

Hutongs and Vernacular Courtyard Houses under the Influence of Confucianism: Identity and Values in Linqing, China

Weihan Rong¹ & Azizi Bahauddin²

¹ & ² School of Housing, Building and Planning, Universiti Sains Malaysia, 11800, Penang, Malaysia.

¹weihan0611@gmail.com

²azizigt@gmail.com

Abstract

For a long time, Confucian culture has guided the layouts of the Chinese cities and traditional housing patterns. However, Confucianism itself has also undergone many historical changes and iterations, and architecture as a cultural artefact has evolved with it. Particularly in the Shandong province, the birthplace of Confucianism, a rapid urbanization has brought opportunities for the development of local cities. There, the large-scale renovations of old cities have gradually robbed them of their original character, and traditional regional culture. Vernacular memories are disappearing. Conservation of the values of such architectural heritage also faces many challenges.

In response, this study investigates the traditional courtyard houses and 'hutongs' in Linqing City, Shandong Province, China, to uncover the ways of living and urban identity influenced by Confucianism. The study employs qualitative methods in which observations, fieldwork, occupant's narratives, interviews, the examination of architectural symbols and spatial types produce the primary data. It also relies on secondary data such as books, documents and maps. These data are analyzed to describe and understand the characteristics and spatial elements of the historic city in the context of Confucian culture.

The findings show that the culture of Confucianism contributes to the construction of a harmonious sense of place and has a positive impact on the residents' lives, urban development, spatial behaviour and spirituality. Moreover, the cultural values and the potentials of courtyards and hutongs are recognized as essential in the pursuit of sustainable development of the city.

Keywords: Vernacular Houses, Hutong, Courtyard, Confucianism, Urban Identity, Sense of Place, Narrative.

1. Introduction

The idea of sustainable development took shape in the 1970s and has gained worldwide consensus. Globalization has given China's construction industry a lot of chances to grow (Rong and Bahauddin, 2023). However, it has to also deal with the problem of how urban real estate development and traditional architectural culture are growing at different rates. The third

national heritage census shows that the number of villages in China has decreased from 3.6 million in 2000 to 2.7 million in 2010, an average of about 300 per day. In fact, the traditional regional cultures and historical memories are slowly disappearing. Since 2017, China has released and gradually improved its 'Rural Revitalization Strategy' and has repeatedly mentioned strengthening village mapping and construction (Wang and Zhuo, 2018). However, looking at the current state of vernacular architecture, there is still a need for architectural practitioners and researchers to reflect on this turn towards culture and heritage, which encompasses both the social and cultural aspects.

It is worth noting that architecture and culture are intertwined. Culture consists of physical, normative, conceptual, and symbolic aspects of a communities. It influences the development of architectural systems from multiple perspectives, which includes material forms, building techniques and architectural art (Luo and Huang, 2022). Architecture reflects how people adapt to their environment, aims to meet the current needs and cultures and contributes to the transmission of social norms and order. Therefore, for cities, the persistent focus of current Chinese architectural practice is the refurbishment, rehabilitation, and renewal of the ancient urban fabric (Dou, 2018). Local governments across the country are also debating between preserving historic districts and urban development. In this process, the status of the 'hutongs' and the courtyards also faces a new fate. Indeed, in many Chinese cities, there are still renovated courtyard-style complexes and streets, and many of these preserved buildings have been transformed into historical excursions, commercial centers, and cultural centers.

In a way, this is indicative of the spirit of architectural heritage (Lynch, 2008). However, the impact of urbanization has accelerated the decline of Chinese vernacular architecture and the significant homogenization of architectural styles. The transmission of local cultural heritage is also challenged, as courtyard spaces and hutongs, as vernacular elements representing national identity, represent the mystery and connotation of the traditional Chinese cities. As living archives of history, their contemporary developments remain unclear (Yang, 2016).

Based on this context, this study focuses on the Shandong Province, the birthplace of Confucianism, and selects and presents traditional residential communities and hutong narratives in the Linqing City, Liaocheng, Shandong, China the development of which has been informed by the local, economic, cultural, and political changes. While literature on vernacular housing is gradually gaining attention, there is still relatively limited scholarly discourse on its integration with Confucian culture. Therefore, this study will significantly contribute to knowledge. The specific objectives of this study are as follows.

1. To examine the morphological characteristics of the traditional houses and identify the role of Confucian narratives in architecture.
2. To critically analyze the hutong spaces and courtyards as architectural components and thus map the urban narratives.
3. To propose the standard requirements for planning that complement sustainable development of vernacular architecture and Confucianism.

The paper is organized as follows: The section 2 reviews the current state of vernacular architecture in the context of urban alienation and the literature on the logic of spatial planning as influenced by Confucianism. The section 3 presents a review of literature to show the current knowledge and gaps. The section 4 deals with the research methodology, providing a description of the qualitative methods and research techniques employed. The section 5 presents the selected case studies within the Linqing City. The section 6 offers a discussion of the research findings. The final part of the paper highlights the positive contribution of Confucian culture to the construction of a sense of place in vernacular architecture in order to provide insights.

2. Theoretical Framework

There are three concepts that require some review in the literature. The first is a discussion of the presence of vernacular architecture in urban alienation. The second is about

the philosophical connotations of Confucianism. The third is the logic of spatial narratives under the influence of this thought.

2.1 Urban Alienation and Vernacular Architecture

Urbanisation differs from a nation to nation due to cultural, political, and historical variables. Guan et al. (2018) point out that, since reforms and opening in 1978, China's urbanisation development has followed a unique path and has transformed the country in a relatively short period of time. In relation to these phenomena, Alqahtany and Aravindakshan (2022) suggest that while urbanisation is seen as a positive force for economic growth, rapid urbanization has a negative impact on its cultural heritage and environment; therefore, there is a risk of losing historical areas and heritage values.

