

Jingdezhen: Case Study of Creative Cultural Heritage and Organic Urban Ecology

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ABSTRACT

Modernization and urban revitalization in China have mostly been implemented by Government institutions and state-owned enterprises, whose decisions have since influenced development concept and urban spatial strategy. As the narrative of history often follows political power, reinterpretation of historic urban fabric tends to simplify a long, complex and often conflicting past, over-shadowing the complexity of the local heritage and neglecting a more organic spatial growth in response to natural environment and existing human network. Using the case study of Jingdezhen, a historic city renown for its porcelain since the Han Dynasty, this paper aims to investigate the complex relationships between Jingdezhen's disjointed history, its urban fabrics and streetscapes, and the inherent economic system and human network, through historical survey, study on porcelain production, figure-ground analysis, photographic surveys and interviews. Particularly, it examines the various self-initiated urban revival activities associated with the two ceramic institutions – Jingdezhen Ceramic Institute (JCI) and Pottery Workshop, and their impacts on the ceramic community and urban spaces. The paper suggests that urban revitalization should seriously take into account the inherent urban fabric and deeper underlying socio-economic structure; and by sustaining the organic urban ecology and growth, the city could eventually develop a new collaborative urban model for the creative economy.

Keywords

Jingdezhen [景德镇], *ceramic industry*, *cultural heritage*, *creative economy*, *organic urban ecology*

1. INTRODUCTION

Modernization and urban revitalization in China have mostly been implemented by Government institutions and state-owned enterprises, whose decisions have since influenced development concept and urban spatial strategy. As the narrative of history often follows political power, reinterpretation of historic urban fabric tends to simplify a long, complex and often conflicting past, over-shadowing the complexity of the local heritage and neglecting a more organic spatial growth in response to natural environment and existing human network. In this respect, the city of Jingdezhen, a historic city renown for its porcelain production in the past and currently undergoes rapid modernization and urban development, offers a good case study in the understanding of spatial roles of cultural heritage, as well as its complex relationships with urban revitalization and economic development.

Located at the northeastern part of Jiangxi Province in China, Jingdezhen had once enjoyed the reputation as the world's chief production center for distinctive ceramic art and the major source of export porcelain for centuries [1]. The town's concentration on the production of porcelain in the early history could attribute to its geographical conditions, which offer the availability of a unique raw material – “Kaolin” clay, its subtropical monsoon climate, and adjacent waterways (both for transport as well as for hydraulic power) [2]. The courtyard-style architecture was particularly suitable for the traditional ceramic workshops in Jingdezhen, as it protected the open space from direct sunlight, wind and dust from the north, while facilitating natural lighting and ventilation, collecting rainwater, enabling landscape, and forming a controllable micro-climate that was useful for porcelain production [3]. With its architectural heritage, historical richness, and cultural significance, Jingdezhen was listed as one of the first 24 National Historic Cultural Cities in 1982, whereas its porcelain-making was also included among the first batch of National Non-physical Cultural Heritage in 2006 [4].

Since China's economic reform around 1980s, Jingdezhen has begun its economic diversification into other industries especially automobile and aviation manufacturing. Urban development in Jingdezhen has thus been centered on these technological industries (Modern District), porcelain trading (Ecological District), and tourism (Cultural District) [5]. However, with strong competitions from other ceramic production sites, Jingdezhen has lost its historical impacts in ceramic industry. In addition, Jingdezhen was also regarded as one of the "Resource Depleting Cities" in the country in 2009 [6]. There is thus a strong interest from the municipal government to rebrand Jingdezhen as "Porcelain Capital" [7], in order to attract eco-tourism and promote cultural and creative industry for economic sustainability.

However, rebranding the city is more than advertising or creating a new image of the city through new architectural or urban projects or retrofitting – as seen in many other Chinese cities. It has to encompass the authenticity of the place, which will include the natural organic growth of the urban system that response to various social and economic forces. This paper thus aims to investigate the complex relationships between Jingdezhen's disjointed history, its urban fabrics and streetscapes, and the inherent economic system and human network, through historical survey, study on porcelain production, figure-ground analysis, photographic surveys and interviews. Particularly, it examines the various self-initiated urban revival activities associated with the two ceramic institutions – Jingdezhen Ceramic Institute (JCI) and Pottery Workshop, and their impacts on the ceramic community and urban spaces.

