



PLANNING MALAYSIA:

Journal of the Malaysian Institute of Planners

VOLUME 21 ISSUE 2 (2023), Page 226 – 239

THE HERITAGE AND NARRATIVE OF CONFUCIAN COURTYARD AND ARCHITECTURE IN SUSTAINABLE DEVELOPMENT IN SHANDONG, CHINA

Weihan Rong¹, Azizi Bahauddin²

*^{1,2}School of Housing, Building and Planning
UNIVERSITI SAINS MALAYSIA*

Abstract

In recent decades, China has witnessed a miracle of rapid urbanisation, and the development of traditional Chinese architecture has faced challenges as well as opportunities. Improper planning has undermined the well-being of residents, and many historic buildings have been demolished. Under the slogan of “high-quality urban development”, the value of traditional architecture is rarely mentioned. Therefore, research into architectural heritage and urban sustainability is necessary. This study focuses on Shandong Province in China, the birthplace of Confucianism and, to a large extent, the long history of Chinese culture. By studying courtyard architecture under the influence of Confucianism, the aim is to reveal the cultural profile of the new urban era while critiquing the problems in the urban planning process. The study adopts a qualitative method based on the researcher's field investigation and data collection, as well as one-on-one interviews with experts, to collate typical cases for analysis. In addition, this study also intervenes from a narrative perspective to facilitate the exploration of the value of architecture. The findings suggest that courtyard architecture embodies Chinese aesthetic and philosophical thinking, has theoretical and practical implications for living environments, communities, and urban development, and brings new insights that can better achieve sustainable goals while expanding the existing knowledge of architecture and courtyards.

Keyword: Cultural heritage, courtyard, narrative, sustainable development, Confucian architecture, Confucianism

¹ Corresponding author

INTRODUCTION

China's urbanisation development has taken a unique path since the country's reform and opening up in 1978, transforming the country in a relatively short period of time (Guan, Wei, Lu, Dai, & Su, 2018). China's urbanisation rate has climbed from 17.9% in 1978 to 64.7% in 2021, generating a global urbanisation miracle (Ma, Li, Li, & Yuan, 2022). However, in this context, there are also protests over real estate development and conceptual disagreements over land and building ownership (Pils, 2014). Furthermore, researchers Alqahtany and Aravindakshan (2021) noted that while urbanisation is recognised as a positive force for economic growth, this trend is having a negative impact on its cultural heritage and environment, particularly by risking the loss of historical areas and heritage that are of great value to the history of human development. Traditional regional cultures and historical memories are gradually disappearing. This has also been studied and explored by many scholars. Globalization, which seeks to bring world societies closer together and form a single entity based on commerce, politics, and communication, diminishes the significance of cultural variations across societies and, consequently, local cultural identities (Ceylan, 2022). In addition, residential houses account for a large share of the building stock in developing countries and can have a lasting impact on the local and global economy and environment. Crises regarding cultural identity can have an impact on the built environment and on the quality of life of the people living in it (Bougdah, 2018).

Hence, with the announcement in 2022 that China will “promote the comprehensive revitalisation of the countryside”, traditional culture and architecture should continue to be researched and preserved, and Knapp (2006), a specialist in traditional Chinese architecture, has a forward-looking approach to settlement patterns, building techniques, spatial organisation and folk narratives. In addition, Mazinianian et al. (2022) mentioned that shelters are essential to humanity. Humans have been developing a variety of residential architecture to protect themselves, one of which is the courtyard, and many urban civilisations have developed courtyard dwellings for centuries. The proverbial prototype of spiritual and celestial attributes, Chinese courtyard architecture demonstrates an architectural union between man and nature (Çeliker, Çavuşoğlu, & Öngül, 2014). Baiz and Fathulla (2017) referred to the improvement of courtyard-style architecture from defence to use, namely social place, environment, and culture, which are quite important in the culture of design privacy. These habits have changed with global development and the exchange of world cultures, and in response, increasingly more scholars have begun to study the impact of courtyards on the living environment. With this, the long-lost identity and spirit of the hamlet can be restored (Zakaria, Alauddin, Sazali, & Hassan, 2022).

