Translating Vernacular Hybridity into a Living Matrix -- Reflections on the Production and Occupation of a School Building

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Introduction

When the term 'architecture' meets the term 'education', it not only relates to architectural schools, professional curriculums, or educational buildings, but also relates to the boundary and capacity of architectural action, as both aim high to empower a wider audience. The process in the production and occupation of architecture, especially the school buildings, has potential to become more engaged into broader educational process.

As quoted from Louis Kahn: 'Schools began with a man under a tree, who did not know he was a teacher, discussing his realization with a few who did not know they were students.'

To explore the notion of 'liveness' in between architecture and education, to some extent is to explore the essence of this school spirit – 'under a tree' as mentioned above. Literally, producing a school building is one of the straightforward ways to respond. Regardless of cultural specificity, the design of contemporary learning environment has been transformed globally in quite a similar way in recent decades. Analogous concepts have been emerging, ranging from informal learning streets, collective learning neighbourhood, to real-world live projects, in order to adapt to the major shift from the teacher-centred to the student-oriented pedagogy.

What is not so clear, firstly, is that how these new understandings of pedagogy help to 'translate' what has already been there into local architectural action, such as the hidden wisdom of vernacular. As Pérez-Gómez notes that the shared foundation of diverse cultures is poetic tectonics, and translation is the approach to poetic tectonics. [1] With its unpredictability, translation is a hermeneutic process to create meanings as well as values, which also closely correlates to educational process.

Secondly, for a long time there exists a gap between the neutrally producing architecture and the diverse occupation of architecture. On one side the architects' self-representation as master-builders pursues the completed perfection and resists sharing the authorship in the production process; on the other side, the complexity, the roughness, and the diversity of the praxis grows in their own rights.

Bridging a link to the above two questions, this paper of work-in-process produces the concept of 'vernacular hybridity' to 'translate', in relation to explore the notion of 'living matrix', or 'liveness', with a reference on a school project (architectural design of the branch of 45th High School in Hefei City, PRC) [2].

'Vernacular hybridity' lies in two layers here: the first layer is about the mediation between vernacular elements and contemporary languages in the architectural production; and the second one relates to the (co-)production with the creative users after occupancy.

The first part of this paper reviews the production of the selected school building case, mainly on translating the organizational language of local vernacular settlement into this school 'village'. In the second part it reflects on its occupation and reproduction through texts as a piece of architecture, noting that the users rebuild a hybrid layer mentally and spiritually upon the built physicality and that is exactly the potential catalyst and living matrix to cultivate the 'liveness' of this school as an educational device.

Finally the paper puts that the 'liveness' in between architecture and education is far more than merely the creation from the professionals, but the messy, roughness, provisionality, and ordinariness, through creative inhabitation by the occupants. Learning from those vernacular settlements and architecture without too much professional's involvement can provide an alternative for contemporary architectural action, in living and being 'liveness' by translating those ordinary, vernacular, hybrid things in temporal dimension at the grass root level, rather than rushing to the perfect product.

Keep 'liveness' by translating.

Learning from Vernacular

Does 'hybridity' facilitate the notion of 'liveness'?

As architecture without architects, vernacular settlements in traditional Hui Prefecture, PRC (Fig.01) can be interpreted as a system of 'liveness' through creative adjacency of basic environmental units. The village presents strong self-similarity and self-

organization in spatial structure. The simplicity in single building unit enhances the complexity of whole settlements, generating a spatial tension in-between.

The organizational language of vernacular settlement is a hybrid of the 'archetype' and the 'patchwork'. As for the archetype of basic unit, it was the courtyard dwelling mostly presented in 'U' or 'H' type in which the buildings enclosed the internal light well. Then this basic unit formed a series of variables or clusters through different degrees of rotating or connecting, while maintaining the main structure relatively stable; As for the patchwork, it was the servicing part (e.g. kitchen and storage) which act as hollow boundary defining the inner void, adjusting the entrance orientation, and adding screen to adapt to the left-over space of the irregular site, etc.