In China, many historical areas have been damaged by the events such as the household registration system for permanent residence and the movement of people from the rural to the urban areas. In China's historic areas, previous urban renewal initiatives run by the local governments and their state-owned businesses have produced many serious issues, such as a lack of residential satisfaction, reduced regional identity, and loss of community (Baek and Zhang, 2022). AL-Mohannadi and Furlan (2023) share a similar view of the imbalance in built form, the alienated forms and configurations of housing, and the lack of satisfaction with modern approaches in cities today. These challenges have led to a constant retrieval of spaces and efforts to meet the socio-cultural needs. ALSayyad (2006) identifies urbanization factors as the cause of significant psychological and social change and loss of social transformations. From this, it can be deduced that the spatial alienation of the individual is not the result of chance, but rather the outcome of alterations to the urban structure and the transformation of its form (Sahan, 2021).

It is worth noting that China is different from the West. With the accelerated modernization process, the expansion of cities has been accompanied by the purging of traditional and rural cultures as backward under the superiority of urban culture (Shi, 2016). Furthermore, the inhabitants of heritage buildings play a crucial role in the preservation of these structures; however, there is an issue with the lack of awareness among the residents and the lack of knowledge among the decision-makers and the officials (Abdulali and ALShamar, 2023). Prihatmanti and Bahauddin (2014) suggest that the preservation of heritage buildings can be an effective interpretation of the past. Moreover, it can contribute to future generations and provide a sense of continuity and belonging.

However, due to resource constraints, high-rise residential buildings will extend the metropolis vertically and compress the living spaces horizontally (Chen and Zhang, 2019). Looking at the changes that have taken place over the years, from absolute abandonment to superficial rebuilding, vernacular in such civilizations survives on the periphery of the perceptual, social and physical space, uncertain of its position in the world and unable to compete with the modernizing social space (Dayaratne, 2020). On a positive note, Bougdah (2016) argues that a large share of the building stock in the developing countries is occupied by the residential dwellings. This can have a lasting impact on the local and global economy and environment. Over time, residential forms have evolved to provide for human survival and their ongoing quest for a better quality of life (Gokce and Chen, 2018). Thus, in a time of urban alienation, sustainable development of vernacular architecture is still a topic worthy of deeper investigation.

2.2 Confucianism and the Logic of Spatial Narratives

Throughout the world, vernacular architecture is based on years of experience and is built to suit local climatic conditions, water resources and other factors (Mileto et al., 2022). Ceylan (2022) points out that vernacular architecture is the architectural language of a region, which has been shaped by the physical and cultural variables throughout its history and is transmitted to future through buildings. To be sure, all forms of vernacular architecture have also been adapted to the values, economies, and lifestyles of the cultures that produced them (Yılmaz, 2005). In the course of a lengthy process of evolution, Chinese vernacular structures

have developed a number of distinctive regional characteristics due to the differences in the local settings, construction conditions, and cultural backgrounds (Delsante and Zheng, 2018). As illustrated in Fig. 1, in terms of a single building, a traditional Chinese house would basically have a courtyard space.

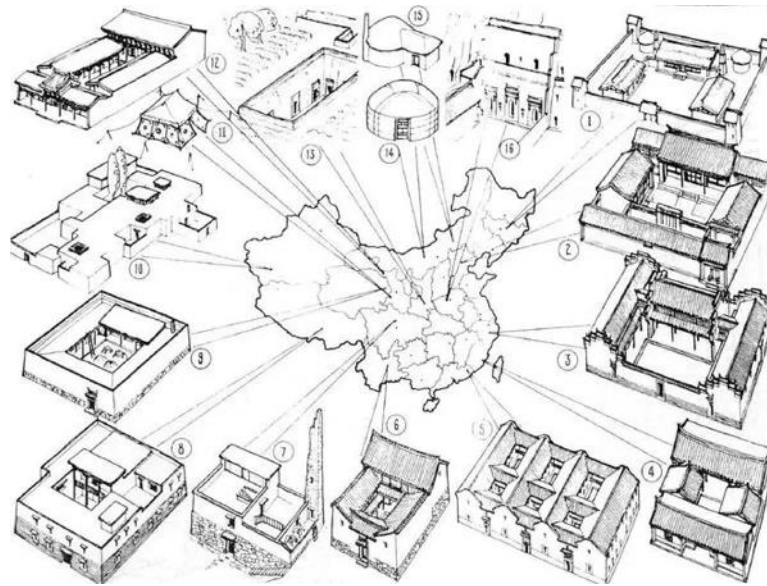


Fig. 1: Traditional Chinese house types.
Source: Liu and Wang, 2000

The formation of this pattern can be traced back to Confucianism. The influence of Confucianism on ancient Chinese architectural culture is fundamental and specific (Zhao et al., 2009). Moreover, Confucian culture generates distinctive Chinese architectural landscapes and artistic character (Zhang and You, 2017). Tceluiko (2019) argues that the city created by Confucianism represents the correct structure and the order of the universe. In the Confucian culture, “Ren” and “Li” complement each other. If Confucianism is compared to architecture, then Ren is the overall concept of the building and the blueprint of the city. Ren, as advocated by Confucius, is a way of dealing with people’s relationships and how to get along with each other (Yu, 2021). Li is the substantive part of the construction of architecture, the outer form of the building, namely the entity. It can be seen that sense of order is the norm of Confucian ethics (Zhao et al., 2009). In addition, Ren and Li jointly construct the Chinese sense of sacredness, such as the worship of heaven and earth, ancestor worship and the occurrence of various festivals and rituals that are meaningful to the people.

Furthermore, the concept of “harmony” promoted by Confucianism has led to the consideration of harmony between Nature and people in housing forms. The traditional Chinese courtyard space, for example, establishes a pattern of interplay between architecture and Nature, creating a connection between human beings and Nature through spaces that open up to the sky (Yuan and Gong, 2019). In relation to this type of vernacular architecture close to Nature, Ardiani (2022) also mentions that the relationship between kindred and Nature is governed by the norms, regulations, and cosmology. Their relationships with their forefathers are reflected in the architectural forms of the structures. Thus, the courtyard house is both a concentrated expression of the traditional concept of the family and a material synthesis of human adaptation to the living environment (Ren and Zhang, 2022).

