

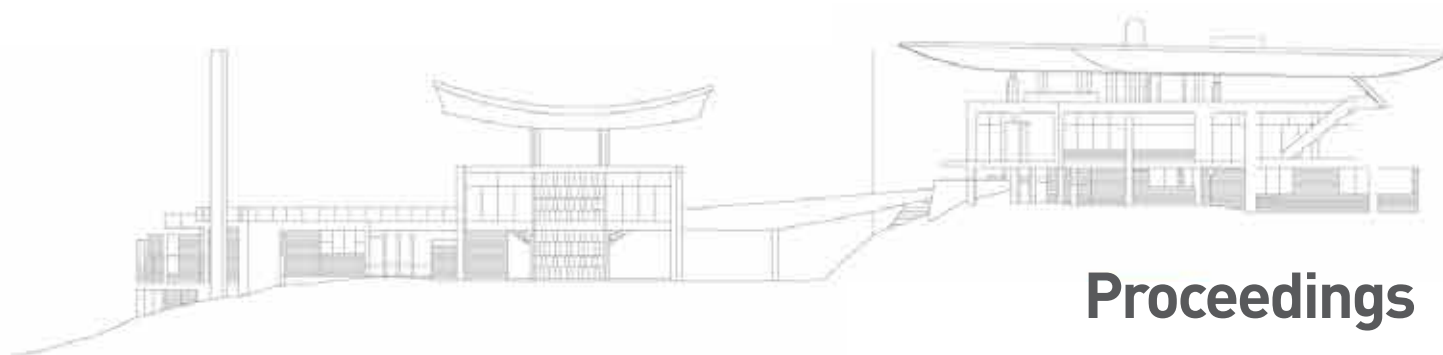
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2014 · 서울 · 도코모모 · 세계대회
Proceedings of the 13th Docomomo International Conference Seoul

Expansion & 충돌과 확장 Conflict

24-27 September 2014

National Museum of Modern and Contemporary Art, Seoul



Proceedings

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The 13th Docomomo International Conference Seoul

Expansion&Conflict

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(Tae-woo Kim, Chair of DOCOMOMO Korea)

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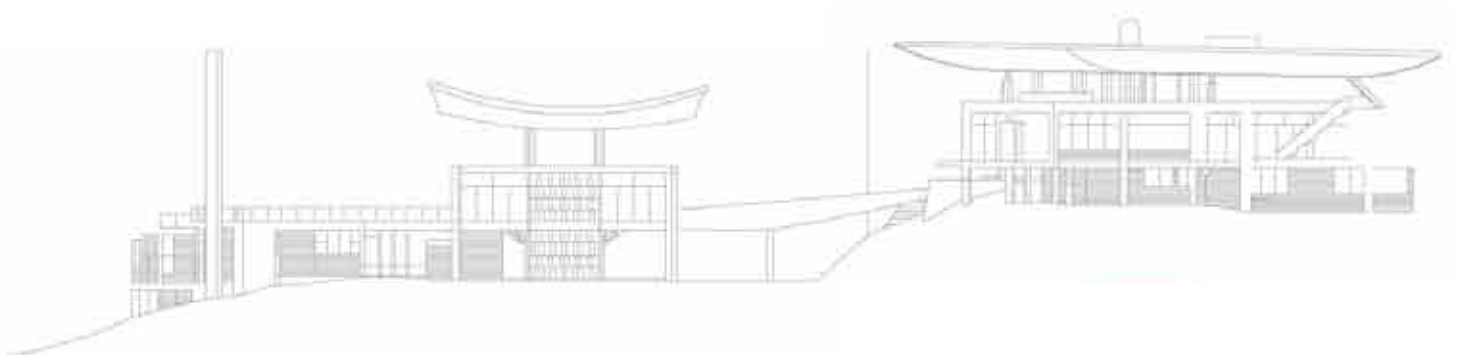
Expansion & Conflict

Edited by

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The 13th Docomomo International Conference Seoul, 2014

Expansion & Conflict

Title	The 13th Docomomo International Conference Seoul, 2014
Theme	Expansion & Conflict
Schedule	2014. 9. 19(Fri) ~ 29(Mon) Workshop/ 9. 19 ~23, Conference/ 9. 24~27 Tour / 9. 24, 28, 29
Venue	National Museum of Modern and Contemporary Art, Seoul, Korea
Host	DOCOMOMO International, DOCOMOMO Korea, MMCA
Support	Cultural Heritage Administration
Supervision	2014 Docomomo Seoul International Conference Organizing Committee
Agency	Studio Bloom Inc.
Language	Korean, English

Venue Information



National Museum of Modern
and Contemporary Art, Seoul

2F



National Museum of Modern
and Contemporary Art, Seoul

B1

Program

Time&Day	9.19FRI -23TUE	9.24WED	9.25THU			9.26FRI			9.27SAT			9.28SUN -9.29MON
08:00-09:00			Registration									
09:00-09:40	Workshop	Doco Tours	Keynote Speech 1			Keynote Speech 3			Keynote Speech			Doco Tours
09:40-10:00			Coffee Break									
10:00-12:00			S1	S2	S3	S10	S11	S12	S16	S17	S18	
12:00-12:30			Lunch			Lunch			Lunch			
12:30-13:00						Council Meeting						
13:00-15:00			S4	S5	S6				S19			
15:00-15:15			Coffee Break						Coffee Break			
15:15-17:00			S7	S8	S9				S13	S14	S15	
17:00-17:05			Coffee Break			Coffee Break			Coffee Break			
17:05-17:15			Next Conference Proposal									
17:15-17:20			Coffee Break									
17:20-18:00			Keynote Speech 2			Keynote Speech 4			Closing Ceremony			
18:00-19:00												
19:00-21:00			Opening Event & Welcome Dinner							Farewell Dinner		

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Time	Program
09:00-12:00	ISC/Technology Meeting - Place : Lecture Room 2 ISC/Education and Theory Meeting - Place : Lecture Room 3
12:00-14:00	ISC/Registers Meeting - Place : Lecture Room 2
14:00-17:00	Advisory Board Meeting - Place : Lecture Room 2 Exhibition Welcoming(16:00-17:00) : event before ceremony - Place : MMCA
17:00-18:30	Exhibition Opening Ceremony - Place : MMCA
19:00-21:00	Opening Event & Welcome Dinner - Place : Ninetree Convention – Grand Ballroom - In English / with Korean subtitles

SEP, 25

Time	Program
09:00-09:40	Keynote Speech - Place : Multi-project Hall - speech by Jong Soung Kimm
09:40-10:00	Break
10:00-12:00	Session 01 (Conservation and Reuse) - Place : Multi-project Hall - Session Chair : Louise Noelle - Presenter : Marieke Kuipers / Jose Galbinski / Joana Gouveia Alves Session 02 (Asian Modernity) - Place : Theater - Session Chair : Euisung Yi - Presenter : José Huapaya / Yael Allweil / Nader Meddeb/ Pieter Brosens Session 03 (Education and Theory) - Place : Rehearsal Room - Session Chair : Liu Kecheng - Presenter : Eduardo Costa / Kaisa Broner-Bauer / Pirooz Hanachi

12:00-13:00	Lunch
13:00-15:00	Session 04 (Technology) - Place : Multi-project Hall - Session Chair : Kyle Normandin - Presenter : Yuk Hong Ian Tan / Marc Dubois / Chitrarekha Kabre / Fernando Diniz Moreira Session 05 (Urbanism and Landscape) - Place : Theater - Session Chair : Hannah Lewi - Presenter : Nobuo Aoki / Yeol Park / Irina Cheredina / Zhao Pei / Cheng Yang Session 06 (Asian Modernity) - Place : Rehearsal Room - Session Chair : Eui-sung Yi - Presenter : Rajiv Wanasundera / Arief Setiawan / Farhan Karim / Mark Alan Hinchman
15:00-15:15	Break
15:15-17:00	Session 07 (Urbanism and Landscape) - Place : Multi-project Hall - Session Chair : Kenji Watanabe - Presenter : James Ashby / Djamil Benghida / Keyang Tang Session 08 (Conservation and Reuse) - Place : Theater - Session Chair : Cheng Yang - Presenter : Leena Makkonen / Lucas Van Zuijlen / Andrea Canziani / Alex Dill Session 09 (Technology) - Place : Rehearsal Room - Session Chair : Yoshiyuki Yamana - Presenter : Maris Mändel / Lucia Santa Ana / Iveta Cerna / Jon Buono
17:00-17:05	Break
17:05-17:15	Next Conference Proposal
17:15-17:20	Break
17:20-18:00	Keynote Speech - Place : Multi-project Hall - speech by Hubert-Jan Henket

SEP, 26

Time	Program
09:00-09:40	Keynote Speech - Place : Multi-project Hall - speech by Fumihiko Maki
09:40-10:00	Break
10:00-12:00	Session 10 (Education and Theory) - Place : Multi-project Hall - Session Chair : Jieheerah Yun - Presenter : Hielkje Zijlstra / Carolina Quiroga / Emilio Ozaeta / Miguel Jaime Session 11 (Asian Modernity) - Place : Theater - Session Chair : Ana Tostoes - Presenter : Yoshiyuki Yamana / Sangeeta Bagga / Eric Keune / Niyati Jigyasu Session 12 (Conservation and Reuse) - Place : Rehearsal Room - Session Chair : Tae Woo Kim - Presenter : Marcos Cereto / Hannia Gómez / Ana Carolina Pellegrini / Marta Silveira Peixoto
12:00-12:30	Lunch
12:30-15:15	Council Meeting - Place : Multi-project Hall - Chair : Ana Tostoes
15:15-17:05	Session 13 (Urbanism and Landscape) - Place : Multi-project Hall - Session Chair : Miles Glendinning - Presenter : Horacio Torrent / Fernando Diniz Moreira / Hyuntae Jung Session 14 (Asian Modernity) - Place : Theater - Session Chair : Gonçalo Canto Moniz - Presenter : Sungwoo Kim / Eui-Sung Yi / Inha Jung / Choon Choi Session 15 (Technology) - Place : Rehearsal Room - Session Chair : Jong Soung Kimm - Presenter : Peter McKenzie / Maria Luiza de Freitas / Wessel de Jonge
17:05-17:20	Break
17:20-18:00	Keynote Speech - Place : Multi-project Hall - speech by Mark Sexton

SEP, 27

Time	Program
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12:00-13:00	ISC/Urbanism and Landscape Meeting - Place : 3F Seminar Room Lunch
13:00-15:00	Council Meeting - Place : Multi-project Hall - Chair : Ana Tostoes
15:15-17:05	Session 19 (Asian Modernity) - Place : Multi-project Hall - Session Chair : Panayotis Tournikiotis - Presenter : Caterina Franchini / Sanghun Lee / Gonçalo Canto Moniz Session 20 (Education and Theory) - Place : Theater - Session Chair : Andrea Canziani - Presenter : Jadwiga Urbanik / Poul Sverrild / Caroline Engel / Luisa Durán Rocca Session 21 (Conservation and Reuse) - Place : Rehearsal Room - Session Chair : Jong Hun Kim - Presenter : Rémi Wei-Chou Wang / Jieheerah Yun / Katty Law / Edite Rosa / Esther da Costa Meyer
15:00-15:15	Break
15:15-17:05	Round Table - Place : Multi-project Hall - Chair : Jong Soung Kimm
17:05-17:20	Break
17:20-18:00	Closing Ceremony - Place : Multi-project Hall
18:00-21:00	Farewell Dinner - Place : Ninetree Convention Terrace Hall

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Meaningful Collective Forms

The “Expansion and Conflict” argument has to do with the debate on the great metropolis growing process on the scope of the Modern Movement ideas. Discussing the emerging global city and following the *Investigations in Collective Form*¹ (Maki, 1964), this theme is the result of a challenge which is related to the impressive Asian cities high density. This year of 2014, when DOCOMOMO major Conference is hosted at the Korean National Museum of Modern and Contemporary Art, the inspiring stimulus of Seoul amazing city and the “Expansion and Conflict” conference motto are the starting point that justifies going deeper in the relationship that connects technology and human need.

The debates that followed the World Design Conference (WoDeCo, Tokyo, 1960) on the search for a “total Image for the 20th Century” pointed out among worldwide designers, architects and planners, viewpoints and intellectual ideas concerning the future of the city, particularly in the wake of technological and scientific advancement in industry. The urban designers asked why, what and how we should design.

At the time of the WoDeCo, progressive architects formed the “Metabolism” group and proposed their concepts to deal with the increasing complexity of the rising cities. Debating over the ideal city and promoting a kind of experimental architecture based on ideas of life styles and communities for a new era, its biological name suggests that buildings and cities should be designed in the same organic way that the material substance of a natural organism propagates adapting to its environment by changing its forms in rapid succession. The metabolism *manifesto* was a proposal for a theory of architecture and city capable of growing and changing². The principle behind the manifesto was that rather than being fixed machines, architecture and cities should be organic, growing through metabolic processes of change and renewal.

Metabolist magnificent urban design projects were backed by a strong desire to reconstruct and by hopes of the future. They provided motivation and inspired fresh dreams. The vision for Mega structures, artificial ground, capsules, infrastructure and environment are some of its principal keywords. The concept of environment addressed an intermediate approach that incorporated design, architecture and art. This coincided with a worldwide trend of expanding the concept of art to encompass areas such as space and media. The scope of architecture can similarly be seen as expanding from a concern with individual buildings to an attempt to address issues with the design of cities. Grouped together architecture becomes a city, when we all know that cities are society in a visible form, giving shape to the way that we live. The image of new towns founded on faith in science and technology can be considered symbolic of the Modern’s optimism and linear view of history, convinced of continual growth, progress, improvement in living standards and accumulation of wealth.

As Fumihiko Maki argues, searching for new formal concepts in contemporary cities lies in the magnitude of recent change due to the unprecedented rapid and extensive transformations in the physical structure of society, the rapid communications methods, the technological progress and its impact upon regional cultures: “we must see our society as a dynamic field of interrelated forces, a dynamic equilibrium [...] which will change in character as time passes.”³

The plan turns program and the time dimension became one of the keys for the future. As Távora stated “everybody insists in the same idea: the necessity to create a link between the man and the technology regarding the formal matters.”⁴

Redefining collectivity and Habitat implied that elements and linkages become designed with a contextual consideration. Maki and Ohtaka searched to fill up an adequate special language or as they state, an appropriate master form in order to fulfill visual and physical character although assuring elasticity and flexibility. Considering the “man’s immense desire to make grand and perfect buildings” it is necessary to fight for an adequate spatial language to make meaningful environment. This situation has prompted them to investigate the nature of “collective form”, a social and economic net promoting the links between space and buildings that have reasons to be together: meaningful to give the forms forceful *raison d’être* in our society⁵. The analyses evolved through two questions: how collective form has developed and on its implications for current thinking.

In fact, the concerns over the dramatically change in contemporary city has led us to face environmental questions, ecological requirements and sustainable needs as vital values to ensure, considering re-use and renewal as creative tools and strategic key words for DOCOMOMO’s future.

The aim is to address the dimension related to the future of our environment and the increase complexity to deal with it. The late CIAM discussions brought social and intensive public aspirations in order to develop strategic tools in making our physical environment. A habitat usually denotes the environment in which a population may live. As Foucault argues the organization of space is connected with problems of population, health and the town planning which would be at the same time a history of powers as the anchorage in space is an economic-political form . Within the CIAM context, Le Corbusier brought up the term “Habitat” at the CIAM 7 in Bergamo in 1949, calling for the development of a Charter of the Habitat. The next CIAM at Hoddesdon in 1951 where “The Heart of the City: Towards the Humanization of Urban Life” was the motto, an outline of the principles of the Habitat Charter was presented but in fact it was not possible to reach a consensus about what form and nature the Habitat should have. In 1953 at CIAM 9 in *Aix-en-Provence* two grids have caused disruption: the *Habitat du Plus Grand Nombre Grid* and the *Bidonville Mahieddine Grid* presented by the architects from Algeria and Morocco showing a detailed study of everyday living conditions of two *bidonvilles* in North Africa, shedding light on its informal structure and characteristic dwellings⁷. They underscored the importance of public spaces and aimed to explain how people identify with their environment. This understanding of the built environment through the notion of social practice caused a radical shift in the modern movement’s conception of dwelling. Flexibility became a vital Modern Movement key addressing growing and change. With recent economic growth in global world, many of the keywords proposed by Metabolism retain their significance today and are referenced by the new generation of architects because many of the ideas presented have the potential to be a source of inspiration for recovery and reconstruction. An environmental perspective can be used to help people live in harmony with nature addressing the relationship between architecture and society in an ongoing search for new solutions. Thus, Re-use handled creatively in a manner that

looks toward the future. Future where sustainable economic objectives imply understanding of the environment and social structures in terms of an urban structure capable of flexible change. Scooping up the spirit at the roots of Modern Movement ideas it becomes apparent that it is the construction of a global society that must be addressed.

A global society where *habitat* or *lebensraum* addresses the concept of environment assumed from the 1960's onward with special meaning. From Space to environment, it is vital to think in terms of replaceable, flexible environments instead of in terms of spaces that were fixed. Now we live a time of revolution as technical progress has brought by engineering and science generating new environments, and the use of computers was producing invisible networks and new communication environments.

A different type of space-time promotes the simultaneously condition, the possibility to act at any place on the globe. Attempting to depart, the growing awareness of the natural environment led us to think in terms of "Progress and Harmony for Mankind"⁸ and so moving from conventional thinking on fields and definitions by crossing genres, inter-media art, new environmental elements into architectural space.

DOCOMOMO is born out of the paradox how to keep the temporary, the transience of the past for future generations to be enjoyed⁹. A challenging and inspiring paradox that put us between the global and the local because, as Hubert-Jan Henket states "however digitalized, fragmented, nomadic or multicultural we have become, an ecological and social spatial equilibrium will always remain a necessity. Besides the importance of emancipation, of self determination and participation, the need of belonging and intimacy, of historic and local identity will be as relevant in the future as it was in the past.

Therefore, in our days, between North and South, East and West, the aim is to deepen understand the process and to find the paths for the future. Future that we may create with such awareness that may generously give us, the tools for increases nowadays architecture and city planning. The need to be critical and to face the relevance of our specific contribution for the future is vital.

As we all know Modern Movement main mission stands for the creation of a better world made with the active participation of architects and planners. For 25 years DOCOMOMO has been working for improving and enlighten the importance and innovation of the modern project. Since then, modernity has been addressed as a "world heritage, and has been faced as a sustainable design tool, a project method, and finally, as being crucial to the future of architectural production and cultural debates"¹⁰. The "Absorbing Modernity: 1914-2014" Venice Biennale Architecture 2014 motto is the evidence of DOCOMOMO practice and theory relevance. We all know that architecture as a social production imposes a great responsibility on the architect. That's why I wish to recall that today we live a time that requires, as Hubert-Jan Henket said, an "integrated effort of sciences, technology, arts and ethics", in order to fulfill a better future "based on social, technological and cultural responsibility and innovation."

Notes

¹ Fumihiko Maki, "Investigations in Collective Form", *The School of Architecture*, No. 2 - A Special Publication, St. Louis, Washington University, June 1964.

² Architectural critic Noboru Kawazoe, the architects Masato Otaka, Kiyonori Kikutake, Kisho Kurokawa and Fumihiko Maki, industrial designer Kenji Ekuan, and graphic designer Kiyoshi Awazu under the influence of Kenzo Tange published it in 1960.

³ Fumihiko Maki, op.cit. p.7.

⁴ Fernando Távora, *Diário de "bordo". Estabelecimento de Texto*, Porto, Associação Casa da Arquitectura, 1960.

⁵ Fumihiko Maki, op.cit. p.5.

⁶ Stuart Elden, «Strategy, Medecine and Habitat: Foucault in 1976», in *Crampton; Elden, Space, knowledge and power: Foucault and geography*, Hampshire, Burlington, 2007, p. 67-81.

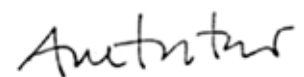
⁷ Eric Mumford, *The CIAM Discourse on Urbanism, 1928-1960*, Cambridge, Mass., MIT Press, 2000; M. Osten, «CIAM IX Aix en Provence (1953). Conflicts on Habitat», in *Model House – Mapping Transcultural Modernisms*, 2005.

⁸ As it has been fixed as Expo'70 Osaka motto

⁹ Hubert-Jan Henket, "The Modern City facing the future", Conference Proceedings, Sixth International DOCOMOMO Conference, Brasília, Brazil, 2000.

¹⁰ Ana Tostões, "Continuity and Change", *Docomomo Journal* 41, Paris, 2009.

Ana Tostões
Chair of DOCOMOMO International



Editor's Note

For the candidature of Seoul as the venue for the 13th DOCOMOMO International Conference in 2014, after a long soul-searching, “Expansion and Conflict” was agreed on as the theme by the organizers, and was presented at the Helsinki conference in 2012. The keyword in the theme is “conflict,” and that word at one point was put forward as the lead of the catch phrase. It is widely proclaimed that the Seoul conference this year is the first of DOCOMOMO International conferences in Asia. It is less obvious to the participants of the Seoul conference and the DOCOMOMO membership at large that the Modern Movement in Asia in general, and in Korea in particular, has gone through a series of “conflicts” to arrive at the current stages of development.

Before Paris was confronted with an apartment block on rue Franklin by Auguste Perret, or Vienna was scandalized by a House without eyebrows by Adolf Loos, the walled city of Seoul was suddenly thrust with a Gothic cathedral on the Myungdong hill at the end of the 19th century. That was how “western” architecture made its debut on the Korean peninsula. While the physical manifestation of the inroads of the French Catholic missionaries into the Confucian Joseon kingdom was building of the Myungdong cathedral, it was also soon to be challenged by the American and Canadian protestant missionaries for physical presence by the churches and educational institutions they had erected.

Emperor Gojong had a fine Renaissance pavilion constructed on the Duksoo palace ground by a British architect; the emperor also commissioned a Japanese architect to design the Bank of Joseon. The Anglican cathedral in Seoul was constructed by a British architect in 1926 in a mature Romanesque style. The work of the first group of Korean architects educated at Keijo(Seoul) higher technical school, who began to build in earnest in the 1930's for the Korean philanthropists and merchants, may be characterized as historicist, because the educational buildings were designed in the Collegiate Gothic idiom, while the department stores were built in a pseudo-Baroque style. The old portion of the venue of the Seoul conference, the Museum of Modern and Contemporary Art, Seoul is one of the earliest examples of “Modern” building in Seoul. It was built as the Seoul medical college in the 1930's: note a hint of Erich Mendelssohn on the front façade. The genesis of Modernism may have been a revolutionary process anywhere. In Asia, it had been more tortuous, and it was nothing less than a “conflict,” because it entailed superseding a whole inventory of architectural styles before Modernism took root.

