxious to clarify the mystery that hung on social development.

Thus, the new constructions glorified the concerns for transparency and luminosity, stripping it from its dialectical nature or any other metaphysical connotations. Moreover, these spaces celebrated sunlight, the air and the landscape, in a perfect harmony between indoor and outdoor as evidenced by the German Pavilion for Barcelona's World Fair (1929), of Mies Van der Rohe, the Maison de Verre (1927-31, Paris) of Pierre Chareau or Villa Savoye (1928-31, Poissy) of Le Corbusier.

From a phenomenological perspective, the "illuminating light,"⁶ typical of the aforementioned spaces, was closely linked with the feeling of vastness and immensity.

Despite the restraints set by the community, in this time, there were authors who proposed distinct paths. Among them were Frank Lloyd Wright, Alvar Aalto and Le Corbusier himself.

Since the 1950s, European architecture began taking its first steps in overcoming some of the guidelines of the first half of the century (namely curtain walls), conclusively embodied, in the 1970s, by the works of Aldo Rossi, James Stirling or Peter Zumthor.

2 Louis Khan, late American architect, considered it one of the purposes, if not the main purpose of architecture – Louis Khan, *Between silence and light. Spirit in the architecture of Louis I. Kahn* (London: Shambhala, 2008), 22.

3 Sunlight raises a series of issues, since it is variable according to the time of day; the season; clouds, dust and other solid particles; the weather; the region's latitude and altitude – Lúcia R. Mascaró, *Luz, clima e arquitetura* (São Paulo: Edições Técnicas, 1981), 36.

4 Alberto Campos Baeza, *A ideia construída* (Lisbon: Editora Caleidoscópio), 36.

5 Years earlier (1896), in the periodical *Moderne Architektur*, Otto Wagner wrote about what he considered to be the main guidelines of the modern movement, implemented decades later. "There were two conditions demanded by modern man that can be considered to be criteria for the future design of architectural works: THE GREATEST POSSIBLE CONVENIENCE AND THE GREATEST POSSIBLE CLEANLINESS." – Paul Overy, *Light, air and openness. Modern architecture between wars* (London: Thames and Hudson, 2007), 55 (Uppercase of the author).

6 Henri Cirani is the author of the "table of clarities," used to classify, phenomenologically, the ways to illuminate the indoor space, divided into four categories: "primitive light," "illuminating light," "radiant light" and "abstract light."

In Japan, the technological breakthroughs achieved in the late 1960s had a significant impact on most buildings. This was not the case of Tadao Ando's works, characterised by its modern reinterpretation of traditional Japanese spaces.

For Ando, following in the footsteps of Japanese culture itself, which praised the revealing power of the shadow⁷ (described by Junichiro Tanizaki, in the essay *In praise of Shadows*, 1933), light is a jewel that must be found in the darkness. The "tension" between light and shadow became a "palpable" matter namely in the Kidosaki House (1986, Tokyo, Japan) or in the Komyo-ji Temple (2000, Ehime, Japan).

In Portugal, and despite the dictatorial regime of Oliveira Salazar, architects gradually began rejecting the official architectural models while simultaneously reacting to the most rigid aspects of functionalism.

This process, whose first stage was marked by the reassessment of the modernist formulations,⁸ moved forward when a young group, while searching for their own means of expression, started an extensive research on the variety of Portuguese vernacular architecture and its relation to lifestyles.⁹

Among those most engaged in this search is Fernando Távora, for participating in the National Congress of Architects, in 1948; in 1955, for joining the team responsible for the "Inquérito à Arquitetura Regional Portuguesa" [Survey on Popular Architecture in Portugal] (a groundbreaking work in the study of national architecture, promoted by the National Association of Architects and published in 1961); and lastly for being the only Portuguese representation, alongside Viana de Lima, at the last CIAM (Dubrovnik) in 1956.

Additionally, Álvaro Siza Vieira,¹⁰ a disciple of Távora, for his architectural production that, while rooted within the modern movement, was open to a subjective approach, perceived according to the surrounding context.

For us, the recent history of architecture, rather than the study of volumes, shapes and materials, will focus on the study of the several "identities" of natural light (as an index of hygiene, energy, metaphysics, immateriality, etc.). The works of Siza and Ando (specifically through the Church of Sta. Maria and the Church of Light, respectively) represent two examples of the role of natural light, as important, or even more important than the other architectural components.

7 "And so darkness causes us no discontent, we resign ourselves to it as inevitable. If light is scarce then light is scarce; we will immerse ourselves in the darkness and there discover its own particular beauty." Junichiro Tanizaki, *In praise of Shadows* (Lisbon: Editora Relógio d'Água, 2008), 65.