The traditional courtyard houses ingrained in their urban fabric serve as examples of traditional Chinese urban culture (Zhang, 2017). In traditional residential areas, hutongs (relatively narrow streets or alleys) not only connect houses and society but are also areas where the living environment extends. Chen and Zhang (2019) state that, as the primary road type, hutongs carry the history and culture of a city, and their creation reflects the humanistic values

of the feudal society. In summary, the Confucian ideas of ethical order and harmonious communion represent the logic and layout of the traditional Chinese house forms well.

3. Review of Literature

Wang (2014) reveals the importance attached to Confucianism during the Han Dynasty and its continuation into the modern era. In 1994, the Confucius Mansion, the Confucius Temple and the Confucius Forest were inscribed on the World Heritage List by the United Nations. This shows that the value of Confucianism and the architectural heritage it influenced have been recognized worldwide. On this basis, Yu (2021) argues that these buildings symbolize the high status of Confucianism in the ancient Chinese society. Pan et al. (2021) also suggest the significance of culture in the transmission of architecture. Meanwhile, Zhang and You (2017) explain that the idea of “harmony” in Confucian culture influenced the aesthetic design of traditional Chinese architecture. In addition, Orlenko et al. (2020) find that the characteristics of traditional Chinese dwellings are the result of the combined influence of Confucianism, Taoism, and Buddhism. However, Ren and Zhang (2022) argue that it is Daoism and Confucianism that bind the rooms in the traditional courtyard with a central axis of order. It facilitates the overall planning of the space.

Furthermore, Bracken (2013) broadens the scope of research into traditional Chinese architecture by examining the materials and functions of vernacular houses. It describes how China has one of the oldest continuous building traditions in the world and that it is still possible to see it in the countryside. In fact, Hatipoğlu and Mohammad (2021) also explain the social and cultural responses of courtyard vernacular houses to the structure of urban space from a typological perspective. Meanwhile, Xiong (2017) notes that the Chinese architectural narrative medium is unique in its use of symbolic associations to influence subconscious ethics. Shrestha et al. (2020) suggest that the systematic arrangement and design process in the Chinese dwellings contribute to a better living environment. However, Xu et al. (2022) point out that many domestic activities and social behaviors existed in the transitional spaces between the streets and the buildings, as well as in the hutongs. Yang (2016) explains the hutongs as places where people live in harmony with Nature in courtyards. Meanwhile, Baek and Zhang (2022) study urban management, and highlight the benefits of street renewal in promoting social relations. Nevertheless, none of the above discussions analyzes the ideology and formative principles behind this vernacular housing system from the perspective of indigenous Chinese thought. Nor are the Confucian-influenced courtyards and hutongs examined in the urban context, revealing their cultural identity and exploring the values.

4. Research Methodology

The study of architectural culture as a branch of social sciences and humanities can contribute to the field through the implementation and study of typical cases (Zhang, 2016). This research is a case study based around the traditional hutong and dwelling buildings that remain in the urban area of Linqing, China. They are part of a series of historic buildings from different eras. The longest hydraulic structure in the world, the Beijing-Hangzhou Grand Canal flows through this area, where commerce and trade once flourished and cultural and intellectual exchanges were frequent. Streets and alleys (or *hutongs* as they are often called) run through the city and link the houses of each family, with a courtyard. The research process for this unique type of vernacular architecture was carried out in two phases: the Phase 1 (mainly data collection) and the Phase 2 (qualitative data analysis).

Phase 1: The results of the study rely on the descriptions and interpretations. Data related to the history of the neighborhood and the city are collected through documents, books, images and maps. It involves old time maps with drawings of modern urban plans. It employs computer-assisted collage techniques to obtain the courtyard forms and specific details and components of the selected cases. Furthermore, specific analyses are carried out in conjunction with the philosophical connotations of Confucianism, thus enabling a visually contrasting presentation of culture and architecture.

Phase 2: This activity is focused mainly on site investigation, observations of building components and human behavior in the hutongs. It observes the daily activities and types of activities of the residents in the community and uncovers the narratives of the gatherings. Photographs, interview notes and architectural mapping are used in the observations, with an emphasis on this data. Then, based on the survey information and policy documents, this data is used to inform and determine the findings. The methodology investigates the types of courtyard houses and hutongs and their uses. Amongst these, the Confucian buildings were chosen for their representativeness of the cultural narratives of Shandong embedded in them, as well as for presenting how they have developed over time in the context of canal culture and commercial trade.

Overall, the current state of the existing courtyard-style houses and hutongs is dissected to clarify the role of Confucianism and heritage culture, in the construction of sense of place in the city. Thus, it is possible to provide appropriate conservation strategies and sustainable developments for other similar vernacular architectural situations. The framework of this section is illustrated in Fig. 2.

