L: Hannah Arendt provides a tremendous insight. Of course, her works was slightly conditioned by her time, but I thought she was beginning to sense something quite important. She thought that in the classic formulation of Marxism, labour had always been seen as an abstraction with no cultural meaning attached to it. By abstracting labour into value, Marx was able to describe the entire economy in relation to labour. But Hannah Arendt argued that labour had a cultural meaning and in that sense, she wanted to make a distinction between labour and work. The insight here is that she considered labour as fundamentally fragmented in our contemporary society, i.e. you don't really know what you are producing; for instance, people who specialize in counting money probably only have a faint idea how and where the money comes from, where it goes to. In a comical way, it is like Charlie Chaplin's portrayal of a worker at an assembly line. This really explains fragmented labour. In architectural office, you may draw a small part of a building …

C: Drawing working details….

L: So you can think of hundreds of ways of describing labour in Arendt's formulation; I have worked in architectural offices before, and I felt that many people who produce construction drawings do not really care about what they do. Certainly not urban issues, not cultural issues. Arendt was not a simple thinker and her thoughts were quite complex and one should spend time to understand what she meant, but I think the insight we can gain from her is that a place like Hong Kong is dominated by the practice of labour. Arendt argued that fragmented labour underlines the logic of the consumer society, or society of labourers, in which most people are disconnected with the experiences of making. Only labour, not making. There are many cultural consequences of this society of labourers, one is the demand for symbolic happiness, as compensation for fragmented labour, in the form of excessive consumption.

C: Is this related to market economy situation?

L: Yes of course, that's why her work was also about the consumer society. We are living in it, we cannot run away from it, but I think it is good to have critical voices.

C: Do you mean that the people are shifting their interests from work to labour?

L: No, people do not shift; they are being shifted by the way the market place works. Arendt didn't say that the market makes them to do it, but this is what it means. This is to do with how jobs are specialized, how to perform certain job in an efficient way…

C: By mass production…

L: Yes, I think we are fundamentally makers. A human being is a maker; to exist means to make. One of the best examples that demonstrate the spiritual value of making is probably the monastic practice of making things, transcribing books, making products as a spiritual activity. We should regard making, and the making of architecture, as spiritual as well as economic. The meaning of making is phenomenological, to do with being or perhaps becoming, you become by making. This is a very simple human quality that in Arendt's terms has been systemically and deliberately taken out of the circulation, so that we become good labourers, as hardworking and efficient experts and consumers. That completes the whole circle of life in the society of labourers.

Learning Architecture and Image Culture

C: In "Mediated Architecture in China" (2008), you argue that "contemporary Chinese architecture is profoundly shaped by a 'culture of figuration'…This culture of figuration reconstitutes the image culture – as it has been constructed by the consumer society – and allies with the electronic media to produce a mediated architecture in China." Besides, you also comment that Rem Koolhaas' *S, M, L, XL* "subverts reading…contains an image of research in the forms of observation, documentation and analyses…Architectural research has acquired a new vigour in the age of electronic media." What is your opinion on Rem's influence to the development of contemporary Chinese Architecture? How does architectural research transform in the image culture?

L: It's a hard question. Koolhaas has a lot of influence in China, and the influence to me is a media event. It is about the speed and quantity of information being circulated; this, as both form and content of the Koolhaas media, has its own legitimacy. I think much of intellectual content and deep irony in his thinking is missed out in the influences. As a media effect, may be it does not really matter.

C: His book *Great Leap Forward* also arouses a lot of discussion …

L: Yes, of course an important aspect of the media event is in the form of a book. I think the image culture in China is a much bigger and more interesting topic than Koolhaas's influence in China. Mediated event, image culture and contemporary electronic media are tremendously interesting. It is a very challenging academic adventure.

C: Besides, in the same article, you also observe that "the sheer quantity and speed of construction in China, like those of the Industrial Revolution, would eventually result in a new architecture, and that the critique of image is particularly important in this context." How to arouse the students the awareness of image critique?

L: I think few people in the 19th century anticipated that simple and crude-looking industrial buildings and materials would become the paradigm of architecture for the entire 20th century. This is time to think again. I think this is a provocative question and I really do not have an answer at this moment because it's just beginning to happen.

C: But nowadays in China, the government aims to create an icon for people, for example, some landmark buildings.

L: Sure I think iconicity is something that connects to the image culture and electronic media, but the difference between the demand for iconicity in China and that in the west, in the forms of Coliseum, Parthenon, Eiffel Tower, or in the form of Frank Gehry's buildings, are different. They have different intellectual origins and different underlying value systems.

C: It's a big topic for your research.

L: It is a big topic and it's also quite important and urgent.

C: Shanghai Expo, using a lot of electronic media, is also related to the image culture …

L: To me, the Shanghai Expo is much easier to understand than other Chinese cities; I have planned several trips to visit smaller but interesting cities in Zhejiang province, and I am looking forward to these visits.

C: Thank you very much for sharing your thoughts.

Hing-wah Chau
HKIA, Registered Architect (Hong Kong)
Authorized Person (List of Architects)

Eisenstein and Montage Space

Tung-Yiu Stan LAI

ABSTRACT

This paper demonstrates the architectural student projects in the Department of architecture, Chu Hai College of Higher Education (CHARCH) supervised by the author which incorporate film as the medium of architectural study. It is found that interdisciplinary research and design studio incorporating film art worth further organized for the architectural programme to stimulate the students' sense of mobility in space.

Introduction

"Painting has remained incapable of fixing the total representation of a phenomenon in its full visual multidimensionality. (There have been numberless attempts to do this). Only the film camera has solved the problem of doing this on a flat surface, but its undoubted ancestor in this capability is — architecture." (Eisenstein and Bois 1989)

An early 20th century USSR film-maker and theorist, Sergei M. Eisenstein, who was originally trained as an architectural engineer, discovered the common ability of film and architecture for "fixing the total representation of a phenomenon in its full visual multidimensionality".