2. JINGDEZHEN'S HISTORY AS URBAN ENTITY TIED WITH PORCELAIN PRODUCTION

Jingdezhen has had a long history closely intertwined with its porcelain production. Because of its natural resource, "Kaolin" clay, found in its local mountains, ceramic production has surrounded itself around this area beginning from the Han Dynasty. However, Jingdezhen's relationship with porcelain production has been complicated and discontinuous. By the 1950s, Jingdezhen's porcelain production, just as many other cultural institutions around China at the time, was in total disrepair. It is thus important for us to re-examine its urban history and cultural heritage, before we evaluate its government's efforts to rebrand Jingdezhen as the "Porcelain Capital".

2.1 Shift from Market Town to Early Industrial Town

Though archaeological evidence has not been found, it is a commonly accepted historical narrative that coarse pottery made for local use in Jingdezhen (the area was known as Xinping at the time) dates back to the late Han dynasty (206BC-220AD). The production took a significant leap forward during the Tang dynasty (618-907AD) when copper shortages resulted in the shift from metal vessels to porcelain ones. Potters responded by upgrading their production processes to deal with not only a large demand, but also larger and stronger pieces. These technological improvements allowed porcelain to be more accessible to a wider consumer base because of its proliferation and also because increase in utility as the new processing allowed the vessels to be stronger and lighter. These improvements to the treatment of clay also coincided with the growing popularity of tea drinking which lent to the shift from stone tea ware to porcelain tea ware, increasing the reach of the ceramic industry [8].

From the Yuan (1271-1368AD) to Ming dynasty (1368-1644AD), potters would generally farm the fields for part of the year and work in the kiln when they were needed. The network of potters would depend on the physical distance and accessibility to the kiln. During the Ming dynasty, potters rose in their societal position. Becoming more involved with the marketing and business deals of porcelain production, the potters became a class of technically competent workers, able to deal with government contracts and other business skills. Along with this capable class of workers, Jingdezhen also had access to readily available raw materials as well as ideal location near Poyang Lake whence its production could go by lake and river to Nanjing and by Grand Canal to Beijing [9] (figure 1a). These three elements formed an important basis for spectacular developments in ceramic production during the Ming dynasty. Jingdezhen shifted from a market town surrounded by some kilns, to one of the earliest Chinese industrial towns. This unprecedented change was also able to happen because of Jingdezhen's ceramic industry's flexibility and quick response to the new overseas demands for porcelain along with the increasing imperial orders, and its adaptability to variety of situations and cliental [10].

As manufacturing and the market began to center within Jingdezhen, neighboring areas closed down their kilns in order move closer to the town center. By the end the 18th century neighboring settlements had completely lost any connection to ceramic production (figure 1b). Highly organized division of labor and coordination of ceramic distribution throughout China and overseas are the characteristics of Jingdezhen's industrialization [11]. This distinction between each task of ceramic production and distribution not only increased productivity, but also encouraged the development of specialized skills.