As one of the joint editors of the proceedings, and on behalf of the organizers of the 13th DOCOMOMO conference in Seoul, I sincerely wish you, scholars and professionals from afar and near, a productive week of discovery and enlightenment. Enjoy!

Jong Soung Kimm

Chair, Organizing Committee, The 13th DOCOMOMO International Conference Seoul



Publication

Dear DOCOMOMO family,

I am very grateful to you all, for attending at DOCOMOMO International Conference 2014 in Seoul, in which means very much for us that Seoul is first Asian city to hold the 13th DOCOMOMO International Conference.

I give a hearty welcome with thanks to DOCOMOMO friends who supported the Seoul Conference and to all of you attending the Conference.

With a main theme “Collision and Expansion”, DOCOMOMO Korea tried to illuminate modernism through course of modernization as universal value to be shared with Asian nations including Korea.

It began by a perspective that should be acknowledged the distinctiveness and cultural gap among Asian nations and possibility of different modernization and the different course of modernization among them.

Since modernization especially in Asia like Korea, was developed with traditional culture in the process of accepting Western culture.

At this point of view, modernity of each society has a different way as much as the various modernization experience of each society and each society has its own way of modernity.

In that sense, it will be a nourishment to open new possibilities to look through modernism; how traditional Korean architecture and western classic architecture conflicted and expanded.

Through this, DOCOMOMO expect the authenticity of DOCOMOMO’s spirit of “Record and Preservation” to develop as “Seoul Proclamation” in this Seoul Conference by looking into the typical value and meaning that has modern architecture as culture heritage in Asia.

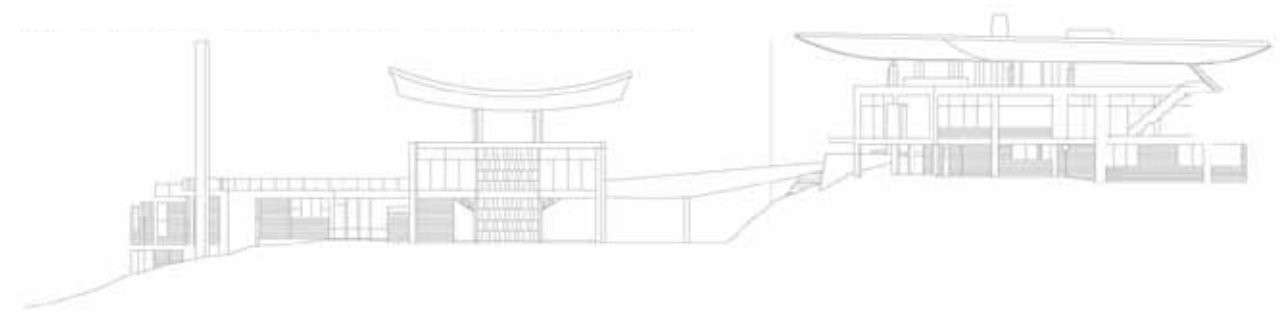
We appreciate sincerely the president Ana Tostoes and international headquarter officers who have given the consistent support and trust to the International Seoul Conference and the president of organizing Committee, Jong Soung Kimm, who has given the courage and wisdom despite difficult circumstances. In addition, we appreciate sincerely the Docomomo Korea executives who have shown devoted involvement and volunteer spirit and the Cultural Heritage Chief, the National Museum of Contemporary Art Chief and all of architecture industry who have helped us both physically and spiritually through this opportunity.

Once again I give thanks to all of you attending and I hope you to enjoy the oriental culture and Korean modern architecture during Conference.

Tae-woo Kim
Chair of DOCOMOMO Korea



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| KEYNOTE SPEECH

Jong Soung Kimm

Hubert-Jan Henket

Fumihiko Maki

Mark P. Sexton

The Legacy of Mies van der Rohe in Modern Movement and the Modern Architecture in Korea

Jong Soung KIMM *

Abstract

The keynote discusses how “Western” architecture was first introduced to the Korean soil: a French catholic missionary-architect built the Seoul Cathedral at the end of the 19th century. American and Canadian architects built the educational buildings for the protestant missionary-founded colleges in Korea. Japanese civil servant architects built some public buildings during the colonial rule. The work of two prominent Korean architects, Kim Chung-Up and Kim Swoo-Geun are discussed.

The author discusses his education at Mies van der Rohe’s Illinois Institute of Technology in mid-1950’s, his work for the Master during the 1960’s, and his teaching at IIT 1966~78. He describes how his dual position of teaching at IIT and working for Mies gave him the opportunity to work on three projects of importance: the Mies Retrospective in Berlin in 1968; the exhibition proposal for the extension of the Museum of Fine Arts in Houston of 1969; the Toronto-Dominion Bank executive floor and the Banking Pavilion of 1966~1968.

The author discusses several work of Mies van der Rohe to “demystify” the general perception that Mies was a rigid aesthetician: how Mies van der Rohe would arrive at design decisions not always sticking to module, grid and geometry, contrary to the conventional reading of his architecture.

The author then discusses five works from his three decades of practice with SAC International in Seoul, highlighting where Mies’s influences might be found in these works: the Korea Military Academy Library of 1982; Seoul Hilton Hotel of 1983; the Weight-lifting Gymnasium for ‘88 Seoul Olympics of 1986; Kyongju Museum of Art of 1991; the Office Building for SK Group in Seoul of 1999. The relationship between the keynote and the main Conference theme, “Expansion and Conflict,” is reflected on.

The Modern Movement challenged a millennium of classical values through a collective global revolution in technological, social, political and aesthetic spatial values. The magnitude and complexity of this confrontation between epochs multiplied when Modernity’s western values expanded into the Asian sphere.

The 2014 Docomomo International Conference here in Seoul, the first to be held in Asia, re-measures this expansion of the Modern ethos within a wholly different context of Asia. Predictably, Modernity in Asia grew and matured through the process of conflict and expansion, and intrinsically took on very distinct identities in different regions.

The theme of Expansion and Conflict fundamentally interrogates the values and relevancy of the Modern Movement through the extreme cultural lens of Asia. We would declare that conflict is not necessarily a pejorative, but maybe a challenge for the future. It signifies a vigorous recognition of each culture’s robust and intrinsic values --- the existing culture’s and Modernism’s *raison d’être*.

Looking back on how “Western” architecture made its appearance on the Korean soil, it was a French catholic missionary-architect, Eugène-J-G Coste who built the Seoul Cathedral at the end of the 19th century. American and Canadian architects built the first group of academic buildings for the Methodist missionary-founded Yonhee College and Ewha Womans College. Public buildings were built by the Japanese colonial government architects during the thirty-five years of the colonial rule which ended in 1945. Several scholars will discuss the development of Modernism in Korea in one of the sessions of this Conference.

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Of the two prominent architects who left significant imprints on the course of the contemporary Korean architecture, Kim Chung-Up, born in 1922, was educated at Yokohama Higher Technical School. After teaching in Seoul, and then working in Le Corbusier's atelier for four years in the early 1950's, Kim established his practice, and also taught at Hong Ik University. The French Embassy and Chancery in Seoul (**Fig.1**) of 1960 may be considered Kim Chung-Up's most important legacy. The second architect, Kim Swoo-Geun was born in 1931, worked in Tange Kenzo's office after his education at the Tokyo University of the Arts. In 1961 Kim Swoo Geun established the Space group, built an impressive body of architecture, and endeavoured to promote the general public's awareness of cultural issues through the monthly magazine Space. The Space building of 1971 (**Fig. 2**) could be singled out as Kim Swoo-Geun's masterpiece.

It was my good fortune, indeed my destiny, to begin my architectural education at Mies van der Rohe's IIT when the Crown Hall opened in the spring semester of 1956. I arrived in Chicago at night, and the taxi taking me to the IIT campus drove in front of the Crown Hall. The first impression of the building, a sharp-edged prism of clear and translucent glass fully lit with eerie fluorescent lights, was unlike any "building" that I had ever seen in my life, and I felt a certain shiver inside me. I have gone through the curriculum that Mies had developed, and augmented by the first group of faculty whom Mies had assembled including Ludwig Hilberseimer, Walter Peterhans, James Speyer, Daniel Brenner, Alfred Caldwell, George Danforth, Reginald Malcolmson, Jacques Brownson, Howard Dearstyne and others. As Mies was no longer teaching undergraduate classes when I began my study at IIT, I had set a goal to work for the Master when I completed my studies. Mies resigned from IIT in 1958. My teacher and mentor Alfred Caldwell recommended me to Mies's office when I finished my junior year at IIT. After some wait, in early 1961 I began my eleven-year stint at the 5th floor loft office of Mies van der Rohe at 230 East Ohio Street in Chicago.

George Danforth, who succeeded Mies van der Rohe as director of the School of Architecture at IIT, recruited me in 1966 to teach the 4th year design studio. It was my dual position of teaching at IIT and working at Mies's office that eventually led me to three assignments of importance and a source of great personal pride during my work at Mies van der Rohe's office: the most important assignment was to design the exhibition installation of the 1968 Mies van der Rohe retrospective at the Akademie der Künste in Berlin on the occasion of the opening of the Neue Nationalgalerie; another was to produce the exhibition proposal for the new extension of the Museum of Fine Arts in Houston in 1969; the third was the Toronto-Dominion Bank executive floor and the Main Banking Hall of 1966-68. My teaching encompassed taking students one on one, through the space problematic, one of the key components in Mies's IIT curriculum, prior to setting students out to independent design

projects. The space problematic had evolved from Mies's own interest in exploring the potential in spatial modulation of planes, volumes, juxtaposition of different materials and textures going back to the Barcelona Pavilion, the Tugendhat House, the 1931 Berlin Building Exhibition House, series of courthouse studies and continued through Mies's American phase in the Farnsworth House, the Crown Hall at IIT, the Toronto-Dominion Centre Banking Hall, and the Neue Nationalgalerie in Berlin.

Now I would like to discuss some aspects of Mies van der Rohe's architecture in a way not usually dealt with, or overlooked by most of the chroniclers of his work. I want to demystify the common perception that Mies van der Rohe was a rigid aesthetician, by highlighting some important instances of Mies, the "artist," not allowing himself to be bound by rules he had set up for himself, as well as to illuminate the fact that the essence of Mies van der Rohe's architecture was first and foremost an art of building, "Baukunst," a spatial art. The conven-



Fig. 1. Kim Chung-Up, Architect French Embassy and Chancery, Seoul, 1960



Fig. 2. Kim Swoo-Geun, Architect Space Group Building, Seoul, 1971



Fig. 3. Mies van der Rohe, Architect Barcelona Pavilion, 1929 Reconstructed in 1986 J. S. Kimm

tional reading of Mies van der Rohe's architecture is grid, module, and strict adherence to geometry. Many architects who have adopted the Miesian language in their own work in the second half of the 20th century have indeed fallen victims to the trap of slavishly adhering to the module or what they would perceive to be Mies's architectural idiom, while Mies himself never let the module or grids dictate his "artistic" judgements. Mies van der Rohe was an artist of much more complex and unfathomable intellectual dimension than the clarity of his architecture would indicate.

"One evening as I was working late on the building I made a sketch of a free-standing wall, and I got a shock. I knew it was a new principle."¹

The birth of free-standing wall in the Barcelona Pavilion (**Fig. 3**) was thus described by Mies van der Rohe. Mies's final plan for the Barcelona Pavilion called for one by three, 7.70 m square bays of thin, cross-shaped steel columns supporting the roof plate. Only after the excavation of the site progressed far enough, and the 110 cm square dimension of travertine paving slabs had been fixed, it was discovered that the east-west dimension of the site did not yield 23.10 m that was required, but about 2.0 m short. Mies's on-site modification was to create 3 bays out of 19 paving grids, or 20.90 m between the outer columns. Had there been a little more time to finish the Pavilion for the opening date, Mies van der Rohe would probably have reversed his earlier decision, and had the travertine pavers cut to 110 cm by 99.5 cm in order to align columns on both longitudinal and transverse grids.

For the Tugendhat House, which was designed concurrently with the Barcelona Pavilion beginning in 1928, Mies again set up squarish bays, but the final dimensions of the structural frame turned out to be 5.50 m north-south, and 4.835 m east-west. It would be reasonable to assume that Mies considered such factors as the visual relationship of a pair of columns to the free-standing onyx wall, as well as that of another pair of columns to the Makassar ebony-panelled half-round wall for the dining area, and finally, the physical distance between the onyx and ebony walls in arriving at the shorter spacing of the columns in the east-west direction.

Not long after he accepted the directorship of the Architecture School at the Armour Institute of Technology, the predecessor of IIT, Mies van der Rohe was commissioned to produce the new campus master plan for the university. After an intensive analysis of the academic program requirements, he arrived at 24 x 24 ft., 12 ft. high (approximately 7.20 x 7.20 m by 3.60 m high) unit as the planning "module." However, as he set out to study the actual placement of the first group of three academic buildings, the Chemistry Building, the Chemical Engineering & Metallurgy Building and the Alumni Memorial Hall, Mies had found that the distance between the parallel 3-story Chemistry Building and the 2-story Chemical Engineering & Metallurgy Building would be too far apart at 48 ft., yet too close at 24 ft. His decision was to place the buildings at one and a half "module," 36 ft. apart.

In planning the Chemical Engineering & Metallurgy Building, Mies's studies led him to a two-story, rectangular volume 5 bays wide, 12 1/2 bays long, with outer bays accommodating small laboratories and research offices, and the middle three bays given over to the main lobby, an auditorium, a suite of offices around a courtyard. Mies van der Rohe concluded that the main lobby at the southern end of the building would require a space wider than one 24 ft. bay would yield. His decision was to place the columns one and a half "module," 36 ft., inward from the exterior columns, deviating from the "principle" which he himself had established to guide the planning of the IIT campus.

For Crown Hall, the home of the Architecture and City Planning Departments and the Institute of Design at IIT, Mies van der Rohe set out to create a clear-span pavilion above an English basement. The limit in the width of plate glass with which Mies intended to sheath his revolutionary structure led him to a planning and design module of 10 ft., a departure from the 24 ft. square module for the campus. The width of Crown Hall at 120 ft. still respected the multiple of 24 ft., whereas the length of 220 ft. was independent of the campus module.

The design for the week-end house on the Fox River for Dr. Edith Farnsworth was begun in 1945, and was finally built in 1950. In the much celebrated Farnsworth House, who would have thought that Mies placed the entrance door slightly off centre in the 28 ft. expanse of glass? He did, so that the dining table and chairs would have ample space around than if the door were placed in the exact centre for symmetry's sake.

The 28 ft. span Farnsworth House was the first of a series of "pavilion" concepts Mies had investigated during his American phase.

He went on to realize the 120 ft. span Crown Hall in 1955, proposed the 80 m (262 ft.) span design for the Mannheim National Theatre competition project in 1953. Parallel to his investigation of one-way frame pavilions, Mies had produced designs for a series of two-way frame pavilions, starting with 50 x 50 ft. House of 1951, 720 ft. square Chicago Convention Hall project of 1953, 54 m (177 ft.) square Ba-

cardi Office Building project of 1958, and 64.80 m (213 ft.) square Neue Nationalgalerie in Berlin of 1968 (**Fig. 4**).

At this point, I would like to turn to my work in Korea. The architectural discourse during the 1970's in Korea was centred on three main themes: "Gestaltung;" exploration on the use of new materials and techniques; and most of all, how to express tradition in contemporary architecture. The annual conference of the Korean Institute of Architects in 1974 was devoted to the theme of "Expression of Tradition in Architecture." An essay I contributed to the Space magazine in 1975 recorded the general background of the architectural discourse during that period.

"In my opinion, the discussion on the issue of expression of tradition in contemporary architecture should be given a low priority, and I think concentrating on improving the overall quality of architecture will take us to our goal sooner than any attempt to graft elements of historical architecture, or an anxiety to formulate a 'Korean architecture' in a hurry." ²

In the midst of this pivotal period in the development of modern architecture in Korea, I set up my practice with SAC International (Seoul Architects-Consultants) in 1978. The general climate of architectural profession was on the upswing: architects who until then could not freely travel outside of Korea due to the government's restriction on converting currency,

began to travel abroad to visit important architecture; private sector clients, increasingly becoming more knowledgeable and sophisticated, demanded higher calibre of design from their architects; Korean investors and construction companies who had been working abroad in places like Saudi Arabia and Kuwait created a market for Korean architects in their increasingly complex and large scale projects. Soon after I began to work in Seoul, I found it necessary to bring the general level of all staff to a higher, common base. I and my colleagues trained the new crop of our young architects almost as an architecture school would. We would engage a new group of entry level staff by assigning a two-week design project, then critiquing their work as if in a graduate design studio. We would also hold weekly lunch-hour lectures and workshops in order to expand architectural awareness of our staff.

Of the architectural output of importance during the last three decades by SAC, I would like to discuss five projects, and highlight where Mies's influences might lie: the Korea Military

Academy Library of 1982 (**Fig. 5**), Seoul Hilton Hotel of 1983, the Weight-lifting Gymnasium for 1988 Seoul Olympic of 1986, Kyongju Museum of Contemporary Art of 1991, and the Office Building for SK Group of 1999.

The Korea Military Academy campus is located in the north-eastern edge of Seoul. The Academy desired an open-stack library with only a limited area of closed stacks for reference books. I seized upon this "open" arrangement to produce a large, open reading room of 42 x 66 m on the upper floor, with the central 12 x 30 m given over to an atrium stair hall. It is based on 3 x 5 bays of 12 m square concrete structure, with 3 m cantilever on all sides for the upper floor. Transparent ground floor enclosures are pulled back from the edges of the upper floor to the outer columns. An acute observer of Mies van der Rohe's oeuvre would notice a certain similarity of the plan organization of the Library to Mies's Bacardi Building in Mexico City. The decisive difference between the two buildings, however, lies in the introduction of daylight from above for the atrium.

The Seoul Hilton Hotel is situated at the western edge of Namsan hill where the Namsan scenic drive completes its loop. As the hotel is entered from the higher frontage of a steeply sloping site, the podium block containing the public functions is placed to the rear, and the pilotis at the ground floor of the tower stand directly on the main entrance level. The tower floor is arranged as a double loaded plan. In order to avoid the visual tedium of a long corridor, and also in order not to create a slab-like mass, the plan is refracted 30 degrees at about 16 m in from both ends, resulting in a triptych-like shape for the tower block. As a visitor enters the building through the main entrance facing east, he or she passes through a relatively shallow entrance zone defined by a mezzanine above, then walks into a 6 m high main lobby. Progressing further inside, a large atrium with grand stairs connecting the lower lobby level below, and a generous opening at second floor level with skylight at the roof, together create an 18 m high vertical expanse of space (**Fig. 6**). The spatial interpenetration of three levels



Fig. 4. Mies van der Rohe, Architect Neue Nationalgalerie, Berlin, 1968 J. S. Kimm



Fig. 5. J. S. Kimm, Architect Korea Military Academy Library, Seoul 1982 H. K. Park



Fig. 6. J. S. Kimm, Architect Seoul Hilton Hotel, Seoul 1983 Main Lobby H. K. Park



Fig. 7. J. S. Kimm, Architect Weightlifting Gymnasium for '88 Seoul Olympics, Seoul 1986 H. K. Park



Fig. 8. J. S. Kimm, Achitect Wooyang Art Museum, Kyongju 1991 H. K. Park

The choice of the tubular frame concept as opposed to the rigid frame, and adoption of the 3-meter module in the SK project in contrast to the half-as-wide modules in either the Seagram or Toronto led to a markedly different proportion of the cladding, and the overall architecture.

I wish to conclude my keynote by examining the theme of my talk in relation to the 2014 Docomomo Seoul Conference theme, “Expansion and Conflict.” To be sure, it is a significant measure of “expansion” to build some important structures inspired by Mies van der Rohe at a turning point in the development of modern architecture in Korea. As new designs by “Mies’s student” were built one by one, and became

was the object of a concentrated design study for the Seoul Hilton project. My life-long lessons from Mies van der Rohe are not present so much in its spatial organisation, but are stamped everywhere in the choice and detailing of the major materials; in how a few expressive materials enhance the architectural character of major spaces. Sometime after the project was finished, I was quoted in a weekly Japanese architectural journal in 1985 thus:

“When the circumstances allow, I want to create a heart-soaring space using good materials and the most advanced technology.”³

The Weight-lifting Gymnasium for ‘88 Seoul Olympics is organized within a vast single space measuring 59.40 x 79.20 m. A concrete seating “shell” for 1,000 spectators is placed at one end of the rectangular gymnasium. A U-shaped, telescoping bleachers for an additional 2,500 step down from the entrance level to the competition arena 5.40 m below. The main focus of this project was the structural concept for the space. Mies van der Rohe’s long-span designs such as the Chicago Convention Hall and the Mannheim National Theatre projects were dutifully studied, and after some contemplation, it was decided to frame the gymnasium by a skewed-chord space truss, recommended by the late David Geiger. In this structural system, the bottom chords are laid out diagonally to the building axis at 1.4 times the orthogonally placed top chords, rendering them into spider-web like, almost immaterial presence (**Fig. 7**).

The Wooyang Art Museum in Kyongju is a private museum for contemporary art, located in the historical ancient capital of Silla dynasty. It is planned on two levels above grade and a basement: the upper floor is entirely dedicated to gallery space; the ground floor to main lobby, additional gallery spaces, and support functions. Mies van der Rohe’s two important precedents, Museum of Fine Arts in Houston and the Neue Nationalgalerie in Berlin were obvious guiding posts for me on this project. In Kyongju, however, the focus was put on the gallery space on the second floor, which was an attempt to fuse the fluidity of a Miesian space and the possibility for an enfilade plan when it was required. The decisive factor which separates the Kyongju Museum from either the Houston or Berlin is, again, the natural light from above (**Fig. 8**).

The Office Building for SK Group (**Fig. 9**) is situated on Chongno, the main east-west axis of the historic core of Seoul. Its landscaped plaza to the south faces the newly resurrected Chung-gyechun stream. The typical floor is planned as 33 x 51 m rectangle, the middle 9 m accommodating the core, and the outer 12 m, leasable space. The structural concept is based on a tubular steel frame with verticals at 3 m on centre. The cladding expresses the tube, as well as the sharp-edged characteristics of steel with “flanges” to enhance its expression.