Film can be regarded as the design of time with space, and architecture as the editing of space with time. "Montage", as a technique of film editing, uses the arrangement of different shots to present an idea. In other words, it is to rearrange the images (space) with sequence and duration (time). The movement in film includes the mobile objects in scene and the mobile camera; and the movement in architecture includes the mobile users in space and the mobile spectator. The rhythm in film is expressed by the movement of objects in scene, together with the sequence and duration of shots; and the rhythm in architecture is expressed by the similar movement in space and the similar sequence and duration perceived by the spectator. Therefore, movement and rhythm can be regarded as the link-bridges between Eisenstein's dialectic montage and architecture.

Part 1: Film is Architectural

Can film be read in the way of reading architecture? Can film be edited in the way of designing architecture? As defined in the Introduction, film is the design of time with space. This part intends to answer these 2 questions by "spatializing" the temporal arrangement of Eisentein's films. The process of "spatialization" is to provide a measuring tool with the scaling of space – an architectural tool. The temporal arrangement in the films includes the movement of camera, figure, and object in shots (measured in spatial diagram) and the rhythm of cuts (measured in timeline with categorized characteristics of shots).

DIALECTIC MONTAGE

This research starts with a general study on the theory of Eisenstein's theory of dialectic montage. Eisenstein's dialectic, originated from Marxism, "is a way of looking at human history and experience as a perpetual conflict in with force (thesis) collides with a counterforce (antithesis) to produce from their collision a wholly new phenomenon (synthesis) that is not the sum of the two forces, but something greater than and different from them both". (Cook 2004, 148) Montage provides both films and architecture with the principle of "split and merge" in time and space respectively such as with the methods of "overlapping", "interfacing", "juxtaposing", etc.

The Movement and Rhythm in Cinematic Montage

This research shifts to two focuses – the "movement" and "rhythm" hidden in his works, in order to further bridge to the time-space relationship in architecture. The further decomposition of the Eisenstein films incorporates the uses of spatial diagrams to depict the composition and timelines to depict the duration of shots. On the one hand, the focus on movement emphasizes the framing of shots (cinematography) by analyzing the moving (and also static) pattern of camera and objects in each shot, e.g. speed, direction, etc., and then the spatial relationship between cuts, e.g. repetition or contradiction of moving pattern in two or more successive shots. On the other hand, the focus on rhythm emphasizes the film editing by analyzing the duration of shots and interval of cuts, and then the temporal relationship between cut and image, e.g. continuity, jump, interchange, etc.

From the analysis of his films, the interaction among figure movement, camera movement, spatial configuration, and shot rhythm can be regarded as a generator of narration. The case of "the Odessa Steps Massacre" in Battleship Potemkin, where different directions of the figures' movements in space (the collective, uniform, and downward movement of militia; the singular and upward movement of the mother holding her wounded son; and the collective, chaotic, and downward movement of fleeing citizens) demonstrate contradictions of different parties in the suppression of a rally. In a conflict between the mounted police and the workers upon a mother rescuing her child from the legs of horses in Strike, figure movements transform the space. (Figure 1) By the interaction of figure movement, camera movement, spatial configuration, and shot rhythm, the broken figure movements look continuous.

The rhythm in Eisenstein's films can also be unfolded by its transformation to spatial diagrams. Static shots of similar faces, buildings, and landscapes in repetitive durations between three and four seconds dominate the first five minutes of Que Viva Mexico!. The "gods" sequence in October, also with similar contents (icons of god) in different shots, but is organized with an acceleration of shot duration with the climax of rhythm at the later part. For a clearer representation of the rhythm, the research team further inserted the sound of simple beat synchronizing each moment of the cut. With this incorporation of music into the visual diagram, we can easily see what Eisenstein emphasized in his writing Non-indifferent Nature (1989) – the use of musical principle to organize the shots with rhythm. The two types of rhythm in these cases – repetition and acceleration towards the climax – link film with music. With

Figure 1. The animations for *Strike* demonstrate how figure movements (from child accidentally entering the space among the legs of horses and mother rushing into the same horse-legs-colonnaded space, and workers pouncing to the police) transform the space.

reference to Eisenstein's filmic montage, the shots are intentionally split and merged with particular patterns of movement and rhythm. This is to create what music does to manipulate the emotion and perception of audience. The sequence of shots as a temporal organization with rhythm is in fact analogical to the rhythm in spatial organization of a path. This further reminds us of the musical nature in space.

1. These projects were carried out by the students under the course Architectural Design and Theory III, Department of Architecture, Chu Hai College of Higher Education, Hong Kong during the 1st semester of 2009-2010. The students of Studio include Calvin Cheung, Ben Chong, Frank Gao, Rex Ho, Kammy Leung, Vivian Li, Wilson Tang, Lemon Wong, Joy Yau, Tak-On Yim, and Fred Zhou.