This study focuses on the cradle of Confucian culture, Shandong Province, where most traditional buildings have courtyards. The courtyard has developed through an entire economic, cultural, and political period and is not only a functional space, but also a place where folk narratives, creativity, and a sense of place are displayed. And while Confucianism, the foundation of ancient Chinese culture, served as a vehicle to display the dominant social consciousness and ideology of the people through architecture, these traditional courtyard legacies have been unfairly forgotten with urbanisation. Therefore, this study highlights the activities that take place within the courtyard space through the lens of narrative, which in turn completes the regional construction of architectural heritage conservation to better discuss how to achieve sustainable development from small spaces to large cities.

LITERATURE REVIEW

Urban Alienation

Urbanisation, the most ambitious and complex historical change that China is undergoing, has become the most profound component of economic and social development. Not only is the countryside caught up in this process, but almost every household cannot be completely insulated from it (W. Han, 2018). A city can be seen as an integration of various elements undergoing continuous change over time, that is, across several generations (J.-H. Han, 2015). In the same vein, Sun et al. (2019) suggested that conventional urban construction has caused the loss of urban memory and cultural identity by severing the customary environment. Similarly, changes in spatial patterns resulting from development may also lead to a loss of local identity (Harun, Jaffar, & Mansor, 2021). Some researchers have suggested that architecture can be considered a unique cultural component of the country (Darmayanti & Bahauddin, 2020). It is undeniable that the continual cultural tradition of Chinese architecture has been alienated by domestic strife and foreign invasion, and it has fallen into an imbalance of development together with the huge economic leap forward in the new China, causing a sort of interruption and extinction (Lin, Li, & Yin, 2014). It is worth noting that people in many societies are acutely aware of the resulting loss of cultural identity in their local built environments, which has prompted scholars and researchers to advocate for the preservation of the distinctive architectural identity of urban areas through the development of approaches that respect each region's cultural heritage (AL-Mohannadi, Furlan, & Grosvald, 2022).

Confucian Architecture

Buildings are an integral part of every community. In addition to their fundamental role of providing shelter and space for diverse activities, buildings also contribute to a society's culture, heritage, and wealth and have an impact on

the natural environment (Agha & Kamara, 2017). In addition, through the artistry and technology used in the building's design and construction, the presence of heritage buildings adds to providing a general peek into the past of a particular community or civilisation (Salleh & Mohtar, 2020). Confucius, however, has a “sacred” status in China. Confucianism is the foundation, epitome, and symbol of traditional Chinese culture (Yu, 2021; L. Zhang & You, 2017). The city created by Confucianism represents the correct structure and order of the universe (Tceluiko, 2019). In reinterpreting urban space, from metaphorical expressions to mythological constructions, it provides a corresponding ideology and strategy for the dissemination of urban culture. Thus, the philosophical concepts of “Ren, Li, the Doctrine of the Mea, and Harmony” advocated by Confucius are reflected in the architectural forms of order, hierarchy, and symmetry. Figure 1 shows how Confucianism is presented in official and private buildings.

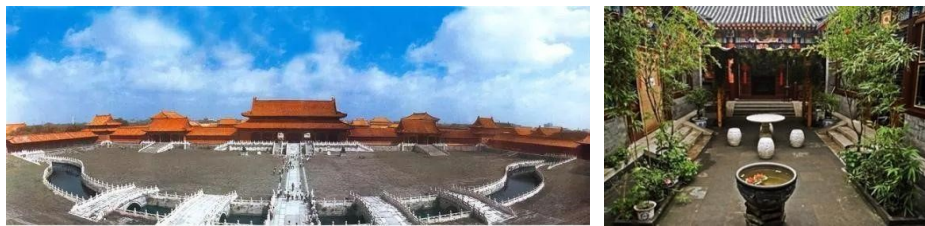


Figure 1: The Forbidden City and the Chinese Folk Courtyard

Courtyard Narratives

It is known through the literature that courtyard-style architecture influenced by Confucianism carries the 'form' and 'meaning' of architectural culture (Luo & Huang, 2022). One study suggests that courtyards in China typically account for approximately 40% of the total area of a house (Bracken, 2013). However, the impact of urbanisation has led to the decline of traditional Chinese architecture and a significant homogenisation of architectural styles, while the contemporary development of the courtyard as an element representing national identity is unclear. In addition, the modern trend of residential relationship fragmentation has diminished people's sense of belonging to space. Whereas in the past, people constructed courtyard homes not to stand out, but to live in accordance with their cultural and social perspective or structure (Hatipoğlu & Mohammad, 2021). For instance, this traditional painting in Figure 2 shows the story of an ancient Chinese courtyard.