It goes without saying that I carefully studied the Seagram Building (**Fig. 10**) and the Toronto-Dominion Centre towers when the SK Building assignment was handed to us.

part of the Seoul cityscape, the buildings were met with honour awards, and attracted friendly press.⁴

My graduate seminars at Seoul National University for a decade have also helped me to illuminate in plain words the philosophy and architecture of Mies van der Rohe to a younger generation of future architects and academics. For some of my realized projects, the construction industry provided a hitherto unavailable capability by developing new finish materials, or upgrading its technological knowhow, thereby “expanding” the horizon of modern architecture in Korea. It should be noted, however, that it was not a smooth sailing throughout either. It entailed an abundance of “conflict,” not so much on any ideological grounds, but due to the gap between what was available locally and what was possible elsewhere in terms of material and construction technique. Even today, many tasks that required resolution of “conflicts” remain unresolved.

It was inevitable, a matter of course in historical context, that the legacy of Mies van der Rohe should be introduced to the Korean architectural profession. It was a privilege to have played a part in personally illuminating his philosophy. The influence of Mies’s legacy on the contemporary Korean architecture would never be easy to quantify. While I do not believe that it could be measured in terms of form, it is my hope that the architectural profession and construction industry have matured over the decades to embrace the principles the Master had set forth, in tune with a renewed interest and reappraisal of the legacy of Mies van der Rohe worldwide.



Fig. 9. J. S. Kimm , Architect SK Office Building, Seoul 1999 H. K. Park



Fig. 10. Mies van der Rohe, Architect Seagram Building, New York 1958 J. S. Kimm

Notes

¹ Interview on February 13, 1952: “6 Students Talk with Mies,” *Master Builder*, student publication of the School of Design, North Carolina State College, Vol. 2, No. 3, Spring, 1952

² “Architecture and Tradition: Viewpoint U.S.A.” *Space*, May, 1975

³ *Nikkei Architecture*, July 1, 1985

⁴ “Kimm Jong Soung and Evolution of Modernism” *Space*, June, 1985



Jong Soung Kimm

Jong Soung Kimm, FKIA, FAIA was born in Seoul in 1935, studied at Seoul National University and IIT in Chicago. Kimm has worked for Mies van der Rohe during the 1960’s, taught at IIT 1966~78. He established SAC International, Architects in Seoul in 1978. Kimm has been a speaker or panelist at UIA Congresses in Montreal, 1990 and Tokyo, 2011; the Getty Research Institute for the History of Art & Humanities, 1998; the CTBUH congresses in Melbourne, 2001 and in Seoul, 2011. Kimm was the jury president for the Grand Egyptian Museum competition in 2002~03, and the Museum of Polish History in Warsaw in 2010.

When the Oppressive New and the Vulnerable Old Meet; a Plea for Sustainable Modernity

Hubert-Jan HENKET *

Abstract

The economic miracle, increasing transparency and growing emancipation are some of the striking advantages of Modernity. However these meet their opposites in severe conflicts at both global and regional scales. Where the oppressive new meets the vulnerable old the damage is at its heaviest and often non-reversible.

The history of Modernity in the Western world, from the European Renaissance, the Enlightenment and the Industrial Revolution to the Machine Age provides information of the root causes of these conflicts, such as the dominance of rationality, fragmentation, the linear and short term mind frame, devotion to constant newness and ever increasing scale.

The history of East Asian civilisations shows the millennia old care for the environment and for dynamic tradition.

Precisely the 14th DOCOMOMO conference in Seoul – for the first time organised in an Asian country – offers the opportunity to widen our scope.

DOCOMOMO has four advantages that make it particularly useful to contribute to soften these conflicts in the future. Today it is a global organisation with many different cultural backgrounds, it is multidisciplinary, it concentrates on history and the re-use of what is already existing and it shares communal enthusiasm. Until today we concentrated our efforts mainly on the history of the Modern Movement and the restoration of its icons. We could enlarge our scope to include the re-use and transformation of the ordinary Modern Movement heritage and to research the history of Modernity as well in the various cultural regions.

Some proposals will be made how we could change words into structured action, in order to contribute more effectively to a circular mind-set of re-use, reduce and recycle, to arrive at a sustainable future for all.

1. Introduction



Fig. 1. René Magritte 1939. Museum Boijmans van Beuningen Rotterdam. Photo shopped by Hubert-Jan Henket

Dear DOCOMOMO-friends. The Chinese philosopher and religious founder of Taoism Lao Zi was born in the 6th Century BCE. He was the archivist in the state Chou so the legend goes. His life was less important for the future of religious thought than his departure from China and his death. He loathed the spiritual situation of his time so he left ‘heading West – the direction of enlightenment, just as the East is for Europe – he stopped for the night with the gatekeeper of the pass across the mountains to the West. The gatekeeper asked him to leave a message or guideline for those left behind and the legend tells us that Lao Zi wrote the Tao Te Ching that night. Handing it over to the gatekeeper, he then departed West and was never seen again’¹.

Could this legend of Lao Zi and the West meeting the East be an inspiration to us after some 2500 years? Could we learn and benefit today from millennia old East Asian wisdoms gathered over the Centuries? I think we could. The Tao Te Ching meaning ‘the Way’, tells

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us about unity and the integration between the universe, the earth, man and nature, between the material and the non-material. Its does and don'ts form the oldest written environmental and ecological guidelines on earth. Taoism has had enormous influence on east Asian cultures and the Tao Te Ching is one of the best sold books in the Western world.

This can't come as a surprise. Whereas the benefit of Modernity and its economic miracle in both the East and the West are beyond belief, at the same time Modernity creates an ecological and climatic drama and is a serious threat to century old vulnerable cultural traditions.

So it makes sense, when faced with an irreversible environmental disaster to try to find ways to get out before it is too late. To establish if DOCOMOMO could contribute to solutions for conflicts at regional levels, we should first look at what the idea of Modernity is and how it originated. Although this is a highly complex and controversial issue allow me to give you my simple overview, for what it is worth.

The concept of Modernity as we know it today originated in Europe in the 14th Century AD. The Modern Movement that resulted from this at the beginning of the 20th Century is not so much a particular style as it is a way of thinking, an ongoing process that is a harbinger of contemporary values. You might say it is the endeavour to increase the living conditions of all through the development and implementation of inventions in science and technology. Hope, emancipation and optimism make the Modern Movement distinct from other Movements.

During the last hundred years Modernity has expanded to all corners of the world, not leaving even the remotest culture on the planet untouched.

Supposing that we all know by experience what the benefits of Modernity are, permit me to concentrate on some of the conflicts.

- climate and environmental change
- addiction to constant newness
- a linear and short term mind set
- fragmentation
- the loss of tradition and cultural identity.

In the fascinating book *Soul Mountain*, written by the Chinese Nobel prize winner Gao Xingjian almost every page radiates both the wisdoms of Confucius, Buddha and Lao Zi – which are still today incorporated in much of everyday living – and the confrontation of these traditions with the violent faces of Modernity.

If we want to find contributions to divert the conflicts mentioned before, we should first look at the origins of Modernity to understand where these conflicts come from.

After the collapse of the Roman Empire in Europe in the 5th Century AD a period of roughly thousand years followed in which God All Mighty provided the answers to all phenomena man could not explain. In this task God was seconded by The King, the church hierarchy and the monasteries. The unconditional acceptance of suffering and of injustice guaranteed a better life after death. This concept started to change during the Renaissance in the 14th Century AD, first in Italy and later on in the rest of Europe. Philosophers began to reason that man had a free will without limits and that he himself could create a happier future on earth. The feudal system started to wane, the discovery of new continents took place, the introduction of the printing press and of paper occurred, etc.

Just look for a while at this 17th Century Dutch painting by Johannes Vermeer. Here the Humanist spirit is made extremely clear. You don't look at a King, a saint, a martyr or an important member of the elite as you mostly saw on paintings of previous centuries. No you see an everyday scene of a liberated girl having an emancipated and jolly conversation with her lover.



Fig. 2. Collage by Nils Ole Lund. The future of architecture 1983



Fig. 3. Seoul is Vermeer. Johannes Vermeer, approx. 1660. Friek Collection, New York

Around the time that this painting was made, the Portuguese Dutch philosopher Baruch Spinoza argued that if there was no proof that one existed before one's birth, how could there be any rational for life after death? The here and now was the only reality.

In the meantime the Dutch scientist Constantijn Huygens invented the pendulum which made the clock a common everyday object. Up to then man had lived in a circular concept of time: day and night, summer and winter sowing and harvesting, year in year out. Slowly that got replaced by accurate time measurement in seconds, minutes and hours. Tick, tack, tick, tack, said the clock and the seconds disappeared into thin air, never to return. The linear time concept came into being. And when you combine this with Spinoza's reasoning that there was no life after death you will understand that Western man became in a hurry to make the best of the short here and now. The short term mindset entered the stage.

Simultaneously a concept emerged, that everything could be understood through the implementation of reason, because the cause of everything is hidden in the laws of nature. Enter the 18th Century in North West Europe, the Century of the Enlightenment, which together with 16th Century Humanism form corner stones of Modernity.

The philosopher Emanuel Kant wrote the definition which is still most in use: 'the Enlightenment is the escape of man from the dependence he is only himself to blame for... Have the courage to use your own brains'²

This new frame of mind not only triggered on an enormous progress in science and technology. It also gave birth to a drastic modernization of society, the universal declaration of Human Rights, the American Revolution and the ideals of the French Revolution of freedom, equality and brotherhood. Also liberalism, and socialism resulted from it. However these drastic changes did not happen without violently conflicting points of view.

The next two pictures are important in our discourse because they clearly show how differently two architects at the same time looked at the here and now. The first painting is made in 1830 by Joseph Gandy and shows the Bank of England as it would look after thousand years. The complex was designed by the famous architect Sir John Soane. He wasn't a conservative at all. He introduced many innovative building technics and state of the art functional ordering. Yet his architectural creation is meant for eternity. Thus we see parts of the building still in use and parts in ruin. The message of the painting is that even after thousand years the complex is still present and through the beauty of its composition we become aware that the continuity - in other words the connection with history and tradition - is a value that is of vital importance to a community.

Diametrically opposite to this message is a sketch by the German architect Karl Friedrich Schinkel made in 1828, which is part of a letter he wrote to the Prussian King informing him about an excursion to Manchester, to learn about the effects of the successful Industrial Revolution in England. Here Schinkel experienced what the English Poet Thomas Carlyle had written a year before: 'We are living in the age of the machine in every inward and outward sense of the word'. The Industrial Revolution was at its peak, the result not only of technological innovation but also of the mood of its time.

In 1714 the Anglo Dutchman Bernard Mandeville published a pamphlet. He argued that up to then thrift and uprightness were traditionally considered the pillars of an honest Christian society. 'Nonsense' he said. Look around and you see how sin does produce profit. Gentlemen, it is greet what it is all about, because if you want more than you can obtain it will lead to consumption, consumption will lead to increase



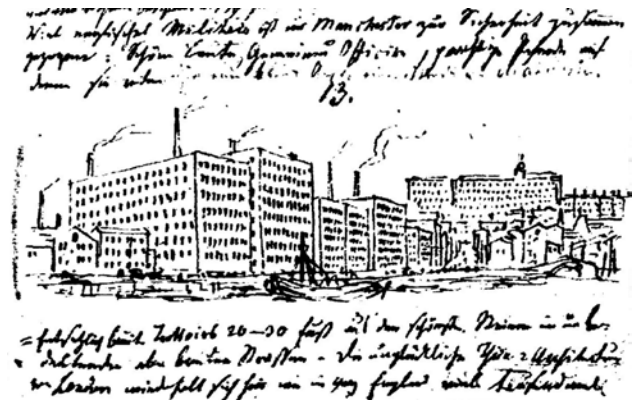
Fig 4. The Bank of England after thousand years. Painting by Joseph Gandy. 1830, Saone Museum, London

in production, increase in production will result in more work and more work is profitable for all³. The commercial revolution was starting, the consumption society and the Industrial Revolution made their entrance on the world theatre.

Adam Smith, the father of capitalism went further⁴. He said that if one would not apply a division of labour, in other words specialization, one would not get increase in production. And without increase in production no raise in the standard of living and thus no increase in individualisation. This is, he argued, because individualisation and independence develop in proportion with the income per head of the population.

Economic reason dictated that mass production for the benefit of mass consumption is only possible through constant innovation of new prod-

And that was precisely what made the German architect Schinkel so excited. He wrote about buildings he saw in Manchester of six to eight stories high, with paper-thin elevations, efficiently made and assembled, and easy to transform in order that the buildings could adapt rapidly to ever changing requirements. These buildings were not aesthetic providers of status with an everlasting message and meaning, like the Bank of England by Sir John Soane. No, these were flexible and rational containers responding to the needs of a world in rapid change.



In 1835 the French philosopher Alexis de Toqueville, - also visited the city of Manchester. Opposite to Karl Friedrich Schinkel, he was stunned by what he experienced. He wrote: 'here civilisation demonstrates its wonders, yet civilised man has almost been reduced to a savage'⁵.

In the meantime a growing middle class emerged, that had managed to liberate themselves from the grip of the old elites, thanks to the ideas of the Enlightenment and the financial successes the Industrial Revolution had brought them. To protect their new status for themselves and for their children, many adopted the conventions and the conservative outlook of the old aristocracy.

Back to the cradle of the Modern Movement in the early days of the 20th Century. As I mentioned many different interpretations emerged in Europe as to why, how and what the Modern Movement was to be. Via the European colonial powers and much more so through the modern media, the idea of Modernity in architecture and local interpretations mushroomed all over the world. Architects like Oscar Niemeyer in Brazil, Luis Barragan in Mexico, Charles Correa in India, Kenzo Tange in Japan and Kyu Sung Wu in Korea all developed a distinct different approach to Modernity.

A question is: due to its unscrupulous and dynamic force, can the icons they and many others have produced, mask the reality that Modernity has created serious conflicts. Isn't so that these conflicts multiplied in the last fifty or so years, due to the ever increasing scale of what we are doing?

Fragmentation for example was promoted by Adam Smith in 1776 as the rational engine of progress. In 1911 F.W. Taylor published the principles of scientific management promoting standardisation and the division of labour in separate scientifically researched tasks. Henry

Ford successfully implemented the Taylor principles and from then on they were adopted in the building industry as well as in urban design as in all levels of the marked economy. As I showed you before linear and short-term decision making, the addiction to the constantly new, the ever increasing scale and the dominance of rationality all originated from the Enlightenment and the European Industrial Revolution of the 18th Century, in other words in the cradle of Modernity.

The next question is: can we – as self-appointed care takers of the heritage of the Modern Movement contribute to soften these conflicts? I surely think we can and we should.

In 2012 at our 12th Conference in Helsinki, John Allen gave a stimulating key note titled: ‘From sentiment to science; DOCOMOMO comes of age’. In it he argued that a shared love of the most precious achievements of the heroic period of Modernism had brought us together, with Sanatorium Zonnestraal as the seed for DOCOMOMO’s birth. He put the question to us, isn’t it time to redefine our mission? He continued ‘The conditions of our time have surely taught us that progress must now consist in learning how to renew the world with things that exist already’. Next he stretched the concept of heritage by saying ‘The materials we are dealing with in Modern Movement buildings – cement, steel, aluminium, copper, oil based products – have some of the highest embodied energy values of any building materials. We must begin to appreciate this investment in energy and material as another kind of heritage’. And John Allen concluded his presentation with these extremely relevant questions:

‘If – as the slogan has it – ‘ the greenest building is the one already built’- then the question, I put to DOCOMOMO is whether it is willing to venture into this territory and master the science and politics of sustainability and embodied energy in the cause of keeping Modern buildings? Or would we rather stay in our comfort zone, immersed in history and culture and carrying on lovingly restoring our favourite icons? ‘⁶

In 2008 we started the debate concerning sustainability. Today in 2014 it is about time that we exchange words for action here in Seoul. Thus my proposal is twofold. In the Council Meeting we should agree to adjust the Eindhoven statement in which we establish our (revised) commitment.

My personal response to John’s clear appeal is that we should do both.

Besides we should make a serious start with the science and politics of sustainability at this conference, by establishing a new international specialist committee on sustainability. Its task should be to prepare a framework how we will respond to this challenge. Part of this endeavour might be to establish our strategy of care not only towards the older stock but also as regards the vast quantity of Modern architecture manifestations of the last 20 years. These environmentally destructive buildings for which competition who is the biggest, the tallest and the most expressive seems to be the yard sticks of architectural success and stardom.

I make an appeal to everybody interested in participating in this initiative to come to our start meeting. We will announce time and venue later.

Simultaneous to this endeavour we surely should continue our attention to the histories of Modern Movement and the restoration of its icons and the renovation of the more mundane remnants. Why? Not only to contribute to a more green society but also because science and



Fig 6. Sanatorium Zonnestraal, Hilversum. Photo Sybolt Voeten

technology in themselves are useless without the combination with the power of imagination, historical facts and philosophy.

Let me quote Antonio Damasio, a famous brain researcher from Portugal and author of international bestsellers as ‘Descartes’s Error’ and ‘Looking for Spinoza’ He writes: ‘Our lives for a large part are driven by the guidelines of our individual biological structure stored in our brains and for an important part by the guidelines from a culture outside our brains, as historical contribution of enormous amounts of similar brains. To that culture belong art objects, buildings instruments, rules and regulations, habits, traditions, rituals, courtesies, peculiarities and what not. We live within that opaque, misty past, that dependant of the spot on the planet we find ourselves or where we grew up, always adopts completely different

forms'.⁷ Also the Finnish architect Juhani Pallasmaa in his key note lecture entitled *Newness, Tradition*

and *Identity*, at the previous DOCOMOMO conference in Helsinki; stressed the importance of tradition and continuity compared to the obsessive search for the constantly new and uniqueness. 'Cultural identity, a sense of rootedness and belonging is an irreplaceable ground of our very humanity' he said. Juhani talked about tradition as something dynamic that has to be re-invented and re-created by each new generation.

He said: 'Tradition maintains and safeguards the collective and accumulated existential wisdom of countless generations. It also gives a reliable direction to the new and maintains the comprehensibility and meaning of the new.'⁸

As the French physicist Blaise Pascal said: 'The past and the present are our measure, the future our goal'.



Fig 7. Museum de Fundatie, Zwolle. Photo Michel Kievits

If you combine the two phenomena of care for historical fact and tradition together with the green necessity of re-using what is already there, both in order to soften some of the conflicts we are facing globally, than you are right at the core of what DOCOMOMO could be in the future.

One of the most crucial characteristics of DOCOMOMO is that we are a global family of architects, historians, conservation specialists and landscape architects all interested in how the new and the old can meet.

So why don't we adjust ourselves to the new global situation. We are perfectly suited for it because of our focus and the integration of our various backgrounds.

This is why I make this urgent appeal to you all. Because our survival is at stake let us join forces by making use of the incredible advantages of Modernity, to conquer the serious conflicts Modernity is delivering in an ever increasing scale as well.

Let us contribute to the model where economic growth is developing in harmony with the principles of re-use, reduce and recycle. In other words leave the principles of the linear economy - brought about by Modernity – behind and embrace a circular economy of sustainable Modernity.

In concrete terms this could involve the following plan of action:

- Explain to the public in general and politicians in particular what the benefits are of re-using existing buildings and of continuity and tradition, in order to create harmony between the economic, social and environmental demands.
- Change the curricula at the schools and faculties of architecture to include history of Modernity as well as the conservation and adaptive re-use of what is there already as a standard part of the education of all students involved in the building industry.
- Stimulate architects to design appropriate buildings which are sustainable, in other words which are based on the principles of re-use, reduce and recycle. Buildings that create love and care rather than awe and hatred.

Indeed love and care for our environment and the cultures of the communities we serve are the main ingredients to make a better world for all. And a better world for all will remain the main goal of the Modern Movement.

Our real challenge is to bring the new and the old together in such an inventive and harmonious way that the results are both inspiring and sustainable.

May the wisdom from the Tao Te Chin be our guide in this endeavour: 'The earth is a sacred vessel' and cannot be owned or improved. If you try to possess it, you will destroy it; if you try to hold on to it – you will lose it.'⁹

Notes

¹ Allerd Stikker: Sacred Mountain Benefactum publishing London 2014. ISBN 978-1-909657-56-4.

² See: Immanuel Kant 'Wat is de Verlichting' ed. B. Delfgauw, Kok Agoza; kampen NL 1998.

³ Bernard Mandeville 'fabel van de bijen particuliere zonden, algemeen profeyt' 1714.

⁴ Adam Smith 'An inquiry into the nature and causes of the wealth of nations. 1776.

⁵ Alexis de Toqueville 'Journeys to England and Ireland (Chapter Manchester) 1835.

⁶ John Allen. From Sentiment to Science – DOCOMOMO comes of age'

Proceedings of the 12th international DOCOMOMO conference, Espoo - Finland 2012, ISBN 97-952-93-2300-5.

⁷ Antonio Damasio 'Twee culturen, één brein'. Nexus 2014, volume 66. Tilburg 2014, ISSN 0926-2970.

⁸ Juhani Pallasmaa 'Newness, Tradition and Identity – existential meaning in architecture'. Proceedings of the 12th International DOCOMOMO conference August 2012, Espoo, Finland. ISBN 978-952-93-2300-5 (paperback).

⁹ Chapter 29 of the Tao Te Ching.



Hubert-Jan Henket

Hubert-Jan Henket (1940) is a practicing architect in the Netherlands, professor emeritus of the Eindhoven and Delft Universities and Honorary President of DOCOMOMO international.

He graduated cum laude in 1969 at the faculty of architecture at the Delft University of technology. Afterwards he studied urban design at the Otaniemi University in Helsinki Finland. From 1971 he worked in London until 1976 when he started Hubert-Jan Henket architects in the Netherlands. Since 2010 the practice is known as Bierman Henket architects.

He held the chair of building technology at the Eindhoven University from 1984 till 1998 and one of the chairs in architecture at the Delft University from 1998 till 2005. In 1988, together with Wessel de Jonge, he founded DOCOMOMO. He is the chairman of the Rietveld Schröder House Foundation and the Theo van Doesburg House Foundation. Together with Hilde Heynen he edited the book 'Back from Utopia, the Challenge of the Modern Movement'. Recently he published a book in Dutch: 'Where New and Old Meet, a Plea for Sustainable Modernity in Architecture'.

His architectural work, which mainly concentrates on the relationship between new and old, received wide coverage. He is involved in the restoration of buildings by Rietveld, Dudok and Duiker. He designed among others 11 museums, such as the extension to the Teylers Museum in Haarlem and recently Museum de Fundatie in Zwolle, for which he received the Dutch Design Award 2013. Together with Wessel de Jonge he received the World Monuments Fund, Knoll Modernism Prize for the restoration of the Sanatorium Zonnestraat in Hilversum, the Netherlands.