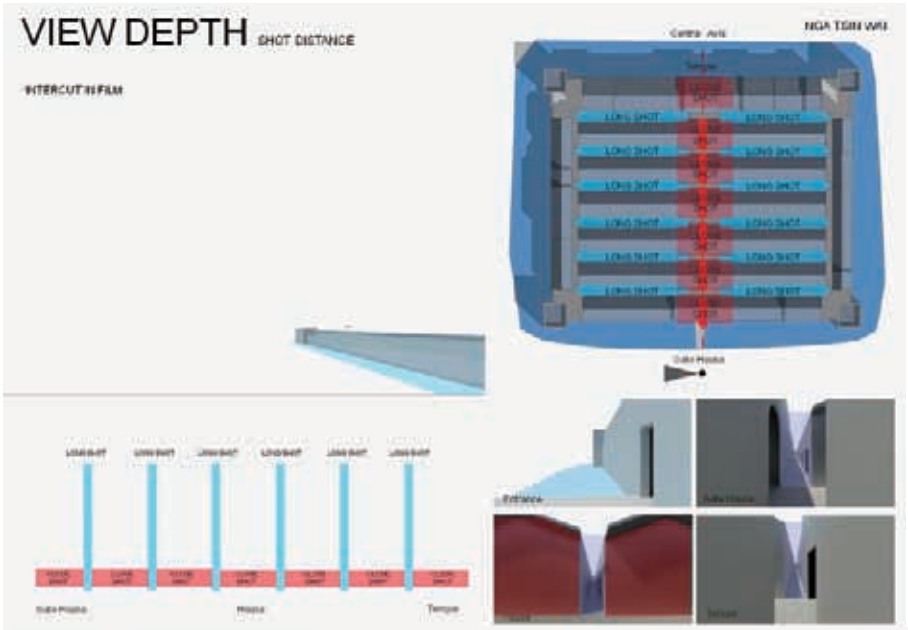
Part 2: Architecture is Filmic

Can architecture be read in the way of reading film? Can architecture be designed in the way of editing film? As film defined as the design of time with space, architecture, on the other hand, is the editing of space with time. This part intends to answer these 2 questions by "temporalizing" the spatial arrangement of architecture. The process of "temporalization" is to provide video with moving, synchronized, and interchanging cameras – a filmic tool. The video, used in addition to conventional 2-dimensional and 3-dimensional drawings, juxtaposes with the "spatialized filmic tool" of timeline and spatial diagram adopted the previous film analysis. Therefore, it can be regarded more accurately as both temporal and spatial – a new form of "architectural tool" for reading and design of architecture. With such tool, the filmic language of montage is translated to an architectural language. In this part, the translation provides a change in the conventionally static vision to some architectural spaces.

Spatial Translation

Filmic montage can be translated to the movement of a person passing through split spaces. Alternatively without really passing through the spaces, the change of views by the eye movement of a spectator in a heterogeneous space in fact can also achieve the translation of montage. The organizational flexibility and multiplicity of traditional Japanese houses can well demonstrate this experience of spatial montage. By cameras walking through a 3-dimensional model of Katsura Detached Palace, the rooms usually have more than one side of openable shoji screens allowing them to be passed through rather than limit themselves as the independent destinations distributed by a continuously homogeneous corridor. Moreover, due to the flexible arrangement of shoji screens (closed or opened), a walking spectator in the house can possibly use different options of paths

2a



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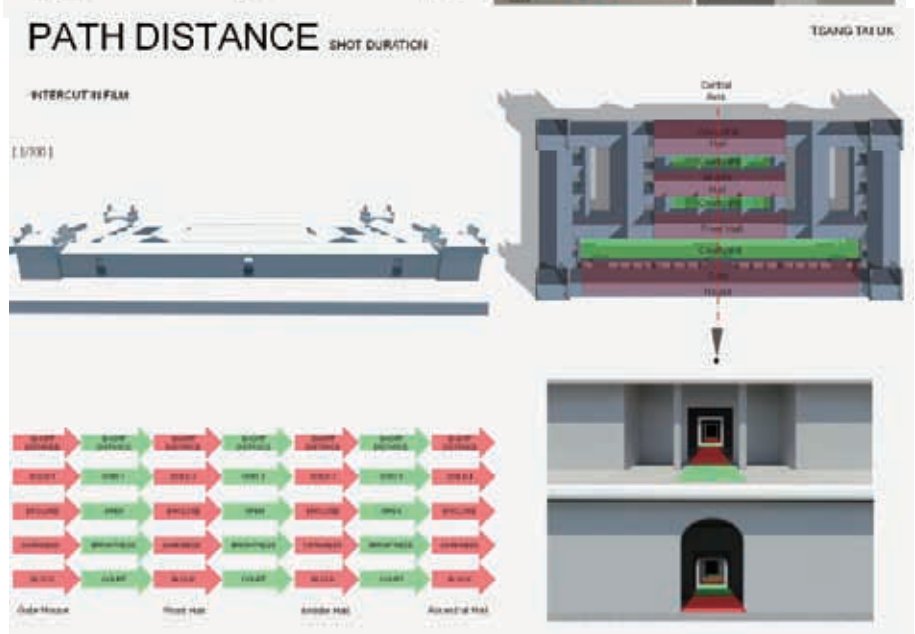

Figure 2. The analysis on the central axes of two walled villages. Figure 2a shows the camera movement with sideward view analyzing the view depth in Nga Tsin Wai, creating a filmic experience of shot distance intercut in terms of shot distance. Figure 2b shows the camera movement with forward view analyzing the path distance in Tsang Tai Uk, creating a filmic experience of intercut in terms of shot duration.2b

composed of rooms, internal corridors, engawa spaces (side verandahs), outdoor walkways, or courtyards to the same destination. Therefore, the spatial montage does not only exist in single fixed path, but also in different times' memories of a walking spectator using different paths.

Another Oriental architectural system, the traditional Chinese one, can illustrate the rhythmic aspect of montage. Different from the Japanese' indeterminate openness in organization, Chinese architecture tends to use determinate central axis to organize space. Again with the eyes of a walking spectator analogical to the camera, the filmic montage is translated to architectural space in the rhythmic change of spatial configuration along the central axis of Beijing Forbidden City. Here we can experience the "movie" composed of two types of shot. Entering from Tian'anmen Gate at the south, the front part (Outer Imperial City) is the long duration (long take) and long distance (long shot), and the rear part (Inner Palace City) is the short duration (short take) and short distance (close shot). In addition, the combination of shots can result in three types of sequence – i) contradictory alternate succession, e.g. intercut, ii) gradual transformation, e.g. axial cut, and iii) repetition / similarity, e.g. replay cut, jump cut.

