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Towards an Open Block Space: An Analysis of Derivative Problems of Super-Large Closed Communities

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Abstract

In the wake of an extensive, growth-driven urban development paradigm, countless super-sized gated residential compounds have sprung up. As China's cities have expanded rapidly, the attendant problems associated with these enclaves have become increasingly acute. Responding to the State Council's directive that "new residential developments should in principle adopt a block-based layout and refrain from constructing walled compounds," this paper reviews and clarifies the concept, attributes and significance of the "open block," and traces the historical evolution of Chinese residential districts. It argues that Chinese society has consistently favoured open collective-housing models. After synthesising the manifold drawbacks of today's mega-scale gated communities, the study examines, from the perspectives of block scale, boundary walls and design codes, the inevitability of China's transition toward open urban blocks. Finally, it summarises the principal difficulties and challenges encountered in the implementation of open-block schemes.

Keywords

Urban housing; Gated community; Open block.

1. Introduction: Closed Blocks and Urban Inactivation

In the rapid urbanization process of the past three decades, influenced by modernist planning ideologies, many Chinese cities have pursued composite, compact, and balanced living spaces, leading to the proliferation of large-scale closed residential blocks. As the number of gated communities continues to rise, urban spatial fragmentation has intensified, causing road congestion, traffic chaos, and street inactivation.

Jane Jacobs, from a journalist's perspective, critiqued American metropolises, arguing that rapid urban expansion diminishes vitality and that diversified urban development requires mixed functions and controlled street lengths [1]. Jan Gehl, in Humanized City, emphasized that human-centered dimensions are universal starting points for urban construction [2]. These insights highlight a consensus: cities must return to a human scale, and open blocks offer a viable solution.

In 2016, the Several Opinions on Further Strengthening Urban Planning and Construction Managementproposed promoting the "block system." However, the three-year pandemic lockdowns stalled its implementation. In the post-pandemic era, while reopening blocks has regained attention, lingering public hesitation due to pandemic experiences poses challenges for transitioning from closed communities to open blocks in China.

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2. Definition and characteristics of open blocks

2.1. Definition of open blocks and related concepts

The concept of "open blocks" originated from French architect Christian de Portzamparc. He criticized modernist cities for fragmented, self-contained buildings and argued that traditional closed blocks and dense urban fabrics no longer suit modern societal needs. He proposed "open blocks": architectural designs with varied volumes and treatments to create discontinuous urban forms [3]. Residential areas planned under this concept are termed "open-block neighborhoods," representing a new housing model evolved from traditional closed blocks and modernist residential compounds.

Notably, China's State Council Opinions did not explicitly mention "open blocks" but advocated "small blocks, dense road networks, and narrow streets." Thus, the term "open blocks" must be understood within China's urban development context—a remedy for oversized closed communities, carrying unique Chinese significance.

2.2. Characteristics of Open Blocks

The first feature is the small size between neighborhoods. In Western countries, where land is privately owned, there are usually small neighborhoods, often less than 200 meters, or even tens of meters. In contrast, many cities in China have relatively large residential areas, and neighborhoods of a few hundred meters are very common.

The second feature is that the functions of the streets are relatively integrated. The frontage of the open block is often also the unfolding space of urban life, and a variety of resident-friendly services and facilities are open along the street; At the same time, the open block is also an important interface for street space design.

The third feature is the openness of the transport organization. In traditional "gated" neighborhoods, the internal streets serve only the neighborhood and are not open to the public, resulting in no bypass system and forcing the city to widen the streets; In open blocks, the streets are small, a well-developed network of bypasses is formed, the street network is dense and narrow, and the traffic is organized efficiently.

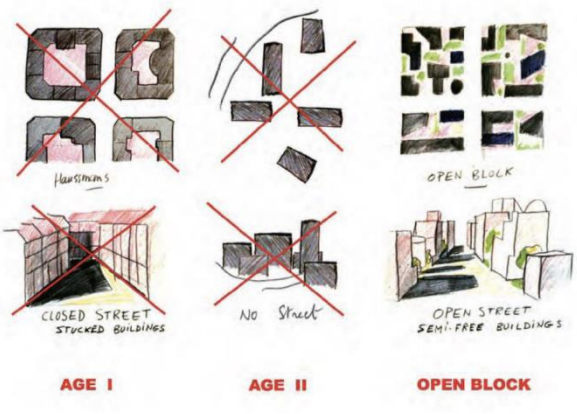

Fig.1 Schematic diagram of an open block-type settlement
(Quoted from The Works and Thoughts of Christian de Bauzenbach)

3. Analysis of the historical development of the neighborhood

3.1. Three stages of urban block-scale change

Urban block patterns have evolved through three distinct historical stages.