Figure 2: The Dream of the Red Chamber
Source: (By Sun Wen, a Chinese painter of the Qing Dynasty)

The inner and cohesive nature of the traditional Chinese courtyard reflects the spiritual core and introverted quality of the Chinese people (Guo & Dou, 2022). The traditional Chinese courtyard can also be considered a successful sustainable design strategy because of its dual functions of privacy and security (Huang, Chiou, & Li, 2019). Mo et al. (2022) suggested that the incorporation of folk culture in the construction of courtyards and the use of objects to convey feelings often employ narrative techniques. Narrative discourse has largely changed the inherent patterns and cognitive schemata of architecture, as various narrators have joined the architectural narrative, and the idea of architecture and space has evolved from an enclosed entity and enclosed volume to a site of behaviour and a carrier of culture (X. Zhang, Ni, & Tao, 2019).

Unpredictably, the outbreak of the epidemic in 2020 has prompted a higher demand for courtyard spaces, where the influence of the traditional land system has increased the sense of attachment to the living space and the importance of improving amenities. Therefore, understanding the architecture of courtyards under the influence of typical Confucian culture is important for the sustainable development of the communities and cities in which they are located.

RESEARCH METHODOLOGY

This study focuses on the birthplace of Confucianism culture, Shandong Province, China, as shown in Figure 3. Most of the traditional buildings in this area have courtyards, and there are a lot of them. For the research method, a qualitative method was chosen, and purposive sampling and snowball sampling were used. Creswell and Poth (2018) argued that a non-probability approach would collect enough data and help the study as the sample grew.



Figure 3: Current map of Shandong Province (1949—)
Source: (Qin et al., 2019)

The study was divided into three stages, as shown in Figure 4. The first stage was a combining of the literature to assess recent studies that fit with the theme of this study. The second stage was through the researcher's observations and three experts' interviews, which covered the caveats of studying Confucian architecture, namely the excavation of architectural components and narratives as well as the identification of cities in central and western Shandong province that have preserved more courtyard-style buildings. The third stage is based on the collection and analysis of data to infer the impact of Confucian culture on courtyard spaces, architectural groups, and cities and derive strategies for sustainable development.

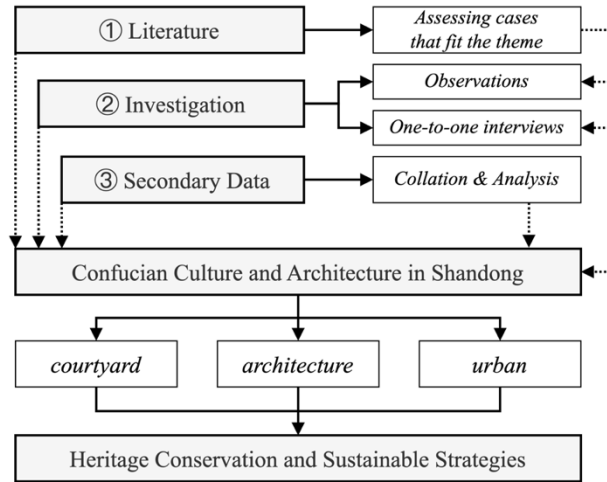


Figure 4: Research procedure

ANALYSIS AND DISCUSSION

Through data combing and expert interviews, the researcher analysed the architectural heritage characteristics of different cities in the central and western regions of Shandong, as shown in Table 1. Furthermore, the researcher evaluated and chose three courtyard-style buildings for on-site research: the Confucius Mansion in Qufu, the Ji Family Courtyard in Linqing, and Qiming Street in Jinan. Based on the stories and historical events told by the locals, the potential, and opportunities of the cities in Shandong Province were identified. The analysis and conclusion are therefore based on the available information and data, cascading from the small courtyard pattern to the architectural heritage to urban planning.

Table 1: Categories of Confucian Courtyards in Central and Western Shandong

No.	City name	Architectural Heritage Features	Geographical Area
1	Jinan	A city group centred on Mount Tai. It is mountainous and therefore the overall architecture is mostly made of stone, which is relatively well preserved. The city of Qufu (which is part of the city of Jining), for instance, is an important birthplace of Confucian culture.	Central Shandong
2	Zibo		
3	Jining (Qufu)		
4	Tai'an		
5	Liaocheng (Linqing)	The western part is situated on an alluvial plain and is more rustic in style, with relatively simple structures and a rational layout reflecting the cultural	Western Shandong
6	Dezhou		

No.	City name	Architectural Heritage Features	Geographical Area
7	Heze	influence of Confucianism. The building materials used are stone and timber.	