The use of central axis has not only existed in monumental architecture, but it has also been widely used in Chinese vernacular architecture. Two cases of Hong Kong traditional walled village, Nga Tsin Wai and Tsang Tai Uk, represent two very different configurations of central axis arranged by the Guangfu and Hakka ethnic groups respectively. Similar with the previous filmic study, this spatial study is illustrated by the synchronized videos (moving camera along the axis) and animated camera key plans, and diagrams classifying different shot experiences in different parts along the axis. Two approaches are adopted to test the shot experience in each village – the camera movements with forward and sideward views. It is founded that in small scale space with sufficiently fast movement of viewer, any spatial change would be so frequent to result in the effect of intercut (montage). Therefore, the intercut in Nga Tsin Wai is composed of the sequence of covered gate (solid) – longitudinal lane (generally void, but with alternative sequence of solid houses and void cross lanes on both sides) – hall (solid); but in Tsang Tai Uk, the intercut is composed of the sequence of covered gate(solid) – the first courtyard (void) – front hall (solid) – the second courtyard (void) – middle hall (solid) – the third courtyard (void) – rear hall. (Figures 2a and 2b) If these two types of axial configuration are compared to that of Forbidden City, in fact, the lane configuration of Nga Tsin Wai is similar with the long take in the Outer Imperial City, and the courtyard configuration of Tsang Tai Uk is similar with the short take in the Inner Palace City.

Central - Mid - Levels Escalator System

Incorporating the filmic tool, the tempo-spatial study of these architectural cases can provide a new understanding of the underlying principles constructing our experience through 4-dimensional montage along the path – the interweaving and intercutting of various patterns of movement and rhythm. The final case for such study is Central-Mid-Levels Escalator System in Hong Kong. It is the longest outdoor escalator system in the world constructed by Hong Kong Government in 1993 to provide a mechanical commute by linking Central and the Mid-Levels. Along the escalators the walking spectators (moving cameras) are imposed with compulsory movement and speed (rhythm) by the mechanical travelling system. This is very close to the filmic experience as described by Eisenstein – "the imaginary path followed by the eye and the varying perceptions of an object that depend on how it appears to the eye…… the path followed by the mind across a multiplicity of phenomena, far apart in time and space, gathered in a certain sequence into a single meaningful concept; and these diverse impressions pass in front of an immobile spectator". (Eisenstein and Bois 1989)

The rhythm study for escalator system starts with the use of synchronized tri-camera videos in leftward, forward, and rightward directions in an objective manner. Their shot characters are then analyzed separately. The shot distance is classified as long shot (the view to the space outside the escalator) and close shot (the translucent screens hanging on the sides of escalator to obstruct the exterior views for the privacy of flanking buildings). Classifying the views outside the escalator with motion, dynamic scene denotes the view to a cross street perpendicular to the escalator or buildings with intensive human activities such as shops or bars, and static scene denotes the view to a vacant lot or a non-commercial use on the G/F with solid wall and sparse activities. (Figure 3a) Finally, the leftward and rightward videos are merged and edited by intercutting the views of either side with long shot or dynamic scene. The rearranged outcome video is composed of only the shots along escalators in higher degree of richness. This can be regarded as a simulation of the normal viewing nature of spectators who tend to shift their views to richer visual elements. (Figure 3b)

Also starting with objective shots along the escalators, the movement study on the other hand demonstrates the break of the linearity along the escalator paths. Every morning, there is a reversal of the normal upward direction to downward for the escalator system. Therefore, it is impossible for the system users to experience both running directions of the escalators during a continuous trip there, and they are required to shift to the stepping walkways beside when the escalators are running in the opposite direction. Other than the escalators and walkways, the landings as intersections nodes between segments of escalator and other paths connecting the street levels usually break the continuity as well as the linearity of the escalator system. Standing at these nodes, we can experience the pedestrians layered in different speeds and directions. (Figures 4a and 4b) Together with the forward / leftward / rightward view at one single moment, the uphill / downhill direction of escalators, (Figures 4c and 4d) and passing through / standing aside at the landings between escalators, are all impossible experiences coexisting simultaneously. The objective videos are then merged and edited with the intercutting shots of these different moving patterns. On the one hand, the resulting non-linear video goes beyond the realistic linear experience of escalator path. On the other hand, it can be regarded as a deeper simulation of the mental pattern of spectators who are familiar with the spatial configuration of escalators and perceive the path not only with their views (from their eyes) and motions (by their foot), but also with their memories and imaginations of other moments along the escalators.

Part 3: Filmarchitecture
The Birth of a New Form

Removing the camera in film and the mobility of spectator in architecture, film and architecture can be indistinguishable. Film parasitizes in architecture, and architecture parasitizes in film. Only when time and space are absolutely expelled from each other, which create pure time and pure space, such parasitism ceases to be generated. The synthesis of "film" and "architecture" is not the sum of the two art forms. It is a way of looking at human experience as a perpetual conflict in which force (pure space) collides with a counterforce (pure time) to produce a new

3a

3b

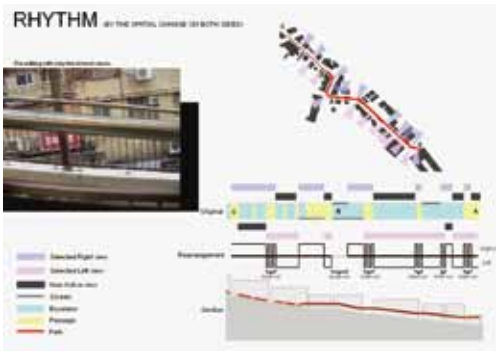

Figure 3. The rhythm analysis on Central-Mid-Levels Escalator System. Figure 3a shows the tri-camera video for the forward, leftward, and rightward views. Figure 3b shows the video re-edited with only the richest views, and the diagrams of rhythm change on both sides.

phenomenon (time-space) that is not the sum of the two forces, but something greater than and different from them both.

