

## The sacred and secular: Design analysis on Chinese Culture Columbaria in this modern era

Elizabeht Kwoh, Hakimi Ahmad\* 

Interior Architecture, School of Housing Building and Planning, Universiti Sains Malaysia  
Gelugor, Penang, Malaysia



ARTICLE INFO	ABSTRACT
<p><i>Article history:</i> Received November 17, 2024 Received in revised form May 08, 2025 Accepted December 31, 2026 Available online March 01, 2026</p> <p><i>Keywords:</i> Columbarium Interior architecture Sacred Secular Secularization</p> <p>*Corresponding author: Hakimi Ahmad BSc Hons of Interior Architecture, School of Housing, Building and Planning, Universiti Sains Malaysia, 11800 USM, Penang Email: <a href="mailto:kimi@usm.my">kimi@usm.my</a> ORCID: <a href="https://orcid.org/0000-0003-1954-0878">https://orcid.org/0000-0003-1954-0878</a></p>	<p><i>This paper examines the interior architectural design of columbaria and its impact on spiritual development within contemporary Chinese society. In a secularized world where traditional cemeteries are often seen as unwelcoming, columbaria offer a modern alternative for the interment of the deceased. This study aims to explore how columbarium design can create a meaningful sense of place and fulfill spiritual needs, addressing a gap in research between sacred and secular with the design of the columbarium. Through literature reviews and a case study on Penang's columbaria, the paper documents how elements of design approaches can determine if the space leans more into the sacred or the secular. The paper will conclude that by determining the factors of sacred and secular design approaches, future design of columbarium can be more mindful in balancing a space to be both a sacred space to foster spiritual connection and a secular one to be more relatable with society, a secular space with sacred qualities.</i></p>

### Introduction

Death scape such as graveyards are seen as the most uninviting places in the worldview of the Chinese community's beliefs as graveyards are seen as home to many wandering spirits out to ensnare a substitute body to replace them in the ritual of reincarnation (Kiong and Kong 2000). Consequently, graveyards are revered as sacred spaces, although their design is primarily focused on maintaining an organized layout. It was believed by the Chinese that the soul is easily felt to be more present at the graveyard than that in a columbarium, where the cremated ashes of the deceased are kept in an urn along with other urns (Kiong and Kong 2000). However, recent studies on mortuary practices indicate a preference for columbaria among the current generation, driven

not by convenience but by environmental considerations and the long-term ease of maintenance (YANG 2021). The evolving social and cultural landscape, influenced by secularization, has altered people's perceptions of worship spaces and values (Lesmana et al. 2021). The rational pragmatism attitude was used to approach urban renewal projects of religious buildings where emotions, social, and spiritual values were of little concern (Lily Kong 1992).

The architecture of religious buildings is seen as a combination of ideas, technical possibilities, and human needs as a reflection of the changes in the social and cultural construct of a given society (Wierzbicka and Arno 2022; Hakim and Salura 2024; Paramitha and Salura 2020; Salim, Herwindo, and Saliya 2022). This research focuses on exploring the design approach to two



distinct Chinese columbaria in Penang. One case study is on the Nirvana Penang West Lake Garden, and the second for comparison and analysis is the United Hokkien Batu Gantong Columbarium. To examine how the concept of sacred space within the context of modernity has evolved and analyze its impact. Additionally, the paper emphasizes the importance of proper grieving and paying tribute to the deceased, promoting an understanding of life and death while removing negative connotations surrounding death, thus allowing coexistence between the living and the deceased. Spiritual values are of great significance in creating a sense of place within sacred spaces (YANG 2021; Adiputra and Salura 2021).

Considering these factors, this paper aims to examine the interior architectural design of columbaria and its effectiveness in fostering spiritual development for individuals and communities. As secularization reduces the significance of traditional graveyards and columbaria become more prevalent, it is essential to evaluate whether these modern spaces can offer a comparable sense of sacredness and spiritual impact. By addressing this research gap, the study explores the relationship between columbarium design and spiritual development within the context of contemporary Chinese culture.