Source: Author's research

The Positive Influence of Confucianism in the Courtyard

Previous research has noted the importance of Confucianism in architecture. Through observation and literature filtering in the central and western regions of Shandong, it is possible to understand that Confucianism corresponds to the universe, the rules of operation, the ethical framework, and the social structure.

It is undeniable that the development and achievements of ancient China were shaped by Confucianism. The sense of harmony and stability promoted by Confucianism is reflected in the architecture, for instance in the rational division of spatial order, which ensures privacy while maintaining the family ethics of Chinese acquaintance society. The courtyard and Confucianism thus play a crucial role in the revival of traditional Chinese architecture in Shandong province. It opened the connection between people and place. And the link between the location of the building and the urban architecture is one and the same (Malpas, 2012).

Figure 5 shows the key components that make up the sense of place in the Confucian courtyard, namely the daily activities, spatial planning, and narratives within the courtyard. In today's urbanization, the imagery of the Confucian courtyard has a cultural metaphorical nature as well. In terms of its aesthetic and philosophical connotations, the Confucian courtyard is also an extension of the aesthetics of dwelling, from the large to the national and the small to the family.

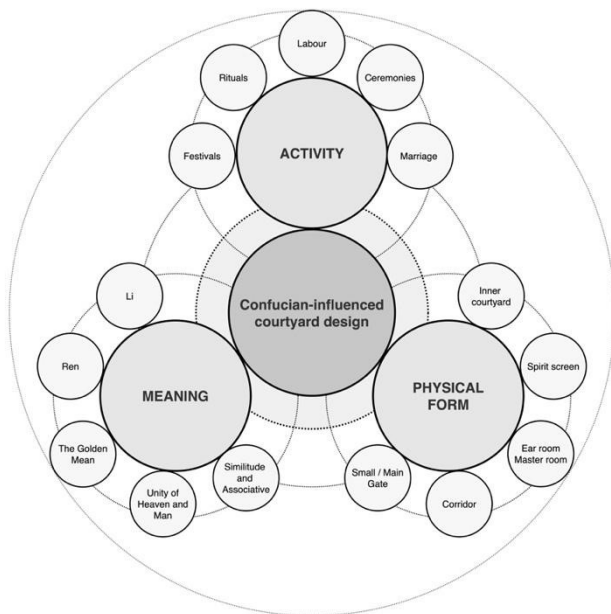


Figure 5: The components of the sense of place addressed by the Confucian Courtyard
Source: Author's illustration

Sustainability of Traditional Buildings in the Community Environment

The contextual clues of Confucianism are clearly visible in the development of ancient Chinese architecture and have had a profound impact. Based on the Confucian principle of the middle ground, it is important to talk about the relationship between inheritance and development, both for individual buildings and for architectures that are put next to each other.

However, according to literature and interviews with experts, research on traditional courtyard architecture has so far focused more on microclimate impacts, thermal comfort issues, and engineering structures. In fact, Confucian architecture encompasses not only these, but is also more culturally relevant in terms of its heritage value. This study offers new insights into the conservation of architecture and heritage through the study of building components, construction materials, and cultural narratives. Figure 6 demonstrates the translation from a literature review to a concrete implementation in terms of content. At the same time, the courtyard, a domestic, inward-looking activity space, when present as a settlement, collectively communicates a positive and sustainable living environment.

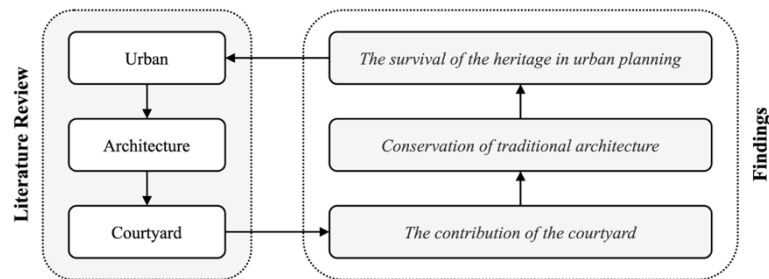


Figure 6: Transformation of literature to research findings
Source: Author's research

As shown in Figure 7, observations of the buildings in this study, which contain architectural components such as flying eaves, ridges, tiles, and brickwork, are recorded. It reflects the people's reverence for nature and their good wishes for stable and harmonious family relationships, which are in line with what Confucian culture advocates.