8 Firstly discussed at the "I Salão dos Independentes" (An exhibition organised by the Oporto artist group *Os Independentes*, 1930) and tentatively introduced by Pardal Monteiro in the Church of Our Lady of Fátima, designed in 1938, in the Instituto Superior Técnico (Lisbon) or by Jorge Segurado, in the well-known Mint, of 1934.

9 This led to the publishing of the work *Arquitetura popular em Portugal* (1961), from a photographic and typological survey supervised by Francisco Keil do Amaral. About this issue, see Rogério Paulo Vieira de Almeida, "Álvaro Siza. A obra e o arquiteto 1952-1988" (master's thesis, Universidade Nova de Lisboa, 1995), 68.

10 The reference to Fernando Távora, one of the key representatives of the "school of Porto," eases, in our perspective, the understanding of the early works of Siza Vieira (who was his colleague, from 1955 to 1958).

1. Features of the work of Álvaro Siza Vieira. The importance of light and shadow in some of his works.

Álvaro Siza Vieira, born in Matosinhos, graduated in architecture from the School of Fine Arts of Porto (ESBAP), directed in the late 1940s by Carlos Ramos.¹¹ Among the faculty was Fernando Távora, a decisive influence in the education of the young architect.

The changes implemented by this new direction had an impact on the work of Siza Vieira, characterised by a style that fluctuates between rationalism (typical of the buildings from his early career) and organicism (present in his work from the late 70s and early 80s), the link between the place and its cultural surroundings (“Lo que la naturaleza da no precisa ser hecho” [“What nature provides needs no making”]¹²) and the non-selective economy of resources.

Siza’s legacy, present throughout more than five decades, is not the result of a model or a rule, or from the changes, divisions, ambiguities and transitions of contemporary architecture itself, but rather from an early blossomed speech characterised by three key factors¹³ (that traverse his entire path):

- The complex morphogenesis process of his projects;
- Drawing as means of research / artistic expression and technical asset;¹⁴
- The existential sense of place, a fundamental part of his work.

Natural light, while not present in this selection, is, in our view, critical to the organisation / structuring of the interior space. From a conceptual perspective, it is his vision that is at stake. Moreover, Siza states that “una cosa que me impresiona mucho en arquitectura es el derroche, aspecto que se manifiesta incluso en el uso de la luz.”¹⁵ “Antes que cualquier cosa, aprecio y busco en la arquitectura la claridad, tanto cuanto más aprecio el simplismo”¹⁶ [“one thing that impresses me a lot in architecture is waste, manifested even in the use of

11 This new filiation of the school, including the aforementioned architects, was important for the disclosure of the international architectural production of the first decades of the 20th century (which only circulated in Portugal through architecture magazines, such as the French *L’Architecture d’aujourd’hui*), the modernisation of the teaching system and the “broadening of horizons.”

12 Pedro Llano and Carlos Castanheiro, *Álvaro Siza: obras y proyectos* (Spain: Editora Electra/CGAC, 1995), 92.

13 “Por isso é imposible falar de un estilo, dunha moda, ó analizar a obra. Resulta sobre toda unha metodoloxia que proporciona a creación de novas formas inseridas en contextos novos. E a síntese por excelência, buscando dar forma plástica a todo los contidos de artisticidade – a paisaxe e os obxectos” [Thus, it is impossible to talk of a style, a trend or analyse the work. It results from a methodology that enables the creation of new forms within new contexts. And the quintessential synthesis, looking to give visual shape to all contents of artistry - the landscape and the objects]. – António Jacinto Rodrigues, “A Arte na Arquitetura de Siza Vieira,” *Obradoiro. Architecture Magazine* 22 (1993): 110.

14 “His act is produced by side drawing, what considers mutant of Architecture for Architect, because maybe, in others it is produced with another way, with an image, with a narration. For himself it is impossible to imagine the first creative act without the support of instruments. This is always loaded of previous experiences, of memory, etc.” – quote taken from the website <http://alvarosizavieira.com/category/siza-philosophy.com>, accessed May 21, 2010.

15 Kenneth Frampton, *Álvaro Siza* (Barcelona: Gustavo Gili, 1999), 10.

16 Llano and Castanheiro, *Álvaro Siza: obras y proyectos*, 92.

light”; “Before anything, I appreciate and look for clarity in architecture, as much as I increasingly appreciate simplicity”].

The topic of light is seldom mentioned as an independent category, since the architect admits this is not an issue he ever watched closely. However, he added that he uses it with synthesism and synchrony, in order to make local spaces comfortable.

It is also important to state that Siza’s works demonstrate, aside from the accuracy (of the study of light entry points, and the shadows they cast), a preference for light as sole meeting point between outdoors and indoors: “I use light to bring comfort and beauty to the spaces, and also to give an outdoors trait, of the building fronts, because when combined with the indoors, it determines the composition of the facades, the fronts.”¹⁷

The architect’s buildings act not as obstacles to the entry of light, but as receivers that delay its passage day after day, in a pattern of constant change.