In fact, time and space cannot be totally expelled from each other, but may be neglected. The ultimate expulsion of space from film may result in something similar with literature or purely display of titles in a film; and the ultimate expulsion of time from architecture may result in something similar with painting or a space of purely flattened object. But are these ultimate states still defined as film or architecture then? If film and architecture are not at the two opposite poles, there is no pure film nor pure architecture. Therefore, with time-space (summarized as movement and rhythm in this research) considered rather than pure time or pure space, film and architecture are synonyms rather than antonym. The new synthesized form "filmarchitecture" exists in-between "film" and "architecture".

Moving Street of Montage

"Moving Street of Montage" is an attempt to demonstrate the new form of "filmarchitecture". It is the design proposals for the reorganization of Central-Mid-Levels Escalator System in Hong Kong in order to test the space editing with the parameter of time. Rather than merely using conventional drawings or animations, these proposals are represented by long scroll panel and video of montage edited with other symbolic images and background music to simulate the mental experience of users.

Conclusion

The depiction of filmarchitecture further unfolds another dimension of architecture, which returns to the beginning of this paper – Eisenstein's filmic montage. The use of montage video, composed of walk-through animations, inserted film clips, intertitles, and background music, is not only to simulate the realistic dimension of moving space, but also the imaginary dimension of varying mind. Just like the collision of associative or disjunctive shots in Eisenstein's filmic montage, filmarchitecture redefines the reality by interweaving the eyes (and also other sensual organs) with the human mind.

Finally, it is found that interdisciplinary research and design studio incorporating film art worth further organized for the architectural programme to stimulate the students' sense of mobility in space. In such a complicated city as Hong Kong where movements and networks overwhelm gazes and buildings, understanding the edit of space as if a film director or cinematographer designs the time is particularly vital to architectural students.

Acknowledgments

The students in the course Architectural Design and Theory III, Department of Architecture, Chu Hai College of Higher Education, Hong Kong during the 1st semester of 2009-2010.

Pauline Lam. Student, MA in Filmmaking, London Film School.

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4a

4b

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4d

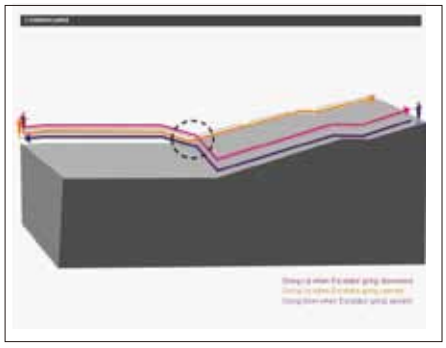

Figure 4. The movement analysis on Central-Mid-Levels Escalator System. Figures 4a and 4b are the video clip and diagram showing the multi-layering of pedestrians at node 6, respectively. Figure 4c shows the video clip of camera moving downward with upward escalator. Figure 4d is the diagram showing the paths of three videos – camera moving upward together with escalator, camera moving upward with downward escalator, and camera moving downward with upward escalator.

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Learning Architecture –
A Review of Different Experiences at City University of Hong Kong

Charlie Xue, Virginia Fung and Joseph Wong
Edited by Ivan Ip

The learning of architecture entails far more than the acquisition of static knowledge from books; it requires the experiencing of various aspects of architecture including space and form, materials and textures, and assembly of components. This article presents a number of approaches to the learning of architecture at City University of Hong Kong for enhancing students' appreciation of architecture and design, and provides a flavour of the range of learning experiences which students are exposed to during their studies in the Associate degree and Bachelor degree programmes at the university.

Learning by Making
Charlie Q L Xue

The evolution of Chinese architecture over the past five thousand years has accumulated a very rich collection of physical and cultural heritage, and these heritage buildings are scattered all over China. The systematic study of traditional Chinese architecture was first founded by Professor Liang Sicheng and his colleagues in the 1930s. Shouldering the task of reforming traditional China and educated in the Beaux Arts method from the USA, Liang's vision was truly global. After studying the development of Western architecture, especially Sir Banister Fletcher's book on the history of world architecture, Liang attempted to establish a Chinese architectural system which would be parallel to that of the Western world. His ambition was appreciable. However, in recent years, some different voices have emerged, and Liang's method of studying Chinese architecture has been scrutinized and challenged by some scholars of the 21st century.[1]

In Liang Sicheng's system of traditional Chinese architecture, the major component is the wood structure. Wood structure is highly reliant on its "regulated" style (法式) and construction details (構造). The complicated wood structure of Chinese architecture is a natural result of structure and the expression of the timber material, and is particularly evident in the buildings of the Tang (A.D. 618-907) and Song (A.D. 960-1279) Dynasties. This material expression of wood may be considered as rather similar to the "tectonic" approach in architectural design of recent years. Liang Sicheng and his colleagues used modern "scientific" architectural method to record and depict the old buildings and their construction, and the outcome is embodied in his magnum opus – "Qingshi yingzao zeli" (清式營造則例; The building construction of Qing Dynasty).[2] Liang's analysis and documentation reinterpreted traditions with modern language, and put forward this valuable legacy onto the world stage.

At City University of Hong Kong, traditional Chinese architecture is taught together with Classic Western architecture in a history course, as part of the curriculum for the Bachelor of Science in Architectural Studies degree. In the curriculum, there are only six to seven lectures, and besides lectures, tutorials and examination, there is a coursework component. In 2009, an assignment to make a 1:1 model of dou-gong (斗拱) was set as part of the coursework.