#### Literature review

##### The concept of Columbarium

A Columbarium is a building designed to hold urns containing the cremated remains of the deceased. The term derives from the Latin word 'Columba', meaning dove, as it was originally used to house doves and pigeons, resembling dovecotes. During the early Roman Empire, columbaria were commonly used for cremated bodies, making them distinctive and enigmatic forms of Roman architecture. They were the first organized graves in Rome, offering burial services to biological families within the same households (Borbonus 2014). The niches engraved on columbarium walls allow them to be easily distinguished from other burial structures (Yazlık 2022). Over time, other studies have shown that housing cremated ashes in a columbarium are increasing worldwide. Columbaria in Hong Kong serves as an epitome of the transition from natural burial to the practice of cremation with the help of state control and persuasion with concerns of planning and efficient land use guidelines (L. Kong 1999).

Hong Kong was encouraged by state agencies in the last several decades in the use of columbarium as they were confronted with an increase of land scarcity. Countries such as Singapore, Taiwan, China, and Korea have also sought to reduce the use of space for the dead, instead of for the use of the living (Lily Kong 2016).

The relationship between Culture and spiritual designs.

In the relationship between the space and the sacred, the author examines the different types of sacred spaces in all cultures, ranging from the ancient world, Judaism, Christianity, and Taoism, to Shinto. The author has composed a few elements that make space sacred based on past literacies and case studies of precedent typologies. The aim is to understand how architecture addresses sacred spaces in different cultures and how everyone designates a space as sacred, or vice versa, what sacred can tell us about architecture (Vang 2015). Elements include:

- The enclosure of the place, either by works of natural creations; or
- Man-made mountains like the America Ziggurats;
- The sacred space usually consists of a hall leading to an altar, an axial and centralized plan mimicking a cross, or a series of platforms leading to the altar or from entrances. It describes how the higher and closer it brings you to ascend and communicate with God himself;
- Holiness of imageries, the iconography of the deities, sublime aesthetics and divine scriptures are small details that helped strengthen the human senses like touch, vision, hearing, and taste that evokes the spiritual senses. (Using sacred and spirituality synonymously);
- The activities of the people (procession, congregation, priesthood and power, divine kings).

Studies conclude that architecture addresses sacred spaces in many different ways in different cultures (Sastrosasmito 2020), through minuscule details that rely on interpretation where the author believes that once most sacred spaces in architecture have created a centralized design or in an enclosed space, it then diverges into each culture's own metaphorical details to represent their own culture (Masrom and Bahauddin 2025).

This idea supports Raghani's research into the impact of contemplative spaces and sacred geometry on spiritual development. It is found

that the selected buildings in the author’s case study which is the interior of the Thorncrowne Chapel, used organic materials to blend with its natural surroundings, and intricate geometric strokes and abstract symbolism that represents the city’s cultural and social ethics (Raghani, Singh Brar, and Arif Kamal 2021). Despite the selected buildings being situated at an entirely different location and in different surroundings, they both explicitly used solid geometry, proportions, and scale that knowingly evokes the sensation of spiritual feelings in individuals. It also explains that the geographical location of a sacred space does not necessarily evoke feelings of spirituality in an individual to have a sense of space in a sacred space, but the use of geometry in architecture and the organic design of the interior and exterior that helped in conjuring feelings of sacredness in an individual was selected based on the geographical location of the building. It is observed that material formalism, geometry, scale and proportion and the history of a specific worshipped element make up spiritual architecture. Tadao Ando exemplifies this as Ando primarily focuses on natural elements, geometric shapes, and exposed concrete as his hallmark to represent elements that can be found in Japanese culture. In one of his famous works of a sacred building which is the Church of Light where concrete geometric and unbalanced shapes plays a huge role in conveying a sacred spiritual atmosphere (Trisno and Lianto 2021). Shintai is a

Japanese concept revealed by Ando meaning the unity of spirit with the body to concretize architecture (Trisno and Lianto 2021). As one of the masters of materials said “The essential building materials of the twentieth century are glass, concrete, and metal in my architecture. I seek to transpose Japanese ideas into forms, which can be built with these materials” (Jodidio 2012).