Hubert-Jan Henket was awarded the Prins Bernhard Cultuurfonds Prijs for his complete oeuvre and the 'Kubus' of the Dutch Institute of Architects. He is a Knight of the Order of the Dutch Lion.

On Collective Form

Fumihiko MAKI *

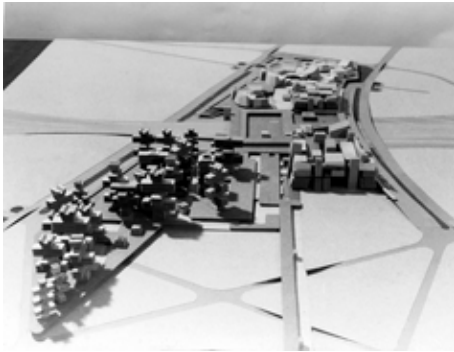


Fig. 1 Shinjuku Project 1960



Fig. 2 Collective Form 1964



Fig. 3 Republic Polytechnic 2006

Group form was a concept started with the Metabolists in 1960, and further developed in the publication Investigations in Collective Form in 1964. In Investigations in Collective Form, I pointed out that linkages are critical tools for making Collective Form. Linkages give order to a collection of elements, organizing the plan of a building or a group of buildings. They do not, however, determine the quality of space. Similarly, unifiers are physical and implied linkages that are mobilized to unify various functional elements. They come in two categories that enhance the public realm: external (plazas, gardens, terraces, etc.) and internal (atria, courtyards, ramps, etc.).

From the beginning of these writings, my interest has been to uncover a unifying order to diverse elements. The focus of those writings was on the importance of linkage, both physical and implied. As my career has progressed, I have had the opportunity to explore these theories in built form as well - the physical embodiment of the concepts explored with the Metabolists and via the theoretical publications - and these built projects, in turn, have led to further conclusions. In some cases, the projects have encompassed linkages and group form within their own boundaries; in other cases, they have embraced these concepts in conjunction with their surrounding contexts. Projects to be examined include:



Fig. 4 Keio Univ. Fujisawa Campus 1992



Fig. 5 Hillside Terrace 1969~92

Shinjuku Project
Republic Polytechnic
Keio University Shonan Fujisawa Campus
Hillside Terrace
Tokyo Denki University
4 World Trade Center
Taipei Main Station Area Redevelopment
UN Consolidation Building Project.

* Principal of Maki and Associates



Fig. 6 Tokyo Denki University 2013

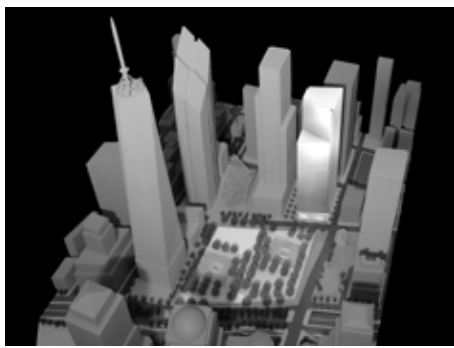


Fig. 7 WTC Master Plan 2005

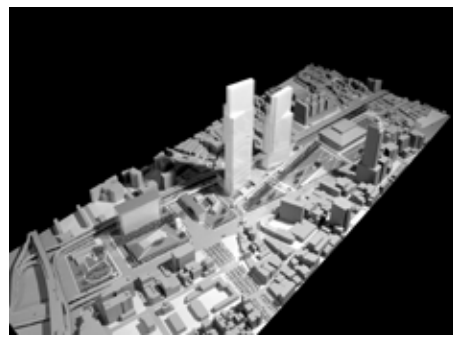


Fig. 8 Taipei Redevelopment project 2003

Ultimately, beyond the formal considerations of collective and group form, these projects also clarify the importance of “spatialization” and “socialization” phases in the process of making architecture. As noted in a more recent (2013) essay “Modernism in the Open Sea,” these phases are where people are most intimately engaged with design, both physically and mentally.

Ultimately, it is the “spatialization” of particular projects that has produced richer human experiences over time – the “socialization” of space – above and beyond their initial, physical configuration. Clearly, a humane approach in designing architecture and urban spaces is the only way to enrich the quality of a city undergoing continuous change and diversification.

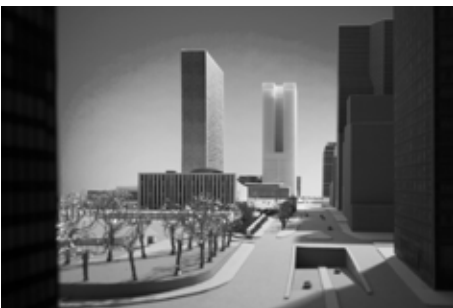


Fig. 9 United Nations Consolidated project 2003

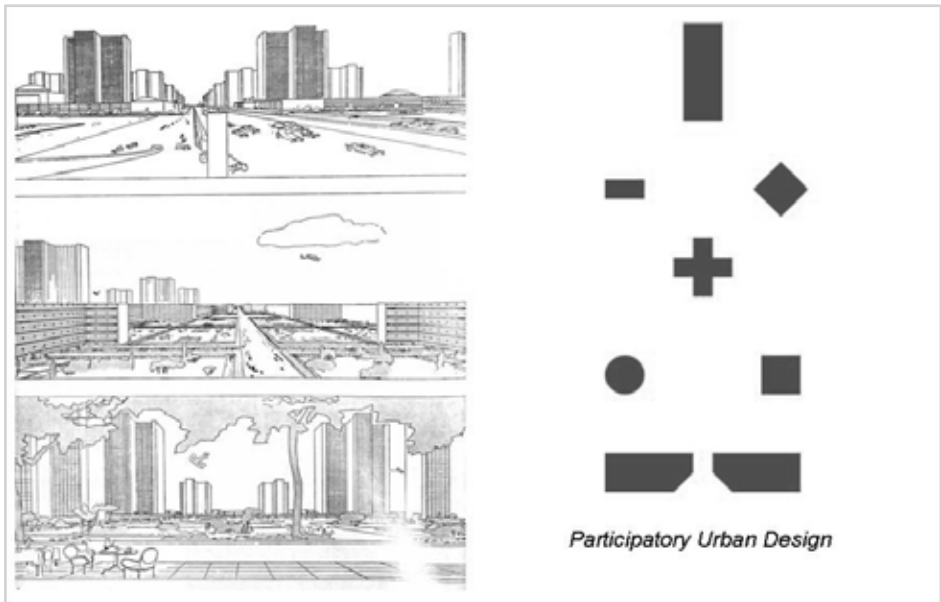


Fig. 10 Another Utopia 2014



Fumihiko Maki

Born in Tokyo. Studied and taught at the University of Tokyo and the Graduate School of Design, Harvard University. Principal of Maki and Associates since 1965. Major projects. Hillside Terrace, Spiral, Makuhari Messe, MIT Media Lab, 4 WTC New York.

Recipient of Wolf Prize 1988, Pritzker Prize 1993, UIA Gold Medal 1993, Prince of Wales Prize in Urban Design, 1993, Praemium Imperiale, 1999, AIA Gold Medal 2011.

Restoration of Crown Hall

Mark P. SEXTON *

Abstract

In this presentation, the author documents the research, renovation and modifications of Mies van der Rohe's masterwork, Crown Hall, the nucleus of the Illinois Institute of Technology campus. After five decades of use and after being designated both a regional and national architectural landmark, the building had fallen into major disrepair. The author examines the obligations of being a significant landmark building and analysis of Crown Hall's existing conditions to determine the root cause of the deterioration. Only after a detailed forensic investigation could restoration solutions be identified.

Krueck+Sexton Architects, a firm sympathetic to Mies' architectural theory, was selected to lead the renovation of the building during a 14 week summer break when the building was not in full use. The author begins with a thorough examination and documentation of the deterioration that Crown Hall had suffered from years of neglect. Through research and investigation of alternate materials and structural modification, the author describes the development of new coatings and code compliant glass. Since Crown Hall is a superior example of the "Less is More" axiom, the attention to material, detail and craftsmanship had to be of the highest order.

Mies van der Rohe was and remains a titan of modern architecture. The ideas that are expressed in Crown Hall, a type of minimalist perfection, would go on to influence architects, builders and building owners the world over. With the restoration of Crown Hall, the original ideas behind the building are clearly visible, allowing the world at large to once again experience one of the most powerful works of modern architecture.

1.Introduction

S.R. Crown Hall is widely recognized as one of the supreme achievements of 20th century architect Mies van der Rohe. At its 1956 dedication, Mies characterized Crown Hall as "the clearest structure we have done, the best to express our philosophy." Few buildings in the world express more with less than Crown Hall (**Fig. 1**). Housing the College of Architecture on the Chicago campus of the Illinois Institute of Technology, the building was declared a City of Chicago Landmark in 1997 and a National Historic Landmark in 2001. This national recognition is very rare for a building that was less than fifty years old.

Designed as a clear span steel structure to house the studios, classrooms, workshops and faculty offices of an internationally renowned College of Architecture, the building continues to perform these functions today. However, after fifty years of continuous use, it had

undergone significant deterioration, including severe corrosion to its exposed steel frame, cracking to the glazing system and stone failure at the entries. Historically inaccurate and functionally inappropriate renovations in the 1970's compromised the architectural integrity and clarity of the building. The goal of the restoration team was to restore the building's exterior envelope, one of its most recognized features, to its original elegance and functionality. When the building opened in 1956 it housed approximately 120 students. The building's main floor was covered with natural light (**Fig. 2**) and vents and blinds were manipulated as carefully as a schooner's sails so just the right amount of natural light and ventilation entered the building. The vents and blinds became a teaching tool for the architects that entered



Fig. 1. Mies van der Rohe, Crown Hall, Chicago IL 1956, Hedrich Blessing

* FAIA, LEED AP, Krueck + Sexton Architects, Chicago



Fig. 2. Mies van der Rohe Crown Hall interior studio, Chicago IL 1956, Hedrich Blessing



Fig. 3. Mies van der Rohe, Crown Hall interior, Chicago IL 2004, Krueck+Sexton

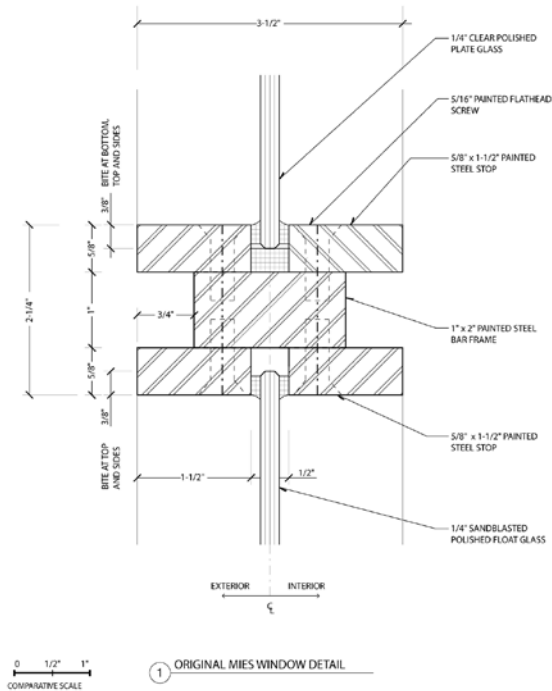


Fig 4. Detail Drawing of Original Glazing Stop Condition, 2005, Krueck+Sexton

and studied there. That same building, in 2003, accommodated more than 400 students, which meant the drafting tables, with ample space around each in the late 50's, were now stacked like eggs in a crate (**Fig. 3**). These students were no longer just drafting but working on computer screens where natural light flooding into the building was no longer an asset. The vents and blinds were in complete disrepair because of age but mostly because no one understood their value or took the time to control them.

The building, once a refined example of the highest aspiration of modernism, was now a rusted, faded paint and cracked glass building that expressed the total lack of care for one of the century's cultural icons. People from around the world would make a pilgrimage to the south side of Chicago to visit the building and instead of being awed by the precision, proportion and beauty of Mies's creation, couldn't see past all of the visual blemishes, cracks and utter disrepair of the building.

1. Discovery Process

Analysis and design work began in the spring of 2003 and restoration was completed in August 2005. Due to the important nature of this project, an interdisciplinary design team, led by Krueck+Sexton Architects, was assembled representing architecture, preservation, glazing, sustainability, engineering and construction disciplines. A design review committee consisting of College of Architecture faculty, some of whom occupied the building in its early years, assisted the team in research and decision making and served as the liaison with the University community. A rigorous review process, including discussion and presentations to city and state preservation officials, provided input at critical points. This review process was focused on the facade steel and glass stop detail (**Fig. 4**) because all of the building's elements; steel, glass and paint, come together at a critical point. A paradigm of Mies's meticulous approach to glass and steel construction, this detail required modification to safely capture and hold the new replacement glass. The obligations for the highest level of historic preservation and the current code and safety requirements initially seemed to be at odds. The detail needed to change; the question was how to most appropriately choose the modification path that would have no adverse impact on the historic fabric of the building? The same choices needed to be made for the type of replacement glass used. The glass and modified aluminum stops installed in 1975 were to be removed because they were not in keeping with the highest standards of historic restoration. The new glass needed to certainly meet the current code requirement, but more importantly it needed to restore the building's original subtle play of transparency and translucency.

Krueck+Sexton undertook an extensive study of potential glass formulation, thickness and finishes, eventually narrowing the selection to six strategies. These assemblies were mocked up full size in the building's curtain wall and reviewed by the team, the university

and the city and state preservation stakeholders. From this process emerged a consensus on the best direction forward, which deployed a new thicker float glass

in the clear upper lites to match the transparency and color similar to that of the original 1/4" polished plate glass. The team sampled a wide selection of glass for the lower glazed lites that was more sympathetic than the laminated glass that had been replaced in the 70's. The restoration of the exterior steel consisted of removing and replacing steel that had corroded beyond repair, sandblasting the remaining steel frame to "white" metal, and the application of a three coat paint system. The building's entry doors were removed and sent to the original manufacturer, Ellison Bronze Inc., for refurbishment and were reinstalled with modernized hardware and integrated security devices. Italian travertine for the entry porches was carefully selected to match the texture, color and grain of the original stone.

2. Metal Stop Design

As a predominantly glazed building, Crown Hall consists of a primary steel structure of plate girders and main columns and a secondary steel structure of intermediate columns, mullions and frames. The structure is a one-way 120' x 220' clear span system that allows the interior space to remain column free. In 2003, through years of insufficient maintenance and piecemeal renovation projects, the steel frame and glazing system were in a severe state of disrepair. Numerous glass panels on the main floor and lower level were cracked, many of the steel stops showed signs of advanced corrosion, and several of the window frames were bent out of alignment due to oxide jacking exerting unwanted pressure on the glass and stops.

Most of the corrosion found on the existing painted steel structure and glazing stops was surface corrosion. Failure of the aged paint coating system to protect the steel and the inability of the glazing system to repel or weep water were the two primary causes of this corrosion. Advanced corrosion was found at areas of dense ivy growth due to excess moisture accumulation, glazing channels due to excess condensation, and door sills at the entry areas where the use of de-icing salt was prevalent.

The glazing stops on the lower lights appeared to be the original steel bar stock, however, the exterior glazing stops on the upper lites were replacement extruded aluminum pieces completed during the 1975 Skidmore Owings and Merrill (SOM) renovation. The original steel bar stock remained on the interior side and appeared not to have ever been removed. The design team investigated a change to the stop profile and detailing in the hope of providing a more successful solution to avoid trapping water within the glazing channel and to keep moisture off the glazing assembly.

Based on a careful review of the chemical, moisture, galvanic, electrochemical, thermal expansion and historic preservation issues, steel replacement stops were recommended and implemented for all portions of the glazing system. Although there were apparent advantages of metals that are considerably higher-performance than steel, the design team felt that using a material other than steel may have unintended consequences, complicate the glazing system and compromise the future performance of the building.

The question remained on what was causing the great amount of base glass cracking? Certainly there was visible oxidation but could the cause of the glass failure be because water was infiltrating the glazing channel and simply freezing? Upon removal of the existing steel window stops, the design team discovered that the original red iron oxide primer was visible in many cases through the top coat. In other cases the steel stop material was found to have only a light coating of surface primer on the concealed surfaces.

Several of the sealant joints around the lower level windows were failing and in various states of disrepair. The sealant that was presumably replaced throughout the building during the 1975 renovation, when all the glass was replaced, was nearly 30 years old. In some cases, large areas of sealant showed signs of material breakdown and adhesion loss, thus exposing a vulnerable point of the wall system to water infiltration.

The original design drawings indicate the use of a mastic tape product at various locations, which in all likelihood was used to provide separation and a layer of protection between various components of the steel frame. No evidence of this material was found between the steel stops and frames. This steel-to-steel condition offered an open joint for water to infiltrate the glazing assembly. Once inside, water had access to the open glazing channel with no way to escape.

It was only after removing a dozen steel stops that we conclusively identified severe oxide jacking as the singular cause of the glass breakage. The most significant corrosion found at the bottom horizontal bar of the steel window frame (**Fig 5**) and up to approximately 12-18" along the vertical jamb members caused moderate amounts of pitting of the top surface

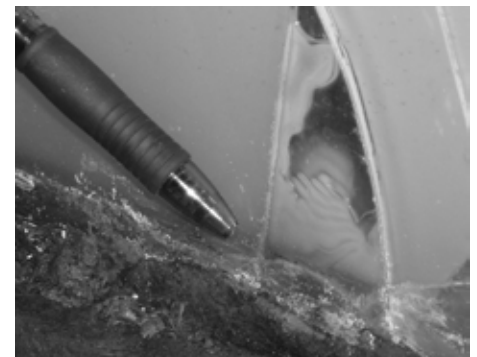


Fig 5. Detail View of Sill with Glazing Stop Removed, 2005, Krueck+Sexton

of the steel frame that was readily apparent after sandblasting. Corrosion build-up and oxide jacking at the glazing setting blocks had exerted an upward pressure on the glass.

This corrosion build-up, along with the limited space within the glazing channel due to the increased thickness of the glass installed during the 1975 renovation, caused a significant number of the lower level translucent panels to break.

The original 5/8" x 1 1/2" profile of the steel stops was maintained at the lower level lites but the design team recommended that all material for these stops be new. This helped to facilitate a high degree of quality control through a process of shop fabrication and finishing, and eliminated the need for costly specialized efforts to repair material or areas of material that had been compromised by varying degrees through the years.

At the upper stops, current code regulations required an increase in the thickness of the stop at the glazing channel from the original 5/8" bar to 3/4" to allow sufficient bite of the large upper lites of glass. The important design question was could this be accomplished within the spirit and letter of preservation. After a detailed study, we determined that a sloped profile at the upper stop would maintain the appearance and proportion of the original 5/8" front face of the stops while addressing the increased support (bite) requirement at the glass (Fig. 6). This profile also improves the performance of the window wall by establishing positive drainage away from the glazing channel. Some on the design review committee thought this approach was heresy. How could a sloped piece of steel be installed into arguably one of the most rigorously rectilinear buildings of the 20th century? Our answer was very

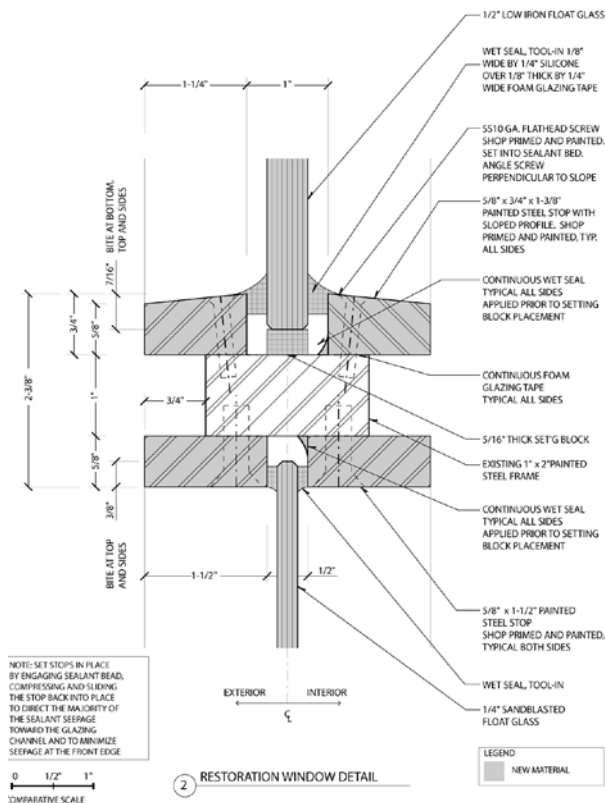


Fig 6. Detail drawing of restored glazing stop condition, 2005, Krueck+Sexton

simple; “you don’t see it.” A full-size mock-up installed in the summer of 2004 confirmed that the height of the upper window bay and the viewing angle completely concealed the bar stop slope so it was almost impossible to perceive, even if you knew it was there. Having proven to be cost effective in pricing exercises, the sloped profile offered a compromise between the original detail and current code standards while also addressing the historic, aesthetic, performance and pragmatic concerns.

The original sized fasteners, 5/16" x 1" flat head slotted machine screws, were maintained at all of the glazing stops. This enabled the existing locations and spacing to be maintained at all of the lower level windows. The spacing was modified slightly at the upper stops to accommodate an angled fastener following the sloped profile of the stop. The original glazing stop fasteners were steel but during the mock-up process, stainless steel screws were discovered in several stops. The team recommended that all the new screws be stainless because of the corrosion resistive properties of stainless steel. The fasteners were then set in a bed of sealant to further isolate materials and to help protect against water infiltration.

With the newly fabricated stops sandblasted and steel frames and new glass components defined, the team completed a full size mock-up consisting of one full window bay. This bay served as the benchmark for quality control, as well as an “in situ” laboratory to test the glazing system for air and water infiltration. The specified water test demonstrated that the construction methods and techniques used to install the components of the window wall would need to be as tightly defined as the architecture itself to insure the integrity of the system.