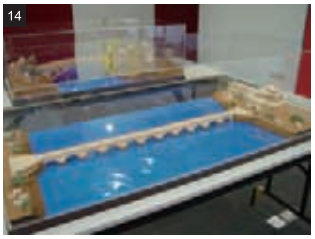
1. Finding form with foam, By Chiaki Chan
2. One-layer dou-gong, By Law Yin
3. Five-layer dou-gong, By Leung Ho Kiu; Kei Ka Yat; Chan Tak Yeung, Chan Hon Chu Hansen; Wu Ching Kwong; Kwan Lai Ping
4. Dou-gong and beam, By Chan Ting Ting Esther; Chan Ching Yee; Chan Chiu Kwan Chole; Hui Chun Hoi Eddie; Lo Wing Chi Vivian; Tsui Tik Man Lulu
5. Water colour of dou-gong, By Lee Mung Kei

6-7. Making of dou-gongs in action

If wood structure forms the major part of traditional Chinese architecture, then dou-gong (bracket) is the pinnacle of this heritage. Dou-gong is so unique in Chinese architecture that it is used as the logo for the Architectural Society of China (ASC). It demonstrates an excellent combination of arts and crafts, through the mortise-and-tenon joints and the stroke of the ax which were driven by the carpenters' taste and creation. By making models of dou-gong with their hands, students were able to appreciate the intentions of ancient masters directly.

For this exercise, the dou-gong regulations of Qing Dynasty (A.D. 1644-1911) were selected to be followed, as the dou-gongs of that period were relatively small and simple. And of the two types of dou-gong which are positioned on the cap of column and on the beam between columns, the one between columns was selected as it has fewer components. Following Liang Sicheng's book, drawings of a dou-gong were prepared by a research fellow using AutoCAD and SketchUp, in order to establish a 3-D concept from plan to exploded isometric drawing. Students also made a traditional Chinese ruler with Qing measurements, so that they could directly read and measure from reference books and other reading materials.

Students were either grouped into teams of 4 to 6 to do a five-layer dou-gong (五層三跳), or worked individually to do one layer (一斗三升). A number of students began by using foam to understand the form, and then made the final



8. Measuring a traditional building in Beijing
9. Measuring the 17-hole Bridge in the Summer Palace
10-11. Making models of the bridges
12. Zhao Zhou Bridge, By Lee Yuk Ting; Ng Kwun Lun; Wu Sze Man
13. 17-hole Bridge, By Liu Wai Fan; Lee Ka Ching Zita; Ho Po Yee
14. Lugou Bridge, By Chan Chi Yan; Zenny Cheung; Chan Chun Chiu; Nathaniel Tiu Lam

version with wood. Although the dou-gong made with foam looked fine at first glance, different materials have their own properties and a dou-gong in foam is miles away from a wooden dou-gong.

After making the models, students wrote a report to record their processes and ideas. Through "Learning by Making", the students' hands were directed by their mind, and in return they inspired their mind. By gaining an in-depth understanding of the essence and techniques of traditional Chinese architecture, students have also made one step towards an appreciation of the "tectonic" approach in architectural design.

"Learning by Making" is central to our educational belief of student-oriented learning. If condition allows, we often integrate hand making with design and drawing. In the past, students have made models of historic buildings in Hong Kong for the District Councils. In 2009, students visited three stone bridges in northern China: Zhaozhou Bridge (趙州橋6th century), Lugou Bridge (盧溝橋13th century) and 17-hole Bridge in the Summer Palace (十七孔橋18th century). Students investigated and measured the bridges on site, and made models of the bridges as teams on return to campus. The outcome of this study was exhibited at CityU Main Library in November 2009. All the participating students felt benefited from this year-long process of preparation, reading, site visit, measuring and model making.

The design of dou-gong coursework was helped by Dr. Zhai Hailin, research fellow at CityU. The study tour and exhibition of stone bridges was initiated by Professor Steven Ching, Librarian, and Dr. Teresa Tu of CityU Library. The visit of Beijing and Shijiazhuang was jointly led by Li Lin of the Chinese Civilization Centre at CityU, and the author. Thanks to our colleagues at CityU, and let us continue to think creatively and inherit our cultural traditions through in-class and out-of-class activities in the future.

Notes:

1. The following are examples of recent literature in which Liang Sicheng's method of studying Chinese architecture has been scrutinized and re-evaluated:
   趙辰：《'立面'的誤會 – 建築.理論.歷史》, 北京三聯書店，2007
   李士橋：《現代思想中的建築》，中國水利水電出版社、知識產權出版社，北京，2009
   賴德霖：《中國近代建築史研究》，清華大學出版社，北京，2007
   薛求理：《建造革命 – 1980年來的中國建築》，清華大學出版社，北京，2009
   Charlie Q. L. Xue, Building a Revolution: Chinese Architecture since 1980, Hong Kong University Press, Hong Kong, 2006

2. 梁思成，《清式營造則例》，中國建築工業出版社，北京，1981

Learning by Travelling

Virginia W M Fung

Although one may debate on the effectiveness of the "Grand Tour" under the notion of architectural education in today's internet age, at City University of Hong Kong, we see great differences in students' enthusiasm in the subject before and after joining technical visits and study tours. Learning by travelling has a long history in architectural education, and stepping into the internet age, its merit is not merely in terms of architectural knowledge gained during the trips, but the seed that is planted in the students' heart to explore, experience, appreciate and create better spaces when they are commissioned for projects in the future.

As one of the co-curricular activities for our Associate degree programme, overseas study tours represent the climax among those local site or project visits and technical visits in mainland China. Study tours are organized recurrently for Year 1 students during the summer break of the 2-year Associate Degree studies. Students will be asked to express their interest to join the tours and will be selected based on written statements submitted by them on their learning objectives.

Study tours are organized by students themselves and supervised by one or more participating teachers. Before setting off in June, students would write proposals, source accommodation and transportation, and align visits to universities and particular buildings starting from April. Students learn the following skills during the stages of preparing for the tour, carrying out activities during the tour, and documenting the tour through exhibition or webpage production:

1. Develop generic skills during preparation;
2. Establish the ability to plan structured study trips;
3. Learning from oversea architectural masterpieces;
4. Experiencing the cities visited and be culturally thrilled;
5. Develop life-long learning skills to collect, record and interpret;
6. Present synthesis during exhibition and webpage design;
7. Consolidate and conclude experience for future design insights.