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First Stage: Pedestrian and Carriage Era

Characterized by small-scale, internally enclosed blocks with outwardly open boundaries (under 100 meters). Hippodamus, during the reconstruction of Miletus, established the Hippodamian plan—a grid layout centered on public squares—marking the origin of Western urban planning theory. Miletus's smallest blocks measured 30m×30m, adhering to a "non-modular" principle for enhanced adaptability [4].

Second Stage: Automobile Era

The rise of the neighborhood unit led to internally open yet gradually enclosed blocks. From the 1920s onward, modernist ideologies promoted large-scale blocks and functional zoning, eroding urban vitality. Clarence A. Perry's neighborhood unit theory and the Athens Charter's emphasis on functional zoning fragmented urban spaces, creating monotonous "gray areas" [5].

Third Stage: Intensive Development Era

Frequent urban crises prompted critical reflection. Eliel Saarinen's organic decentralization theory highlighted dynamic planning processes [6], while Jane Jacobs advocated "eyes on the street" through mixed-use spaces to revitalize cities. These ideas catalyzed a renewed focus on open blocks.

3.2. Historical review of urban housing development in China

Judging from the collective housing model adopted in China's history, the closure and openness of residence are not static. Not only that, but from a historical point of view, China has embraced open neighborhoods.

In order to maintain its authority, the feudal ruling class of ancient cities adopted the collective living space model of the closed management of "Luli" and "Lifang".

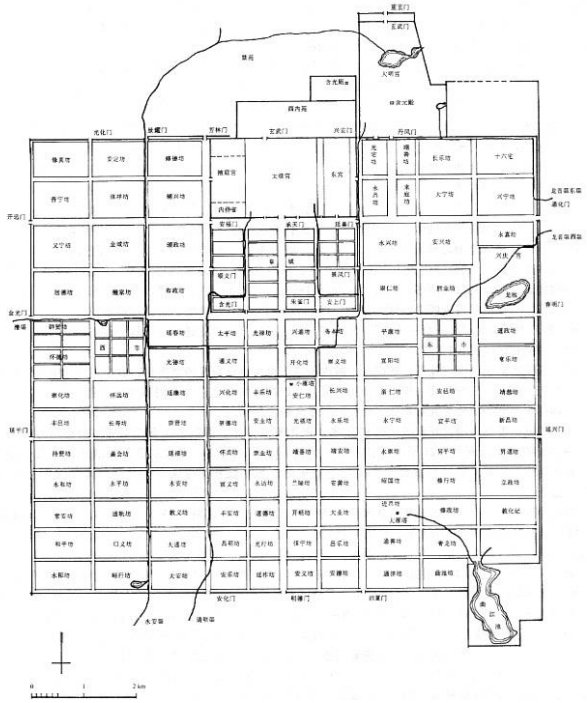

Fig.2 Floor plan of the city of Chang'anli in Tang Dynasty (Pan Guxi's History of Chinese Architecture)

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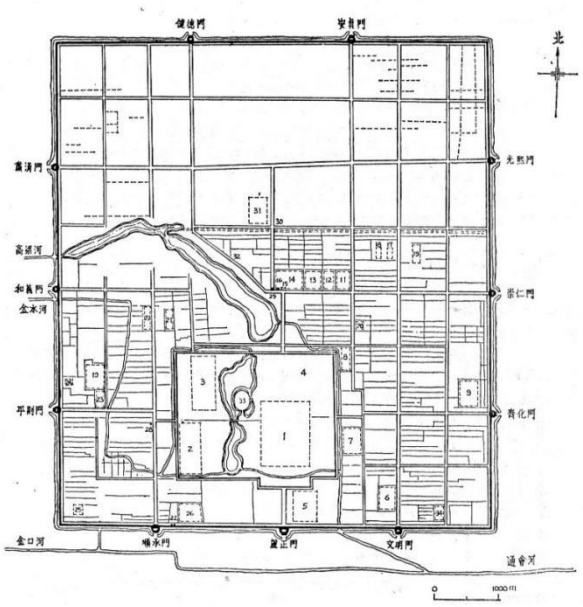