3. Glazing Design

All of the exterior glazing was replaced during alterations made by SOM in 1975. The original 1/4" polished plate glass in all upper lites was replaced with 3/8" clear float glass. The upper lite exterior stops were replaced with the two component extruded aluminum stop with a 3/4" leg for the added bite needed to fix/stabilize the thicker replacement glass. This redesigned stop resulted in a subtle but inappropriate

shift outward of the glass. The original $\frac{1}{4}$ " sandblasted plate glass in the lower lites was also replaced by SOM with translucent laminated glass. From the first day the building opened the sandblasted surface stained with something as simple as fingerprints, not to say more ubiquitous products like masking tape, spray paint and markers. The laminated glass solution provided both safety and an interior surface that could be easily maintained. While the laminated glass solved the issues of safety and maintenance it unfortunately created two other problems. Working with Atelier Ten, a London based environmental engineer, we discovered that the mylar interlayer absorbs 30% of the solar energy compared to less than 5% with sandblasted glass. Having nearly a third of the façade of the building retain solar energy presented a significant challenge to user comfort. The laminated glass was easy to maintain but added to the building's cooling load during summer months. The other issue was the quality of the interior space changed because of the reflectivity of the laminated glass. The soft, almost shoji screen quality of Mies's sandblasted glass was now replaced with a glass where you could see your reflection. The reflectivity of the interior glass was even more dramatic at night when the light levels dropped on the exterior and increased on the interior. The original lower lite steel bar stops were re-used with the thicker replacement laminated glass. Additionally, in 2003, glass breakage was identified primarily in the lower translucent lites. Although oxide jacking was the primary source of glass failure, the modified proportion of the glazing channel was another. As glass had been widened and the original stops retained, the ability of the system to accommodate thermal movement was compromised. Expansion of material due to corrosion of the original steel stops also contributed to the cause of the glass breakage. The combination of these stresses from thermal expansion of the steel and instances of corrosion expansion were the primary cause of glass breakage.

4. Upper Clear Glass

Due to more stringent wind load requirements, $\frac{1}{2}$ " float glass was used for the upper clear lites. Glass of a lesser dimension would require heat strengthening which has an adverse effect on the visual flatness of the glass due to roller wave distortion caused by the tempering process. Center-of-glass deflection also increases as the dimension of glass is reduced. Deflection of as much as 1.8" is possible with glass less than a $\frac{1}{2}$ " thick which would require increasing the dimension or "bite" of the glazing stops to prevent "pop-out" of the glass units. Both clear annealed and low iron glass were considered for the upper lites, with the goal being to match as closely as possible the color of the original $\frac{1}{4}$ " polished plate glass. The low iron option proved to be the closest match to the original $\frac{1}{4}$ " thick polished plate. Using low iron glass offered the chance to double the thickness of the upper glass panels without increasing the amount of iron or color. Because of the large size of the upper glass panels and the color it would impart in the glass, there were no low E coating options considered.

Lower Clear Glass

For the lower glass panels adjacent to the entry doors of the north and south elevations, $\frac{1}{4}$ " clear tempered glass was used. Tempered glass meets the safety requirements for the lower units while allowing the original thickness and type of glass to be used.

6. Lower Translucent Glass

For the lower translucent glass, $\frac{1}{4}$ " clear tempered glass that was sandblasted, as originally designed by Mies, was selected, however it now was coated with a three part epoxy clear sealer. The sealed sandblasted glass was selected after a series of full-size mock-ups were compared to an adjacent untreated sandblasted panel (**Fig. 7**) for review of color, surface texture, translucency and interior reflectance. No one on the de-sign team, the University committee and,

most importantly, the city and state preservationist could detect a difference. The University, however, requested another mock-up to actually test the sealer. One sealed panel was divided into sections (**Fig. 8**) where a variety of materials from markers, spray paint, spray glue and the ever-present masking tape, were applied and al



Fig 7. Mies van der Rohe, Crown Hall, 2004, Krueck+Sexton, Full size mock-up of sealed, sandblasted glass options



Fig. 8. Mies van der Rohe, Crown Hall, Chicago IL 2004, Krueck+Sexton, Mock-up sample of various materials on glass to test seal

-lowed to age for 3 months. Directed by the design team, the University maintenance group was able to remove all the markings without any effect to the visual character of the sandblasted glass. The remarkable quality of the sandblasted glass was retained while also being completely maintainable.

7. Glazing Schedule

Upper Clear Glass

Original -1/4" Polished Plate Glass

1975 SOM Retrofit - 3/8" Clear Float Glass

2005 Renovation - 1/2" Annealed Low-Iron Float Glass

Wind Load Requirements-30psf

1/2" Float Glass Wind Load Performance-33.8psf*

*Based on ASTM E 1300-00

Lower Translucent Glass

Original-1/4" Sandblasted Plate Glass

1975 SOM Retrofit - 5/16" Laminated Clear Float Glass w/ Translucent Inner Layer

2005 Renovation – 1/4" Clear Tempered Glass with Sandblast and Sealer on Interior Surface

Lower Clear Glass

Original-1/4" Polished Plate Glass

1975 SOM Retrofit - 3/8" Clear Float Glass

2005 Renovation - 1/4" Tempered Float Glass

8. Coating System



Fig 9. Mies van der Rohe, Crown Hall, Chicago IL, 2005, Krueck+Sexton, Wrapped building perspective, Krueck+Sexton



Fig 10. Mies van der Rohe, Crown Hall Restored, Chicago IL, 2005, Bill Zbaren

In 1998, at the request of the College of Architecture, Fujikawa Johnson in collaboration with Krueck+Sexton Architects completed a report that discovered that the original iron oxide lead paint system had remained intact beneath several layers of finish coat material. Various members of the Architectural Committee recounted that subsequent recoatings “always faded from dark black to charcoal gray after several years.” The design team identified abatement

of the original lead paint product as a prerequisite for future renovations. During the early design stages, a forensic consultant was engaged to determine a color match for the original “Detroit Graphite” used by Mies van der Rohe.

The specified coating system recommended by the design team for the restoration of Crown Hall was a high-performance system by Tnemec Systems. Prior to application of this product, the existing steel frame and structure had to be sandblasted to a minimum surface preparation of SSP-SPC6 Commercial Blast Cleaning to facilitate proper adhesion. Removing the red iron-oxide lead primer required an extensive environmental control program that included wrapping the building, inside and out, with a protective plastic layer (**Fig 9.**), to insure proper abatement and to control the dissipation of lead into the atmosphere.

The first coat of the Tnemec System applied was the Series 90-97 Primer. This coat was spray applied in the field within 4 hours after sandblasting to prevent flash rusting of the newly prepared steel surfaces. The 90-97 Primer is an organic zinc rich primer that provides maximum protection against surface corrosion of the steel surfaces. The second coat, also field applied in this application, was the Series 66 Hi-Build Epoxyline intermediate coating. The final topcoat product was the Series 175 Endura-Shield Polyurethane Product.

The original steel glazing stops were primed, fastened to the support structure and top coated. The only protection against corrosion at the glazing stops was a thinly applied primer. In our process of renovation, all the steel stops were shop painted with the full three coat paint system and then set into a bed of silicone. The full coating of all the glazing stops provides a far superior level of corrosion protection when compared with the original paint system.

The result of the new coating system was an impressive display of the building's clarity and simplicity (**Fig 10**). By removing layers of dilapidated coatings and with the application of this new high performance coating, the pristine lines of the building's structure were restored to their original elegance.

9. Conclusion

The significance of this restoration extends far beyond the preservation of one the world's most important modern buildings. It represents the cultural legacy of mid-twentieth century modernism, which left a large and influential footprint on the landscape of not only North America but the world. As exemplified by this structure, these buildings are aging rapidly, although only a small number are protected by their landmark status. The vast majority of our mid-century buildings, however, face an uncertain future. The strategies employed by Krueck+Sexton Architects and the restoration team at Crown Hall is applicable to buildings of similar vintage. This project demonstrates that structures of the modern era can be successfully restored without loss of historical, design and functional integrity.

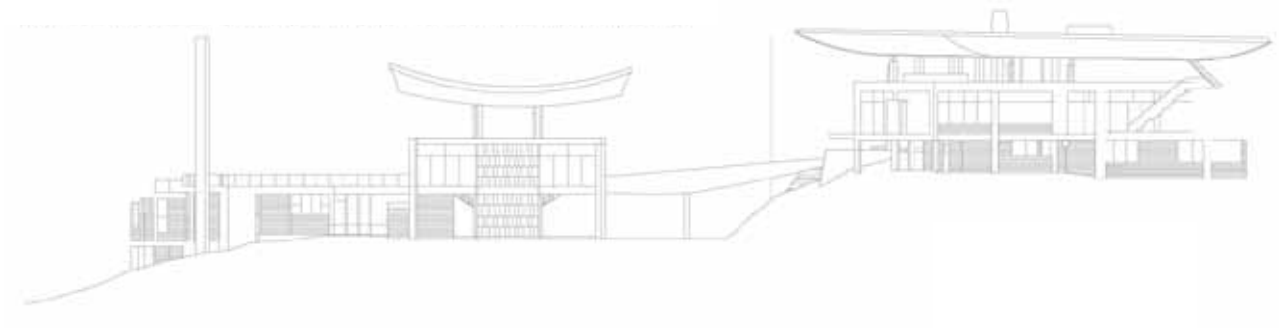


Mark P. Sexton

Mark Sexton is a founding partner of Krueck+Sexton Architects and, along with Ronald Krueck, designs and manages all of the firm's work. He is responsible for the development and execution of design ideas, and for the coordination of project teams. His dedication to craftsmanship, material, and detail enables the firm's built work to express the values of modern design with a timeless quality.

He is a member of the GSA Design Excellence National Registry of Peer Professionals and of the Glessner House Museum Board of Directors. He also serves on advisory committees for the School of the Art Institute and the Illinois Institute of Technology College of Architecture, and teaches design studio at Northwestern University's School of Engineering.

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Urbanism and Landscape

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Asian Modernity

Education and Theory

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Heritage, Modernism and Typology

Eduardo COSTA *

Abstract

During the ‘Estado Novo’ (1930 to 1945), a dictatorial regime in Brazil, the official modern Brazilian architecture started to be framed by architects such as Oscar Niemeyer, Affonso Eduardo Reidy and Lucio Costa. In parallel, but very well connected, The Historic and Artistic National Heritage Institute – IPHAN – was created in 1937. Monuments, buildings, collections and objects started to be catalogued, classified and, at the same time, some of the most important federal museums – such as the National Museum of Fine Arts – was established and had started their collections. This was about organizing the past to a new and modern culture, to the modernism in Brazil. In this context, this paper aims to present some of the IPHAN’s restoration strategies dealing with an idea of modernism. Strategies that were coordinated by Lucio Costa – at that time, the IPHAN’s Director of Studies and Classifications – and were essential to organize typologies of civil and religious Brazilian architecture. Through the reading of documents, letters and, especially, photographs preserved in the IPHAN’s photo archives, this paper is about to recover some actions of construction and destruction of the ancient buildings by IPHAN’s architects. Actions that were about to organize typologies to the Brazilian architectural history and also the foundations to a nascent modern architecture. This Brazilian narrative, expressed by the activity of the architects projecting new modern buildings or restoring ancient buildings, is also connected with some modern theories disseminated through international magazines and seminal books. Theories which, at that time, became key pieces for dissemination and organization of a modern Brazilian culture.

1. Heritage, Modernism and Typology

Brazilian modern architecture is very well known through the works of some remarkable architects such as Oscar Niemeyer, Affonso Eduardo Reidy, Gregori Warchavchik, Lina Bo Bardi and Lucio Costa. These architects were responsible not only for the dissemination of some of the international modern ideas of architecture or responsible for the creation of a new discourse and narrative, but they were also a key point to the Brazilian cultural renovation put in practice during the dictatorial regime of president Getúlio Vargas, known as Estado Novo (that means, ‘New State’).

Culture was considered as one of the most important areas to represent an idea of a changing state. Before 1930, the Ministry of Education and Health didn’t exist. It was created in the 1930’s and the regime acted to organize more concrete measures to set up and define a symbolic and ‘*imagetique*’ referential to the national culture, the visual documents. In the year of 1937, Ministry of Education and Health created The Historic and Artistic National Heritage Institute from Brazil – known as IPHAN –, an institute dedicated to classify, preserve, and restore buildings, monuments, and works of art. This Ministry was also responsible for organizing three new museums: The National Museum of Fine Arts, created in 1937, The Museum of Inconfidência, created in 1938, and The Imperial Museum of Brazil, created in 1940. Still in the search to establish a referential to the national culture, this Ministry organized a series of new public art collections, the promotion of annual competitions to acquire new works of arts to these new museums and also the promotion of sculptural and architectural projects.¹ Thus, beyond the consolidation of a certain group of monuments, the federal government acted to establish a symbolic and ‘*imagetique*’ repertory through the collections of these new museums, including not only the works that represented the past of the Nation but also the ones that represented a modern perspective of the Brazilian culture.

* Brazilian Architect

These governmental actions were developed with a clear objective in favor to organize a referential, the base of a collective identity, the Brazilian's identity as a nation, a modern nation. With these visual documents belonging to federal museums, IPHAN started its work; the building, monument, and church restorations. With these visual documents, IPHAN started the restorations, because they were the visual evidence of the monuments past. The management of these *objects* of history assumed, therefore, an important role to set up a symbolic referential to the nation. This was about the definition and the institutionalization of a referential – *the origin* – from which it would have to be recognized as the starting pointing of a national culture. Thus, the state guaranteed and controlled a repertory from which a nationality could be kept through a rhetoric maintenance regarding to what should be the national culture.²

But it's important to highlight that the IPHAN's Director of Studies and Classifications was one of the most influent architects at that time. Very well known for the creation of the new Brazilian capital in the 1960s, Lucio Costa was not only responsibly for architectural and urban projects or for a new Brazilian architecture historiography,³ but especially responsible for the classification of the buildings and works of art that represent the Brazilian heritage. In this context, he was not only one of the most important persons for the diffusion of the modern ideas – such as Le Corbusier's theories – but also one of the key persons for the choices that were made during the process of the heritage restoration. In this processes to consolidate a new national culture, Costa was responsible for putting into practice the strategy Ministry of Education and Health.

One example of this strategy could be seen in the restoration of the Chapel of Our Lady of the Pillar in Taubaté, a city in the country of the state of São Paulo. This chapel, built in 1748, was classified by IPHAN in 1944 and, some years later, it was restored.⁴ The first relevant thing about this chapel is that it is a singular exemplary of a religious building in the Paraíba Valley, one of the most important places to the history of the economical cycle of coffee in Brazil.⁵ Thus, the inventory and restoration of this chapel was a way to preserve not only a certain architectural plasticity or an architectural program, but also an important chapter of the Brazilian's official history. But the most important thing about this process is IPHAN's strategy of restoration.

In 1947, a newspaper from Taubaté reported one of the most important moments in the restoration of this chapel. Titled '*Restoration of the Chapel of Our Lady of the Pillar*', the article points that the processes of restoration was going in a very slow rhythm but it was justified by the very honest and professional work under IPHAN's care. The text also points that Luis Saia, the director of IPHAN's regional office in state of São Paulo, knows that the Paulista Museum has a painting made by Professor Paulo Florençano, where the Chapel of Pillar appears with two doors in Bispo Rodovalho Street façade. In the year of 1947, at the beginning of the restoration, the chapel had only one door on that façade but, on the other hand, the painting shows two doors. It is important to notice that the Paulista Museum, located in the city of São Paulo, is one of the most relevant museums in Brazil. It's dedicated to the Brazilian Independence and has huge collections of paintings, photographs, sculptures, and objects. Another singular fact is that, knowing its importance to the country's history, IPHAN classified all the archeological, ethnographic, artistic, and historic collections in this museum in year of 1938. Almost a decade before the restoration of the chapel in Taubaté, IPHAN had already classified a collection that was in its interior. In this collection there was a painting, probably from the 19th century, on which figures the chapel of Pillar, in this case, with two doors. Thus, with this painting classified, Luis Saia authorized the destruction of part of the wall to open a door.

The question that this restoration process brings here does not refer specifically to the intervention in that building; the opening of a door. Of course there is an important problem related to an idea of architectural typology. But the question here is the way IPHAN used a certain joint of paintings, drawings and even photographs as visual documents, justifying the choices in the restoration process. A painting, a classified painting that belonged to one of the major museums in Brazil, was a key document to the intervention in that building. In this process, the chapel restoration did not only recover an *original* characteristic of the building, but it also highlighted the importance of a painting inside a museum. At the same time, the restoration connects the monument and the painting into only one cultural narrative: a visual narrative. It means that IPHAN's working processes were completely connected with what Brazil has as visual sources in its museums or even what Brazil organized as its visual sources. The restorations justify the collections and the collections justify the restorations.

Another significant example of these restoration practices in IPHAN, relating visual collections or visual documents with the inventory of a building, could be seen in the 'Church of Our Lady of Escada', in the city of Guararema (**Fig. 1.**) In this case, a watercolor made by Thomas Ender (1793-1875), a French painter, was used as the original visuality of that church, the evidence of a past (**Fig. 2.**)⁶ When IPHAN started its restoration it was possible to see a bell tower in the left side of the building, but at the same time that tower was not represented by Ender in the watercolor from the beginning of the 19th century. Knowing the importance of this painter to the Brazilian history and also underlining his importance, IPHAN's decision was to destroy that tower, reconnecting the building with the image and making the



Fig. 1 Igreja Nossa Senhora da Escada, 1947. Photo: Herman Hugo Graeser (IPHAN's Archive)

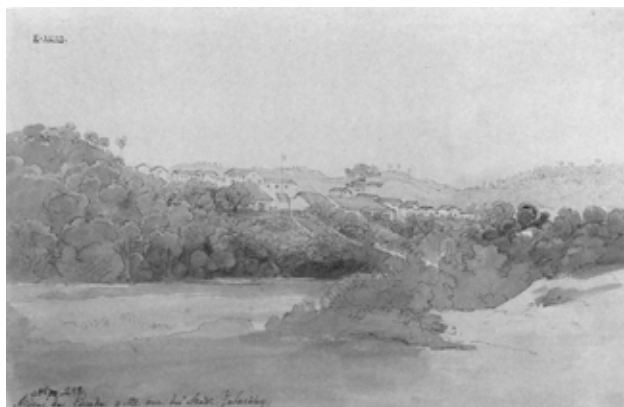


Fig. 2 Aldeia da Escada a três milhas da cidade de Jacareí, 1817. Watercolor: Thomas Ender.



Fig. 3 Igreja Nossa Senhora da Escada, 1958. Photo: Herman Hugo Graeser (IPHAN's Archive)

watercolor a document of that monument (**Fig. 3.**) More dramatic is the case of the ‘Convent of Our Lady of Embu’. Without a picture, a photograph or a drawing, IPHAN restored that convent justifying some choices – such as remodeling the bell tower – as a way to reconfigure that building as a church typology to the county of the state of São Paulo. In this case, the convent was not connected with a specific painting in the interior of a museum, but with an idea of a colonial architecture that, at the same time, links the building with a certain architectural representation that can be seen in the collections of the museums. Therefore, if this restored church is not connected with a specific document in the interior of the museums, it is connected with an ideal of church from the county of São Paulo.

As Thomas Ender, a series of painters, draftsmen and, later, photographers produced thousands of visual documents that was, in the 20th century, a kind of major source to the process of restoration. Names such as Jean-Baptiste Debret (1768-1848), Ludwig Briggs (1813-1870) and Félix Émile Taunay (1795-1881) were also used as sources. The Brazilian painter José Wasth Rodrigues (1891-1957), made a singular description of the transformation of Paço Imperial, the royal residence of King John VI of Portugal. Rodrigues pointed that the first phase of this building was recorded by G. Thérémis, J. Steimann and Chamberlain. The second phase could be seen in some images made by Debret, L. Buvelot and A. Moreau. The third phase could be seen in a photograph made by Marc Ferrez in the beginning of the 20th century. And a forth and last phase was what people could see in the year of 1945, when he made some notes about this inventory.⁷ This description concerning Paço Imperial is a kind of a list of the major visual sources to the Brazilian architecture, or even to the Brazilian’s heritage history. These are some of the major artists that contributed to compose an idealized image of the cities, not only because they were exceptional painters but also because of their importance in the museums archives and collections.⁸ Through IPHAN’s practice, it is possible to comprehend that images, paintings, drawings, and photographs are one of the most important documents of the monuments and the acquiring practice of these documents. Thus, is possible to comprehend how the Brazilian architects, especially Lucio Costa, were able not only to organize a new narrative and a new language to the architecture in Brazil, but also reconnect the architecture with a past, an official past.

Notes

¹ The construction of the Ministry of Education and Health's building, in the capital public space of the federal capital – at that time, Rio de Janeiro – coordinated by Lúcio Costa and with some propositions of the architect Le Corbusier, was one of these architectonic monuments constructed to consolidate a singular representation of this New State policy. See: GOMES, Ângela de Castro (org.). *Capanema: o ministro e seu ministério*. Rio de Janeiro, RJ: Editora FGV; Universidade São Francisco, 2000.

² BHABHA, Homi K. *O lugar da cultura*. Belo Horizonte: Editora UFMG, 1998.

³ One of the major references is the book *Brazil Builds* where Lucio Costa had an important role in the narrative. GOODWIN, Philip L.: *Brazil Builds: architecture new and old, 1652 – 1942. Photographs by G. E. Kidder Smith*. New York: Museum of Modern Art, 1943.

⁴ LIMA, Francisca Helena Barbosa; MELHEM, Mônica Muniz; POPE, Zulmira Canário (orgs.) *Bens móveis e imóveis inscritos nos Livros do Tomo do Instituto do Patrimônio Histórico e Artístico Nacional: 1938-2009*. Rio de Janeiro: IPHAN/COPEDOC, 2009. (5ªed).

⁵ Side by side with the cycle of sugar in Bahia in the 16th and 17th century and the cycle of gold in Minas Gerais in the 18th century, the cycle of coffee had its apogee during the 19th century.

⁶ Ender, an Austrian painter who traveled around Brazil between the years of 1817 and 1818, produced nearly a thousand drawings and watercolors, picturing cities, landscapes and workers on the streets. He made a kind of a visual inventory of the Brazilian cities in the beginning of the 19th century.

⁷ RODRIGUES, José Wasth. *Documentário Arquitetônico: Relativa à antiga construção civil, no Brasil*. São Paulo: Martins Fontes; Editora da Universidade de São Paulo, 1975. (1ªed. 1945). p. 192.

⁸ It's important to notice that, in the case of Paço Imperial, Rodrigues does not mention the engraving produced by Luis dos Santos Vilhena in the year of 1770, where it appears with only two floors. Maybe, he didn't use it because he didn't know that image when he wrote those words. Or this wasn't a known picture at that time, maybe because this image isn't from a museum collection. Or even because the period represented by this picture – the 16th century – wasn't the period that the official narrative wanted to be recorded as the Brazilian official history. These are all possible reasons for this absence in his visual narrative.