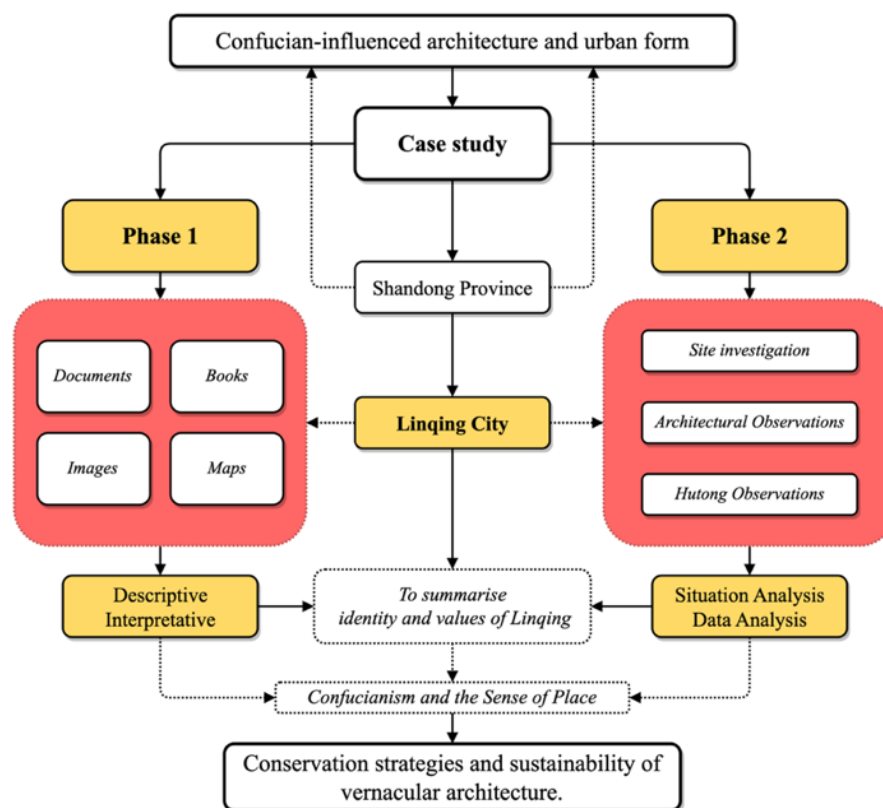


Fig. 2: Research framework

Source: Author

5. The Case Study: The Historic City of Linqing

Linqing is a county-level city in the Liaocheng City, Shandong Province, China. As illustrated in the Fig. 3, the city covers an area of 960 square kilometers and has a total population of 837,000, with 791,400 urban residents. More than 600 villages have been reformed to form 92 administrative villages after the ‘Multiple Villages, One Community Reform’. Linqing’s long historical heritage was recognized by the United Nations in 2006 as a cultural heritage of the Chinese geographical names. During the Ming and Qing dynasties, it benefited from the Beijing-Hangzhou Canal and enjoyed an economic boom for over 500 years, being an important distribution hub and the commercial capital of the country at that time. As a result, the area also has preserved many intangible cultural heritage, including the Linqing Canal Customs House, which was also added to the World Heritage List in 2014.



Fig. 3: Linqing Location and Study Area

Source: Author

The city has been established in 1449 and later called the brick town, or the old town. In fact, the ancient city of Linqing was divided into the brick town and the land town, as indicated in Fig. 4 (a). Its location allowed Linqing to flourish economically, and it can be said that the city was founded on the canal. The canal is still clearly visible on the map in Fig. 4, but with the expansion of the city and the advancement of transportation, its commercial properties have been greatly diminished, while many of the architectural components that carried the historical memory of the city no longer exist.



Fig. 4: A comparison of old and new maps of the urban area of Linqing.

(a) Map of the city center of Linqing in the Ming and Qing dynasties.

Source: Chen, 2008

(b) Map of the current state of the old town in Linqing (partial).

Source: AMAP, accessed 9 March 2023; Colour contrast adjusted by authors

Fortunately, there are still parts of the old complex of buildings in Linqing that have been preserved. Some of the houses are still inhabited, while others are abandoned. The houses have been built using the characteristic local Gong bricks as the base construction material, together with the wooden structures. However, due to their age, the wooden framework of the houses has rotted and is prone to water leakage. In addition, the infrastructure, such as electricity, drainage, and ventilation systems, is not perfect. For the locals, in the majority of cases, small interior modifications are adequate to accommodate the shifting needs; hence, the overall morphology achieves historical continuity (Dou, 2018). The younger generation has moved mostly to the high-rise buildings, but for the older generation, even in the narrow hutongs and the compact courtyards, they are reluctant to move their houses because it would shake their “family values”. As a result, the local authorities have issued documents to maintain the structure of the courtyard and the style of living, thus preserving continuity and sustainability of the urban pattern.

In response to the material, the phenomena, and the current situation found in the field research, this study sets its objectives with the aim of uncovering the way of life and urban identity influenced by Confucianism. Thus, three dimensions are addressed: First and foremost, courtyards in vernacular houses; secondly, houses linked by hutongs; and finally, hutongs distributed like capillaries in the city.

5.1 Courtyards in Vernacular Houses

For the first dimension, the researcher conducted data collection as well as fieldwork on the courtyard and its vernacular housing in Linqing. It is also explained in two parts: spatial construction and folklore festivals.

The courtyard-style houses in Linqing are similar in the overall form to the traditional courtyard houses in northern China, which basically contain an East wing, West wing, the main

room, and the corner room with a courtyard space in the middle, as indicated in Fig. 5. This system of architecture sometimes also increases the courtyard space depending on the social status and financial resources of the head of the household, thus creating a binary or trinary courtyard. However, these vernacular houses in the ancient city of Linqing are dominated primarily by a single courtyard, as this was the living place of the common people in the ancient times.

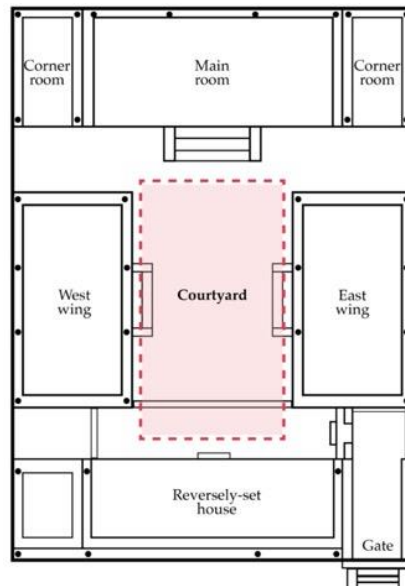


Fig. 5: The layout of courtyard houses in northern China.

Source: Rong and Bahauddin, 2023

Ronald G. Knapp, as an expert in the field of Chinese vernacular architecture, mentions in ‘House, Home, Family: Living and Being Chinese’ (2005) that the worship of heaven and earth in the courtyard was thought to bring harmony and good luck. In addition, Confucianism advocates “self-restraint, righteousness, benevolence, and truthfulness”. For a family, this promotes the integration of personal cultivation with the family environment, thus strengthening the family. The maintenance and management of the concept of the family can therefore be expressed through the vehicle of architecture, and this is further confirmed by examining the local attitudes towards the festivals and the customs.

Spring Festival: During the Spring Festival in Linqing, every family puts up a couplet and a statue of the God of the Gate. In addition, furniture and utensils are also decorated with the word “Fu”, especially at the entrance, which is intentionally put upside down to signify that “Fortune has arrived”. In the evening, each house is lit with lamps and incense, and wax is lit in front of the ancestors and the gods. Many families kowtow to the gods of heaven and earth and to their ancestors and elders in, turn, bringing family cohesion and faith to a climax at this time. Furthermore, a stick is placed horizontally inside the door late at night, which is called a “road blocking stick”, meaning that it blocks the evil spirits from entering the house, and once the evil spirits have entered the house, the door gods hear and they can catch them.