Among the many designed by Siza, the Boa Nova Tea House (Leça da Palmeira, Portugal) stands out for being his first project, as a collaborator of Fernando Távora, and apart from the rest of his work, a more shaded space, resulting in an intimate and welcoming space, as intended.

The Centro Galego de Arte Contemporánea (Santiago de Compostela, Spain), the first building built in Spain, embodying what we believe to be one of his architectural trademarks: the light balance, enhanced by wide openings, and zenithal light.

The library of the faculty of architecture of the University of Porto (Porto, Portugal), his first work with a tridimensional dome allows, once more, the balanced control of light.

The bank Borges & Irmão (Vila do Conde, Portugal), for which he was awarded the Mies Van der Rohe award, in 1988, and, as previously mentioned, also portrays his harmonious mastery of light sources.

Lastly, the Beires House (Póvoa do Varzim, Portugal), for being an aesthetic experience in which the architect resorts once again to light to potentiate spaces.

1.1. The church of Santa Maria (Marco de Canaveses)

The then parish priest of Fornos, Nuno Higinio was both responsible for ordering the project of the church of Santa Maria and for inviting A. Siza,¹⁸ on September 26th, 1989.

Built between 1994 to 1996¹⁹ (even though the project started in 1990), over a site with distinct heights, the church is part of a larger complex, made up of three buildings: one for the parish house (three floors), another for the church and mortuary (on a lower level) and a third one for the Parish Centre with an auditorium and Sunday school (with two floors).

17 Quote taken from the website http://pt.saint-gobain-glass.com/newsletter/2008_files/abr2008_02_home.html, accessed June 12, 2010.

18 The architect had the collaboration of the architect Rolando Torgo.

19 On one side of Gago Coutinho Av., on a terrain circumscribed by this avenue, by a pedestrian path to two charities and by a row of single-family houses.

The combination of the three volumes enabled the formation of a parvis,²⁰ a typical space of previous centuries as it would invite passers-by to take part in the religious celebrations but also provide some dynamic to the surrounding space.

The main facade of the church, with a tripartite structure, is enlivened by the two advanced towers (inside which are respectively the baptistery and the bell tower) in relation to the large front door.

The church, of rectangular design, with only one nave, is approximately 30 meters long and has an elevated presbytery, where we find the altar. This distinct space is narrower and has a convex wall (which seen from the outside has a concave shape).

The natural light of the nave comes from the following architectural elements: three windows with 3,5 m wide x 5 m high on the northwest side wall (next to the ceiling); the continuous horizontal opening, 16 m long x 0,5 m high, with a ledge 1,3 m from the floor, along the southeast wall; a louver placed behind the altar; and the main door, when opened.

For the organisation of the church space, Siza had the support of several theologians, with whom he met to discuss issues related to the liturgical changes (stemming from Vatican II, 1961-65), first, the layout of the elements that take part in religious celebrations (the ambo, the tabernacle, the cross), found on the main altar, and the fact that during Mass, the priest is nowadays facing the assembly instead of turning his back to the people.

According to the architect himself, the solutions were a result of a careful consideration on the different liturgical interpretations, which are nevertheless unanimous regarding the need to preserve the connection between the objects and actions that take part in the celebration, preserving continuity with tradition.

1.2. The importance of light, "in light" of Siza's objectives

And God said, 'Let there be light,' and there was light. God saw that the light was good, and he separated the light from the darkness. God called the light 'day,' and the darkness he called 'night.' And there was evening, and there was morning - the first day" (Book of Genesis 1, 3-5).

The church of Marco is undoubtedly "Day."²¹

The balanced arrangement of the different light sources - the horizontal window to the right (facing east), three quadrangular openings in the domed wall, on the left (facing

20 "The parvis is the transition between the profane and the sacred." - Nuno Higinio, "Complexo Paroquial de Marco de Canaveses. Ante-projecto. Memória descritiva," in *Igreja de Santa Maria. Marco de Canaveses* (Marco de Canaveses: Paróquia de Santa Marinha de Fornos, n.d.), 21.

21 "When I would go to church, the dark and suffocating environment would get to me - I don't know if I suffer from claustrophobia - and when I got a church project I said to myself: Well, it doesn't have to be a dark church." - Isabel Rodrigues Monteiro, "Igreja de Santa Maria vista com a batuta de Siza Vieira," *Primeiro de Janeiro* (2006).

west) and two vertical slits behind the altar (receiving diffuse light) – promotes an environment of clarity, regardless of the time of day.²²

According to Rodrigo Pereira Carvalho,²³ who also assessed the incidence of sunlight on the building:

- During the summer solstice, the southeast facade is lit up by sunlight with a 43° inclination, at 8 am, thus the space is flooded with light from early in the day until early afternoon; by 6 pm, the northwest facade still gets sunlight with a 54° inclination, demonstrating that the church remains evenly lit.