## Methods

The qualitative method of research will be used. Secondary data from any published academic literature such as articles, journals, and research papers related are analyzed to achieve the objective of this paper. After the existing literature is analyzed, elements that are relevant to the research paper’ objective will be used to determine the legitimacy of the findings gathered from the existing literature. Data collection will be from case studies on the Nirvana Penang West Lake Garden Columbarium and the United Hokkien Batu Gantong Columbarium, supported with photographs, and constructive descriptions from self-observations or online resources by the researcher. Results and findings will be summarized by comparison and analysis of elements from the existing literature into the case studies.

**Table 1.** Design elements to differentiate design for the sacred to the secular

Design elements	Types of space	
	The sacred	The secular
Purpose	Intended for religious worship, rituals and spiritual practices. Easily recognized as a holy and spiritually connected environment.	Mostly involves commerce, recreation or social interaction. Less associated with religious or spiritual activities.
Materials and finishes	Materials or finishes that represent or resembles closely with natural elements	Materials or finishes that closely associates itself with prosperity and wealth in general
Natural and Artificial Lighting	Natural light was widely used to highlight a space to emphasize cosmic alignment, whilst artificial light was used sparingly to complement natural lighting	Usually used in modern contemporary sacred spaces to mimic natural lighting. LED and dynamic controls dominate to impose grandiosity and style
Scale and proportion	Often massive in scale to evoke sense of awe and divine. Usually symmetrical to its proportion to represent cosmic order and divinity	Big in scale usually serves for its functionality, user accessibility and flow. Asymmetrical and fluid in proportion, breaking traditional rules to express innovation.

From the literature review, elements that typically make up a sacred space of spiritual relevance are extracted. A mixture of architectural and interior design elements equally contributes

to the spiritual values of a sacred space. The above table will be used to determine whether a sacred space can be achieved if all elements are present in the building. The selected columbarium for the

case study is the Nirvana Penang West Lake Garden Columbarium as it represents the worldview of the secular, and the United Hokkien Batu Gantong Columbarium as the sacred. The Nirvana Penang West Lake Garden is seen with a modern contemporary approach, whilst the United Hokkien Batu Gantong Columbarium has a more old-fashioned design approach. Thus, by

comparing and analysis of the chosen columbarium of design approaches, it can help in documenting the effectiveness of design in influencing individuals and communities in spirituality and connectedness with its sacred space.

## Results and discussion

**Table 2.** Background information on the selected columbarium in Penang (*All images presented are pictures taken by the author, unless stated otherwise*)

Background	Selected Columbarium in Penang	
	The United Hokkien Batu Gantong Columbarium	Nirvana Penang West Lake Garden
<b>Year established</b>	1886	2009
<b>Location</b>	Batu Gantong Road, Pulau Tikus, Georgetown, Penang, Malaysia	Ayer Itam, Pulau Pinang, Malaysia
<b>Types of Spaces</b>	burial plots, niches, cremators, and funeral parlours	Niches, funeral parlours, recreation area

Size

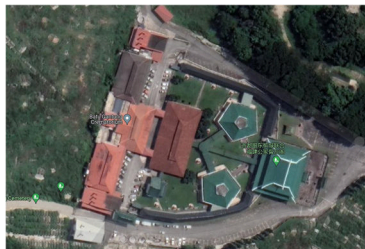


Figure shows birds eye view of the columbarium

Source: Google Maps

- has 6 levels, that can accommodate around 31,000 niches.
- has 3 blocks worth of housing niches, each with its designated names: (Leng Aun Koe, Leng Soo Ee, Leng Sim Ee)



Figure shows birds eye view of the columbarium

Source: Google Maps

- 99 feet tall building with 5 floors of columbarium niches, each with its own unique designs.