Mid-Autumn Festival: This is a day of reunion when families eat mooncakes and see the moon in the courtyard. A folk song says: “*The moon is full on the fifteenth day of the eighth month, and the watermelon mooncakes are dedicated to the old heavens. People have a full moon, but my family is not satisfied with the moon*”, which expresses the respect for the heavens and the feelings of the couple who are not reunited. As in the present time of urban alienation, the relationship between neighbors is not as close as it once was. The courtyard space is a good way of resolving this problem and thus creating and storing this beautiful moment.

Wedding customs: In the region, guests are invited to “drink the wedding wine” in the courtyard after the man and woman are engaged. The bridegroom is led by his seniors to toast all the guests one by one as a token of appreciation for their blessings.

Funeral customs: When an elderly family member passes away, the family’s descendants will keep a vigil in the courtyard and then conduct a memorial service. In the past, the rituals were quite elaborate and even caused comparisons to be made. The processes were extremely complicated. Under the country’s constant promotion of the change of customs and the implementation of the cremation system, the funeral customs in the courtyard have been simplified today, but they are unfamiliar to the young generations.

Fig. 6 illustrates two of the photographed courtyards with doors that have couplets and “Fu” characters on them. The courtyards link the various spaces. It can be described as a “space within a space” in a vernacular house, a composite site where family narratives take place and are recorded.



Fig. 6: Due to the limited space available, the vernacular houses in Linqing basically have one yard and vary in size.

Source: Author

5.2 Houses Linked by Hutongs

For the second dimension, the researcher visited several hutongs and photographed various styles of house gates and building components. Therefore, this section focuses on these aspects for interpretation.

Walking out of the courtyard, a long and narrow pathway leads to the hutongs. They record the past, the changes, the rise and fall of the Linqing and the joys and sorrows of its inhabitants. Walking through the hutongs is like walking into a mobile museum. These hutongs also have their own names, each with its own story. Table 1 summarizes the general classification of hutong naming and some representative hutongs.

Table 1: Classification of hutongs and meanings of their names

Source: Author

Naming Categories	Name	Meaning
Topography	East-West Hutong	The hutongs run in an East-West direction.
	Wanzi Hutong	The hutongs converge and are shaped like the word “Wan”.
Commercial	Bamboo Pole Lane	Known for the sale of bamboo poles.
	Mao Ao Lane	Known for the sale of cloth.
	White Cloth Lane	Known for the sale of white cloth.

	Ma Shi Street	In ancient times, the means of transport was horses.
Buildings	Xinggongmiao Hutong	Close to the Xingong Temple.
	Sanyuange Hutong	Near the Sanyuan Pavilion.
Official institutions	Canal Customs Hutong	Close to the Linging Canal Customs House.
	Gongbu Hutong	Close to the Ministry of Works.
Surnames	Family Zhang Hutong	The hutong in front of the Zhang family.
	Family Wang Hutong	The hutong in front of the Wang family.
Legends	Zhuangyuan Hutong	Anecdotal legend about the martial scholar Ma Zhaorui.

In the previous section, it was mentioned that the number of courtyards varied according to the status of the family. In this area, however, the number of courtyards is limited by the lack of space available for planning. This is the reason behind the design and decoration of many of the entrances to the hutongs: to show off their taste, status, and professions. The metaphors can also be understood by looking at the way hutongs are built. One of the families mentioned that the stone pier in front of the door was called a Men Dun, which was a symbol of the strength of each family. As illustrated in the Fig. 7, some resemble a square box and represent culture-related work. On the other hand, round piers indicate work related to the government section. Interestingly, the ancient Chinese feudal culture would have required women to “not leave the gate”, and the courtyard was their space. Thus, when a family considered proposing a marriage, they would introduce the match by referring to the decoration of the entrance gate, thus achieving a balance between the strengths of both families and a better match in terms of values and social status.

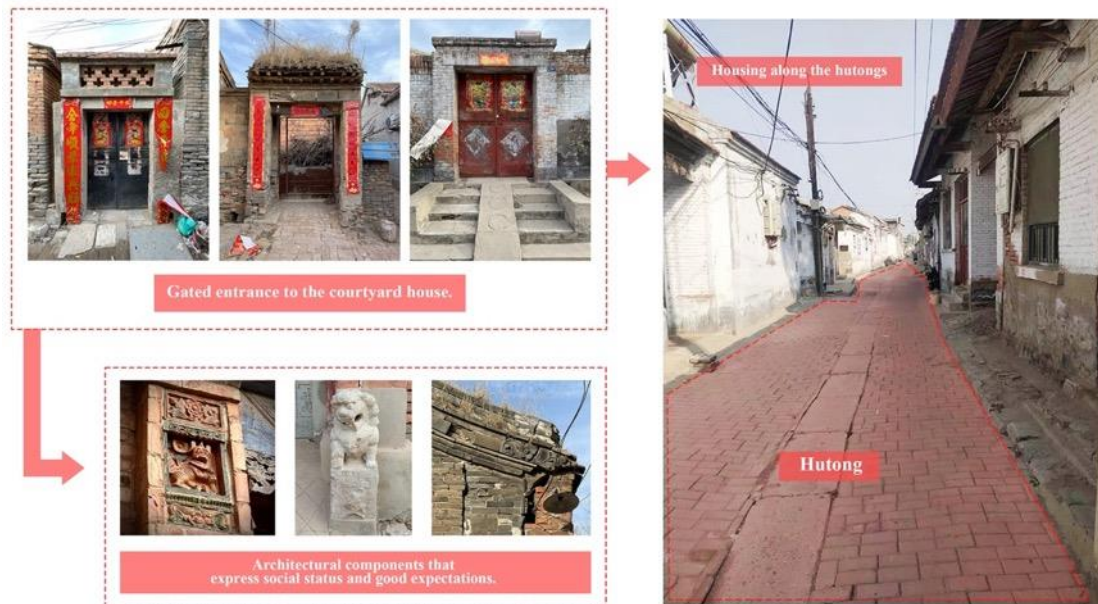


Fig. 7: Houses linked by the hutongs.
Source: Photographs and graphics by authors

In addition, another household described that, in the old days, people would come out of their houses during fairs or important festivals, and thus engage in exchanges and commerce. The clay sculptures in Fig. 8, for example, represent a lively scene from Linqing’s history. As the civilization progressed, people’s daily activities extended from the courtyard to outside the

house, and it was the hutongs that were closely associated with the local people. However, in terms of openness, this is still an interaction within the community or a connection between the neighbours.