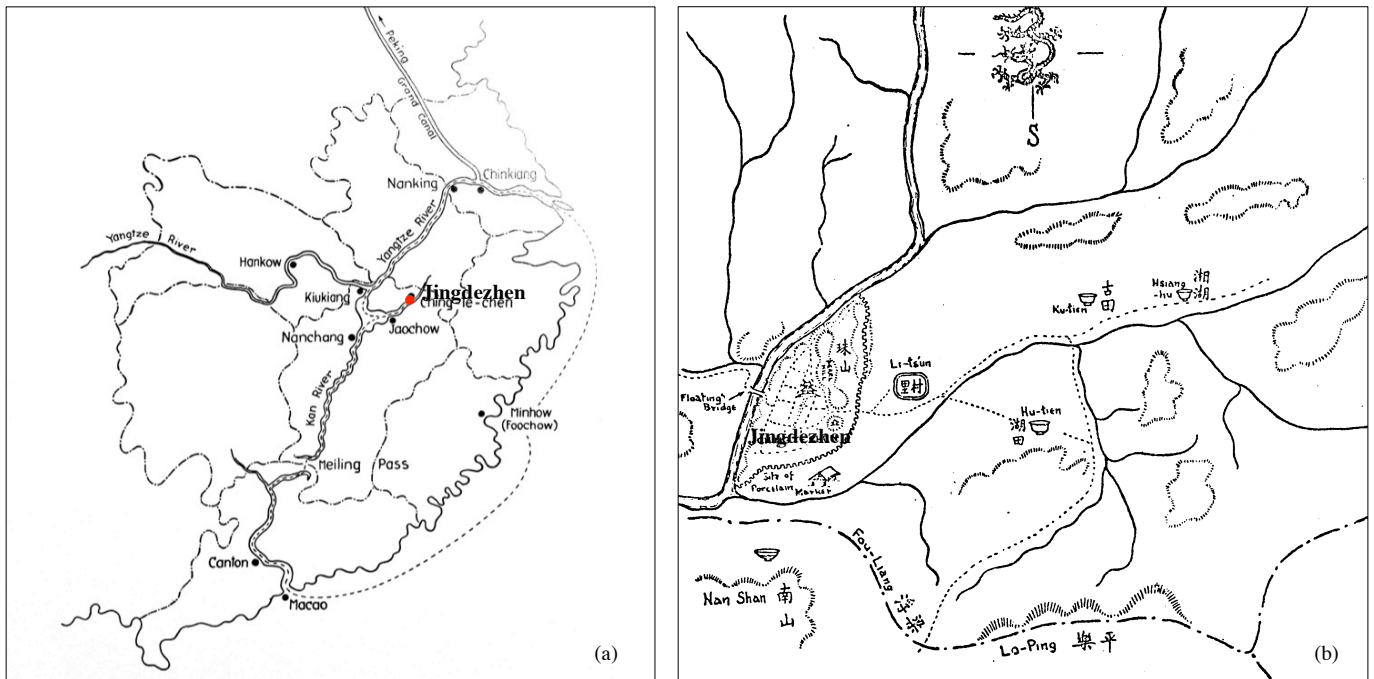


Figure 1: (a) Map showing waterways serving Jingdezhen during 18th century [source: Mudge, 1981, p.73]; (b) Map showing early kiln sites surrounding Jingdezhen (unlike the drawing, the city was however said to be without wall) [source: Dillon, 1976, p.21].

2.2 Discontinuity in the History of Ceramic Production

The years of war during Taiping rebellion in the 1850s were devastating to the ceramic industry. Not only had kilns and imperial factories been destroyed, thousands of potters had been killed or had fled, resulting in a disruption of knowledge transfer. Though the kilns were relatively cheap and easy to rebuild, the skills were not so easily regained after having been cultivated for dynasties. Kilns were only able to supply the local area with pottery, but were not able to produce high-quality exportable wares.

The fighting also damaged trade and economic networks. New heavy tax system also burdened traders and producers, allowing imported porcelain to be competitive within China since these machine-made wares which were already cheaper, also benefited from less import tax. There was a shift in the consumer base to overseas Chinese based in Hong Kong or South East Asia. During the First World War, domestic markets were sheltered from these cheaper imports and there was some expansion with domestic kilns. Neglecting to modernize transportation infrastructure needed for distribution of goods and purchasing of supplies was another factor to Jingdezhen's decline as a ceramic producer. The decline of the ceramic industry inevitably led to the decline of Jingdezhen. High unemployment led to a decline in the health of the citizens, along with an increase in opium addition and prostitution [12].

Industrialization and the use of centralized factories did not begin in Jingdezhen until the second half of the 20th century. Jingdezhen's ceramics production fell under the category of "workshop factory". Although the scale of work became industrial, the methods of production are still based on manpower. Modern China's industrialization of the production of ceramics is reflective of the centralized financial and planning policies of the 1950s. Similar to the collectivization of agriculture at that time, the treatment of porcelain production by the government began with joint toll groups advancing to handicraft co-operatives, which were then transformed into co-operative factories or handicraft workshops. Besides reorganizing production method, the government also shifted production output towards producer goods which could be used in the chemical and electrical industry [13].

Though historians have tried to connect Jingdezhen's porcelain history to the Han dynasty, the period of the Taiping Rebellion had really disrupted Jingdezhen's cultural knowledge and history timeline. In essence, it could be argued that this era of Jingdezhen's porcelain history only began after the rebuilding post-Taiping Rebellion, roughly 150 years ago. The Cultural Revolution, an immense cultural disruption from 1966 to 1976, also truncated the lineage of knowledge transfer to the past 40 years [14].

3. PORCELAIN PRODUCTION AS UNLEASHING CREATIVE CAPACITY FROM HERITAGE

“Porcelain production requires around 30 stages and you cannot really escape from it,” artist Ai Weiwei explained in his concept video which was paired with his exhibition, “Sunflower Seeds,” exhibited at London’s Tate Modern. The video goes through each step of the production of 80 million or 100 tones of porcelain replicas of sunflower seeds which were all produced in Jingdezhen. The power of the art installation came from the understanding of the layers of work, by hand which it took to create one single porcelain seed [15].