Figure 7: Narrative connotations of architectural components
Source: Author's research

Architectural Heritage Insights for Urban Planning

In terms of visual shapes, spatial axes, scaled facades, and cultural semantics, Confucian architectural spaces go beyond functionality itself. The concept of courtyard architecture can be obtained by observing the behavioural habits of the inhabitants, which can exist in contemporary communities as a kind of shared space. In addition, traditional rituals and folk festivals inspire a sense of nostalgia and homesickness, thus better sustaining cultural heritage. Thus, the courtyard architecture and heritage under the influence of Confucianism are an inspiration for the sustainable development of towns and cities in the present day. Figure 8 summarises the findings of the research discussed in this study. The cities of Shandong province, with their privileged location and radiant Confucian culture, have many opportunities and possibilities for future development. The preservation of courtyard space as a living environment for small family units, and the existence of communities together constitute a characteristic local cultural

narrative. The Confucian cultural heritage thus pushes the sense of place of courtyard architecture and urban sustainability into a better future.

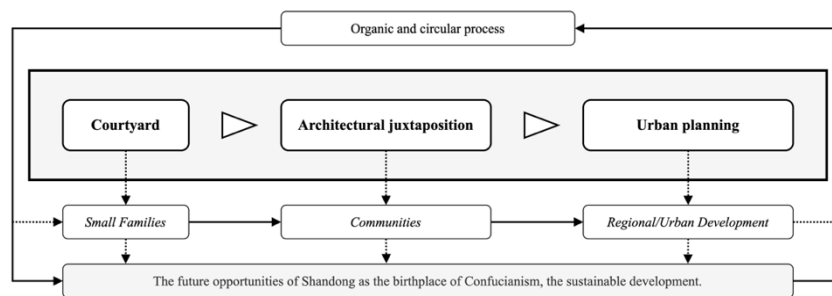


Figure 8: The components of urban planning under Confucian influence

CONCLUSION AND SUGGESTIONS

This study highlights the continued relevance of Confucian culture as a dominant social consciousness and ideology that has influenced China for thousands of years, both in courtyard-style architecture and in the sustainable development of cities today. The findings reveal that the Confucian courtyard, as a representative part of traditional Chinese architecture, is still in a phase of exploration. In this regard, this study initially explores the meaning of this architectural form and the forms in which its sense of place is constructed. This study is a pioneering attempt to provide new insights into the architectural courtyard and enrich the literature on Confucian narratives. In addition to the revitalisation of traditional architectural heritage, to achieve sustainable development for the city, the researcher also makes corresponding recommendations.

- Cities in Shandong Province should focus on the heritage and preservation of Confucianism, especially in the implementation of planning concepts with greater care.
- Establish links between the old and new cities to ensure that the voices of traditional architectural heritage conservation are heard.
- Protecting the value of existing traditional houses rather than bulldozing and rebuilding them, with the preservation of the original narrative and materials as a basic guideline.
- Housing plans should also respect the basic pattern of Confucian courtyards and not break the traditional rules of layout.
- The relevant authorities should set up pilot projects to invest in and encourage owners to participate in the rehabilitation of courtyard buildings, so that they can be reused, and the folk narrative perpetuated.

ACKNOWLEDGEMENT

We would like to thank Universiti Teknologi MARA (UiTM) for organising the 3rd International Conference on the Built Environment and Engineering (IConBEE2022), which likewise applies to the specialists who provided guidance on this manuscript. In addition, thanks to Universiti Sains Malaysia for the academic support of this research.