Fig. 8: The bustling commercial scene of Linqing's ancient hutongs.
Source: Author

It is worth noting that, in the investigation, it was found that the visitors from outside the community could easily breach the boundaries of privacy. While strolling through the hutongs, they accidentally wander into private territories like the courtyard. Some families expressed distress about this. There are challenges for both the vernacular houses and their users. In a time of rapid development of modern real estate, the older generation is also reluctant to relinquish courtyards and hutongs, perhaps because of their attachment to these vernacular buildings and spaces, or as a way of defending the spirit of the vernacular houses and heritage.

5.3 Capillary Hutongs in the City

As for the third dimension, the hutongs were originally designed for pedestrian passage only, but later with the bicycles, but due to the restricted width, few means of transport, such as cars, pass through today's cities. The elderly and children are safe here. According to Yang (2016), wherever a location is named Hutong, it must be a place where people have resided for an extended period. Through the gates of houses and courtyards, the path may be considered a transitional area. To some extent, it can also give a different sense of tension, depending on the distance of the occupants from their own family yard. People's conversations can be casual or private in the hutongs. As the Fig. 9 reveals, some of the people here seem to be putting on a performance, and the elements and symbols behind them all reflect the narrative of the city.

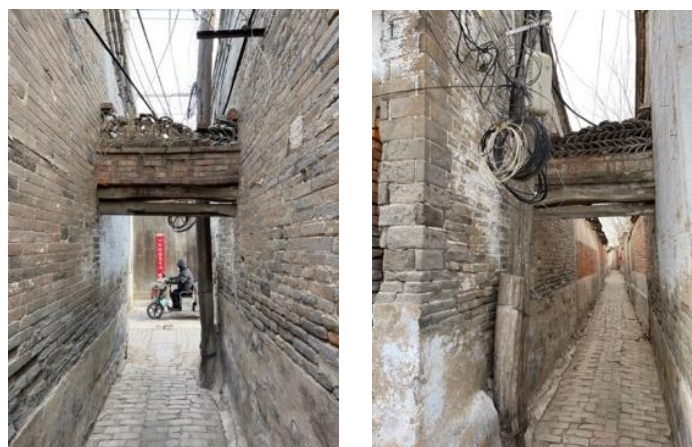


Fig. 9: A holistic view of the hutongs and vernacular courtyard houses.
Source: Author

However, with the construction and widening of urban roads and the forced placement of the high-rise buildings, the hutong system of the old city is disintegrating. These hutongs, which link the houses, are being taken away by the urban expansions. Small housing units are gradually being replaced. Moreover, the deceptive slogan of building preservation is still widely mentioned. Fig. 10 presents the current state of the landscape, with these capillary-like hutongs spreading through the neighborhoods while the modern new cities stand not far away. The once bustling streets now seem quiet.



Fig. 10: A holistic view of the hutongs and vernacular courtyard houses.

Source: Photographs and graphics by the authors

6. Findings and Discussions

Based on the case study, it seems that both the locals and the planning departments agree that the vernacular houses in this area should be kept. However, there are also irreconcilable differences between them. That is, planning and conservation oriented towards tourism by the planning authorities, and conservation oriented towards the residents' own comfort and family values. It is undeniable that, in whatever form, these hutongs and courtyards are in urgent need of attention; for example in the rehabilitation of certain courtyards, where building materials and restoration techniques lack heritage, and many modern components are inserted into the vernacular houses. It was found during the fieldwork that many households did not choose the strongest local Gong bricks as walling materials, but instead opted for the more affordable red bricks, as illustrated in the Fig. 11. The original character of the vernacular material is destroyed in terms of sturdiness and historical value.



Fig. 11: A holistic view of the hutongs and vernacular courtyard houses.
Source: Author

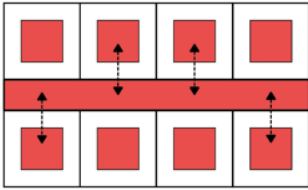
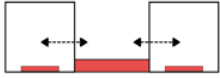
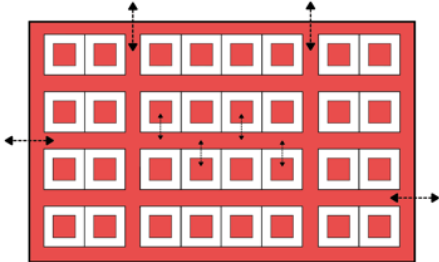

Taking the above analysis into account, in this study, the identity and values of Linqing's ancient urban area can be further discussed in three dimensions, thus recommending corresponding strategies for the heritage space. From a geometric perspective, these may be better explained as *Point*, *Line* and *Plane*.

The first is *Point*, which refers to the spatial planning of courtyard houses as the basic unit as a result of the subtle influence of Confucianism. It contains two aspects: (1) the combination and composition of the houses, reflecting the Confucian sense of order. (2) The interactive relationship between the courtyard and the buildings, using the courtyard as a medium for dialogue between Man and Sky and Nature, creating a harmonious scene. The second is *Line*, which refers to the hutong as the baseline through which a number of juxtaposed courtyard houses are built. The orderly arrangement of the houses is like a necklace or a string of hands, interconnected and interdependent. Each house plays a vital role in the stability of the hutong. As mentioned before, the naming of hutongs has different classifications, such as the location, commerce, and a family name. It is certain that the families in the same hutong share similar values and a sense of belonging, as well as a common identity. The final *Plane* represents the multiple hutongs that run through, intertwine, and connect, together forming a community-like living environment. The stories of the families in each courtyard are linked through the hutongs to create a local ethnic narrative of Linqing.