To understand Jingdezhen, its urban development and its tie to creative economy, it is essential first to understand the process of production of porcelain, both as a cultural heritage and relevance to modernization. A field study in Jingdezhen was thus conducted in June 2012 to witness the current production methods, community who are involved in the industry, and the resultant urban transformation.

3.1 General Stages of Porcelain Production

Though in many aspects, porcelain production can be considered an artisan craft, porcelain production in Jingdezhen can be examined through an industrial lens. The production of one porcelain unit requires various specialized skills and labors as follows:

- 1) Kaolin extraction
- 2) Production of kaolin clay from raw materials
- 3) Throwing the clay to create the shape of the vessel
- 4) Glaze production through different minerals and chemistry
- 5) Application of glaze
- 6) Illustration or brushwork for decorating the vessel
- 7) Organization of the kiln and firing the vessels
- 8) Transportation of the products between each stage of production

Each stage requires not only its own knowledge base, but also its own equipment. The most extreme case is the kiln. In many ways, the kiln is the central point of organization for ceramics production. Kilns are usually larger facilities that can afford the space for great fire and heat (even today with gas kilns). Each firing requires a large amount of fuel to burn, meaning in order to minimize cost of production, the kiln should be filled to full capacity before each firing. At the same time, kilns are also the limiting factor of a production network’s capacity. While throwing clay or vessel decoration has lighter infrastructure which allows these artisans to be more flexible, kilns must be organized in order to be successful. The industry’s dependency on the proximity to the kiln created a relative density, which resulted in an early pocket of urban industry. Jingdezhen was one of the first great industrial centers in China and probably one of the earliest in the world [16].

3.2 Slip Casting and Ceramic Transfers As an Innately Industrial Method

Slip casting is a method of porcelain production that lends itself well to industrial processes. In essence, this process allows copies of the same shaped vessels to be made from a mold. However, each mold can only produce 4 to 5 copies a day (before it becomes oversaturated with water) and imperfections from the vessel coming out of the mold must be fixed by hand. This keeps the process of mass porcelain production still closely tied to the human hand. Ceramic transfers, which can be replicated in any number, can allow for accurate replication of decoration on the vessel. These methods of production allow for most of the workers involved to have little or no artistic skill.

Similar processes of slip casting were observed in both Sanbao Village Artist Residency workshop and Longxiang Ceramic Bottle Factory. This replication process can be fully utilized by both artists and by mass production. Though smaller workshops may share kilns and other resources, slip casting allows small-scale artist studio to produce like a mini factory. An example is Carola Zee Designs, who can produce in great number with little manpower, while also having the ability to fully control their design and output in order to make high quality products even if the designer herself is not present.

As porcelain production is closely tied to infrastructure such as kiln, production workshop, and transportation system, as well as inseparable relationships with human labor, Jingdezhen’s urban fabric thus evolves around such industrial network and settlements. Even when efficiency in modern transportation renders availability of raw material less significant, it is clear that any urban development in Jingdezhen should not deviate away from this urban framework if porcelain cultural heritage were to be continued.

4. URBAN FABRIC OF PORCELAIN PRODUCTION IN JINGDEZHEN SINCE ECONOMIC REFORM

4.1 Types of Urban Fabric in Jingdezhen

Three main types of urban fabric related to porcelain production could be observed in present day. The oldest urban fabric can be represented by “Lao Chang” (Old Factory), where the urban grain is very fine (figure 2a). The streets are windy and the topography also adds character to the area. Porcelain production was observed to be on family scale. Half finished vessels were left drying outside the doors of homes, in small courtyards and even spilling into the streets (figure 3a). Almost everyone living in this part of town has something to do with ceramics. Each step of the process of porcelain making is represented in Lao Chang. Families, or small shops, each specialize in one part of this large and organic production organism.

The Sculpture Factory represents another type of urban fabric, which exists in the skeletons of large-scaled state-run factories built in the 1950s (figure 2b). After the failures of these large state-owned factories, privatization of the porcelain making process led to the fragmentation of ownership. Each family would run their own business servicing one step of the porcelain making process. In most cases, the function of the spaces would remain the same from the days of collective production, however each function would be run as a private company. The state remains the landlord, with a state-owned organization managing the properties in which these small businesses rent from. Every need of the ceramic production process can be met within the walls of this old factory (figure 3b). Just as in Lao Chang, all the small businesses are intertwined and interdependent. The factory’s strongly planned urban fabric reminds one of the failed top-down mandated economy, yet the privatization by small family-ran businesses proves the industry’s ability to organically adapt and utilize the large infrastructure which had at one point in time been provided top-down from the state.