It is this hybridity achieved through creative adjacency that allows much more flexibility for inhabitants to adjust and refine elements in plans, facades and even sections, according to their changing needs throughout time. Through this agency the 'liveness' of the whole vernacular settlement has been facilitated.

Fig. 1. Creative adjacency in vernacular settlements (Source:http://www.mucai.org.cn/materials2/slide/201210/1/4 201/75167.jpg)

The 1ˢᵗ Translation: Production

The following reflects on a built school project in traditional Hui Prefecture (the branch of 45ᵗʰ High School in Hefei City, PRC), discussing the production of this building as an educational device in translating vernacular hybridity into contemporary moment.

Fig. 2. Site before architectural interventions (Source: Google Earth. Accessed: December 2010.)

Fig. 3. Site after architectural interventions (Source: Google Earth. Accessed: December 2013.)

Fig. 4. Site after architectural interventions (Source: Google Earth. Accessed: December 2013.)

Located at the edge of an industrial zone of city periphery and formally as a generic farmland, the site for the proposed school was seen as a 'tabula rasa' (Fig.02) without any useful reference onsite or adjacent plots. New architectural intervention was not able to re-write the site, but had to construct it as a self-reference. Inspired from those vernacular settlements settling down in the wilderness, key strategy was to propose a village-like school (Fig.03-04) as a loose-fit framework and matrix for future evolution.

Fig. 5. Masterplan in schematic design phase
(Source: Produced by the author. February 2011.)

Fig. 6. A School village; a village school
(Source: Google Earth. Accessed: December 2013.)

Fig. 7. Bird-eye in schematic design phase
(Source: Produced by the author. April 2011.)

Key step was ground articulation (Fig.05). The ground plane was regarded as open-air classrooms and it was divided into two roughly equal parts, the north one was local stone paved for formal assembly and the south one is local bamboo cladded for informal activities. The two were in different heights while the south ground was elevated 1.5 meters higher to accommodate a semi-buried (2.4 meters) bicycle parking space underneath, for 2400 students of the school.

This floating plaza act as a vibrant hub of the school, with four terraced teaching buildings anchoring the boundary in slight different angles to allow overall spatial porosity. 1.5 meters height was set as it is the visual height of average students and the threshold of distinguishing semi-underground or underground building in local architectural codes. And most importantly it makes students' everyday experience in entering teaching buildings step by step into a kind of ritual movement, which corresponds to that in wandering about civic plazas in vernacular settlements.

The terraced structure remained consistent as a formal language, however the focus shifted from the single building to the inter-relations in-between each single component which shared the same formal and tectonic logic. The terraced teaching buildings, the folded art and administration building, the round canteen and stadium building, and the crevice, the cavity, the void inside and in-between, all based on a village-like matrix where each actor could make dialogues with the other (Fig.06-07).

The matrix is living, as it provides an event-structure capable of multiple activities and celebrates different participations and interpretations from the users. In this way the very nature of the 'liveness', the presence of daily life in vernacular settlements would be grafted, which is beneficial to inform a pedagogy appropriate to the study, thinking and living of the users mainly from the age of 13 to 15.

The 2nd Translation: from Production to Occupation to Reproduction

Barthes's 'The Death of the Author' provides a lens to explore 'liveness'. The interrelationship between writer-text-reader is seen as analogous as to that between producer-building-user ('producer' here is not limited to the professional architect).

The physical built work of this school was a co-product of a professional design team, as well as a construction team with trained construction workers. The design and construction process was operated in quite a top-down mode within limited timeline and tight budget, as similar to most cases in Chinese urbanization. In this view the role of the architect of this building ended immediately after physical forms being built -- the 'death' of the architect.