- In the winter solstice the amount of light passing through the atmosphere is smaller and there are fewer hours of light. However, the balance promoted by the arrangement of the light sources remains the same.

This study corroborates the aforementioned notion that the building presents moderation and harmony, regarding the use of natural light, ingeniously boosted by resorting to the colour white (to cover the grey of the rough concrete, with which the structure was built), optimising the amount of light up to 80%, and the use of laminated double glazing, on the openings, whose main purpose is to disseminate sunlight entering into the building.

Siza Vieira chose this system, considering, among other factors, the climate of the region (very cold and dark in the winter, and extremely hot in the summer), but, more importantly the Parish's schedule of religious services, held in the morning, at 11 am and in the late afternoon, at 7 pm.

Thus, Siza opt out of the light-dark fluctuations typical of the Baroque and the Gothic chromatic artefacts, in favour of a uniform lighting, without significant variations (with the obvious exception of changes occurring naturally with the transition of hours, seasons and, moreover, introduce the notion of the passage of time, which, in turn, refers to the concept of eternity).

On the other hand, through the southeast opening, the main link between indoors and outdoors (enabling a glimpse of the surrounding landscape made of houses, hills and valleys), the church “looks” outwards, but, at the same time, grants a look inside, fading the gap between the sacred and profane spaces. “A window that allows you to see the outer world fulfils the wish, of Teotónio Pereira e Nuno Portas, of a secularised church looking to connect with the contemporary world.”²⁴ There is light, there is eternity, but it goes beyond the divine. After all, as Siza stated, natural light “goes from the casting of the sunlight to the silence of the diffusion: a large interval, rigorous and tangible. The assembly of all the elements is obviously coherent. Nonetheless, this order, characterised

²² Obviously, this only happens during the summer, when the sun sets after 7pm. In the winter, the church lighting relies, essentially, on electric light, especially from 16 or 17 pm. Until then, natural light is enough to light up the interior of the building.

²³ Rodrigo Pereira Carvalho, “Luz do dia em arquitectura. Estudo sobre a igreja de Santa Maria e a casa Bessa-Pérez” (Final graduation work in architecture, Universidade do Porto, 2007/2008), 84.

²⁴ Cidália Maria Ferreira da Silva, “Três monumentos na arquitectura religiosa do século XX em Portugal” (Final graduation work in Architecture, Universidade de Coimbra, 1999), 182.

by some intentional contradictions, was built through a slow and arduous process. There were no pre-defined ideas, given beforehand. *What is now perceptible is the result of the settling of certain reflections on the church's space, so difficult today.*"²⁵

Although, in general, the light takes on the characteristics and pursues aforementioned goals, the light - in this case, indirect - illuminating the altar is clearly not enough, if one takes into account the precepts of Vatican II.²⁶ However, and intentionally, this "insufficiency" highlights and harmonises the verticality of the altar while, at the same time, creating an atmosphere of "asceticism." This "glamour" is disrupted during some periods of the day by the effects of light-dark provided by the convex walls that recreate the *sfumato* effect, distinctive of the works of Renaissance artist Leonardo da Vinci.

In summary: light is an integral part of the work and it intentionally interferes in the aesthetic-sensory experience of the assembly, because it creates an environment for gathering, intimacy, comfort, protection and insight, provided by the silence that characterises the house of God. It is, without doubt, one of the elements that best characterise the mastery of Siza on "immaterial aspects" of the building. It demonstrates his concern beyond the built spaces and consolidates the creation of another architectural dimension, a sort of "poetic volumetry." Therefore, believers are able to enter into an environment filled with sensitive aspects and sensory experiences. According to a member of the jury of the Pritzker award presented to Siza: "The architecture of Álvaro Siza is a joy for the senses and elevates the spirit. Each line and curve is placed with skill and accuracy. As the early modernists, his forms, shaped by light, possess an honest, carefully thought simplicity. These forms directly solve design problems. If a shadow is necessary, a protruding plane is positioned to provide it. If a view is desired, a window is made. Stairs, ramps and walls, in a Siza building everything seems to be predestined."²⁷

2. Features of the work of Tadao Ando. The importance of light and shadow in some of his works.

Born in Osaka on September 13, 1941, Tadao Ando is a self-taught, honoured with the highest awards in architecture, including the Pritzker Award in 1995.