Table 2 is a visual representation of these three dimensions, which contribute to the discussion about the value of vernacular housing in Linqing, and the proposed spatial heritage strategy.

Table 2: The three dimensions of the courtyards and the hutongs
Source: Author

DIMENSION 1		
	Plan view	Elevations
<i>Point</i>		
DIMENSION 2		

	Plan view	Elevations
<i>Line</i>		
DIMENSION 3		
<i>Plane</i>		

7. Conclusion

This study examined the vernacular architecture of the ancient areas of Linqing, which feature Confucian-influenced courtyard houses and hutongs. The aim of the study was to analyze and demonstrate the value and identity of the hutongs and the connected courtyard buildings. This is considered a key factor in the revival of Chinese vernacular architecture and the continuation of Confucian culture.

Based on the data and analysis of the study, it can be concluded that the concept of architectural conservation is being taken seriously by the relevant authorities. However, the conservation of architectural forms or the formal advocacy of slogans is not enough to deal with the tricky issues. The question is how to preserve these vernacular cultures more effectively. Linqing belongs to the province of Shandong, and the added value of the canal has led to the integration of many customs, family traditions, and house decorations in the area. Confucianism is also a highly inclusive system of thought, and thus the preservation of vernacular architecture and narratives also reflects Confucianism to some extent. The qualitative method of research is further enriched and emphasized by the incorporation of narratives and the documentation of building components. The study is a pioneering attempt at vernacular courtyard housing and integrates Hutong culture with Confucian connotations. Meanwhile, the following specific development strategies are proposed:

1. The study of the hierarchy of “points, lines, and planes” in the scope can provide urban planners with a way of thinking. Thus, the spatial logic of “urban to neighborhood to private” is adapted to suit the needs of each level.
2. Preserve the existing vernacular housing structure and reject the redevelopment projects after demolition, which may ruin the local spirit of place.
3. Retain the old town while encouraging links with the new town. Thus, offering opportunities for dialogue in the modern exploration of vernacular courtyards and hutongs. Promote the flow of blood between the old and the new urban areas.
4. The documentation of ethnic customs, festivals, and rituals, which are typical of the Linqing City, enables the continuation and transmission of traditional culture.

5. Whether the influence of Confucian philosophy on residential forms, family relations, and neighborhood relations, amongst others, can be used as a way of thinking about architectural sustainability and thus contribute a new perspective to existing architectural discourse.

This study therefore justifies the identity and value of courtyards and hutongs in the city of Linqing, while pointing the way to the development of vernacular architecture and Confucianism. Nevertheless, this initiative for transformation may have a negative impact on urban identity and architectural conservation due to the subjective wishes of the residents and the lagging nature of policies and regulations. The study will further develop a comprehensive strategy and systematic practice in the future by continuing to work with experts in architectural conservation. This will help to preserve the urban spirit of Linqing and protect the heritage value and identity of the courtyards and hutongs.

References

- Abdulali, H.A. and ALShamar, H.A.H. (2023) Lost and Added Values in Conserving Architectural Heritage: Insights from Iraq. *ISVS e-journal* Vol. 10, pp. 135–152.
- AL-Mohannadi, A., Furlan, R., Grosvald, M. (2023) Women's spaces in the vernacular Qatari courtyard house: how privacy and gendered spatial segregation shape architectural identity. *Open House International*, Vol. 48, Issue 1, pp. 100-118.
- Alqahtany, A. and Aravindakshan, S. (2022) Urbanization in Saudi Arabia and sustainability challenges of cities and heritage sites: heuristical insights. *Journal of Cultural Heritage Management and Sustainable Development*, Vol. 12, Issue 4, pp. 408-425.
- ALSayyad, N. (2006) *Cinematic urbanism: a history of the modern from reel to real*, New York; London: Routledge.
- Ardiani, Y.M. (2022) The Living House Concept in the Vernacular Houses in Indonesia: The Case of Pendung Hiang, Kerinci-Jambi, Indonesia. *ISVS e-journal*, Vol. 9, Issue 5, pp. 225–232.
- Baek, Y. and Zhang, Y. (2022) Collaborative approaches to urban governance model of historic districts: a case study of the Yu'er Hutong project in Beijing. *International Journal of Urban Sciences*, Vol. 26, Issue 2, pp. 332–350.
- Bougdah, H. (2016) The Courtyard House: Can a Sustainable Future Learn from a Context Relevant Past. *Environmental Science and Sustainable Development*, Vol. 1, Issue 1, pp. 83–95.
- Bracken, G. (2013) *The Shanghai Alleyway House: A Vanishing Urban Vernacular*, London: Routledge.
- Ceylan, S. (2022) Vernacular architecture of Turkish eastern Black Sea region: a case study in Senoz (Büyükdere) Valley. *Open House International*, Vol. 47, Issue. 3, pp. 513–532.
- Chen, H. and Zhang, H. (2019) Research on Renovation Planning of Traditional Hutong-Take Beijing Juer Hutong Renovation Project as Axample. *IOP Conference Series: Earth and Environmental Science*, Vol. 330, Issue 2, pp. 1–5.
- Chen, Q. (2008) *A History of the Development of China's Canals*, Beijing: Zhong Hua Shu Ju.
- Dayaratne, R. (2020) Re-inventing Culture and Place Searching for Roots, Identity and Sense of Belonging: Winter Camps of Bahrain. *ISVS e-journal*, Vol. 7, Issue 4, pp. 64–76.
- Delsante, I. and Zheng, C. (2018) Contemporary Chinese Architects and Type: Courtyard based Case Studies in Shanghai Area. *Athens Journal of Architecture*, Vol. 4, Issue 4, pp. 289–404.
- Dou, P. (2018) Lost and Found: Reinventing Multi-Screen Adaptable Architecture. *Architectural Design*, Vol. 88, Issue 6, pp. 32–39.
- Gokce, D. and Chen, F. (2018) Sense of place in the changing process of house form: Case studies from Ankara, Turkey. *Environment and Planning B: Urban Analytics and City Science*, Vol. 45, Issue 4, pp. 772–796.
- Guan, X., Wei, H., Lu, S., Dai, Q. & Su, H. (2018) Assessment on the urbanization strategy in China: Achievements, challenges and reflections. *Habitat International*, Vol. 71, pp. 97–109.

