論文の内容の要旨

Thesis title

From Informal Transformations of Formal Housing to Morphological Transformation of Urban Fabric: Learning from the Case of Hanoi's Collective Housing Areas Built under Socialism

（集合住宅のインフォーマルな増改築による都市空間の変容に関する研究ー
ハノイにおける社会主義時代の集合住宅を事例として）

氏名　　グエン　ジエウリン

（本文）

Over time, the way informality has been perceived has significantly changed, from being outlawed, neglected, to being accepted owing to the influence of urban policies and international architecture discourse. Currently, it draws cautious recognition from academics, practitioners and community members who see these settlements as opportunities.

This study attempts to examine the phenomenon of informal transformation of planned housing by providing in-depth knowledge and context specific analysis of spatial transformations on three various scales, centered on users' behavior, thus determine transformation's nature, its influence in shaping and changing urban morphology. The final purpose is to seek lessons for future redevelopment that take into account future growth.

This research adopted two complementary approaches of etic and emic. By moving between the two positions of an insider (emic) and an observer (etic), the author could immerse fuller in a culture, but at the same time staying objective. In unit scale, measurement and drawings of the twenty apartment units in different areas were conducted, personal interviews, photos were also taken to observe trace of new structure on the exterior and interior. In block scale, massive systematic observation was made in exclusive on-site surveys, thus behavioral mapping were generated. On-site survey with interviews were made when necessary to understand meanings of behaviors.

What social factors triggered informal transformations in large scale?
- Socio-economic institutional context of a country in transition with severe housing shortage, rapid urbanization, weak legal system, weakened state's management capacity after a shift from centralized to market economy (Reform Policy 1986)
- Changes in property ownerships in early 1990s which triggered an ongoing process of self-build housing during the war and also post-war years, and led to spontaneous housing construction boom in the city

- Strong family-based trading culture and informal social organization with great autonomy in defending its residents' interest.
- Interactive relations between state and people in Vietnam at local level via ward officials, their indispensable roles in mediating between state's demands for more discipline and people's demands for more liberties and living space.

Which locations are more vulnerable to be occupied? For what purposes?
- In unit scale, the following locations are more vulnerable to be occupied:
- ground floor especially corner units
- top floor
- back side of blocks

Reasons are related to original spatial layout of blocks with: mono-functional ground floor, unused rooftop, back side with low accessibility
- In block scale, the following locations are more vulnerable to be occupied:
- At further end from the local street and in blocks with degraded living condition or shared facilities, open spaces tend to be shrunk.
- Along the busy local street, open spaces tend to be enclosed under the pressure of commercialization.
- At the border with detached housing areas, open spaces can be either enclosed or shrunk with low-rise houses at this transition area.
- Near the junction with access streets: open spaces tend to be temporarily occupied for small businesses serving daily needs of residents and run by low-income residents or vendor, hawkers.
- Along the edge of blocks, temporary occupation is to accommodate living function.
- In close proximity with legally inserted public facilities, open spaces tend to be secondarily shrunk or encircled.
- Behind primary enclosure, open space tends to be temporarily occupied or encircled at the other end.
- Open space enclosed at both ends (following secondary enclosure) or shrunk into strip tend to be secondarily occupied by scattered small businesses.

What are hidden rules among neighbors?
- Residents tend to be bolder in remote areas and more cautious in central locations. For example, unnoticeable encroachment is typical in central location while in more remote areas noticeable rooftop extension is also observable.
- Set-back is nonverbally needed to avoid conflicts with neighbors. Leaning structure is not allowed on common space in use by neighbors like corridor or block entrance path; yet it is tolerated on unused common space like lawn
- Ownership subdivision to finance the extension in low-income households, or to avoid disputes with neighbors and surveillance of authorities on ground floor is typical.
- Subdivision of shared facilities indicates that private ownership is preferable.
- Residents inventively mimic legal orders, learn from each other, or take advantages of existing elements such as: poorly-used sides (back-back, back-rear), hidden locations behind legal structures (school's fence, legally inserted public facilities), behind enclosed structures

What are new spaces and new uses emerged after transformations?
- In household scale:
- New apartment typologies which respond well to individual changing needs of space: apartment with loft, apartment with rooftop terrace, two-floor apartment, apartment with courtyard, store-front apartment.