His education was influenced by traditional Japanese architecture and modernist architecture, including the works of Le Corbusier, Mies van der Rohe, Alvar Aalto,²⁸ which

25 Gabriela Coelho and Lia Cardoso, *Álvaro Siza, imaginar a evidência* (Lisbon: Edições 70, 1998), 55; emphasis added.

26 On the subject, see C. Pastro, *Guia do espaço sagrado* (São Paulo: Edição Marcos Marcionilo, 1997).

27 Quote taken from the website www.pritzkerprize.com (Spanish translation).

28 "I'm interested in a dialogue with the architecture of the past... but it must be filtered by my vision and my experience. I am a creditor of Le Corbusier or Mies van der Rohe, but... I assimilate what they made and make my own interpretation" - quote taken from the website www.pritzkerprize.com (accessed July 2, 2010).

he met during his travels to the United States of America, Africa and Europe, in 1962 and 1969 (year in which he founded his own company, "Tadao Ando Architects & Associates").

Although his essay is from 1933, Junichiro Tanizaki, Japanese writer, was, along with the aforementioned architects a constant influence to Ando, for his belief in the importance of shadows (caused by natural light), as symbol of the Japanese identity.

In this essay, entitled *In praise of Shadows* (1933), Tanizaki differs traditional Japanese from Western aesthetics: the first is defined by its prevailing taste for ambiguity and appreciation for the subtle game of shadows; the second stands out for its search for natural light, clarity and assertiveness. To the author, shadows are the last bastion of Japanese tradition inevitably threatened by the import of foreign models.

Essentially, the discussion on the Japanese identity revolves around a society divided between inside/outside, Japan/West, traditional/modern, in which we find the work of Tadao Ando, who ultimately becomes the Japanese architect that the writer covertly mentioned, who remains true to traditional Japanese principles, but reinterprets, modernising, the Japanese architectural models.

In this regard, the works of Ando are authentic "treatises" of traditional Japanese culture,²⁹ i.e. simple, rustic (as determined by the aesthetic principles), quiet, harmonious, beautiful, "empty" (as dictated by the ancestral values) and modern and minimalist.

The mentioned principles reflect the *wabi-sabi* spirit, aesthetics based on the acceptance of transcendence and the unfinished, which originated in Japan during the 16th century, in clear opposition to the emerging wealth and luxury. This philosophy is closely linked to Zen Buddhism,³⁰ and to a minimal, imperfect, asymmetric, harsh, modest and intimate aesthetics.

Wabi means "simple and fresh things" and *Sabi* can be explained as "things whose beauty was acquired over time." Underlying these secular principles is the will to find beauty in imperfection, that which is naturally beautiful.

The notions of materiality, tactility and emptiness are also present in his work through the use of concrete, the rigid walls that appear smooth to the touch and the emptiness of the space,³¹ filled only by light (concepts that I. M. Pei introduced in the Islamic Museum in Doha, Qatar, since the Islamic world has the same reading on the unveiling power of the shadow).

29 Tadao Ando kept the *Wakon Yosai* spirit, in other words, he combined Japanese culture with the Western technique.

30 Regarding its influence on Ando's works, Philip Drew wrote: "beauty is to highlight the epiphany of the shapeless, absolute void that is God." Thus, the void is equivalent to infinity and vice versa. Therefore, Ando's architecture represents this void as a kind of divine fullness, and the imperfect finishes reflect the spirit of the Japanese *wabi sabi*" - Philip Drew, *Church on the water, church of the light* (London: Phaidon Press, n.d.), 13.

31 The notion of emptiness can have several meanings. In this particular case, and because it is associated to natural light, relates to the fact that space, although physically stripped, can be filled with the dynamic changes of light.

For his projects, Ando was inspired by Japanese constructions, particularly the temples, sanctuaries and tea houses (*sukya*)³² he visited in Kyoto and Nara, and the Yoshima House (17th century), in Osaka.

Concerning the dialectic light-shadow, Ando states that light only acquires symbolism when confronted with a dark surface, the only one able to dramatise the environment and bring out the contours of the objects.³³

The lighting changes throughout the day induce different readings, which is why the Japanese architect favours small openings, highlighting the passage of time and upholding the notion that everything is in constant mutation.

Ando's architecture is a constant game between light and shadow created by a clearly outlined sky and the three-dimensional shapes expressed in concrete walls, which, jointly, generate magnetism.

Among Ando's various projects, we highlight the Azuma House (Osaka, Japan) – the first building he designed and the first in which he explores the power of shadows, present in any of his works;

The UNESCO Meditation Space (Paris, France) – a pinnacle of the values transmitted by the shadows;

The Church on the Water (Hokkaido, Japan) – started only two years after the Church of Light and while this was not yet finished, demonstrating the animist architecture developed by Ando;

The Fort Worth Museum (Texas, United States of America) – a relative exception, in our view, concerning the role of the shadow, which here gives way to light;

And lastly, the Komyo-ji Temple (Saijo, Japan) – yet another of Ando's religious building, subsequent to the two already identified. It stands out for being built in wood preserving, as most of the others, the importance of shade.