Fig.3 Restoration plan of the Yuan capital (Pan Guxi's History of Chinese Architecture)

During the Northern Song Dynasty, economic activities led to the gradual opening up of closed residential patterns. During the reign of Emperor Huizong of the Song Dynasty, the neighborhoods of Bianliang City were roughly similar in size, and the neighborhoods were composed of several basic block units [7]. With the development of social industry and commerce, cities such as Bianliang and Hangzhou began to lift curfews and allowed shops to open on the street and in the square, and the open "neighborhood system" officially replaced the closed "lifang system", which promoted the great prosperity of the city's economy. With the further prosperity of commercial activities, Yuanda did not have square walls, forming open streets and lanes, which fully stimulated the vitality of the city.

At the same time, rural settlements, such as the caves in the Central Plains and the tulou in Fujian, follow the relationship between man and land and clans, and also maintain a closed and enclosed residence in form, but the neighborhoods show an open mode.

The concession area of the modern port city introduced the Western block system to China. The concession was strictly guarded by military forces on the border, while the interior was a Western-style open residential block, forming a spatial pattern of "closed and open" [8].

There are three key factors in the evolution of China's urban settlements from "closed and open" to "closed blocks". First, under the influence of modernity and the Soviet Union, the neighborhood unit theory under Le Corbusier's "glorious city" concept was transmitted to China by the Soviet Union after the war and was absorbed by the neighborhood model. Second, under the influence of the "unit-compound" system of China's planned economy, the grassroots management is handed over to the "unit", and the unit provides supporting facilities in the form of a compound, giving birth to a giant community; Third, after the reform and opening up, the commercialization of housing promoted the transformation of "public-private partnership" staff residential areas into "closed commercial residential areas", and 80% of Shanghai's residential areas were surrounded by walls at the end of the 20th century. The development of urban settlements in China reflects the attitude of Chinese people to respond openly to social changes and accept innovative living environments.

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4. Analysis of derivative problems of super-large closed cells

In the face of the country's future development and the tasks of the times, super-large enclosed communities have shown serious shortcomings and unsustainability in major aspects of the national economy and people's livelihood, such as environmental climate, urban vitality, spatial characteristics, social composition, and community management [9].

4.1. It is not conducive to the realization of carbon neutrality

Gated communities have many negative impacts on urban mobility and environmental protection. For residents, the main road is dominated by arterial roads, there are few slow entrances and exits, and it takes residents to walk to the bus station for a long time, which reduces the public's willingness to use public transportation, hinders the sustainable operation of the public transportation system, and promotes the city to move towards a high-carbon "car-oriented" development model. For urban vehicles, closed communities divide urban roads, resulting in long distances, long consumption and high energy consumption. Studies have shown that emissions from fossil fuel vehicles are closely related to urban smog and air quality, and even electric vehicles have environmental problems in power generation, battery manufacturing and disposal. Xue Lulu et al. pointed out that reconfiguring the urban form to be "transit-oriented" is the best way to reduce transportation carbon emissions, and large-scale gated communities are obviously contrary to the development direction of public transportation "carbon peak by 2030 and carbon neutrality by 2060".

4.2. It is not conducive to the pull of the urban consumption economy

Due to the occurrence of natural economic laws, the surrounding commercial space can usually only meet the necessary daily needs of nearby residents, and tends to reach a certain saturation. The residential pattern in urban areas is dominated by large gated communities, so there is a lack of diversity in the form of shops and services.