Eduardo Costa

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Considerations on the Concept of Space-Time in Modern Western Architecture. Influences and Similarities between East and West

Kaisa BRONER-BAUER *

Abstract

The paper examines the background and the change in the concept of space as it appeared in Western architecture at the beginning of the 20th century. For the first time in Western architectural history, space was taken into consideration as a human determinant in time. Henceforth, it was the lived space and its influence on architectural design that became a central concern, instead of geometrical determinants, which dominated Western architectural conception earlier.

It is well known that the American architect Frank Lloyd Wright was strongly inspired by Japanese traditional architecture from the end of the 19th century onwards and that he even copied plans of Japanese houses and temples for his own Prairie House designs. Supposedly the open and communicative space of the Japanese house was at the origin of the modern flowing space as it was first represented in Wright's designs.

There were several coincidences with the advent of the Modern Movement in the West. Albert Einstein's theory of relativity and his concept of space-time were contemporaneous with the breakthrough of the flowing space in Wright's pioneering designs. The "breaking of the box" or the liberation from the spatial principles of Classical European architecture coincided with the findings of Einstein on one hand, and the Japanese architectural, and more generally Eastern philosophical influence on the West, on the other. In fact, on a more general level one should not ignore the impact of Eastern philosophy on Western thought from the 19th century onwards, which falls in with the breakthrough of Modernism.

The emergence of the concept of space-time in Western architecture is discussed by using Japanese architecture as an example of a catalytic influence between East and West.

1. Traditional Spatial Symbolism in European Culture

In European culture the concept of space is based on the Latin word *spatium*. In different contexts it has been given different meanings, sometimes associated with time or referring to the notion of order of things. In mythology, space is similarly understood as establishing a sacred order in the world, determined by four basic directions, e.g. above and below, right and left – or north and south, east and west. The space 'above' has been considered to be the divine space where gods and spiritual entities live, and the space 'below' is the human space where mortals live.¹ The Greek word *kosmos* also means order and refers to an organized universe or organized space, as an opposite to chaos.² By analogy, 'cosmos' can mean the human body or a house, a temple, or an inhabited area of land, a territory.

According to Mircea Eliade's studies on archaic societies,³ every situation in earthly life implied an insertion into a 'cosmos' of some sort. For each human settlement there had to be a symbolic establishment of a 'cosmos', or an organized space. The establishment of a cosmos traditionally meant choosing the 'axis' of the world, or the orientating centre around which the world was organized. It is precisely the defining of a fixed centre, or the establishing of the *axis mundi*, that symbolised the founding of a cosmos, or the creation of the world⁴. In

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archaic societies, the understanding of space was closely linked with the sacred organization of human life. This happened through ritualistic construction, which meant repeating a divine, celestial model, i.e. an archetype.⁵ The concept of time was cyclical, and space and time were concordant.

Since the times of Antiquity, European classical architecture has been based on the use of classical orders (Doric, Ionic, Corinthian and composite) and the proportional harmony between the parts and the whole. Classical spatial arrangements are the result of the ordered use of columns that mark the limits of volumes and engender a hierarchical system of closed and half-open spaces. The idea of space itself in Greek architecture was mathematically or geometrically defined. Space emerged as the upshot of the proportional world that was made up of tectonic elements and architectural volumes, but space was not understood as a separate architectural component. There was, however, a gradual development of spatial relations between the architectural object and its surroundings.

Though the spatial ideals of European architecture have evolved throughout its history in various ways, the mathematical understanding of space has basically remained the same from the Antiquity to the end of the 19th century. Be it the Greek temple, the vaulted space in Ancient Rome, the high buttressed interior of the Gothic cathedral, or the Baroque ideal of limitless space, the western architectural space was geometrical and understood as a measurable, three-dimensional quantity. The mathematical treatment of architectural space remained prevalent in the West until the breakthrough of Modernism. The concept of time was linear and did not play a specific role in the development of historic styles.

2. Vedanta Concepts of Space and Time

Starting in the late 18th century, Asian cultural influences spread over Western countries and contributed to the breakthrough of new concepts in all fields of society. Vedanta philosophy, notably *Upanishads* and *Bhagavad Gita* as well as Buddhist texts were translated into European languages for the first time. New ways of thinking were penetrating into Western consciousness.

As human beings we have a mind and a body existing in the physical world of space and time. The relativity of space and time as concomitant phenomena has been known for thousands of years in Eastern philosophies, notably in Indian Vedanta. According to Vedanta philosophers, space and time are considered mental categories, which means that space and time exist in the human mind only. Thus, for the human being, space and time are certain kinds of “modes of perception”,

which arise and subside with the mind.⁶ Accordingly, the physical world itself cannot but be a subjective and momentary appearance perceived in human consciousness.⁷

In terms of Vedanta, consciousness is considered the subtle counterpart of matter. “What we call matter is consciousness itself.” Vedanta philosophers even suggest that all our worldly existence is imaginary. Without imagination there would be no world. In other words, “our conviction that we are conscious of a world is the world.”⁸

As space and time are transient phenomena of the transient world, the body is also transient and limited, while its dweller, the soul or the spiritual Self, is timeless and spaceless, eternal and all pervading. Thus, according to Vedanta, nothing perceivable is ‘real’, while true reality cannot be something momentary. True reality is spaceless and timeless, but timelessness is not duration, because timelessness is beyond the mind.⁹

3. European Philosophical Ideas of Space and Time

One can see certain parallelism between Vedanta and the older European philosophical discourse on space and time. Plato, for instance, identified time with the period of motion of the heavenly bodies, and space as something that things come to be in. This means that for Plato both space and time were applicable solely to the physical world of phenomena.

During the 16th century, space and time became a central ontological question in philosophy of science and metaphysics in Europe. There were two opposing theories, one by Gottfried Leibniz and another by Isaac Newton. In the view of Leibniz space exists only as a relation between objects only. For him, the starting point was the original meaning of the word ‘space’, which denotes an order of things. In Newton’s system, space as a frame of reference exists independently of the objects contained in it. These objects can be described as moving in relation to space itself. According to Newton space is three-dimensional and absolute, and time is homogenous and absolute.¹⁰

In the 18th century, Immanuel Kant endeavoured to show that our knowledge about the spatial and temporal forms of outer and inner ex-

perience is based on our own pure intuitions of space and time. According to Kant space and time are a way to organize experience.¹¹ He abandoned both the Leibnizian idea of relational space and the Newtonian idea of absolute space, and introduced a kind of phenomenological approach to the study of space and time. European architecture of that time was, however, not seemingly affected by Kant's theory. A radical step forward in the study of space and time was Albert Einstein's revolutionary work in physics and mathematics at the beginning of the 20th century. His research known as the theory of relativity (1905, 1915) gave rise to a totally new paradigm for understanding the phenomenon of space. Thanks to Einstein we got to know that our physical universe is not three-dimensional but made up of the four-dimensional space-time. This signified an important rapprochement between the Western and Eastern thoughts.

4. The Japanese Concept of Space-Time

The traditional Japanese conception of space as expressed by the term *ma* denotes both space and time.¹² *Ma* refers to man's experience of space in time, which is both a physical and a mental process. It has been explained by scholars in various ways, for instance as the Japanese 'consciousness of place'.¹³

In Western languages there is no term corresponding to the Japanese word *ma*. Its original meaning is 'interval', but it can also denote a silent moment or an empty space, a "meaningful void," a room or simply space.¹⁴ In architecture *ma* always implies some sort of experience in space-time, and is also manifested in the spatial organization of the house. Contrary to the traditional European house, the Japanese house is designed from inside out. In Japanese architecture the temporal experience of inner space is more significant than the facades or exterior forms.

In addition to *ma* there is another term, *oku*, describing the Japanese conception of space. *Oku* denotes a multi-layered space-time where the innermost space is concealed and can only be gradually discovered with experience in time.¹⁵ In the traditional Japanese house, however, one does not usually tend to create depth effects or perspective views, but the architectural intensity is based on a kind of concealing effect of the core space, often displayed by a play of planes and surface effects. In fact the basic element of the Japanese architectural space is the plane.

Communication with nature is also an essential feature of Japanese culture and architecture. As the Japanese are traditionally sensitive to changes in natural phenomena, they want to adapt to the natural order. While the natural order is open, this openness--or interpenetration of inner and outer spaces--is also characteristic of the Japanese comprehension of space.

5. The Breakthrough of the Concept of Space-Time in Western Modernism

Though the early doctrine of European Functionalism at the beginning of the 20th century did not pay much attention to the interlocking openness between inner and outer spaces in architecture, there was a radical move towards a new way of organizing space, which first crystallized in the Prairie Houses of the American architect Frank Lloyd Wright. Today it is well known that Wright was strongly inspired by Japanese traditional architecture and art from the end of the 19th century onwards. Wright even copied plans of traditional Japanese houses and temples as examples for his own Prairie House designs.¹⁶ Supposedly the open and communicative space of the Japanese house was at the origin of the Western flowing space as it was first represented in Wright's designs.

The pioneering architects of the Modern Movement--most notably Mies van der Rohe and Le Corbusier in addition to Wright--defined the new principles of international architecture in the years 1910-20. Japanese influence was evident for these architects while providing them with striking examples of architectural means for "breaking the box". By their audacious modern designs the traditional Japanese space conception was further evolved and integrated into Western Modernism. This coincided with the breakthrough of Einstein's Theory of Relativity and his concept of space-time in the early 20th century.

In the history of modern Western architecture one can see diverse tendencies, which developed within the Modern Movement and lead to various local expressions and theoretical views. The modes of spatial arrangements also became diversified. Frank Lloyd Wright's cosy Prairie House plans are good examples of spatial treatment in the spirit of the 'lived space' while the polished architectonic plans of Mies van der Rohe were totally abstract works of art which did not have much to do with the space-time of the traditional Japanese House. Le Corbusier developed his own recognizable style of flowing architectural space based on his ideas of free plan and free facade. As for Alvar Aalto, he has shown the power of inspiration of nature in his architectural designs. While Aalto may be considered very close to the

Japanese architectural tradition in many ways, he developed a totally new kind of environmental approach by directly applying natural forms and materials of his native land into his designs. Architectural space in Aalto's buildings even resembles a walk in a Finnish forest. This kind of spatial conception includes temporal experience and is different from the abstract, openly flowing space that can be seen in the plans of other leading architects of that time.

6. Concluding Remarks

In old Indian Vedanta as well as in later European thought space and time are considered to exist in the mind. They reside in human consciousness, which projects the phenomenal world. When our consciousness changes, the concepts of space, time and space-time change. The phenomenon of space-time is part of our empirical world.

At the turn of the 20th century Western science and philosophy were to coincide with Eastern thought at various points. Regarding architecture, the concept of space converged from the geometrical space towards the lived space, or the perceptual space-time. The spatial organization of the traditional Japanese House became a seminal model and inspiration for pioneering Western architects.

Today we live in the postmodern era. The fragmentary worldview of postmodern society produces plurality and complexity. Our relation to space-time is therefore changing. The concepts of virtual space and virtual reality have emerged, and the meaning of 'lived space' has become more relative. How will this be reflected in architecture? The search for an authentic architectural expression of our space-time is continuing.

Notes

¹ See e.g. Morel, 2004: 374.

² Ibid.: 281.

³ See e.g. Mircea Eliade, *Le sacré et le profane*, 1965, and *The Myth of the Eternal Return*, 1989.

⁴ Eliade, 1965: 26-27, 50-51 et passim.

⁵ Ibid.: 10, 21, 34.

⁶ Nisargadatta in *I am that*, 2005: 9, 16, 31, 115, 204-205 et passim.

⁷ Ibid.: 16. Cf. *The Upanisads*, 2003: 138, 214, 360, 370 et passim; and *The Bhagavad Gita*, 2002: 795-96. Probably the first attempt to scientifically prove the subjectivity of human perception was made by the 11th-century Egyptian mathematician and physicist Alhazen.

⁸ Nisargadatta in *I am that*, 2005: 286.

⁹ Ibid.: 150, 354 et passim.

¹⁰ Still today the axioms of classical mechanics are based on Newton's theory.

¹¹ In his 'Theory of Knowledge' Kant argues that the knowledge about space can be both a priori (before observation) and synthetic (based on experience). In his 'Transcendental Aesthetic' Kant writes that we have knowledge of the spatial and temporal forms of outer and inner experience, based on our own pure intuitions of space and time. Kant argues that space and time are not concepts, but spatiality and temporality are only forms in which objects appear to us.

¹² I have written on this theme earlier in several articles on Japanese architecture, see e.g. Broner-Bauer, 1996: 31-49.

¹³ Günter Nitschke, 1966: 117.

¹⁴ See e.g. *Japan. An Illustrated Encyclopedia*, 1995: 904.

¹⁵ Cf. Fumihiko Maki, 1979: 50-62.

¹⁶ Cf. Kevin Nute, 1993.

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Reviewing the Developments of Iranian Modern Architecture and Cultural Heritage Legislations in Iran

Pirooz HANACHI*, Hadi NADERI**

Abstract

In 1973 the Iranian “National Registration Law” changed and allowed modern and contemporary buildings, monuments, and sites to be added on the national heritage list. It was at that time that the young educated architects in Iran experienced and designed in new forms enthusiastically.

By developing the Modern Movement in Iran, one can see its effects on different aspects of the society and country. In architecture, new knowledge and new functions gave rise to new forms and buildings which were completely different from the traditional ones. Modern architecture in Iran was developed by 3 different groups of architects: 1. foreign architects who built different lasting buildings in Iran; 2. Iranian architects who were educated abroad; 3. Iranian architects who educated in the first modern school of architecture in Iran. These three groups brought modern architecture to Iran. The third group had a critical role in developing and expanding modern architecture in all parts of the country. Also the government supported the architects’ new constructions and developments.

By growing and expanding modernity, protecting the architectural and cultural heritage was another field of interest for some modernists and professionals in Iran. The first, basic new law for considering cultural heritages was approved in the first modern National Assembly of Iran in 1907. After two decades the main legislation for preservation of national monuments was adopted. This principal law was the base for next changes and improvements. By the policies of the ambitious government and professionals, the legislation improved so that the inscription on the national heritage list was not based on date restrictions.

This paper at first will review how the modern movement affected the architects and architecture in Iran. It will also review other aspects of development which were for protecting architectural heritage. The paper will try to express the reasons for the developments of national law registration. It will also show the results and efficiencies of this law for protecting modern architecture in Iran. Finally it will tell how new attention and new practical and educational activities are necessary for protecting and preserving the modern architectural heritage in Iran.

Keywords : modern architecture, iran’s national registration law, modern architectural education

1. Beginning Changes

New changes and developments in Iranian traditional society had been expanded by developments in Iran connections with western countries. The constant conditions in the country, stemming from the long-term ruling of Qajar monarchy (1796-1925) created a situation ripe for society to demand and accept new changes. Growing and expanding Modernity in Iran as the result of these connections occurred behind the pace in Europe.

In architecture, some new forms and plans emerged in this period. At first most of these buildings were built by traditional craftsman and

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Fig. 1 Andre Godard, Ancient Iran Museum, Tehran, Iran, 1937, The entrance have inspired by Sasanid Architecture



Fig. 2 Maxime Siroux, Faculty of Medicine of the university of Tehran, Tehran, Iran, 1934



Fig. 3 Vartan Hovanesian, Jeep Building, Tehran, Iran, date



Fig. 4 Vartan Hovanesian, Central Building of Bank Sepah, Tehran, Iran, 1951

architects. So they were built with traditional techniques and materials. They were in a new style which lasted for about two decades and at approximately the period coinciding with the end of Qajar Monarchy.

At the same time, by the efforts of reformists, the first parliament was founded, adjusting the Iranian government which was previously and autocratic kingdom. The first parliament of Iran in 1907 passed an act for establishing the Ministry of Education, Endowments and Cultural Industries. Protecting cultural properties were among the duties of this ministry. It was the first legal attention to cultural properties.

2. Developing Modern Architecture and the Principal Law in

Protecting Heritage

When looking for the very beginning point of the modern architecture, or even contemporary architecture in Iran, for sure we should look into the onset of Pahlavi monarchy. (Mazaherian, 2013) By the onset of Pahlavi dynasty in the 1920s, modernity expanded within the country fast and rapidly. Relations with the West, accepting western forms of living, and entry of foreign experts in different fields caused changes in different aspects of Iranian society. Two significant social factors were decisive in facilitating Reza Shah's architectural plans and contributing to their speedy accomplishment. One was the new vigor of nationalism and the desire for modernization and re-organization of Iranian society resulting from the Constitutional Movement and the newly established parliamentary system. The other was the direction of the 20th century—with all its characteristics and means—towards construction of new and monumental structures, industrial centers, and urban development. (Rajabi, 1976)

In architecture, new technologies, materials, and new functions caused new forms and buildings which were completely different from the traditional ones. One can classify the impactful architects of this era into three groups. The first group was the foreign architects who entered and worked in Iran during Pahlavi period. They had a critical role in expanding modern architecture in Iran. Many of these architects had also critical roles in other aspects related to expanding modernity, protecting cultural heritage, and also collaboration in modern architectural education. (It is necessary to consider that Iranian architects who studied abroad started their work almost the same time). Some of these western architects are: Andre Godard (1881-1965; exemplary works: the Ancient Iran Museum, Hafez's tomb), Nikolai Markov (1882-1957; exemplary works: Alborz High School, Tehran's Post Office), Roland Marcel Dubrulle. (1907-...; exemplary works: the restaurant of the University of Terhan), Maxime Siroux (1907-1975; the Department of Medicine of the University of Tehran, buildings of some ministries in Iran) (Bavar, 2009).

It is almost at the same time in 1930 that the first law on legal protection of cultural heritage was adopted. This rule could be considered as the "principal law" of the cultural heritage of Iran (Samadi, 2003). Article one of this Constitution defines the law of property, which may be registered in the national index. In Article One of this constitution it is said: all artifacts, buildings and places having been established before the end of Zandieh Dynasty¹ era in Iran, either movable or immovable, maybe considered as national heritage of Iran and shall

¹ The government of Iran before Qajars

be protected under state control (UNESCO Database of National Cultural Heritage Laws).

The establishment of National Heritage Association in 1922 by Iranian reformists was also among other efforts to protect cultural heritage. It seems that paying attention to ancient Persia and strong tendencies towards nationalism were the main reasons for these activities. These tendencies were shown in architecture even in the works of the foreign architects.

3. Continuing the Efforts to Modernization

The second group of architects were the Iranian architects who had studied abroad. This group had also critical role in architecture, conservation of historical buildings, and in architectural education. Most of them would be the professors and academic board members of the first school of architecture in Iran. Some of these architects are: Gabriel Gueverkian (1900-1970, exemplary works: the Ministry of Foreign Affairs, modern houses in Tehran), Vartan Hovanesian (1896-1982, exemplary works: the central building of Bank Sepah, The Jeep Building) Mohsen Foroughi (1911-1985, exemplary works: Bank Melli Bazar branch of Tehran, Department of Literature of University of Tehran) (Bavar, 2009).

During these years, the notion of paying attention to historical buildings and monuments was spread throughout the country. Many buildings were registered in the national index. Different organisations on protecting cultural heritage were established, such as the Directorate General of Antiquities Protection, the General Directorate of Museums, and the Antiquities Conservation Organisation which worked on the conservation of monuments and sites. Some of the modern architects also had important roles in these activities. Meanwhile within these activities, a big problem was that the time-restriction in National Registration Act which only considered cultural works which had been established before the end of Zandieh Dynasty (1794) in Iran. This time-restriction caused the destruction and loss of many valuable objects, important buildings and cultural works which belonged to Qajar period. Despite the efforts of the specialists and professionals to improve this restriction, it was not until 1973 that the act was changed and modified considerably.



Fig. 5 Mohsen Foroughi, Bank Melli Ferdowsi Branch, Tehran, Iran, 1954

4. New Generation and new Law for Protecting National Heritage

By developing Modernity in Iran, expanding new educational systems was another issue that was supported by both the government and reformists. These efforts which had been started some decades before were the result of establishing the first modern university in Iran, the University of Tehran, in 1934. Before that there were traditional educational systems such as madrasas, and an apprenticeship system, but nevertheless in the late Qajar some modern institutions for higher education, such as Dar-ol-Fonoon, were founded by reformists. Most of these modern institutions joined together and made a base to found the University of Tehran. The University of Tehran consisted of different departments such as medicine, literature, engineering, law, science and the department of fine arts (1940) which offered art and architecture programs.

The buildings of the university had been built in the time that the tendencies to Modernity were at their height. The all of the buildings of the campus are good examples of Iranian Modern architecture. They are built and designed by two groups of architects which



Fig. 6 Heydar Ghiaiee, Tehran Hilton Hotel, Tehran, Iran, 1960s



Fig. 7 Hossein Afsar, Azadi Tower, Tehran, Iran, 1972

were mentioned above. Also the first professors of the School of Architecture of the university were among these two groups of architects. (foreign architects and Iranian architects who studied abroad) For instance the first dean of the faculty of fine arts was Andered Godard, and the second one was Mohsen Foroughi. Most of the other architects which were mentioned above were professors at this school (Bani-Masoud, 2009).

The Fine Arts Faculty trained young architects whose activities expanded throughout the whole country. The young educated architects designed buildings and monuments which are among the most important buildings of Modern Iran. The Azadi Tower and the entrance gate of the University of Tehran are examples of these works. Some of these architects are: Hooshang Seyhoun (studied both in Iran and France, exemplary works: Avicenna's tomb, Khayyam's tomb), Hossein Amaanat (Azadi Tower), Kourosh Farzami (entrance gate of the University of Tehran). Some of these architects are alive and live in or outside Iran. They still work and design buildings in Iran and other parts of the world.

While working of this young group of architects, paying attention to cultural heritage and historical buildings was still an important subject of interest for government and professionals. In architecture, besides conserving historical buildings, there was a movement to build modern monuments to respect Iran's history and culture. To build new tombs for Iranian poets and kings or other important and historic persons were among these efforts. Expanding these activities in the country and paying great attention to historical and cultural affairs made an appropriate ground for improving the National Registration Act. Maybe building the Azadi Tower had a direct influence on this improvement. In 1973 the Iranian "National registration Act" improved and allowed the immovable properties which are important from the view point of history or national dignity, regardless of age and origin, to be added on the national heritage index (UNESCO Database of National Cultural Heritage Laws). By the passing this act by the Senate, Azadi Tower was added to the National heritage list exactly one year after its construction in 1972 (Mokhtari, 2011).