32 The style *sukiya* (a tea house typology, also named house with empty space, since *suki* means empty) reveals a deep attachment for natural materials and asymmetry. It evokes nature, its unpredictability, while retaining at the same time, the harmony and balance. The gate is asymmetrical. The access to the house (*roji*) is not linear; if it is a straight line, is built diagonally, making it impossible to view the house from the gate. Usually, this path has an informal look, of raw nature and has rocks. On the inside, the colours are smooth, the light is moderate, in order to create a neutral, empty and quiet atmosphere. "A Japanese room depends on a variation of shadows, heavy shadows against light shadows – it has nothing else. Westerners are amazed at the simplicity of Japanese rooms, perceiving in them no more than ashen walls bereft of ornament. Their reaction is understandable, but it betrays a failure to comprehend the mystery of shadows. (...) We never tire of the sight, for to us this pale glow and these dim shadows far surpass any ornament." Tanizaki, *Elogio da sombra*, 51.

33 "With lacquerware there is a beauty in that moment between removing the lid and lifting the bowl to the mouth when one gazes at the still, silent liquid in the dark depths of the bowl, its colour hardly differing from that of the bowl itself (...) What a world of difference there is between this moment and the moment when soup is served Western style, in a pale, shallow bowl. A moment of mystery, it might almost be called, a moment of trance." Tanizaki, *Elogio da sombra*, 40.

2.1. The Church of Light (Osaka)

The Church of Light, located in a residential suburb 40km from Osaka (Ibaraki), was designed at the request of Reverend Nobor Karukome (member of the United Church of Christ in Japan), between 1988 and 1989, due to financial difficulties.³⁴

It consists of three parallelepipeds of 5,9 meters depth, 17,7 meters wide and 5,9 meters high (constructed of concrete and glass). It is a small church, with an area not exceeding 113 square meters.

One of the walls of the church is cut by another, which creates an angle of 15° between them, forcing the visitor to go around it to enter the building.

A constant influence in all Ando's works, like in the tea houses, some Buddhist temples (whose access to the stone gardens, or "dry gardens", follows the same principle), the entrance implies a decision, an awareness of the architecture, and at the same time, the first stage of meditation, the first disconnection with the profane world.

Inside the church, the scenery is stern and simple (a concept enhanced by the rugged texture of the floor and the benches of dark beams), following the Japanese aesthetic principles of *wabi sabi*.

The choice of natural materials, such as wood, is not random, but rather intentional (nature takes part in all his works).^{35 36}

One of the particular features of this church is the slope of the ground as the visitor walks towards the altar. The altar is against the wall, whose horizontal and vertical openings create a cross, flooding the Christian premises with light.

The opening in the wall, in the shape of a cross, is not similar to the traditional Christ Cross, with the horizontal bar lower than usual. This subtle difference is important because it conveys the idea that everyone has its source of light.

The light emanating from the Cross, symbolic representation of the Divine, associated with nature, provides the necessary sacredness to the church.³⁷

In an interview with *El Croquis*,³⁸ Tadao Ando listed the goals he set for himself, when he agreed to design the building: demonstrate that it was possible to create a symbolic space

34 At one point, Ando decided the building would have no roof, which did not come to pass as the construction company itself covered the costs).

35 "Ando took on the challenge of bringing nature inside. He wanted man and nature to confront each other within the enclosed internal world of his architecture...Ando's buildings force people to confront nature. This produces a kind of electrical charge between architecture and nature; depending on how you choose to read it, it either leads us out into the landscape, or draws nature inside. Either way, nature and architecture form a duality which Ando holds in tension as a simple opposition." - Drew, *Church on the water, church of the light*, 18 and 20, accordingly.

36 Philippe Drew even considers him an architect of the Land Art. Tom Heneghan, *Tadao: the colours of light* (London: Phaidon Press, 1996), 15.

37 This connection between the cross and nature was previously addressed, centuries before, by Caspar David Friedrich, romantic painter and author of *The cross in the mountains* (1807/08) and *Morning in the Riesengebirge* (1810/11).

38 Tadao Ando, "Iglesia de la Luz," in *El Croquis*. 44+58 (n.p.: 1995), 114.

with only a few architectural elements; use the wood to cover the floor and produce the benches (rarely used in public buildings of this kind); ultimately reduce the openings to a minimum.

Regarding light, he clarified that it only becomes a marvellous element from the moment the background is completely dark. The changes it undergoes over the day reflect, once more, the relation of man with nature, and of nature with architecture (which possess a purifying dimension, according to Japanese tradition).