Factories on the outskirts of town represent ownership on a larger scale (figure 2c). Larger companies own the entire production process, and their space is able to house all of these functions (figure 3c). The workers are relegated to their individual tasks and have little decision making control over the production process. However, these factories are able to produce on a larger scale of economy with more organization, making them attractive to larger domestic and international clients. All three scales have their place in Jingdezhen’s porcelain production economy.



Figure 2: (Left) Satellite map showing locations of various ceramic production sites in Jingdezhen [source: Google Earth]; (Right) Figure-ground analysis of 3 types of urban fabric in Jingdezhen: (a) Lao Chang, (b) Sculpture Factory and (c) Bottle Factory [source: authors].



Figure 3: Various architecture typologies used for porcelain production: (a) Family-run home-factory with courtyard for drying porcelain at Lao Chang; (b) Failed state-owned double-storey factories adapted by small private businesses in different units at Sculpture Factory; (c) Large Bottle Factory housing all the functions in the porcelain-making process under one roof [source: authors].

4.2 Development of Jingdezhen Through Institutions

Today, Jingdezhen's porcelain production can be divided sharply into two categories. The larger industry would be the mass replication of vessels in either the form of antique replication, or replication of Ikea-like contemporary vessels, or the container for other goods. The smaller industry would be the creation of unique pieces led by artisans in the realm of art and design.

Encouraging the latter part of the industry in Jingdezhen are two significant yet very different institutions. Founded in 1909 and reconstructed and renamed in 1958, Jingdezhen Ceramic Institute (JCI) is a national university devoting mainly in ceramic art and science as well as many other subjects [17]. This highly ranked higher institute of education has attracted many bright young people from all over China, many of them remain in Jingdezhen after graduation to begin their own ceramic business. This pool of young talent from a variety of creative industries that have been attracted to Jingdezhen by the JCI is invaluable to Jingdezhen's growth in the creative sector.

Another private institution with large impact of the creative ceramic industry in Jingdezhen is the Pottery Workshop, a ceramic design and production studio with education programming and artist residency. The project began in 1985 in Hong Kong. Currently, the Jingdezhen site is the most active center, although there are offshoots in Beijing and Shanghai and two locations in Hong Kong. With its strong outreach initiative and the generosity of the director, Caroline Cheng, this private institution has been able to affect the creative community in Jingdezhen more than any government or government affiliated organizations. Besides offering public education about ceramic design through their café library and Friday night lecture series, their most influential initiative is the Saturday Morning Market. The Pottery Workshop selects 100 participants from a large amount of applicants. This market allows young ceramists, mostly recent graduates of the JCI to sell their design wares in a reputable manner with minimal overhead. The market's reputation brings in buyers from all over China (and also from overseas) for wholesale purchase. The rental for a stand in the Saturday Morning Market is only 50RMB per week, The proceeds from the market go into the Pottery Workshop's scholarship program. Besides, the Pottery Workshop also offers design advice to these young ceramists [18].

Physically, this weekly market is only comprised of folding tables and unified shades (figure 4a). However, the market is able to empower Jingdezhen's community of young ceramists. By providing this initial stepping stone, the Pottery Workshop's Saturday market has allowed young ceramists to establish their own workshops and even their own stores. The immediate effect has been the increasing success of the Sculpture Factory, with a growing number of JCI graduates who occupy the existing building with their studios and shops. As the business grows, many shops in the Sculpture Factory now sell tourists trinkets, a testament to the compound's growing appeal to tourists.

Indirectly, the support for young JCI graduates has also encouraged the growth of "Gallery Street". Located across the street from JCI original campus, Gallery Street had been a mostly vacant strip of street level shops built as part of a large-scale mixed-use real estate development. JCI graduates have turned these shop fronts into a busy commercial strip of ceramics and art galleries and shops (figure 4b). This creative energy has transformed a banal housing development into a vibrant commercial strip. However, following the cycle of gentrification, cafes and bars are popping up along the street. The original ceramicist tenants whose very energy was responsible for the new reputation of the street are gradually being priced out of the area as their lease terms come to an end. It is possible that if there is no intervention, the rise in real estate value will ultimately change the quality of the street.



Figure 4: Impact on streetscapes: (a) Saturday Morning Market organized by Pottery Workshop; (b) Previously vacant shops adapted by creative community along Gallery Street; (c) Theme-park-like, highly commercialized historic pedestrian street along Zhongshan Beilu [source: authors].