- Open private space (open annex that is privately-owned but open to neighbors) as interaction territory among neighbors. This multi-functional open private space structured with light steel frame that let daylight and wind in, and accommodates a lot of different uses which do not require a high degree of privacy such as: storage, bike parking space, kid's playroom, planting space, terrace... A certain degree of openness and accessibility from transitional space turn it into an inviting space for intimate neighbors by increasing chances of being met by same floor neighbors which in turn stimulates conversation to occur. A sequence of these open private spaces open on to each other can further increase opportunities for interaction among next-door neighbors while doing household chores.
- Open-air space like courtyard on ground floor or rooftop terrace on upper floors. Even though indoor private space is in great need, many residents chose to have an open-air space instead. In this space, plant pots are placed, or clotheslines are installed. Rooftop terrace often occurs after vertical concession of lower floor households.
- Successful extensions for more living space while maintaining daylighting and ventilation are possible with vertical cooperation for example by leaving an opening in the core part.
• In community scale:
- Partly enclosed open space with high accessibility and connectivity is greatly used by neighbors.
- Temporary enclosure of open space with human activities (including small businesses) is related to the frequent use of open space by increasing chances of being met by neighbors, thus assists social interaction among neighbors. The interconnection of these temporary enclosure in strip guarantees the vibrancy of neighborhood.
- The edge (intermediate space in-between a block and main open space) acts as semi- space, an outdoor living room that stimulates liveliness and usage of open space. This soft extension territory accommodates plants, clotheslines, benches, a small tea stall... This intermediate space blurs the distinction between private and public space yet it is still used for the sake of the community.

How do informal transformations influence urban morphology changes?
- Along the busy local street, a layer is added enclosing open spaces with small shops facing this bustling street. This reflects the traditional morphology of shop house along commercial streets.
- The boundary between collective housing area and low-rise housing area tends to be blurred with enclosure or shrinkage of open space with detached houses spilling onto the border.
- At the junction with access streets, open spaces tend to have higher temporal density with temporary occupation of small businesses interconnected in strip at the heart of the neighborhood. This arrangement can increase socializing opportunities for neighbors, and strengthen cohesion of neighborhood.
- The edge of blocks is softened by temporary occupation on ground floor or open extension cage on upper floors. This soft territory acts as semi- spaces between private and public, which blur the borderlines between in and out accommodate private life to spill onto community space.
- The urban morphology transformation is a gradual and collective process: temporarily occupied → permanent occupied → further temporarily occupied. Thus, further densification is expected in the future.

What lessons can be learnt from informal transformations?
• Emergence of new typologies created wide range of apartment types and sizes, but also raised concerns about inequality among different floor households. Thus incremental direction should be oriented by design and better management.
• Emergence of open private space as interaction territory assists interaction among next-door neighbors. Nevertheless, low degree of openness badly affects ventilation and daylighting. Thus, private spaces

given a certain degree of openness arranged in sequence can increase socializing opportunities among neighbors, and also draw people's attention outwards to the open space, blur borderlines between public & private

- Emergence of open-air like rooftop terrace reveals that although private space not necessarily always the first priority. Therefore, upper floors accommodate people with open-air that fosters the sense of living closer to the ground.
- By examining simultaneously vertical cooperation, more indoor space while maintaining daylighting and ventilation is possible with good incremental design.
- Secondary enclosure is a threat to the good use and good management of open spaces, which stimulates further occupation, because excessively strong degree of enclosure, turn hidden open space into underused, thus vulnerable to be further occupied. Hence, give open space a certain degree of openness and looseness at one junction so that people can appropriate for their own use which serves the community.
- Scattered small businesses cause obstacles for community usage of open space. Activity design can increase usage efficiency of open space, stimulate liveliness of the community. A schematic arrangement of open space with "temporary enclosure" which loosen control at the junction and the edge, and surround main open space with pockets of positive leisure activities can vitalize the community space.
- Severe shrinkage of open space leads to the loss of community gathering space, but can be avoided by better spatial arrangement of blocks that avoid inaccessible and ambiguous open space. There is a need for a solution that guarantees high physical density while regaining community socializing space in vulnerable locations.
- Evolutional schematic neighborhood arrangement: high temporal density interconnected in the heart of the neighborhood can increase socializing opportunities, and strengthen cohesion of neighborhood.

Informal housing transformation, an urban phenomenon in Hanoi, after all is not the only issue that needs to be addressed, through this practitioners and policy makers can acquire a different way of looking at things. Although it often looks messy, if we examine it carefully, it is actually not chaotic but complexly diverse and hidden rules actually exist. The phenomenon has been analyzed extensively in order to capitalize on the creative energy of the community in creating new uses and space forms, in transforming unused spaces into a site of potentiality, efficiency, delightful encounters and liveliness; and in transforming the morphology of the urban fabric. Hidden rules of location-specific extension territory, dispute-free extension territory, open private space, distribution of high temporal density are expected to be adopted in formal urban and spatial design. By learning from those rules and organic patterns created which are adaptive to morphology and expanding orders of the city, a realistic approach which takes into account more respects for users and community and changing needs over time has been proposed.

The findings stress the importance of open space in and local retail in enhancing vitality of the area. Local commerce should be utilized in place-making strategy as a place to socialize among neighbors. Give each community open space a designated area at the heart of the community so that people can appropriate for new uses and enclose it with activities which give each one a strong sense of place. Blur the boundary between public and private by giving public space a certain level of tolerance for temporary occupation and giving private space a certain degree of openness.