2.2. The importance of shadows in the Church of Light, “in light” of Tadao Ando’s objectives.

Junichiro Tanizaki claims that the poetic aura of the shadow is key for the beauty of Japanese rooms. “The beauty of a Japanese room depends on a variation of shadows, heavy shadows against light shadows – it has nothing else. (...) We delight in the mere sight of the delicate glow of fading rays clinging to the surface of a dusky wall, there to live out what little life remains to them. We never tire of the sight, for to us this pale glow and these dim shadows far surpass any ornament (...). But for me the most exquisite touch is the pale white glow of the shoji in the sturdy bay.”³⁹

In this regard, the interior of the Church of Light is bathed in natural light – from the cross-shaped opening (in the north wall) and a window on the right wall, to the east (when facing the opening) – and artificial light – coming from four fixtures placed on the left wall (when facing the illuminated cross) – the latter relegated to the background in accordance with Japanese aesthetic precepts.

Following the same principles, the windows of the building act as *shoji*,⁴⁰ filtering light that, in constant movement, completely changes the grasp of the spaces.

Light and shadow, when properly combined, disclose not only the interior of the church but reveal the magnificence of its architectural spaces, connecting the indoor and the outdoor and creating the illusion of a light space, thanks to the provided optical changes.

From this association, diffuse light is “born” which, by expanding and materialising (as if it were a mouldable material), is capable of sacralising and animating the monochromatic church, just as Tadao Ando intended. “Actually, I believe that when vegetation, light, water or wind are cast apart from nature and manipulated according to human will, they acquire a sacred value... The outer light, which was architecturally manipulated and made abstract by the openings on the wall, brings tension to the space, rendering it sacred.”⁴¹

39 Tanizaki, *Elogio da sombra*, 44 and 45.

40 The *Shoji* is a “mobile panel composed of a frame of slats into small squares, on which is pasted a thick white paper letting diffuse light through but not the gaze.” Tanizaki, *Elogio da sombra*, 16.

41 Tadao Ando, “From the Chapel on the Water to the Chapel with the Light,” in Francisco DalCo, *Tadao Ando, as obras, os textos e a crítica* (Lisbon: Editora Dinalivro, n.d.), 455.

This radiant power of light arises from the confrontation with the shadow, Ando's favourite "object", for its ability to be "infinitely obscure or display an infinite array of nuances toward clarity."⁴²

Against the trend of modern art – attempting to degrade the power of obscurity – the architect finds in the shadows fundamental qualities for the drafting of his projects. The notions of depth, strictness, silence, serenity when combined with simplicity, the roughness of the furniture and the shadowy atmosphere within the church (enhanced by the monochromatic concrete and furniture, with a reflecting ability under 30%, adding to the sombre nature of the space), ever changing, convey tension and intensity as well as purity and tranquillity, which is in itself an essence of the spirituality of the space.

According to Ando himself, "while currently everything is enveloped by a homogeneous light, my attention is drawn to the endured outcomes between light and obscurity; in obscurity, light is like a jewel you can hold in your hand... I imagined a space like that when I built the Church of Light, an enclosed box with concrete walls, "a construct of obscurity." In it, a cut on the wall allows light to penetrate, provided it submits to strict restrictions, and a beam cuts the darkness. Light intersects the walls, floor and ceiling, revealing their presence and displaying, bouncing and reflected from each other, the complex relations between them, thus bringing life to the space. With each variation of the angle of the light beam, the nature of things and its mutual relations are renewed, the space is transformed... Architecture should devise spaces whose spiritual energy can contribute to the liberation of man from the restraints of everyday life. It is light that awakens architecture to life and shapes its power."⁴³

3. Similar in their differences?

The geographic distance between the two churches, one in Portugal and the other in Japan, does not preclude bridges and gaps between them.

Aside from others, the differences between the churches of Siza and Ando start from the onset with their respective accesses. The access to the Church of Light is made through a path (*roji*) covered with rocks and vegetation (common among tea houses) which, according to Japanese tradition, allows the purification of the believer before entering the religious space (Le Corbusier named it "promenade architectural").

Siza does not "sponsor" this "walk," but instead recreates the ancient parvises, where the population would gather to attend religious celebrations.

a) From the start, there are similar materials used by both Siza and Ando – such as glass and concrete.

42 Leonardo da Vinci, quoted in Jean Paul Jungmann, *Ombres et lumières : un manuel de tracé et de rendu qui considère l'architecture comme une machine optique* (France: Editions de la Villette, 1995), 34.

43 DalCo, *Tadao Ando, as obras, os textos e a crítica*, 471.

However, the former used laminated double glazing, enhancing the amount of light received, and chose to coat the concrete white (another method to optimise clarity). On the other hand, due to lack of funding, Ando was forced to resort to common glass (whose only feature is to protect the interior from ultraviolet rays) and preferred “natural” concrete (whose greyish shade allows for the capture of only 20 to 30% of the light received).

b) Both projects follow the respective goals for each church.

Siza Vieira designed a religious minimalist space, made of straight lines and right planes, associated with a balanced light bound to render the building into a calm and peaceful space (much like his other projects, before and after this one), following other buildings of its kind found in Europe (from John Pawson, Fay Jones and Jensen & Skodvin, to name a few).