4.3 Ceramic Design and Production in All Three Types of Urban Fabric

Ceramic designers have each found their own space in all three types of ceramics production urban fabric. Large-scale factories are able to provide the support and equipment to quickly implement the production of a designed piece, whereas fragmented divisions of labor found in both Lao Chang and the Sculpture Factory, require a more involved relationship from the designers or artists.

International designers have used large factories to mass-produce their latest products. Large factories such as Longxiang have the organization, human resource, and equipment to be able to fabricate a product from drawings. Primarily Longxiang factory produces ceramic bottles used to contain rice wine. Nevertheless, international artists connected through Sanbao Artist Residency have also been able to quickly implement the production of their ceramic design on a manufacturing scale.

JCI students and teachers have placed their studios near Lao Chang where rent is cheap and where they would be within the ceramic production network, especially proximity to a public kiln. The Sculpture Factory also provides this ceramic production network (smaller in comparison to Lao Chang), and has the additional educational and cultural resources of the Pottery Workshop within the Sculpture Factory. To illustrate, Dutch designer, Carola Zee, occupies a space near the Pottery Workshop. Because her studio is very small, she is dependent on the network of facilities which are available in the Sculpture Factory. For instance, for test firings (when a ceramicists will fire only a couple pieces to test how the clay and the glaze will react to a certain temperature in the kiln), she brings her pieces to the public kiln. When her pieces are ready for firing, she schedules an appointment and buys time at a local kiln. She is also tied to the supply shops of the Sculpture Factory, which are useful to be nearby during the design and testing process.

From this study, it is evident that Jingdezhen's urban development is closely linked to the ceramic education, production and trade, gradually forming a culture-business urban ecosystem. These developments and initiatives are however mostly smaller-scale, self-initiated, bottom-up rehabilitation of the existing urban environment and architecture.

5. CONCLUSION: JINGDEZHEN'S IDENTITY AND FUTURE URBAN DEVELOPMENT

Like silk, porcelain is another ancient craft that holds a key place in China's global historical narrative. Porcelain, or "China", had been an early luxury export to Europe that had exemplified and broadcasted Chinese ingenuity and craft. Yet the historic pedestrian street, Zhongshan Beilu, located near the Han River, has been redeveloped into a theme-park-like commercial strip not unlike many other Chinese cities (figure 4c), largely ignoring its authentic historical and cultural context. On the other hand, right off the main street, the mazes of old buildings about two stories high are not well kept. Such unequal development could be seen in many instances in Jingdezhen, and as scholar Zhu Qian observed, the municipal government tends to "overemphasize tourism-oriented economic growth, while ignoring local community services" [19].

Instead of "refabricating" historic districts, more considerations should be given to leveraging Jingdezhen's heritage resources to build a stronger creative infrastructure for the ceramic industry. Jingdezhen cannot compare with industrial center of Guangdong in terms of mass production of daily ceramic wares. There is also a finite amount of the unique Kaolin clay. Building on Jingdezhen's unique resources of ceramic cultural heritage, improving urban amenities that serve design industries, developing its international reputation, strengthening ties with international design institutions and diversifying its

creative outputs should therefore become the main rebranding efforts to pave the way for future creative ceramic industry. Although the young JCI graduates and family-run ceramic businesses may not have the artistic sophistication needed to compete in the international scene of ceramic design, the compartmentalized process of ceramic production makes them the specialists at every stage. They can serve as a mediator between international designers and the unique material, Kaolin clay, and in time to come, retain the design knowledge and make the city truly a “porcelain capital” for ceramic design and research development.

As seen in earlier analysis, urban development in Jingdezhen has been closely linked to its porcelain industry. Any redevelopment in the city, in order to be sustainable, should not ignore its organic urban growth. The success of Pottery Workshop in revitalizing the Sculpture Factory shows that an investment in the creative industry would result in an organic revival in the existing built environment. Although the urban fabric of places such as the Sculpture Factory and Lao Chang were inherited from historical forms, the economy that has since revived in these spaces is truly continuing the narrative of Jingdezhen’s relationship with porcelain. This type of soft infrastructural support is important to encourage urban growth from the bottom-up, allowing the creative economy to boost urban development in more efficient ways such as re-using, renovating, and re-thinking old buildings and spaces. Urban revitalization should take into account the inherent urban fabric and deeper underlying socio-economic structure, in order to encourage a more sustainable way of urban development. By sustaining such organic urban ecology and growth, the city could eventually develop a new collaborative urban model for the creative economy.

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