**Table 3.** Design analysis between selected columbarium in Penang. (All images presented are pictures taken by the author, unless stated otherwise)

Design elements	Selected Columbarium in Penang	
	The United Hokkien Batu Gantong Columbarium	Nirvana Penang West Lake Garden
<b>Purpose</b>	<p>Building comprises of 6 levels that can accommodate around 31,000 niches and a large hillside burial plot to house graves 3 building blocks each with its designated building names (Leng Aun Koe, Leng Soo Ee, Leng Sim Ee)</p> <p>To the left of the building entrance are building consisting of empty vessels spirit tablets or memorial tablets of the deceased, 2 crematorium and an assembly hall with a buddha statue situated in the center of the hall.</p>	<p>99 feet tall building with 5 floors of columbarium niches, each with its own unique designs places a high price for each different type of niche available. Highly involves business-oriented practices, with a clear business model includes structured payment plans, promotional discounts, and financing options, reflecting a business-oriented approach.</p>



Figure shows the main entrance of the columbarium.  
 Source: Google Maps



Figure shows the 3 designated columbarium  
 Source: Google Maps

- The highlighted in red area is what is known as the Leng Soo Ee (靈思院) Columbarium.
- Highlighted in yellow is the Leng Sim Ee (靈心院) Columbarium.
- Highlighted in blue is the Leng Aun Koe, the main building
- The layout of the buildings is in a centralized manner and rather harmonize with the red roof tiled buildings with greenery surrounding the buildings







Figure shows Block A of the columbarium




Figure shows Block B of the columbarium



Figure shows birds eye view of the columbarium  
 Source: Google Maps

<b>Selected Columbarium in Penang</b>	
<b>Design elements</b>	<p>The United Hokkien Batu Gantong Columbarium</p> <p>Nirvana Penang West Lake Garden</p> <ul style="list-style-type: none"> <li>- Highlighted in red is Block A of the columbarium</li> <li>- As in yellow, it is Block B Columbarium</li> <li>- In blue is the community hall where visitors provide food offerings and ritual activities can be taken place</li> </ul>
<b>Materials and finishes</b>	<p>The overall design and materials have a raw, minimalist design, embrace simplicity, humility, and authenticity, evoking a sense of reverence through its unadorned materials and understated finishes. Walls, floors, and ceilings might have a matte texture, reflecting light softly, showcasing natural imperfections of the material. The design of the niches for urns are simple, rectangular, and uniform, often recessed into walls with no ornamental framing.</p> <p>On the other hand of the more secularized spectrum, this columbarium has more refinement, ornamentation, and intricate detailing, creating an atmosphere of grandeur and reverence through carefully crafted materials and decorative elements, different in design for each niche available. Materials and finishes that involve polished stones, gold, bronze, or silver details are used extensively for embellishments, trims, or symbolic elements like crosses or floral motifs.</p>
	   

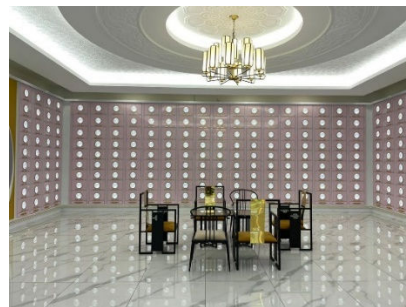
Design elements	Selected Columbarium in Penang	
The United Hokkien Batu Gantong Columbarium		Nirvana Penang West Lake Garden



**Natural and Artificial Lighting**



Natural lighting is easily found in every corner of this columbarium, where artificial lighting is used as a supporting element to the interior atmosphere and lighting instead of being part of the element that makes it a sacred space



For this columbarium, it's easier to tell that the lights are part of the design, as it enhances the overall atmosphere and outlook of the space. Large, decorative light fixtures, often in crystal or brass, multicolored lighting effects, accent lighting highlights intricate details, such as carvings, niches, or symbolic art can be found on every floor.