Siza’s belief in well-lit spaces, filled with natural light that make everything visible⁴⁴ – a belief illustrated for example in the Church of Santa Maria –, is rooted in the principles of European culture of the 20th century (although no longer in the “curtain walls” of the early 1920s). Hence, the smooth and white concrete and the light woods – reflecting between 40 and 60% of reflected light (on the ground, the benches and on the cross itself), boost the effects of natural light, profusely entering through the various openings.

Tadao Ando, “keeper” of Japanese culture (to which shadow is the true revelation of light), designed the Church of Light (whose name, considering all of the above, would only be a contradiction to a European) following its principles.

He created an austere building, but at the expense of a marked geometrism and absence of decoration, combined with (two) slender openings. Since one of them is narrow (with a cross shape) and the other (with a rectangular format) is partially obscured by the L-shaped wall, that access the nave, the religious space is virtually in the shadows.

The very orientation of the said openings, respectively facing north and east, focalises the light entrance during the morning, and even then, always “parsimoniously.” During the afternoon, the penumbra is further heightened by the lack of more openings facing north and west.

c) Furthermore, while contributing to simplicity and dignity especially of the interior of the Church of Light, the rough concrete walls and the rustic texture of wooden benches and floors accentuate the dark nature of the construction, thus contrasting once again with Siza’s (in which the white walls stand out, so as to optimise the amount of incoming light).

d) Oddly enough, to Ando, the main symbol of Christian faith – the cross – is dematerialised and, immersed in the dark interior of the Church of Light, becomes more visible and exposed to believers (assumedly the core of the site). To Siza, the cross is located in the less illuminated place of the church (by default, significantly more lit than Ando’s).

⁴⁴ With the exception of the Boa Nova Tea House (and, in this case, mainly due to its location – near the sea).

e) It should also be noted that (as in most of the works of Ando and Siza) both architects favour the indoor / outdoor relationship. In the Church of Santa Maria this is achieved through an extensive opening, allowing the outdoors to “enter” through it, along with light. In Ando’s works, however, and specifically in the Church of Light, indoor and outdoor form a continuum enclosing on itself and on the shadows inside the buildings. In the words of Ando, “in architecture, interior and exterior are not apart: together they become a unifying place, a closed and articulated territory that, nevertheless, keeps a distinct connection with its surroundings.”⁴⁵

f) Anyway, notwithstanding these differences, it is clear that the core of the works of both Siza and Ando is always light and its nuances. Moreover, the two churches in question (despite the cultural diversity) are both paragons of the search for depth, austerity, silence, serenity and insight, achieved by manipulating natural light. And thus through it, in a sort of “enlightened” way, they are able to convey the mystical and religious atmosphere that characterises the quintessential home of the divine: the Church.

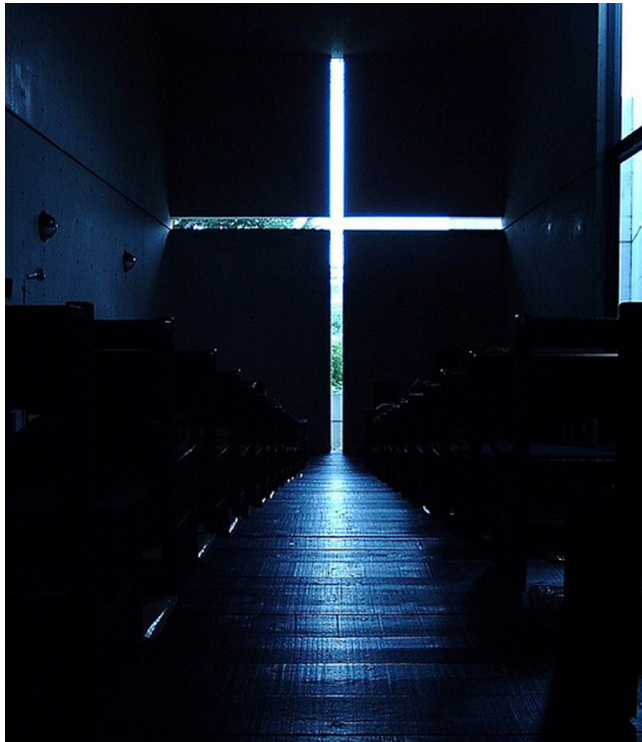


Fig. 1 - Tadao Ando, Church of Light. Detail of the interior.

Photo ©Smine, Flickr.

45 DalCo, *Tadao Ando, as obras, os textos e a crítica*, 449.



Fig. 2 - Siza Vieira, church of Santa Maria (Marco de Canaveses). General view of the interior.

Photo ©Eurico Gomes.



Fig. 3 - Siza Vieira, church of Santa Maria (Marco de Canaveses). Detail of the lateral window.

Photo ©Eurico Gomes.

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