The removal of the date restriction from the formation of the National Registration Act was a precious achievement to bring both traditional and modern buildings and sites under legal protection (Mazaherian, 2013). After passing the new law, many modern buildings were added to the list such as many modern tombs of poets, some hotels, and some other buildings.

5. Modern Heritage in Current Years

Although the new act in 1973 made an appropriate ground for legal protecting modern buildings, but most of the buildings of this era are not in a good condition and they are neglected rather than being valued as heritage. However, you must bear in mind that most of the modern buildings added to the national index are unique memorials that for different reasons have known cultural values (Mazaherian, 2013). Many other buildings such as houses and offices even which had been designed by famous architects are not still recognized as cultural properties. As the society does not mention them as valuable structures and heritage, many of important modern buildings are under threat of inattention and even demolition.

It seems in recent years there is a growing need to protect the modern architecture in Iran. While studying this architecture had been progressing for more than one decade, new attempts in conserving the buildings and sites of this era is almost a new subject. Most of these activities are formed in academic societies. New dissertations on this topics, new research, and also founding new organizations are among these activities. The establishment of Docomomo_Iran with the support of the School of Architecture of the University of Tehran in 2012 is an example of these efforts which has occurred in an academic organisation. Also it seems some governmental organizations, especially in the main cities of Iran, are going to pay more attention to significant modern buildings as architectural heritage.

Despite these new efforts and although the "National Preservation Act" has provided an appropriate ground to protect modern buildings, the whole society, even many academic societies, do not recognize these works as valuable heritage. It seems that the educational organisations can play a critical role to develop attention to these legacies. Conveying the importance and values of Iranian modern architecture to young architects, and also to professionals and related government agencies can be among these activities.

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H&A_DIRECT_KIT®MIT:

Heritage & Architecture / Design / Interrelations / Research / Education / Culture / Technology / Japan / The Netherlands

Hielkje ZIJLSTRA *

Abstract

H&A_DIRECT_KIT®MIT is project on Heritage & Architecture between Japan and The Netherlands about: Design, Interrelations, Research, Education, Culture and Technology. It showcases an approach on education and research in which east meets west: the ®MIT (Heritage & Architecture) department of the Delft University of Technology (Faculty of Architecture) meets the Kyoto Institute of Technology (KIT). Since 2010 ®MIT and KIT are related in research on modern heritage. ®MIT will participate in a Japanese based education and research project focusing in detail on preservation and redesign of heritage and architecture. The research focuses on different approaches on Intervening in World Heritage from attitude & culture, craftsmanship & technology and changeability & use. The East / Japan meets the West / The Netherlands. The goal is to initiate a Dutch – Japanese awareness from the past to the future based on connections within the past and changing opinions in the approach of heritage and architecture. Those countries did have a strong history bases of connection until the second world war but the care for heritage and the need to use it and to create a sustainable built environment is a worldwide cultural and technology based phenomenon. The evaluation and investigation how to deal with the current tasks in different educational and research practices in east and west will result in an investigation of the differences in approaches on how to act on heritage and architecture. H&A_DIRECT_KIT®MIT will be worked out in three student design workshops and in some publications from ®MIT researchers in Japan. The project runs from 2014 till 2021 in Delft and Kyoto. Docomomo International creates a platform to reflect and discuss the approach and results in a worldwide forum focussing on all issues.

Keywords : heritage, architecture, culture, technology, design, education, research.

1. Introduction of the Project

The Kyoto Institute of Technology (KIT) in Japan launched a project on education and research in Architectural Design in the context of the Global 30 program of the Japanese government launched by Hakubun Shimomura the minister of education, culture, sports, science and technology (MEXT) to open the Japanese universities for internationally collaboration and partnership. The KIT project will take place from 2014 till 2021 in collaboration with: Harvard University, Stanford University, ETH Zürich, Singapore University, Chulalongkorn University Bangkok and Delft University of Technology in The Netherlands. The project itself has been allocated in October 2013. The Faculty of Architecture of the Kyoto Institute of Technology (KIT) will focus on Heritage & Architecture. Prof. Dr. Osamu Nakagawa and Dr. Kazuto Kasahara from the department Architecture and Design of the KIT asked the ®MIT department (Faculty of Architecture) of the Delft University of Technology (TUD) to join this project. Since 2010 ®MIT and KIT are related in research on Heritage & Architecture. ®MIT will participate in this Japanese based education and research project focusing on preservation and redesign of Heritage & Architecture.

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®MIT combines within this project a research project focussing on different approaches on intervening in World Heritage from the East / Japan and the West / The Netherlands. The goal is to initiate a Dutch – Japanese awareness from the past to the future based on connections within the past and changing opinions in the approach of Heritage and architecture in the future.

Dr. Kazuto Kasahara (KIT) has been involved in ®MIT for some years. He was a guest researcher in 2010-2011. His research project concerned the preservation and transformation of built Heritage in the Netherlands. The project finished in 2012 with the conference: The Present and the Future of Preservation of Modern Architecture. Two guest speakers of ®MIT were invited and they spent two weeks in Japan exploring the Kansai region from Kyoto, Nara, Osaka and Kobe. Kasahara continues his research on a regular basis. Every year he visits The Netherlands for two weeks to study recent cases. He was also introduced to the educational method of ®MIT and participated in some courses. For him the ®MIT method provided a guideline on research and education for KIT. Nakagawa and Kasahara applied for the coming project in succession in Global 30. Detailed plans will be worked out in the research and education based project: H&A_DIRECT_KIT®MIT: Heritage & Architecture / Design / Interrelations / Research / Education / Culture / Technology / Japan / The Netherlands.

2. Heritage & Architecture: Design in Education

The H&A_DIRECT_KIT®MIT project concerns an educational exchange program for students. For seven years the foreign universities will participate in a Japanese based education project. It takes place in some workshops located in Kyoto and Delft. Different teachers of KIT and ®MIT will collaborate in the: Kyoto Design Laboratory. Students will be individually selected. The students will start with a three week research based on the assignment. The Dutch students will focus on issues on Japanese culture, Heritage and technology. The Japanese students will prepare the workshop and excursions. After that the students meet and work together in a ten days workshop in Kyoto. They join different groups. First divided over three scale levels: site, building and detail and later in different target groups related to: change of function, conservation of material and craftsmanship and modern needs related to climate and technology. Back at home they elaborate the results individually in three more weeks. The final presentation will be held in Delft during the final week in Summer.

The first Heritage & Architecture design assignment in Kyoto is: The Machiya house in Kyoto Re_Designed. The Machiya house represents a standard for traditional every day architecture and a standard for world heritage as well. A lot of the original houses have been converted. In Kyoto some original ones are still there like the Kyoto Center for Community Collaboration (KCCC) stated: The original prototype for Machiya dates to the founding of Kyoto, during the Heian Period (794-1192) and the Machiya that we see today are based on a prototype that was developed by Kyoto's growing merchant class and artisan traditions during the Edo Period (1603-1868). Machiya, however, have been gradually and relentlessly disappearing over the decades in post-war Japan. Currently there are about 28,000 and 48,000 Machiya left in the Kyoto metropolitan area and the greater Kyoto City area, respectively, but they are disappearing at a pace of about 2% annually. Their tiled roofs and wooden lattice fronts typified Kyoto's urban landscape. However, since the end of World War II this traditional landscape has in large part been replaced by high rise buildings and parking lots. 13% of Kyoto's remaining Machiya were levelled between 1996 and 2003, and sadly this process continues even today. However, not all has been lost and in recent years there has been a movement to renovate and restore old Machiya. Some of them have been conserved like the Yoshida Machiya. (**Fig.1.**) Others are converted like the Hata-Ke-Jutakuin in a kimono atelier and shop. (**Fig.2.**) Different approaches from the perspective of Heritage & Architecture are possible programmatically and technically: comfortable living, commercial use, wood craftsmanship, urban settlement and tourist attractions. The KIT owns a Machiya house themselves and will present more case studies. They are experienced in restoring built Heritage themselves by researchers of the institute like the Tsurumaki House of Seigo Motono in Kyoto (1929) in 2012. **Fig.3.** The Machiya represents culture, craftsmanship and everyday used heritage in a time of change.



Fig. 1 The conserved Yoshida Machiya in Kyoto, visited by the author in 2012.

3. Dutch and Japanese Connections in Historic Context



Fig. 2 The converted Hata-Ke-Jutakuin Machiya in a kimono atelier and shop in Kyoto, visited by the author in 2012.



Fig. 3 The Tsurumaki House of Seigo Motono in Kyoto (1929), restored by the Kyoto Institute of Technology in 2012

The Dutch and Japanese relations have a long history. On April 19, 1600 the ship “De Liefde” (Love) landed on the coast of Japan. Since then, the Dutch still (trade) relations with Japan maintained, even during the period when Japan was isolated from the rest of the world. The VOC had a post on the artificial island of Deshima and was the only foreign power that could deal with the Japanese. Although the Portuguese had put foot on Japanese soil much earlier than the Dutch Shogun had become afraid of the strong missionary zeal of the Portuguese Jesuits. He had persecuted the Christians and closed the country to foreigners. Because the Dutch had been only allowed to trade, in addition to the Chinese. Although this was from a small artificial island in Nagasaki, the size of the Dam in Amsterdam. The Chinese, too, were located there on another small island. As a result, the Dutch were the only conduit for knowledge and science from the West to the Japanese, especially in the medical field. When Japan was opened in the mid- 19th century for other powers, it was found that a number of Japanese to Dutch had learned nothing and they noticed that English was more important outside Japan than Dutch. Netherlands was therefore the only country with which Japan has always maintained contacts like mentioned in the Autobiography from Yukichi Fukuzawa.

In the period 1872-1903 a number of Dutch engineers performed pioneering work in the field of water (now called the water) in Japan. There canals were built to irrigate land locks built and there is a fixed level determined level. Some engineers who worked there a few years, only Johannis de Rijke staying there for 30 years, from 1873 to 1903. In Japan, these engineers are still honored in the Netherlands, but it is a relatively unknown period in the history of the Dutch in Japan. World War II was the first and only break in the

friendly contacts between Japan and the Netherlands. With the aim of securing raw materials and creating a Greater East Asia Co-prosperity Sphere, Japan invaded Indonesia in 1942. Some 40,000 Dutch soldiers were taken captive and sent to prisoner of war camps. The Japanese occupation of Indonesia finally led to that country’s independence. After the war the Netherlands lost its status as major colonial power, and Japan was occupied by American forces until 1951. Old historical contacts had been upset. The war still exerts influence on the relations between the two countries. Ratification of the peace treaty with Japan in 1952 led to the normalization of relations and renewal of diplomatic ties. But the exclusive and influential role of the Netherlands was now a thing of the past. To most Japanese the Netherlands became just another European country. This creates the opportunity to learn from and inspire each other again for instance on Heritage & Architecture.

4. Architecture & Heritage: Research on Interrelated Cultures

The project provides a research project as well. Different researchers of @MIT will take part. @MIT wants to focus on the differences and matches in the international approaches on Heritage & Architecture related to Design, Culture, Technology the Interrelations. Related to existing buildings and to historic buildings and Heritage in particular technology plays an important role in the Re-Design of buildings. The most important task of architects these days: dealing with the existing, reduce of resources and recycling. Both in Japan and The Netherlands these issues are part of the nowadays designers world. We need technology to develop our building stock and environment in a sustainable way. In the Japanese tradition technology and craftsmanship are high standard related to cul

-tural and built Heritage in particular. In my PhD thesis I worked out the importance between technology and architecture both in design as in the analyses before the design itself as part of the Re-design. The tread of the Japanese woodwork and structures is world famous and as a craft part of World Heritage. The approach on built Heritage in Japan differs from the Dutch. The Japanese more easily reconstruct

complete structures. **Fig.4.** Also demolishing of modern built Heritage seems to be a common policy. **Fig.5.** But is this the truth? Will it change in the future? Or is it only a Western opinion on those aspects of the Eastern culture? So the Heritage & Architecture guiding research topics for @MIT are: attitude / culture, craftsmanship / technology, changeability / use. In the background of the Interrelations between the different topics dealing with Heritage & Architecture in Japan and The Netherlands.

5. Final Results and Conclusions

Several researchers, teachers and students from KIT and @MIT will be involved in this unique education and research project in Japan to investigate the differences and the similarities to find a basis to learn from each other (again). The publication of a book with the research results and a book and exhibition about the results of the students design projects will be the final outcome of the project H&A_DIRECT_KIT@MIT. Docomomo international creates a platform to reflect and discuss the approach and results in a worldwide forum focussing on all issues.



Fig. 4 Tsutsujigaoka Resthouse at the 1970 world expo in Osaka, rebuilt in 1992.



Fig. 5 Modern Heritage in danger: the former Shin-Kabukiza Theater in Chuo-ku, Osaka from the architect Togo Murano, scheduled for demolition in 2013.

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All images are from the author.



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Redesign Education and Modern Heritage: the conflict and challenges of the emergent scenarios

Carolina QUIROGA * María Inés LAPADULA**

Abstract

The current scenarios of the information age configure a complex environment which results from the digital and technological paradigm, the vertiginous atomisation of knowledge, globalisation, fragmentation and uncertainty, and new sociocultural interrelations. Contemporary thought installs an expansive vision of reality which simultaneously integrates the global and the local dimension. Far from being distinct, antagonistic or isolated situations, both universal and specific matters constitute a complementary pair in constant interaction.

Nowadays, these emerging scenarios and essential human conflicts, which derive from complexity, are intertwined in a local/global web: environmental demands, scarcity of resources, social asymmetries, and new habitat needs, among others.

This situation propels the rise of a critical vision and of new meanings regarding the intervention on modern heritage. Architectural design education must address these critical issues as a strategic content that anticipates a more appropriate practice. The emerging context modifies the conditions and requirements of modern architecture redesign: new forms of territorial centralization, mobility and migration, a re-measure of functional programs, updating technological and comfort standards, the extension of the criteria for spatial flexibility. The rehabilitation project constitutes an essential component of the future development and planning of an equitable and sustainable environment, and is also the means necessary to integrate identity, historical, and social subjects.

This presentation aims at introducing the experience with undergraduate students in the School of Architecture at the University of Buenos Aires and University of Belgrano, and addresses the challenges and opportunities encountered when incorporating the Modern Movement legacy in the teaching of architectonic design. The designer has a key cultural role, with capacity to act as an agent of technological change, of innovation and of socialization in the production of new scenarios and meanings. In this sense, education is vital to reflect on the symbolic, cultural, and communicational potential of the recent heritage.

Keywords : Mmodern heritage, education, intervention, re-design

1. Introduction

The current scenarios of the information age configure a complex environment which results from the digital and technological paradigm, the vertiginous atomisation of knowledge, globalisation, fragmentation and uncertainty, and new sociocultural interrelations. Contemporary thought installs an expansive vision of reality which simultaneously integrates the global and the local dimension. Far from being distinct, antagonistic or isolated situations, both universal and specific matters constitute a complementary pair in constant interaction. (**Fig.1**)



Fig. 1 New scenarios of complexity and the Modern Movement legacy. City of Buenos Aires. Photo: Carolina Quiroga, 2013

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Nowadays, these emerging scenarios, which derive from complexity and essential human conflicts, are intertwined in a local/global web: environmental demands, scarcity of resources, social asymmetries, and new habitat needs, among others. This situation propels the rise of a critical vision and of new meanings regarding the intervention on modern heritage, and thus, it becomes necessary to examine and adapt the theoretical and instrumental corpus involved in preservation, not only in research and practice but also, and fundamentally, in education.

2. Modern Heritage as a Strategic Content in Architectural Design Education

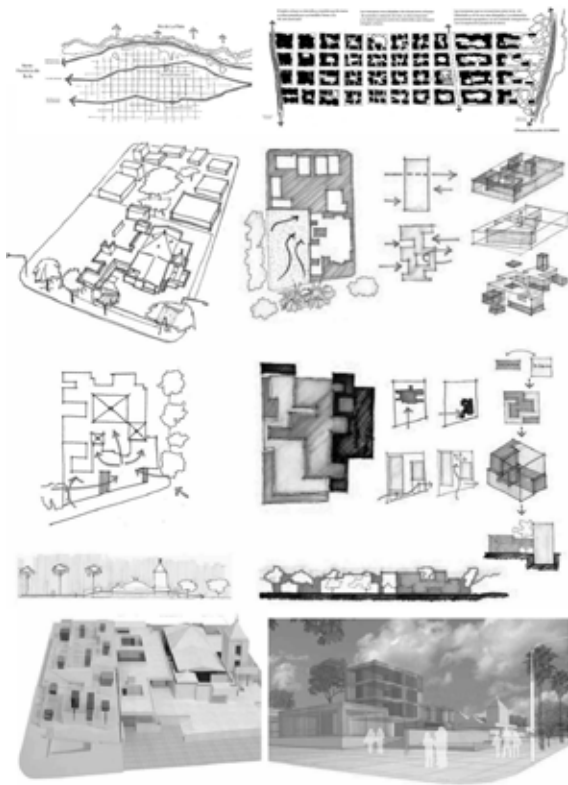


Fig. 2 Contemporary conflicts and challenges as experimentation laboratory in architectural design education. Architectural design course Level 3, Professor Eduardo Scagliotti -Adjunct Carolina Quiroga, School of Architecture, University of Buenos Aires



Fig. 3 Intervention criteria in the Modern heritage: Nuestra Señora de Fátima Church (Claudio Caveri & Eduardo Ellis, 1954-56) infill strategies. Architectural design course Level 3, Professor Eduardo Scagliotti -Adjunct Carolina Quiroga, School of Architecture, University of Buenos Aires

Cultural heritage is inherent to every design process. Bear in mind, matters of modern heritage become relevant educational contents in the first stages as well as in the last stages of design education since they include two fundamental aspects in the training of a designer:

-First, the capacity to transform the existing heritage into a new and adequate one. This process makes it possible to deal with the complexity and diversity of temporal, programmatic, technological, and economic-productive variables and it may also integrate heritage into the development system of contemporary life.

-Second, the symbolic aspect of the discipline is approached so as to not only achieve adaptive solutions but also to appreciate the past and to build new meanings.

Architectural heritage conservation constitutes a social practice that transforms and redefines the habitat by integrating simultaneously the emergent demands of its time, the values of the past, and the challenges of future scenarios. It is essential that architectural design courses, such as specific heritage conservation courses in undergraduate architectural education, include these dimensions in which the field of modern architecture interventions becomes a strategic content that anticipates a more appropriate practice.

Saskia Sassen describes conflicts and opportunities factors in the current context:

Cities are complex systems. But they are incomplete systems. In this incompleteness lies the possibility of making- making the urban, the political, the civic. The city is not alone in having these characteristics, but these characteristics are a necessary part of the DNA of the urban- cityness. Every city is distinct and so is each discipline that studies it. And yet, if it is to be a study of the urban, it will have to deal with these key features: incompleteness, complexity and the possibility of making. (Sassen, 2013)

The new forms of territorial centralisation, the growing processes of mobility and migration, the diversification of communication and connectivity systems, and the mutations of global economy are but a few of the scenarios of the contemporary city. Besides, urban areas are constantly subjected to increasingly faster processes of programmatic, morphological, and spatial change. On many occasions, this emerging dynamic generates conflict situations in the testimonies of the Modern Movement: vacant areas and unresolved borders disputes as well as uncontrolled densification, lack of public spaces and infrastructure and sites or buildings that are no longer used since their original function is now obsolete or because it has been relocated. **(Fig.2)**

These scenarios find in design courses a space to reflect on the symbolic, aes-

thetic, landscape and economic value of the modern heritage as long as:

(...) constitutes a capital resource to improve the habitability of urban areas and to promote economic development and social cohesion in a context of global change. The future of humanity depends on planning and effective management of resources; hence conservation has become a sustainable reconciliation strategy of urban growth and life quality. (UNESCO, 2011)

From the first operational approaches to the high complexity speculations and the urban commitment of the last years of architectural design education, recent heritage is a key element in the search for sustainable solutions. Urban rehabilitation projects enable the dynamisation and reactivation of the sites, the use of physical assets, reduction of the ecological footprint that new constructions would involve, and control of land use, energy deficit and ecological impact. **(Fig.3)**

With regard to modern buildings, the gap between the requirements that gave rise to them and those of today's lifestyle is widening rapidly in spite of their recent construction. The increasing diversity and flexibility in family organisation and dynamics- household structure, family formation, and dissolution processes, domestic organisation forms- and new habits in human activities- work, trade, education, health, culture, leisure- introduce new functional, technological, and spatial needs.

Considering the specifics of each case, contemporary habitat design criteria generally require diversity, plurality, and transformation capacity. These characteristics indicate the need to generate flexibility mechanisms, i.e. design operations that integrate notions such as breaking with the established hierarchy, adaptability, perfectibility, mutability and customization in the different aspects of the project. New design criteria are applied to renovation interventions as well as to those cases in which an adaptive re-use is required because the original programme has disappeared or because the new demands exceed the possibilities a building to be intervened on offers without expanding its volume.

Operating with pre-existent constructions allows students to reflect not only on their own project action, but also on how these intentions articulate with and relate to another architectonic objects that carry their own design, constructive, and spatial logic. In clear opposition with academic or medieval heritage on which intervention is likely to achieve a natural differentiation, temporal proximity with modern ideas adds complexity when thinking and exploring design solutions. Far from being a drawback, this challenge constitutes a field to discover in a creative way through what concepts, operations, and expressive design resources the intervention displays a clear difference between what is new and what existed before the intervention.

Unlike the creation of a new building, conservation requires a methodological and systematic approach when each stage of the design process is projected and a complete understanding of the case, which ensure a pertinent intervention. The process starts with the research and the analysis of the principles, methods, and available technology of the times when the original work was made. Afterwards, it is necessary to analyse all the cycles and changes the building has undergone over time in order to make a diagnosis that evaluates the modifications, alterations, deterioration, and pathologies in terms of the essential characteristics of the building. **(Fig.4)**

A dynamic vision of the history of architecture, focused on design, is one of the key points of education linked to preservation and conservation. Dealing with a case requires not only determining categories and reconstructing chronological situations, but also visualizing processes, changes and potentials of its intrinsic capacities from the symbolic to the physical, surpassing the distinction of heritage as a store of evidence of the past, and repositioning it as a cultural asset, product and resource.