Design elements	Selected Columbarium in Penang	
	The United Hokkien Batu Gantong Columbarium	Nirvana Penang West Lake Garden
		
<p><b>Scale and proportion</b></p>	<p>Proportionately symmetrical layouts and verticality. It has obvious visual differences in scale. Visually seen with higher ceilings and niches arranged upward. Tall niches, arches, or light shafts emphasize this upward movement</p>  	<p>The scale and proportion design focuses more on accessibility, making sure each niche has a reachable height, close to ground level. Each space includes a large communal area, avoiding an overly monumental outlook of the space.</p>  

Design elements	Selected Columbarium in Penang	
	The United Hokkien Batu Gantong Columbarium	Nirvana Penang West Lake Garden
		

## Conclusions

In conclusion, the distinction between sacred and secular spaces lies in their core purpose—whether serving a community-focused, non-profit mission or adopting a more business-oriented approach. Materials and finishes reflect their alignment with cosmic divinity or associations with wealth and prosperity, while natural and artificial lighting play a significant role in defining their atmosphere. Natural light often fosters spiritual connection, while artificial light is used sparingly in sacred spaces to preserve their sanctity.

This study demonstrates that the United Hokkien Batu Gantong Columbarium embodies a more sacred design than the Nirvana Penang West Lake Garden, though neither approach is inherently superior. Both offer unique strengths and challenges, and the research aims to document and analyze these design approaches to guide future columbarium designs in balancing sacred and secular elements.

Finally, further research is encouraged to explore sacred and secular design principles beyond columbarium, including comparisons of modern and traditional temples. Expanding the focus on interior lighting design in such spaces could also provide valuable insights for future studies.

## References

- Adiputra, Muhammad Rusdi, and Purnama Salura. 2021. 'The Signs and Symbolic Markers of Sacral Orientation in Mosque Architecture'. *ARTEKS: Jurnal Teknik Arsitektur* 6 (2): 157–64. <https://doi.org/10.30822/arteks.v6i2.360>.
- Borbonus, Dorian. 2014. *Columbarium Tombs and Collective Identity in Augustan Rome*. Cambridge University Press. <https://doi.org/10.1017/CBO9781139381680>.
- Hakim, Gianina Ariella Timothea, and Purnama Salura. 2024. 'Relationship between Architectural Design and Sacred Atmosphere in Reformed Church'. *ARTEKS: Jurnal Teknik Arsitektur* 9 (3). <https://doi.org/https://doi.org/10.30822/arteks.v9i3.3767>.
- Jodidio, Philip. 2012. *Tadao Ando: Complete Works 1975 - 2012*. London: Benedikt Taschen Verlag.
- Kiong, Tong Chee, and Lily Kong. 2000. "Religion and Modernity: Ritual Transformations and the Reconstruction of Space and Time." *Social & Cultural Geography* 1 (1): 29–44. <https://doi.org/10.1080/14649369950133476>.
- Kong, L. 1999. "Cemetaries and Columbaria, Memorials and Mausoleums: Narrative and Interpretation in the Study of Deathscapes in Geography." *Australian Geographical Studies*