In addition, the spatial layout of the super-large enclosed community is not suitable for commercial development. The fences and extra-wide driveways that surround the blocks do not create the dynamic atmosphere of the intimate shopping streets that retail relies on, and residents' purchasing power is generally limited to supporting basic daily shopping. In addition, in areas with large gated communities, commercial development is dominated by large shopping malls, mostly located at major intersections. On the one hand, this kills the chances of survival of street shops, and on the other hand, it only satisfies the intentional and necessary purchases of city dwellers. The inconvenience of daily consumption has also exacerbated the crowding out of physical stores by online consumption. On the other hand, convenient, intimate, neighborly integrated, active, and open shopping streets encourage city dwellers to "consume impulsively". The Fifth Plenary Session of the 19th Central Committee of the Communist Party of China proposed to "adhere to the domestic cycle as the main body" is a solid foundation for driving the domestic and international dual circulation, and the super-large closed community has cut off an important path to enhance the vitality of urban consumption.

4.3. It is not conducive to the establishment of urban areas with pluralistic social symbiosis

Super-large enclosed communities exacerbate the antagonism between rich and poor. The development model of super-large closed communities is mainly based on homogeneous social classes, and in the spatial structure of the city, except for a few special influences, the farther away from the city center, the cheaper the land. In order to reduce costs, real estate developers often move households from their places of origin to the suburbs of cities where land prices are lower, and introduce homogeneous consumer groups with higher incomes to new areas. The city has experienced a differentiation of different income groups. It is not uncommon to see that

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in affluent neighborhoods, residents enjoy a privileged environment and public facilities, and outsiders are excluded; In neighborhoods with a larger lower class, there is a huge gap in environmental quality and maintenance. The homogenization of neighborhoods has created a serious imbalance in social resources, and the gap between rich and poor creates an unfair starting point for competition in childhood and adolescence, forming a source of social conflict that will affect social harmony.

4.4. It is not conducive to the promotion of urban organic renewal

A city is a constantly metabolizing organism that must be kept alive through organic renewal. If every gated community has thousands of residents, then community assemblies are doomed to be a futile social activity that fails to generate consensus and solve problems. It often leads to the loss of regeneration opportunities, which greatly reduces the overall viability of urban regeneration. We can see that mega-communities have a serious impact on the operational efficiency of cities, their economic and ecological sustainability, and the quality of life of the people who live in them.

At the same time, in mega-communities, developers often use daylighting regulations or the maintenance of collective intentions as an excuse to deal with everyday problems in the cheapest and most economical way, mechanically copying building products. It erases the poetry of the human spaces such as alleys and alleys in the traditional city, and disrupts the overall urban image displayed in the traditional Lifangying urban system. It lacks humanity and is not conducive to creating a city's identity.

5. A preliminary study on the hot topics of open blocks

5.1. Scale: The Debate of Size

In the process of urban expansion, human space is squeezed and occupied, and cities grow on the scale of automobiles, which is a problem that needs to be solved. The "big block" shaped by functionalist ideology solves the problems of urban population density and unhealthy environment at the end of the Industrial Revolution, but it overemphasizes the scale of automobiles and ignores the feeling of "people" as urban subjects.

How to grasp the scale of urban blocks, open blocks are not the same as smaller blocks, the better. The planning and design code mentions that "the opening of the block plot should be more than 70 m away from the intersection", but in fact, these regulations objectively limit the scale of the block, requiring that a long side of the block need to be greater than 150 meters. Yoshinobu Ashihara (1961) believed that the most suitable length of the street section was 50~100 meters, based on the distance at which people could see each other's faces [10]. Mumphotin (1996) put forward a similar view, arguing that people with eyesight beyond 130~140 meters cannot distinguish the contours of others, so the street spacing should be within this distance [11].

Urban space is designed for people, and the size and dimensions of urban space must be measured by human perception in addition to meeting basic functional requirements. People's behavior and feelings in space are the core of the "scale", and it is also the "degree" of the scale. From the perspective of the current situation of living space in China, people-oriented moderately sized communities should be less than 2-4 hectares, and these small communities with "narrow roads and dense road networks" are the "open, convenient, and moderately large-scale" living communities advocated in the Opinions.

5.2. Walls: internal and external disputes

For a closed community, an important element that cannot be avoided is the "fence". Together with the security system, it isolates the neighborhood from the surrounding urban areas,

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creating a distinction between inside and outside. And if you think about it carefully, is the fence the only way out for community safety management?

