Reflection - Gated Community in Suburban Beijing: relation between spatial-functional structure and urbanity

Yi Zhang - 4381165

Methods

Literature research

Literature research helps to establish and support the structure of this thesis from several aspects. First, literature researches contribute to understand context of the theme. For instance, it can be found that gated structure is quite universal and typical in China, since it has already existed for more than 1000 years (Xu, 2009). And now gated community becomes almost the only residential pattern in China (Min & Yang, 2008). Second, keywords need to be defined by literature researching. In order to clearly demonstrate framework of this thesis, the keywords - suburban gated community and urbanity, need to be defined systematically. And literature research can give academic support to tackle the keywords. In order to better understand and summarize the characteristic of gated community, it is necessary to categorize them into various types. It can not only contributes to distinguish the feature of different gated community, but also helps to pinpoint framework and direction of further study in future. Basically, gated community can be distinguished in terms of their location (on urban scale) and connectivity with surrounding area (on local scale). Furthermore, urbanity can be divided from several aspects, including density (Jacobs, 1961; Pont & HAUPT, 2009), border (GLASER, HOFF, KARSENBERG, LAVEN, & TEEFFELEN, 2012; Trancik, 1986), and quality of public realm (Gehl, 1971; GLASER, HOFF, KARSENBERG, LAVEN, & TEEFFELEN, 2012; Jacobs, 1993). Third, literature research offers many principles to strategy and design interventions. For instance, Alexander, Ishikawa, & Silverstein (1977) proposed many interventions for various conditions.

Observation and Interview

The environmental condition can be differ in certain area. It is very important to know what is happening in the real world. Observation provides the most direct information of certain area. On one hand, observation gives first impression of certain area. On the other, it can contribute to the analytical part. For instance, the observation (of street view) helps to evaluate quality of public realm. And the distinction of different types of gated community in terms of border based on observation as well. Besides, interviewing helps to realize the preference of local residents. It is quite crucial since the proposal and design intervention are for the local residents. By doing that, one can understand which kind of life or activities do they want. And this can be one of the purposes of strategy and design.

Comparative study and Case study

Comparative study can provides reliable data for analysis, it describes and explains principles of research objects, and provides guidance for further development (Moudon, 1998). Thus, making comparison can not only help to understand condition of site area, but offer good reference for further design intervention. For instance, this thesis will use Hutong area as a reference to make comparisons with site area in terms of several aspects, including density, border, and etc. By making comparisons, it helps to realise how spatial-functional structure influence urbanity performance from several aspects. And it demonstrates the layout of good examples which can be referred to. In addition, case study can inspire design proposals. For instance, based on the data of 'Strava Global Heat map', people who live in Beijing are more likely to take a walk and running along riverbank or inside large park. Therefore, it can be found that at least riverbank area which next to gated community can be designed as a space for walking and running.
Mapping
Mapping helps to demonstrate data and information in a spatial approach. For instance, on urban level, the distribution of different types of gated communities will be illustrated by mapping. And on local level, the quality of public realm in site area can be showcased via mapping as well. The mapping can offer a brief performance of different area and give a general idea of which area need to be enhanced more. Moreover, when using space syntax to analyze connectivity and accessibility of site area, the result will be demonstrated by mapping.

Space syntax
The space syntax method helps to explain how street network influence people’s movement, location of economic issue, and number of street life (Bill Hillier et al., 1993). During last years, many researches focused on application of space syntax in relation to urban form, and some principles have already been figured out. For instance, usually local center locates at ‘two steps’ away from dwelling street in terms of angular change (B Hillier, 1999), and many historical center can be highlighted by low metrical analysis (Nes & Stolk, 2011). In this research, space syntax method will be used to analyze spatial property concerns to gated community, in order to figure out hierarchy and connectivity of it.

Social relevance
Since gated community is the most popular community type in China, a considerable amount of Chinese are living in this kind of housing, and the typo-morphology of it directly influence public life of people. As is mentioned in literature review, there are many problems in typical gated community: exclusiveness is a problem of gated community all over the world, and deserted streets on the border of gated community are quite unlivable. In fact, although there are some activities occurred there and certain social connection in-between residents of gated community and other people, it is still relatively difficult for both residents and others (mainly small entrepreneurs) to use public space and enjoy public life there. However, due to the developers only focusing on buildings and economic values, they can hardly concentrate and assure on the good quality of the surrounding streets, which are the borders of gated community. Therefore, it is quite crucial to propose interventions to the gated community, in order to offer urbane public space and desirable public life there. And this research is trying to find the essence of relationship between gated community’s formation and public life, and to figure out basic rules of the relationship. Then, by using the rules, come up with general patterns and possible interventions to guide the renewal and regeneration of Chinese gated community in future. As a result, enhancing urbanity of public space of gated community.

Preliminary result
By comparing with the structures like Hutong and urban village, which are quite organic and self-organized, it has been found that gated community lacks of accessibility and connectivity. Furthermore, the configuration of gated community result in a quite low density in terms of GSI (ground floor index).

On different scales, urbanity has different meanings in residential area (from large area to small area, the scale can be divided by district, fabric, block, lot, building). On district or fabric scale in a residential area, urbanity means a large number of people communicate or interact with each other, present a good connotation. In general many people are walking through and there could be many micro-businesses and workshops locate along two sides of streets. There are also many commercial-related activities happening there. On block scale, urbanity means there are some local residents walking-by, and there could be some of them playing chess, dancing, or sitting there and talking with each other. On lot scale (usually inside courtyard or inside gated community), people can sit there and enjoy the sunshine, or stay with their neighborhood and talk with each other.

On district or fabric scale, by using space syntax analysis, it has been found in hutong and urban village that the configuration of micro-businesses fit the topological analysis very well when radius is 1500 meters. But in gated community area, because the shops can only exist ground floor of border of community, the configuration of micro-business is quite weird. And there is a big dis-match
in-between micro-business configuration and space syntax analysis. In other word, residents in gated community cannot be maximum facilitated and shops there cannot utilize flow of people very well. Therefore, design proposal will help to dig out the potential of micro-business configuration.

On other scales, the scenarios and design proposal still need to be figured out in detail in future.

Acknowledgement
This thesis mainly focus on one site of suburban Beijing and spatial-functional structure in the area, as well as spatial-functional structure concern to gated community. But there is one issue which is also very important concern to residential community in Beijing that this thesis does not mention in-depth – the work-house segregation. It has been found that there is a severe work-house segregation in Beijing and it result in extremely inconvenience to people who live in Beijing. People who live in Beijing need to spend almost 2 hours a day on their way home or work place in average. For those who live in suburban area, they may spend even more time. Therefore, is it good to establish new residential area in suburban Beijing or how to rearrange the spatial structure of Beijing to ease the segregation of Beijing is still a very tricky question. Although this thesis does not really propose new big residential area in suburban Beijing, it does not really contribute to work-house segregation solution especially regarding to whole Beijing city level.

Shops of Urban village
Space syntax analysis of urban village R=1500m

Shops of Site area

![Diagram of urban village analysis and shops location](image)
Space syntax analysis of gated community R=1500m

Activities on public street, many commercial-related activities

Activities on semi-public street, local resident passing-by and playing chess

Activities on semi-private street, local residents sitting there and talking