- 37 (1): 1–10. <https://doi.org/10.1111/1467-8470.00061>.
- Kong, Lily. 1992. “The Sacred and The Secular: Exploring Contemporary Meanings and Values for Religious Buildings in Singapore.” *Asian Journal of Social Science* 20 (1): 18–42. <https://doi.org/10.1163/080382492X00022>.
- Kong, Lily. 2016. “No-Place, New Places: Death and Its Rituals in Urban Asia.” In , 49–70. [https://doi.org/10.1007/978-981-10-0385-1\\_3](https://doi.org/10.1007/978-981-10-0385-1_3).
- Lesmana, Diyan, Antariksa, Lisa Dwi Wulandari, and Herry Santosa. 2021. ‘Senses of Place in Lawas Maspati Village Community at Surabaya: Exploration Study towards Physical, Social, and Cultural Factors’. *ARTEKS : Jurnal Teknik Arsitektur* 6 (1). <https://doi.org/https://doi.org/10.30822/arteks.v6i1.595>.
- Masrom, Nurul Izzati, and Azizi Bahauddin. 2025. ‘The Nattukottai Chettiar Temple: An Architectural Manifestation of Chettiar Cultural Identity’. *ARTEKS : Jurnal Teknik Arsitektur* 10 (1). <https://doi.org/https://doi.org/10.30822/arteks.v10i1.3568>.
- Paramitha, Nadya Wicitra, and Purnama Salura. 2020. ‘Relasi Antara Sakralitas Ritual Peribadatan Berjamaah Dengan Konfigurasi Spasial Arsitektur Masjid Sulthoni Plosokuning’. *ARTEKS : Jurnal Teknik Arsitektur* 5 (2). <https://doi.org/10.30822/arteks.v5i2.103>.
- Pedram, S. (2015). *Spirituality equals design plus nature squared S=D+N2* [Masters Thesis, San Francisco State University]. ScholarWorks.
- Raghani, Smruti, Tejwant Singh Brar, and Mohammad Arif Kamal. 2021. “Impact of Contemplative Spaces and Sacred Geometry on Spiritual Development.” *American Journal of Civil Engineering and Architecture* 9 (2): 59–63. <https://doi.org/10.12691/ajcea-9-2-3>.
- Salim, Singgih, Rahadhian Prajudi Herwindo, and Yuswadi Saliya. 2022. ‘The Application of Sacredness in Temple Architecture – Buddhist Museum’. *ARTEKS : Jurnal Teknik Arsitektur* 7 (1): 11–22. <https://doi.org/10.30822/arteks.v7i1.1087>.
- Sastrosasmito, Sudaryono. 2020. ‘Arsitektur Sebagai Realitas Kemanusiaan (Dari Keseharian Sampai Kesadaran Transendental)’. *ARTEKS : Jurnal Teknik Arsitektur* 5 (2): 141–42. <https://doi.org/10.30822/arteks.v5i2.531>.
- Trisno, Rudy, and Fermanto Lianto. 2021. “Lao Tze and Confucius’ Philosophies Influenced the Designs of Kisho Kurokawa and Tadao Ando.” *City, Territory and Architecture* 8 (1): 8. <https://doi.org/10.1186/s40410-021-00138-x>.
- Vang, H. 2015. The Relationship of the Space and the Sacred.
- Wierzbicka, Anna Maria, and Maria Arno. 2022. “Adaptation of Historical Religious Buildings into Columbaria as a Contribution to Religious Heritage Preservation: Examples of Selected Projects from North Rhine-Westphalia.” *Journal of Heritage Conservation* 71:65–78.
- YANG, KUO-CHU. 2021. “Studies of Mortuary Value System and Its Behavior: Columbarium Niche Burial and Natural Burial as Study Cases in Taiwan.” *Journal of Advanced Research in Social Sciences and Humanities* 6 (1). <https://doi.org/10.26500/JARSSH-06-2021-0104>.
- Yazlık, Bilgin. 2022. “Columbarium Tombs of The Koramaz Valley” 1:126–40.

#### Author(s) contribution

**Elizabeht Kwoh** contributed to the research concepts preparation, methodologies, investigations, data analysis, visualization, articles drafting and revisions.

**Hakimi Ahmad** contribute to the research concepts preparation and literature reviews, data analysis, of article drafts preparation and validation.