Tour preparation is an excellent training for students' generic skills. It involves the skills of information collection, analysis of options, and the polishing of the logistics of transportation, accommodation and visits. These extend to the problem solving skills during the trip when unexpected incidents happen, deviating from their plans. Their written language skill is also reinforced when exchanging correspondences with oversea universities or architectural firms to align visits before the trip. Students will also prepare a detail itinerary with selected architecture for visits, research on the culture and geography of the cities, and identification of both famous landmarks and latest architecture that are worth visiting. The selection of buildings to be visited is also related to their studio project building prototype. They will then design learning activities during the trip based on the learning outcomes set out for the tour. Mini-projects with clear objectives and deliverables will be decided among the group of students before the trip and executed during the visits. These planning experiences are important for the students' future architectural excursions.

1. Study Tour to Austria and Italy – June 2006
2. Study Tour to Germany and the Netherlands – June 2008
3. Study Tour to Kansai, Japan – June 2006
4. Study Tour to Tokyo, Japan – June 2007
5. Study Tour to Austria and Italy – Sketching exercise

6-8. Study tour exhibition – Sep 2006
9-11. Study Tour websites – 2007 http://bst.cityu.edu.hk/AS_studytour/germany_netherlands_2007/ http://bst.cityu.edu.hk/AS_studytour/france_spain_2007/ http://bst.cityu.edu.hk/AS_studytour/tokyo_study_tour_2007/
12. Technical visit to Fujian – Dec 2006
13. Technical visit to Shanghai – Dec 2007
14-15. Study project at Guizhou – summer 2007

The selected students will collect information about the masterpieces to be visited, including but not limited to the plans and photos of the building. This research process allows students to familiarize themselves with the buildings to be visited and provides questions for them to explore during the trip. Feedback from students in previous tours has demonstrated that the actual experience during the visits would usually open up new perspectives to look at a piece of architecture which had not been considered during the research. To gain the information about a masterpiece from publications is one thing, while to be inspired by it is totally different. Internet search or even virtual tour can never replace the excitement produced during actual spatial exploration in the masterpieces.

Under the current trend of globalization, the awareness and appreciation of different cultures is important. One way is to be culturally "thrilled", or even "shocked", which will have the effect of triggering our sensitivities to the impact of culture on cities. By exploring cities, students will also understand that the success of architecture is not simply through the merit of its form and space, but also through its integration into the context. This is something which is difficult to teach and learn in class, but easier by actual experience. With the integration of thematic studies and learning activities during the trips, students will exercise their drawing skills learnt in communication studies and analytical skills acquired in problem cases. These life-long learning skills are reinforced within out-of-classroom settings which are highly interesting and stimulating.

To present one's idea is also an important component in architectural training. Through the completion of post-trip deliverables, students will be given a chance to showcase their findings and outcomes. During the past years, these deliverables have been presented in the form of exhibition with multiple media such as drawings, panels, models, and video; or webpage which can be accessed through our Divisional website, through which the experience and knowledge gained during the trip can be disseminated to other fellow students.

After all, anything taught or learnt in architecture is usually not for immediate use. It needs to be incubated to form future design insights. Learning architecture through travelling is one of the most motivating ways in architectural education. Obviously, its target user is not only limited to students, and its destination is not only limited to overseas cities. It is a jovial life-long learning exercise for all architectural students and architects, and there are already many places worth exploring in mainland China or even Hong Kong.

Learning In-Between

Joseph F Wong

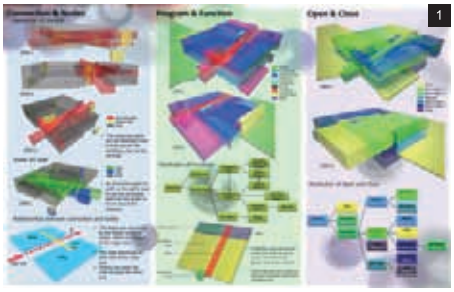
Architecture enables inhabitation by offering a varied topography of spaces and forms in which human activities take place (Habraken, 1998). Moreover, studies in architecture traditionally concentrated on architecture as objects – material, language, articulation, external form, façade composition, proportion, etc. – and relatively neglected the theoretical development of architectural space and its configuration. Professor William Mitchell, former Dean of the MIT School of Architecture and Planning and the UCLA Graduate School of Architecture and Urban Planning, believes that it is of critical importance to develop a theory of spatial configuration and its logic "as a foundation for designing" (Mitchell, 1990).

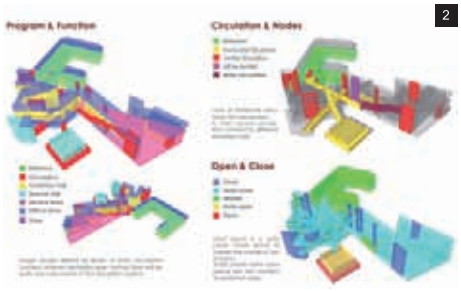
Adopting in-between space methods first developed by Professor Jan Wampler at MIT (Wampler, 1993), students in the Space, Idea and Process studio in the Bachelor of Science (Honours) in Architectural Studies programme at City University of Hong Kong attempted to develop an understanding of spatial strategies and generate meaningful spatial organisations. The theme of the project was to design a museum for one of the three Chinese religions of Confucianism (儒教), Taoism (or Daoism) (道教) and Buddhism (佛教). The primary objective was to create a museum in which visitors comprehend and appreciate the philosophies of these Chinese religions through their spatial experience rather than the exhibits.

Through a series of exploratory exercises, students were asked to reverse their normal understanding of a building and visualise space as solid/positive, and the built elements (walls/floor/slabs/roofs) of the building as void/negative. This had revealed the spatial configurations – "inner beauty" – of architectural spaces and illustrated how the paths, places and in-between spaces organise the visitors' experience. In the studio, students had first studied precedents using this method and then started their design process not with concrete tangible built form but with abstract intangible space form.