REFERENCES

- Agha, R. H. M., & Kamara, J. M. (2017). Adaptations in traditional courtyard houses in Baghdad, Iraq. *International Journal of Building Pathology and Adaptation*, 35(4), 348–363. <https://doi.org/10.1108/IJBPA-03-2017-0013>
- AL-Mohannadi, A., Furlan, R., & Grosvald, M. (2022). Women's spaces in the vernacular Qatari courtyard house: How privacy and gendered spatial segregation shape architectural identity. *Open House International*, ahead-of-print(ahead-of-print). <https://doi.org/10.1108/OHI-01-2022-0011>
- Alqahtany, A., & Aravindakshan, S. (2021). Urbanization in Saudi Arabia and sustainability challenges of cities and heritage sites: Heuristical insights. *Journal of Cultural Heritage Management and Sustainable Development*, ahead-of-print(ahead-of-print). <https://doi.org/10.1108/JCHMSD-07-2020-0108>
- Baiz, W. H., & Fathulla, S. J. (2017). Urban Courtyard Housing Form as a Response to Human Need, Culture and Environment in Hot Climate Regions: Baghdad as a Case Study. *International Journal of Engineering Research and Applications*, 06(09), 10–19. <https://doi.org/10.9790/9622-0609011019>
- Bougdah, H. (2018). The Courtyard House: Can a Sustainable Future Learn from a Context Relevant Past. *Environmental Science and Sustainable Development*, 83–95. Directory of Open Access Journals. <https://doi.org/10.21625/essd.v1i1.17>
- Bracken, G. (2013). The Shanghai Alleyway House: A Vanishing Urban Vernacular. Routledge. <https://doi.org/10.4324/9780203068021>
- Çeliker, A., Çavuşoğlu, B. T., & Öngül, Z. (2014). Comparative Study of Courtyard Housing using Feng Shui. *Open House International*, 39(1), 36–47. <https://doi.org/10.1108/OHI-01-2014-B0005>
- Ceylan, S. (2022). Vernacular architecture of Turkish eastern Black Sea region: A case study in Senoz (Büyükdere) Valley. *Open House International*, 47(3), 513–532. <https://doi.org/10.1108/OHI-08-2021-0174>
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry & research design: Choosing among five approaches* (Fourth edition). Los Angeles: SAGE.
- Darmayanti, T. E., & Bahauddin, A. (2020). Understanding Vernacularity through Spatial Experience in the Peranakan House Kidang Mas, Chinatown, Lasem, Indonesia. *ISVS E-Journal*, 7, 14.
- Guan, X., Wei, H., Lu, S., Dai, Q., & Su, H. (2018). Assessment on the urbanization strategy in China: Achievements, challenges and reflections. *Habitat International*, 71, 97–109. <https://doi.org/10.1016/j.habitatint.2017.11.009>
- Guo, X., & Dou, W. (2022). Analysis and Think about Residential Culture and Community Planning of 'Courtyard Space'. *Architecture & Culture*, (08), 189–191. <https://doi.org/10.19875/j.cnki.jzywh.2022.08.064>