Many proponents of gated communities emphasize the "security" that the wall brings, and this "sense of security" has long been proven by scholars to be an "illusion". "The fence is very easy to pass through. Gated residents seek safety, but rather, they seek control. This control is brought about by human instinct – territoriality. Back to the essence of the problem, why many people are reluctant to open the block, the problem lies in the field. It embodies two aspects of the field: one is control, and the other is personalization. In terms of control, building a fence is actually the laziest and easiest way. Therefore, in order to complement the safety required by the occupants, the focus should be on how to address the domain. For example, to make up for the missing sense of control caused by the demolition of the fence – to promote interaction and enhance the sense of belonging; Enhance personalization, i.e. make your area stand out..... Open neighborhoods need to be explained, addressed, and channeled by the domain, not just treated with walls.

5.3. Rules: Between the Old and the New

The spatial form of the open block is in conflict with existing design codes and conventional practices. Existing studies have found the problems of vertical division of labor and lack of departmental coordination in current planning and management.

In the past, the urban management model determined that the street was under the jurisdiction of different departments, resulting in the situation of dividing and conquering the various elements of the street, forming many implicit or explicit boundaries, which objectively hindered the integrity and unity of the street style. In the current urban renewal, reconstruction, dredging and weaving blocks will become a new topic for us. The key lies in the guidance of planning and management policies and the collaborative management system in various fields, and it is necessary to break the previous model of vertical division of labor. The traditional space construction adopts a vertical division of labor, and each unit is only responsible for its own part, which inevitably affects each other, so horizontal integration is an important direction for the construction of the follow-up mechanism.

6. Conclusion

6.1. Difficulties and challenges in the implementation of open blocks

The first difficulty lies in the conflict between the design concept of the open block and the existing norms, especially in the green space rate, building density, sunshine norms and other indicators. This problem may not be able to rely on the central government, but requires the courage of local governments to be the first to overcome it.

The second difficulty lies in the current vertical governance system of the city, where the various parts of the street are managed by different departments and cannot be integrated in a unified manner. Therefore, it is necessary to carry out research on the mechanism of horizontal governance and accumulate experience.

The third difficulty is that there is no consensus in society to build open neighborhoods. This is often due to the public's lack of understanding of concepts such as open blocks, such as misunderstanding open blocks as single-family buildings.

6.2. Towards an open block space

The intention of open blocks is to solve the problem of excessive spatial scale of urban blocks in China, and the solution of Chinese-style super-large closed communities needs to be discussed in combination with China's national conditions.

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When cities face serious challenges in terms of development pathways, the "open residential area" paradigm is an option that should be recognized and tested. Local practice is the basis and premise for assessing effectiveness and success. Open blocks have the potential to return our cities to the "new image of Chinese urban culture", which is transit-oriented, low-carbon, mixed-use, balanced in employment and housing, full-time vibrant, people-oriented, fair and just, and fosters inspiration for innovation.

References

[1] Jacobs, J. (2006). The Death and Life of Great American Cities (H. Jin, Trans.). Nanjing: Yilin Press.

[2] Gehl, J. (2010). Cities for People (W. Ouyang & Z. W. Xu, Trans.). Beijing: China Architecture & Building Press.

[3] De Portzamparc, C. (2016). Works and Thoughts of Christian de Portzamparc. Beijing: China Electric Power Press.

[4] Shen, Y. L. (1989). History of Foreign Urban Construction. Beijing: China Architecture & Building Press.

[5] Wang, Q., & Zang, X. Y. (2018). Study on the origin, characteristics, and planning adaptation strategies of urban block system. City Planning Review, 42(9), 131–138.

[6] Saarinen, E. (1986). The City—Its Growth, Decay, and Future (Q. Y. Gu, Trans.). Beijing: China Architecture & Building Press.

[7] Zhang, Y. H. (2000). Restoration study of Dongjing City in Northern Song Dynasty. Architectural Journal, (9), 68–69.

[8] Yang, B. J. (2016). Discussion on open blocks. City Planning Review, 40(12), 113–117.

[9] Huang, W. L., Li, B., & Li, J. Z. (2022). Open blocks in China. Time + Architecture, (1), 43–47.

[10] Ashihara, Y. (2006). The Aesthetics of Streets (P. T. Yin, Trans.). Tianjin: Baihua Literature and Art Publishing House.

[11] Moughtin, C. (2004). Streets and Squares. Beijing: China Architecture & Building Press.