- Hatipoğlu, H.K. and Mohammad, S. (2021) Courtyard in Contemporary Multi-Unit Housing: Residential Quality with Sustainability and Sense of Community. *Idealkent: Journal of Urban Studies*, Vol. 12, Issue 33, pp. 802–826.
- Knapp, R.G. and Lo, K.-Y. (2005) *House Home Family: Living and Being Chinese*, Honolulu: University of Hawaii Press.
- Liu, Z. and Wang, Q. (2000) *A Brief History of Chinese Residential Architecture-Cities, Houses, Gardens*, Beijing: China Architecture & Building Press.
- Luo, X. and Huang, J. (2022) The Exploration of New Courtyard Architecture Based on the Guidance of Architectural Culture and Technology. *Advances in Civil Engineering*, Vol. 2022, pp. 1–12.
- Lynch, K. (2008) *The Image of the City*, Cambridge, Mass: The MIT Press.
- Mileto, C., Vegas López-Manzanares, F., Lidón de Miguel, M. & Hueto Escobar, A. (2022) Guest editorial: Vernacular architecture: sustainability and risks. *Journal of Cultural Heritage Management and Sustainable Development*, Vol. 12, Issue 2, pp. 89–91.
- Orlenko, M., Dyomin, M., Ivashko, Y., Dmytrenko, A. & Chang, P. (2020) Rational and Aesthetic Principles of Form-Making in Traditional Chinese Architecture as the Basis of Restoration Activities. *International Journal of Conservation Science*, Vol. 11, Issue 2, pp. 499–512.
- Pan, X., Xiao, X. & Suo, J. (2021) A Study on Design Strategies of Vernacular Architecture Based on Data Analysis of Community's Architectural Preference. *3rd International Conference on Energy Resources and Sustainable Development (ICERSD 2020)*, Vol. 236, Issue E3S Web Conf, pp. 1-6.
- Prihatmanti, R. & Bahauddin, A. (2014) Indoor Air Quality in Adaptively Reused Heritage Buildings at a UNESCO World Heritage Site, Penang, Malaysia. *Journal of Construction in Developing Countries*, Vol. 19, Issue 1, pp. 69–91.
- Ren Y. and Zhang K. (2022) Spatial Reconstruction of Hutong Courtyards in Beijing Based on Cultural Heritage. *World Scientific Research Journal*, Vol. 8, Issue 8, pp. 259–264.
- Rong, W. & Bahauddin, A. (2023) Heritage and Rehabilitation Strategies for Confucian Courtyard Architecture: A Case Study in Liaocheng, China. *Buildings*, Vol. 13, Issue 3, pp. 599.
- Sahan A.H. (2021) Alienation in the urban structure and its impact on the individual and society. *Journal of Legal, Ethical and Regulatory*, Vol. 24, Issue 6, pp. 1–17.
- Shi, Q. (2016) The Possibility of Constructing a “Modern Urban and Rural Cultural Community” ——A Review of The Cultural Interaction of Urbanization and Rural Narrative. *Journal of Huaiyin Institute of Technology*, Vol. 25, Issue 2, pp. 31–34.
- Shrestha, S., Hu, L. & Zhang, Y. (2020) Development and Sustainability: Traditional Courtyard House of China and Nepal. *North American Academic Research*, Vol. 3, Issue 2, pp. 511–540.
- Tceluiko, D. S. (2019) Influence of Shamanism, Taoism, Buddhism and Confucianism on development of traditional Chinese gardens. *IOP Conference Series: Materials Science and Engineering*, Vol. 687, Issue 5, pp. 1-6.
- Wang, H. and Zhuo, Y. (2018) The Necessary Way for the Development of China's Rural Areas in the New Era-Rural Revitalization Strategy. *Open Journal of Social Sciences*, Vol. 6, Issue 6, pp. 97–106.
- Wang, X. (2014) Between Order and Nature: A Research on the Chinese Traditional Courtyard Architecture Based on Cultural Archetype. *Huazhong Architecture*, Vol. 32, Issue 7, pp. 26–29.
- Xiong, C. (2017) Traditional Architecture as the Medium of Public Ethical Value. *Sociology Study*, Vol. 3, Issue 7, pp. 168–179.
- Xu, G., Zhong, L., Wu, F., Zhang, Y. & Zhang, Z. (2022) Impacts of Micro-Scale Built Environment Features on Tourists' Walking Behaviors in Historic Streets: Insights from Wudaoying Hutong, China. *Buildings*, Vol. 12, Issue 12, pp. 2248.
- Yang, Q. (2016) Transformation of Living Space in Hutongs through the Process of Urban Development. *Cambridge Journal of China Studies*, Vol. 11, Issue 1, pp. 68–87.

- 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*, Vol. 4, Issue 1, pp. 6–11.
- Yuan, Y. and Gong, J. (2019) The Modern Expression of Traditional Courtyard Space Design in Cultural Architecture. *Urbanism and Architecture*, Vol. 16, Issue 33, pp. 86–88.
- Yılmaz, M. (2005) Sustaining Vernacular Architecture-Antiochia as a Sample. *Open House International*, Vol. 30, Issue 3, pp. 83–93.
- Zhang, D. (2017) Courtyard Housing in China: Chinese Quest for Harmony. *Journal of Contemporary Urban Affairs*, Vol. 1, Issue 2, pp. 38–56.
- Zhang, D. (2016) Juer Hutong new courtyard housing in Beijing: a review from the residents' perspective. *International Journal of Architectural Research*, Vol. 10, Issue 2, pp. 166–191.
- Zhang, L. and 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)*, Vol. 123, pp. 30-33.
- Zhao, Z., Ding, M. & Zhou, Y. (2009) On the ceremony in the courtyard regulation of Confucian's ethics mind. *Shanxi Architecture*, Vol. 35, Issue 7, pp. 17–18.