- Han, J.-H. (2015). Transformation of the Urban Tissue and Courtyard of Residential Architecture: With a Focus on the Discourses and Plans of Paris in the 20th Century. *Journal of Asian Architecture and Building Engineering*, 14(2), 435–442. <https://doi.org/10.3130/jaabe.14.435>
- Han, W. (2018). Urban and Rural Values in the Narrative of “Urbanization” in the New Century. *Southeast Academic Research*, (02), 217–222. <https://doi.org/10.13658/j.cnki.sar.2018.02.028>
- Harun, N. Z., Jaffar, N., & Mansor, M. (2021). The Contributions of Public Space to the Social Sustainability of Traditional Settlements. *Planning Malaysia*, 19. <https://doi.org/10.21837/pm.v19i19.1071>
- Hatipoğlu, H. K., & Mohammad, S. (2021). Courtyard in Contemporary Multi-Unit Housing: Residential Quality with Sustainability and Sense of Community. *Günümüz Çok Katlı Konut Alanlarında Avlu: Sürdürülebilirlik ve Güçlü Topluluk Hissi ile Oluşturulan Kaliteli Yaşam Alanları.*, 12(33), 802–826. *Academic Search Index*. <https://doi.org/10.31198/idealkent.972718>
- Huang, B.-X., Chiou, S.-C., & Li, W.-Y. (2019). Study on Courtyard Residence and Cultural Sustainability: Reading Chinese Traditional Siheyuan through Space Syntax. *Sustainability*, 11(6), 1582. <https://doi.org/10.3390/su11061582>
- Knapp, R. G., Ong, A. C., & Spence, J. (2006). *Chinese Houses: The Architectural Heritage of a Nation* (Later Printing edition). North Clarendon, Vt: Tuttle Publishing.
- Lin, X. J., Li, G. W., & Yin, P. (2014). Reinterpretation of Confucianism and Cultural Renaissance of Chinese Architecture. *Advanced Engineering Forum*, 11, 503–507. <https://doi.org/10.4028/www.scientific.net/AEF.11.503>
- Luo, X., & Huang, J. (2022). The Exploration of New Courtyard Architecture Based on the Guidance of Architectural Culture and Technology. *Advances in Civil Engineering*, 2022, 1–12. <https://doi.org/10.1155/2022/5029647>
- Ma, S., Li, Z., Li, L., & Yuan, M. (2022). Coupling coordination degree spatiotemporal characteristics and driving factors between new urbanization and construction industry: Evidence from China. *Engineering, Construction and Architectural Management*, ahead-of-print(ahead-of-print). <https://doi.org/10.1108/ECAM-05-2022-0471>
- Malpas, J. (2012). Building Memory. *Interstices: Journal of Architecture and Related Arts*. <https://doi.org/10.24135/ijara.v0i0.433>
- Mazinanian, B., Sabernejad, J., Dolati, M., & Nikghadam, N. (2022). The influence of culture in the body of traditional courtyards of Hamedan based on data theory". *Space Ontology International Journal*, 11(1), 33–43. *Directory of Open Access Journals*. <https://doi.org/10.22094/soij.2022.1941456.1446>
- Mo, W., Yan, H., & Deng, H. (2022). Discussion on the Design Strategy of Residential Courtyard from the Perspective of Rural Aesthetics. *Hunan Packaging*, 37(01), 143–145. <https://doi.org/10.19686/j.cnki.issn1671-4997.2022.01.036>
- Pils, E. (2014). Contending conceptions of ownership in urbanizing China. In H. Fu & J. Gillespie (Eds.), *Resolving Land Disputes in East Asia* (1st ed., pp. 115–172). Cambridge University Press. <https://doi.org/10.1017/CBO9781107589193.008>
- Qin, W., Wang, L., Xu, L., Sun, L., Li, J., Zhang, J., & Shao, H. (2019). An exploratory spatial analysis of overweight and obesity among children and adolescents in

- Shandong, China. *BMJ Open*, 9, e028152. <https://doi.org/10.1136/bmjopen-2018-028152>
- Salleh, N. H., & Mohtar, M. A. W. (2020). Active Fire Safety Measures in the Heritage Timber Buildings in Malaysia. *Planning Malaysia*, 18. <https://doi.org/10.21837/pm.v18i12.741>
- Sun, L., Wang, Y., & Leng, J. (2019). A study of museum courtyard space in eastern China. *Journal of Asian Architecture and Building Engineering*, 18(1), 28–42. <https://doi.org/10.1080/13467581.2019.1601566>
- Tceluiko, D. S. (2019). Influence of Shamanism, Taoism, Buddhism and Confucianism on development of traditional Chinese gardens. *IOP Conference Series: Materials Science and Engineering*, 687(5), 055041. <https://doi.org/10.1088/1757-899X/687/5/055041>
- Yu, C. (2021). The Cultural Significance of Construction and International Communication Reflection of San Kong in Qufu, Confucius' Hometown. *Journal of Social Science and Humanities*, 4(1), 6–11. <https://doi.org/10.26666/rmp.jssh.2021.1.2>
- Zakaria, A. Z., Alauddin, K., Sazali, M. F., & Hassan, N. (2022). The Development of A Malay Cultural Heritage Center: Kampung Kuchai, Ipoh, Perak. *Planning Malaysia*, 20. <https://doi.org/10.21837/pm.v20i22.1127>
- Zhang, L., & You, Z. (2017). Application of Confucian Cultural Concepts in the Landscape Design of Chinese Architecture. *Proceedings of the 2017 2nd International Conference on Education, Sports, Arts and Management Engineering (ICESAME 2017)*. Presented at the 2017 2nd International Conference on Education, Sports, Arts and Management Engineering (ICESAME 2017), Zhengzhou, China. Zhengzhou, China: Atlantis Press. <https://doi.org/10.2991/icesame-17.2017.8>
- Zhang, X., Ni, Y., & Tao, Z. (2019). Image and Idea: Two Types of Semantics and Two Narrative Modes in Architecture. *World Architecture*, (10), 116-121+125. <https://doi.org/10.16414/j.wa.2019.10.020>

Received: 2nd May 2023. Accepted: 7th June 2023