However what worth noting is that in the production of vernacular architecture, the role of craftsman as master-builders and the process of coordinating the design and construction are much more open and engaged, as can be demonstrated from 'sophisticated carpentry system and much interaction between villagers in the building process, including all the building rituals, mutual assembly, ancestor worship, the Feng-shui and so on'[3].

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To large degree the vernacular architecture was produced without professional involvement, for example, without the completed design or construction drawings. Loads of details were decided on site after the communication and testing from the builders, designers, or in most cases, the builders-as-designers. Thus both the process and product of the essence of vernacular were a hybrid. From this point of view we argue about the definition of the architect as an empowered creator and solo author of this school building. And we are extremely interested in the fleeting notion of 'building' co-produced by the inhabitants and the participants (including everybody who gets involved in the architectural activities), such as the hand scratches on the building materials by construction workers (Fig. 08), as well as the fleeting moments of construction site (Fig. 09).

Fig. 8. Scratches by construction workers
(Source: Photographs by the author. November 2011.)

Fig. 09. Fleeting moment of construction site
(Source: Photographs by the author. November 2011.)

It is no doubt that end-users should be reactivated to be more creative from the beginning. If we could, we would. But in this case the design team couldn't get in touch with the real end-users – those students except some of the teaching staff representatives. It's a shame. To compensate, we highly value those unexpected additions onto the building by the end-users after occupancy, such as those flags attached temporarily on the balustrades of roof terraces (Fig. 10), and the

vegetable planting which made use of the triangle left-over space behind the bleaches of football pitch (Fig. 11).

It is those living elements that make the 'dead' building alive again, at the same time make its authorship more hybridized. It's those users, from passive to active ones in a bottom-up way, who rebuild their environment initially shaped by the buildings as a top-down product from professionals.

Fig. 10. Temporary attachment on the balustrades of roof terraces by the users
(Source: Photographs by Jiaming Cheng. May 2014.)

Fig. 11. Vegetable planting in left-over space by users
(Source: Photographs by Jiaming Cheng. May 2014.)

Thus the efforts put into the spatial production of this school building in design phase does not result in offering an autonomous, fixed, and incomplete thing anymore, as much as it might be any piece of architecture; but it acts as an open text to the creative readers after occupancy (Fig. 12-13).

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Fig. 12. Perspective of teaching building in conceptual design phase
(Source: Produced by the author. January 2011.)

Fig. 13. Perspective of built teaching building
(Source: Photographs by the author. September 2012.)

As quoted from Sarah Wigglesworth: 'It is not surprising that the architecture is obsessed with notions of the iconic, the one-off, the monumental. It privileges the final product over the process, the perfect moment of completion over the imperfections of occupation… High architecture is unravelled by the habitual and banal events which mark the passage of time. There is a thudding disappointment as a gap opens up between the image of architecture and the reality of its making and occupation.' [4]

From this perspective, the whole process of architectural action includes two 'actors': one is a building guided by disciplinary expertise, such as architect's involvement as a form-giver; recorded in professional drawings; built in limited timeline and budget by trained construction workers; etc.; the other is a building (might be in same physicality with the first one, but more time-based and at the grass root level) shaped by creative users in the process of occupation and reproduction (Fig. 14-15).

Fig. 14. Plaza in-between teaching buildings in the first week of occupancy
(Source: Photographs by the author. September 2012.)

Fig. 15. Plaza in-between teaching buildings after two years' occupation
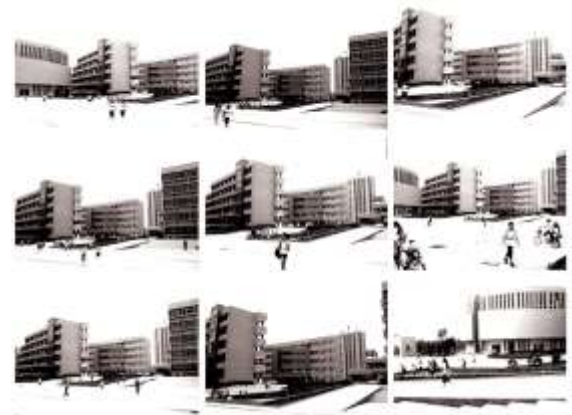(Source: Photographs by Jiaming Cheng. May 2014.)