Space Form Precedent Study:

In this exercise, students analysed the spatial characteristics of museum design precedents that they thought could best express the themes of their assigned Chinese religion. The methodology of this study required them to model the buildings spaces – the spaces in-between the walls – rather than the building. Instead of building physical models, students used 3-dimensional digital models to represent the spaces of the museums to allow them to highlight interesting features. They illustrated all the spaces of the museum, including all relevant approach and outdoor spaces, as 3-dimensional diagrams and studied the spatial relationship between them.





1-2. Student analyses of The Kunsthal by OMA and The Jewish Museum Berlin by Daniel Libeskind, By Lo Wing Chi, Vivian; Hui Chun Hoi, Eddie

Using colours to represent intensity, the students analysed three main aspects of the museum designs: program/function (distribution of different functions), open/close (varying degrees of enclosure), and connection/nodes (circulation pattern and relationships to key nodes). The intention was to facilitate students to gain an understanding of the connection between design themes and spatial ideas at the conclusion of this exercise. Furthermore, after reviewing the spatial characteristics of all the precedent cases, they began to realise that there exists a typology of spatial configuration and strategies that could be internalised as their own functional knowledge in design.

Designing in Space:

Throughout the history of its development, museums have increasingly embodied a dual role – content exhibition and social knowledge transmission through their spatial configuration (Peponis and Hedin, 1982). The museum is therefore not merely a space for exhibiting artefacts and artwork but a device to transmit knowledge about social and cultural heritage – a shift from monument to instrument (Pevsner, 1976). Students in this studio had conceived the organisation of the spaces in their designs as the main instrument for transmitting religious knowledge. By isolating the space form as the medium of design, the students were allowed to focus on configuring the sequencing and qualities of the architectural spaces as direct representation of the principles and views of the Chinese religions.

Following their analysis of precedents using space form models, students began looking into their own designs. Thinking about the kinds of space they had conceived for their museums, the consideration of space took priority over form and design language. The "built" parts of their designs were conceived as elements for defining the spaces and their organisation after the configuration, sequencing and quality of the spaces in their museums had been determined. Similar to their precedent case studies, students modelled the spaces in their designs as translucent "glass boxes" with different colours denoting the different characteristics of the space in terms of the three aspects – program/functions, open/close and circulation/nodes – and their relative importance within the design. The results of this exercise were not "design schemes" in the form of a stack of design sketches. Instead, students generated a series of spatial strategies relating to different aspects of architecture that defines the museum design.

The above is a brief description of the "space" parts of the design studio intended to sensitize students to the process of making space. In almost all of their previous design experiences, they had mostly designed the architectural elements (mainly walls in plans and slabs in sections) first and the spaces kind of became a residual result of those actions. It was the reverse in this studio: the built results from the space.

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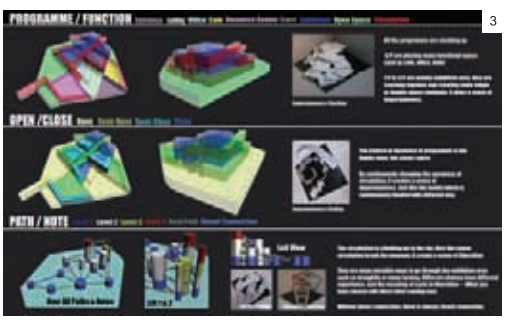
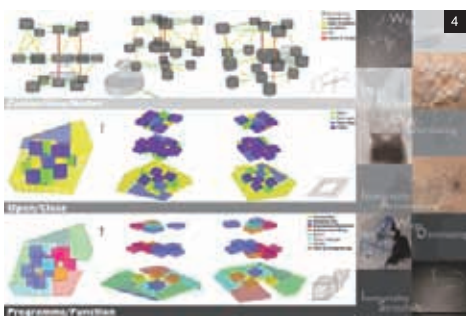
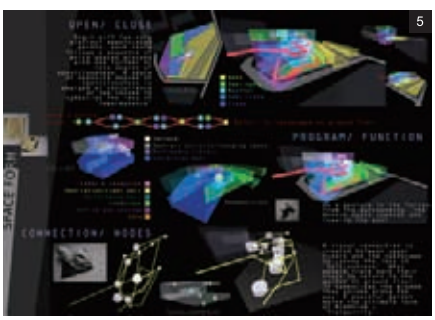
Peponis, J. & Hedin, J. (1982). "The layout of theories in the natural history museum" in 9H, No.3, pp.21-25.
Pevsner, N. (1976). A history of building types. London: Thames and Hudson.
Wampler, J. (1993). "Exploring prototypes" in Places, Vol.8.4, p76 -79.







3-5. Space form designs , By Kan Wun Chun; Luk Ka Man, Karmen; Siu Yim, Emma

HKIA Education & Careers Expo

Benjamin Yiu

Every year, the Institute stages a booth at the Education & Careers Expo organized by the Hong Kong Trade Development Council. Visitors are usually local and overseas secondary students who aspire to join architectural or building industry. With the help of five architectural course providers and dedicated HKIA members, the booth has rich contents about the possibilities in building a career path leading to architecture. The visitors are provided with details about architectural programmes offered by local tertiary institutions and the route to become a HKIA Member and a registered architect in Hong Kong. Visitors can also learn more details of architecture as a career by attending talk which is delivered by the Institute's members during the period of exhibition.

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Captions:

1. HKIA Booth for Education & Careers Expo (1-4 February 2007)
2. HKIA Booth for Education & Careers Expo (23-26 February 2006)
3. HKIA Booth for Education & Careers Expo (21-24 February 2008)
4. HKIA Booth for Education & Careers Expo (19-22 February 2009)
5. HKIA Booth for Education & Careers Expo (4-7 February 2010)
6. Seminar on Education & Careers Expo (2 February 2007)
7. Seminar on Education & Careers Expo (2 February 2007)
8. Seminar on Education & Careers Expo (21 February 2009)