Fig. 16. Montage of gaps
(Source: Photographs and redrawn by the author. September 2012.)

It matches the viewpoint from constructivist stage in the evolution of pedagogical theory. [5] As Vygotski argued that 'remembering and application of knowledge had to be situated in the students' lived world in order to become authentic learning. In other words, students construct their own meanings and they do so in social context'. [6]

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We believe that the inhabitants are building a new 'school' during their occupation, both physically and mentally, based upon the built work by professional. The new one could be read as a hybrid layer compared to the existing, as it attaches and overlaps on the old to some capacity and still keep the possibility to merge the two layers into one hybrid. That leads to a more thought-provoking situation, when the two encounter and evolve together, into a montage. (Fig. 16) As quoted from Jonathan Hill referred on Walter Benjamin's 'The Arcades Projects': 'In the montage of gaps, authority is shared between the producer and the user. The montage of gaps is particularly appropriate to user creativity in architecture because the building is not experimented all at once. It is experimented as a montage, piece by piece, in moments separated by gaps in climate, space and time.' [7]

Conclusion

In short, through the reflection of the process and product of the local school case, this paper holds that 'vernacular hybridity', as both a critical mediation and productive context, has the potential to be translated into the production and occupation of the building as a living matrix beyond physicality. By translating those vernacular, hybrid, and ordinary things as a living matrix rather than rushing to the solution, the approach to the essence of 'liveness' could be cultivated, from the school spirit under the tree of Louis Kahn, to the much more expanded field -- the 'liveness' in between architecture and education.

'Architecture is far more than the work of architects.' [8]

In one of the return visits to this school, the author stood against a wall in the corner of the plaza in-between the teaching buildings for the whole afternoon, watching the students passing, playing, interacting… there was a moment when the author suddenly realized that only the users are the final authors of the built environment; their activities are rendering the building; they are part of the buildings; each of them is and will be translating his/her classroom, terrace, plaza, school… The sum of them will be a hybrid, a living matrix.

Finally, to make a pause quoted from a Chinese poet: 'I wish I could rebuild a city through my texts… in this city, time was reversed, dead trees were brought to life again, disappeared smell, sound and light were recalled, missing courtyards, lanes and temples were rediscovered to the original appearance, traditional tile roofline expanded to the sky, children were well aware of seasonal change, residents got their own orientation to settle down. I opened the gate of this city, welcoming homeless and all the guests full of curiosity.' [9]

References

[1] Pérez-Gómez, Alberto. "Built upon love: architectural longing after ethics and aesthetics". Cambridge, Mass.: MIT Press. 2006.

[2] The author got involved into this architectural design project (the branch of 45th High School in Hefei City, PRC) as the architectural design team leader in conceptual design and schematic design phase from 12/2010 to 05/2011.The major construction of the school was completed on 08/2012 and the school has been applied into use from 09/2012 to now.

[3] Selected from an email conversation with Prof. Peter Blundell Jones, School of Architecture, the University of Sheffield, on 22/07/2014.

[4] Wigglesworth, Sarah and Till, Jeremy. "The Everyday and Architecture" in Architectural design profile, 134. Wiley, Chichester. 1998. p7-9.

[5] Dovey, Kim and Fisher, Kenn. "Designing for adaptation: the school as social-spatial assemblage" in *The Journal of Architecture*: 19:1, 43-63, DOI: 10.1080/13602365.2014.882376. 2014. p 45.

[6] Vygotski, Lev. "Mind in Society". Cambridge Mass., Harvard University Press. 1978. p.57.

[7] Hill, Jonathan. "Actions of architecture: architects

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