Likewise, analysing a case study implies understanding its initial design logic, i.e., those core concepts that translated into processes oriented towards the search of certain design results. From this point, it is possible to monitor how the relation between conceptualisation, operation, and materialisation has changed through time. The essential issues that are still valid, those that have irretrievably been lost, and others that may be recovered despite having been distorted, constitute the basis to investigate and experiment with contemporary design solutions. A current topic in modern heritage interventions is the need to promote the notion of sustainable conservation as from the early years of

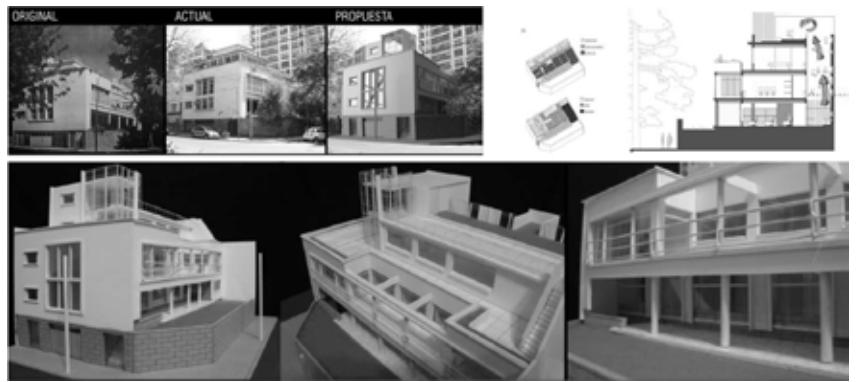


Fig. 4 Adaptive reuse and Modern architecture: Columba house (Antonio U. Vilar, 1940-41). Rehabilitation and re-use course, Professor Stella Maris Casal, School of Architecture, University of Belgrano

architectural education. In this context, sustainable conservation should be understood not as an extra variable of the project but as an approach, a look, and an attitude to face design problems and challenges.

On the one hand, it is crucial to assume that keeping buildings has environmental sustainability benefits: it reduces energy use, demolition and/or new construction site waste, and it also makes use of the embodied energy existing or consumed during the construction process of a building. On the other hand, it is necessary to develop sustainable conservation strategies that, among other things and in the long run, integrate socio-cultural values, recover traditional systems, reuse materials, and include efficient maintenance.

3. Final Reflexions

Even though urban change and renovation are necessary processes, and the concept of a static city that remains in the past is an absolutely extreme position, current cartography of the Modern Movement legacy is a non-renewable resource. Paradigmatic or iconic buildings are probably more liable to be pertinently preserved. However, this cartography includes unlisted heritage, modest buildings and anonymous architecture. On many occasions these examples are protected by traditionally trained practitioners, as opposed to works of great monumental value, on which recognition, budget, or even legal protection are key factors in determining the participation of conservation and preservation experts.

From an academic perspective, this scenario indicates that it is vital that architectural educational programmes incorporate this knowledge. Nowadays, professional training requires a strategic vision capable of dealing with conflict, density and change. Although it used to be excluded as pedagogical content, nowadays, the field of intervention on modern heritage is inherent to professional practice. To add value to these buildings through rehabilitation or adaptive re-use actions should become ordinary activities in a sustainable practice philosophy.

Although there has been significant progress in assigning its due importance to the study and appreciation of modern heritage, its incorporation to design training has not been sufficiently explored. However, some new design curricula understand the significance of these matters and deal with them during undergraduate education. As a matter of fact, this paper reflects the experience carried out with undergraduate students in the School of Architecture at the University of Buenos Aires and University of Belgrano, and it addresses the challenges and opportunities encountered when incorporating the Modern Movement legacy in the teaching of architectonic design.

The architectural heritage will survive only if it is appreciated by the public and in particular by the younger generation. Educational programmes for all ages should, therefore, give increased attention to this subject. (Declaration of Amsterdam, 1975)

Finally, the designer has a key cultural role, with capacity to act as an agent of technological change, of innovation, and of socialisation in the production of new scenarios and meanings. In this sense, education is vital to reflect on the symbolic, cultural, and communicational potential of the recent heritage

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Cultural Intersections in the Modernist Standard Philippine Architectural Curriculum

Emilio OZAETA*

Abstract

How does Modernist architectural thought continue to evolve in the teaching of architecture in the Philippines? In what way is Modernism present in the architectural curriculum of Philippine universities? What are the current effects of this philosophical presence on current architectural education in the Philippines?

This paper examines the intersection of Modernist philosophy and notions of Filipino cultural identity as embodied and reflected in the standard, government-mandated, undergraduate curriculum of architecture of the Philippines. This current framework is shown to embody the hidden curriculum of Modernist thought which, after the post-Marcosian era of Filipino nationalistic ideology, now appears to result in a loss of the architectural schools' own philosophical identity as Modernist values, interpreted by architectural educators, become embedded in the curricula.

Keywords : cultural identity, philippine architectural education, modernist philosophy.

1. The Beginnings of Modernism in Philippine Architectural Education

The philosophy of Modernism and its accompanying applications have long been rooted in the teaching of architecture in the Philippines. The end of the American colonial rule in the Philippines did not sever ties with the former colonial master. The country continued to absorb ideas from the United States of America affecting much of its post-colonial life.

In the realm of architecture, these ideas allowed Philippine architects to communicate the euphoria and aspirations of a new nation through architectural designs. The architectural forms resulting from Modernist thought at the time provided a language that broke free from the American neo-classical forms which signified and embodied the previous American rule.

Many Filipino students and architects travelled to the U.S.A after the Second World War to study architecture during the country's post-colonial period. In the process, they imbibed ideas of Modernism which were in vogue in the West at that time. Philippine architects such as Cesar Concio and Carlos Arguelles obtained graduate degrees from the Massachusetts Institute of Technology. Alfredo Luz earned a bachelor's degree from the University of California at Berkeley. Angel Nakpil obtained his master's degree from Harvard University and, while studying there, was a disciple of Walter Gropius (Lico 369-370).

The formal teaching of architecture in the Philippines, though, had its beginnings in the establishment of the first architecture and engineering school in the country, the Mapua Institute of technology, during the American colonial rule, in 1925. Its founder, Tomas Mapua, studied architecture at Cornell University (mapua.edu.ph).

Since then, various schools and departments of architecture were established such as those of the University of Santo Tomas in 1930, Far Eastern University in 1954, and the University of the Philippines in 1956. Many faculty members in these schools likewise received architecture degrees from American universities thus providing Modernist input into the various architectural curricula.

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2. Modernist Ideas and Philippine Architectural Education

The architectural thought of Le Corbusier, as espoused in his *Vers une architecture* and his work in general was, for many historians and analysts, the summation and crystallization of Modernist ideas of the time. His work and writings included many of the ideas embedded in Philippine architectural curricula today which were first introduced through the architects and faculty members of the various Philippine architecture schools who had studied in the U.S.A.

A running theme of the Modernist ideal at the time was the artistic combination of the ideal and the rational (Kruft 397-399). The search for architectural forms which would digress from the socio-political signification of the elitist Neo-classical styles would find solace in the more purist and rational forms, devoid of such signification, of Modernist architecture. Geometry, with its inherent mathematical rationalism, would be the preferred mode of expression as this provided the means to express the contemporary climate of thought of the time. Geometry and its related architectural principles of proportion, scale, balance, hierarchy, contrast, and rhythm would then be the means to communicate this break from the Neo-classical past. In the Philippines this theme would likewise be used as an appropriate expression for the conscious unshackling of the new republic from the former colonial master and its accompanying ideology of democratic and republican ideals as frozen in tropical Neo-classical architecture.

A second idea of Le Corbusier's Modernist ethic would be the notion that architecture should influence the society at large and not merely be an artistic product to be possessed by the patron (Kruft 398). Stemming from the ideals of the Bauhaus movement this idea of service to the people would likewise be a major thought that would permeate the Modernist philosophy and influence, as well, Philippine architectural thought up to the present. Such societal influence would include the concept of the architect as the environmental leader who would marshal the forces of the building industry for the betterment of the people. This rally for a utopian ideal would similarly find an appropriate response in the Philippine architectural condition of the time when visions of a new Philippine republic would form the aspirations of Philippine architects at that time. These architects would use the language of Modernism as an architectural linguistic basis for its search for a more identity-driven formal architecture. Such a search would trickle down to the design studio classes of the architectural schools with the influence of American-trained faculty members.

A final concept of Le Corbusier and his Modernist thought that would greatly influence architectural education in the Philippines would be that of the primacy of engineering and the view of architecture as an industrial product (Kruft 397-398). Modernist ideas on the necessity for exposure of construction technique and the virtue of revealing materials as themselves in their pristine honesty would be communicated to Philippine architecture students through their architectural design classes and the philosophical value of the architect as the lead production head of the building product would similarly find its way into their practice and governance classes. Curricula of schools of architecture in the Philippines would, in fact, have mandated structural engineering classes up to the present day.

3. Modernism in the Philippine Architectural Program Curriculum

Given these concepts from Modernist thought, it is no wonder, then, that we find that many architectural curricula, in fact many schools, in the Philippines had their beginnings in schools of engineering earlier established. This would be true of the architecture programs of the University of Santo Tomas, the University of the Philippines, and even the Mapua Institute of technology itself. It would not be unusual, therefore, for the various architectural program curricula to reflect thesis beginning and even the other Modernist ideas of Le Corbusier outlined above.

The present architecture curricula are today, for the most part, based on the government-mandated Bachelor of Science in Architecture curriculum as required by the Commission on Higher Education (CHED). This parent curriculum has, among its eight objectives, the following four which appear to be reflective of this Modernist background: the promotion of knowledge through scientific research, the focus of architectural education to meet the needs of society, the infusion of the desire for truth, and the understanding of the relationship between man and his environment (CHED memorandum 5). These specific objectives lay emphasis on the Modernist ideals of rationality, idealism, and the necessity of service to society. Given the often-quoted definition of architecture as both the art and a science of building, it is interesting to note that none of the given objectives mention creative expression or any other related ideas. The Modernist interest in the artistic rationality of architecture, apparently, did not find a home in the Philippine architectural curriculum and primacy appears to have been given, instead to the more technical interpretations of the philosophy.

The mandated program includes 13 units of math, six units of physics, 18 units of basic engineering courses, and 18 units of building technology and building utilities courses out its 232 total units. The program, in fact, specifies 179 units of technical courses apart from general education courses for the tertiary level (CHED memorandum 9-13). This primacy of technical coursework again appears to emphasize the interpretation of the Modernist thought as more rationally scientific rather than artistic. Although the parent curriculum expresses other concerns such as heritage conservation, architectural communication, and tropical architecture, the presence of a large number of technical courses on the overall exposes this interpretive Modernist foundation.

The architectural design courses themselves considered the backbone of the program, likewise reveal this foundation in the required course descriptions themselves. Of the 10 mandated design courses, seven emphasize a focus on technical knowledge. Of the remaining three, two focus on the study of “human needs” emphasizing the learning of the skill of developing of an architectural program from this study, a Modernist invention. Here we see that the notion of service to society involves the rationally objective behavioral study of the human being as devoid of emotion or spirit (Ozaeta).

This standard architectural program curriculum would be interpreted by the various schools of architecture in individual ways. Most schools would be required to adhere closely to the standard while a few, having attained a preferential status due to their performance over the years of their existence, would be allowed to deviate from this standard. Despite these deviations we find that these curricula still reflect much of Modernist thought particularly in the ideas mentioned earlier.

In the B. S. Architecture curriculum of the University of the Philippines Diliman College of Architecture, for example, the majority of the courses are still technical courses and the architectural design courses likewise follow many of the mandated course descriptions of the standard curriculum. In the instruction of these courses, for example, architectural programming would still be an emphasis as the study of human behavior would also be a focus.

4. Cultural Identity in Philippine Architecture

This Modernist foundation in the Philippine architecture program curriculum would be a locus of artistic struggle by Philippine architects as they endeavored to redefine the art of architecture as an expression of cultural identity in the post-colonial period. Early post-colonial works saw nativist icons such as the *tamaraw* (water buffalo) and the *salakot* (farmer’s hat) used as ornamentation in public buildings.

The period of the Marcos government, from the late 1960s to the 1980s, saw a more mature grasp of the architectural medium by Philippine architects as research and literature on cultural identity in the arts began to emerge. The famous question of, “Is there a Filipino architecture?” became the subject of much academic discourse at that time. Architectural works during this period displayed more studied attempts to embody Filipino cultural identity but still building on the foundation of Modernist ideas of form.

The decade of the 1990s continued this discourse with the University of the Philippines Diliman organizing the National Symposium on Filipino Architecture and Design in 1995. At this event architects, art educators, and cultural workers presented their thoughts on Filipino architecture with papers such as, “A Comparative Analysis of Western and Philippine Spatial Systems,” “Comprehending Filipino Space,” “The Unity of Spatial Concepts in Philippine Architecture and Other Arts,” and “The Filipino in Our Architecture” (NSFAD’95).

The turn of the millennium saw an interest in architectural heritage conservation come to the fore. Courses on Filipino architectural history which emerged in the late 1990s took on even more significance with this interest. Cultural identity in Philippine architecture is no longer the central topic with the firm establishment of the existence of a Filipino architecture in previous discourse. At this point we now see a melding of Modernist emphasis on rational structure and Filipino spatial concepts with the understanding that architectural form is not necessarily a linguistic medium of cultural expression as opposed to architectural spatiality.

5. Cultural Confusion in the Architectural Schools’ Own Identity

Despite the rendering of moot this issue of Filipino cultural identity in architecture, architectural programs today in the Philippines do not appear to have identified or established their own individual philosophical identities. While past decades of discourse have brought together the opposing issues of identity and Modernity, present discourse appears to be merely reactive to prompts from socio-economic events.

A review of current architecture program curricula reveal that the art of architecture, as an example, has not been successfully integrated into the teaching of architecture with architectural design classes still resembling large lecture classes rather than true studio ateliers. Artis-

tic theory is merely discussed in architectural theory classes disembodied from the design classes with students not fully understanding how to integrate this “design theory” with design practice except by trial and error.

The philosophical foundation of Modernism as interpreted by generations of Philippine architectural educators appears, in the end, to have resulted in the failure of Philippine architecture schools to address more fundamental issues such as the definition of architecture itself as the philosophical identity of each school. With the coming of age of Philippine architecture perhaps it is now time for architecture schools in the Philippines to take a broader and more encompassing ideological stance rather than merely assuming the correctness of past Modernist philosophical thought.

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Building by Doing: The Reflexive Nature of Modern Architectural Education and Research

Miguel JAIME * Eugenia LOPEZ-REUS *

Abstract

The modern movement still persists because its reflexive nature is still valid. The modern movement is more a way of doing than a way of thinking. The difference is not superfluous: modern creativity is only displayed in action, in the midst of the design process. The 19th century German theorist Konrad Fiedler, an essential inspiration of modern form, considered visuality something related to action, not the result of a special sensibility.

This intimate link between aesthetics and pragmatism in the heart of modern architecture and its implications on architectural education has not been studied enough. If the importance of reflexiveness was understood, architectural design studios would not have lost hours studying the curriculum as in the last decades in the majority of schools around the world. If John Dewey's reflexive pedagogy had been implemented in architectural schools, theoretical knowledge, that today is still "transmitted" through a lecture scheme, would have been integrated into practicums.

21st century problems need reflexiveness more than ever. Current unprecedented difficulties must be faced with a reflexive attitude. It was a Deweyan philosopher (and business consultant), Donald Schön, who discovered in the design studios of MIT in the 1970's the ideal of the "reflexive practitioner"; but architecture has done little to explain its own creative nature and its implication on education and research. It has been in the realm of art and design where this effort has been done more productively. Authors like Bruce Archer, Christopher Frayling, and Stephen Scrivener have clarified the potentiality of design reflexiveness in contemporary problem solving in art and design schools. The work of these authors must be connected to that of Schön and Fiedler and all be reconsidered from the architectural point of view. The European Union has defined reflexiveness as the essential skill education needs to develop in the future and modern architecture has a lot to say about this subject.

Keywords : reflexiveness, modernity, education, research, creativity.

1. Introduction

Modern architecture is a way of doing and not a way of thinking. Reflexiveness defines its essential ability of generating new and ad hoc sets of rules while dealing with unique, uncertain, and conflicting design problems. The reflexive nature of modern architecture was the clue for definitely overcoming 19th century romantic eclecticism and mimicry at the beginning of the 20th century.

This paper describes and updates the consequences of modern architecture reflexiveness in architectural education and research. This task implies going back to the Kantian roots of the aesthetic pragmatism of Konrad Fiedler's and its links to the Historical Avant-garde.¹ On the pedagogical side, it implies expanding Bauhaus paternity of architectural and design education including John Dewey's and Donald Schön's reflexive thinking and pedagogy. Finally, to update architectural education and research, it is necessary to examine the art and de-

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sign schools' debates in UK in the 1990's: educators and researchers such as Bruce Archer, Christopher Frayling and Steven Scrivener were trying to define specific design knowledge and its effects on institutional matters.

A bright future is in front of modern architecture if its reflexive nature is finally understood and applied to solve the uncertainties of current globalized world.

2. Reflexiveness: Modern Architecture's Creativity

The origin of the paradoxical way of proceeding with modern architecture (not applying rules but generating them) is intimately related to the specific universality of vision stated for the first time by 19th century German theorist Konrad Fiedler. Based on the aesthetic autonomy that Kant inaugurated just before him,² Fiedler proposes that vision has a potential universality that the rest of senses lacked.

Fiedler states that in the act of drawing a single stroke on a piece of paper can isolate and develop an essential aspect of reality. Such universality of vision can only be developed and concretized by artworks. The possibility of developing sensible aspects of the material world, separated from our internal and individual perceptive processes is the base of the universality that visual arts have for Fiedler. Visuality, then, is not a quality of vision at all, it is something that only appears when "the hand does for the eye something that the eye cannot do by itself"³ and the initial sketch is developed reaching visual standards recognizable by everybody.

At the beginning of the 20th century, modern architecture assumed this essential visual nature almost simultaneously with the Avant-garde painting. The magnitude of the visual discovery made the Purist painter Charles Eduard Jeanneret to definitely change his name to the mythical one of Le Corbusier and change architecture forever. Since then, architectural practice and architectural education have assumed a practical way of doing and learning, just as the American educator John Dewey asserted through his experiential learning.

3. Architectural Education and Schön

Donald Schön, who did his doctoral thesis on Dewey's reflexive thinking, went to MIT to study architectural design studios. His question at MIT was to understand why and how architecture students were so engaged in the design studios where no traditional body of knowledge was included on the syllabus. Witnessing the design process at the studios transformed Schön's view about education in such a way that he arrived at a proposal that all professions should be taught in the studio format (the practicum) in modern times.

Notions like 'tacit knowledge' and 'reflection-in-action'⁴ -an action that produces its own knowledge, just as when designing- helped Schön to understand how architectural design students could be asked to do things they were not taught to do before and still be enthusiastic about it. Anyone that has studied architecture in any official school around the world after the 1920's has gone through this experience. As a consequence of his findings, Schön ended up challenging the whole academic system of modern research universities as trapped in the 'contradiction between relevance and rigor' and called for a 'new epistemology based in action'⁵.

4. Art And Design Schools: Down to Earth Education

Besides Schön's work, the only truly fresh air in design pedagogy and research has come from art and design schools, the minor sisters of architecture schools.

Art and design schools have improved the theorization of design education and research much more than architectural schools during the 20th century as they have not been so constrained by governmental regulations and bureaucracy: modern architectural schools have been a part of research universities while design schools just recently so. To update architectural education and research it is necessary to examine the following contributions: Bruce Archer's *The Nature of Research*, Christopher Frayling's *Research in Art and Design*, and *The art object does not embody a form of knowledge* by Stephen Scrivener together with his *The practical implications of applying a theory of practice based research: a case study*.

5. Bruce Archer's *the Nature of Research*⁶

Archer's pioneer text separates design from the scientific tradition but preserves its "communicability of results" as a nonnegotiable feature of all serious research. As Donald Schon did, Archer uses the notion of "tacit knowledge",⁷ but establishes three different types of research (knowledge) associated to practice: research *about*, *for*, and *through* practice. The improvement of these categories in comparison to the reflection *in*, *on*, and *about* action of Schön, is that they are adapted to the specific English speaking countries educational system and extracts conclusions from the already centenary design education experience in UK. This is a seminal text also for the so-called Action Research, and establishes an important separation between primary and secondary sources of information for the scholarship in the Arts.

Archer differentiates primary sources as 'originals, or original records of, or contemporaneous commentary upon, ideas, things events or persons', and secondary sources as 'persons, commentaries upon primary material'.⁸ The comprehensive knowledge of the primary sources of the field is considered a must of an acknowledged scholar in the realm of design in Archer's opinion.

6. Christopher Frayling's *Research in Art and Design*

Frayling relies on the history of education, the dictionaries and films for defining the consideration of current society towards the scientist, the artist and the designer and the role attributed to research.⁹ In our times, media (and films are an essential part of them) have to be taken into account in cultural matters. 1837 is the date Frayling says art and design were separated from the mainstream of institutional education (institutionalizing an inferior cultural consideration than architecture). Following Herbert Read's categories of art education,¹⁰ he proposes research *into*, *through* and *for* as the types of research educational institutions should contemplate for art and design. As in Archer's case there is no mention of teaching or learning, or to the role of practicum in the curriculum because defining specific design knowledge and its repercussion on institutional matters is what was at stake when this article was published originally. The 'fascinating dilemma of thinking versus doing' is focused on here through the problem of academic research mainly because this is the hottest theme in terms of bureaucratic promotion and fundraising at UK then.

7. Stephen Scrivener: *The Art Object Does Not Embody a Form of Knowledge*¹¹

In this article and later in "The practical implications of applying a theory of practice based research: a case study"¹² professor Scrivener sets 1992 as the year in which art and design entered as an "equal player in the academic world of the university"¹³ in the UK. Again, the availability of funds from HEFCE (Higher Education Funding Council) accelerated the discussion on knowledge and art: more than two million British pounds in grants had supported Professor Scrivener's research since that date¹⁴. Scrivener points out that artworks do not embody knowledge (formal scientific knowledge) but they provide 'ways of seeing and ways of being in relation to what is, *was* or *might be*'¹⁵. He also assigns a practical value to art as 'it is one of those modes of experiencing that (...) offers apprehensions that provide potential ways of seeing situations'¹⁶.

The second article of Professor Scrivener, gives specific methodological hints for practice based PhD research extremely useful for designers. Essential characteristics of research in areas like art and design are set to fulfill the formality of academic requirements. In the conclusion Scrivener perceives the same tensions between reflexivity and instrumentality inside academia that made Schön describes the situation as an 'epistemological battle'. He concludes that:

*The results so far offer grounds for optimism, but there is still much to consider and do, and the stakes are high for all concerned. It's crucial that this work proceeds in the context of a community of trust, openness and mutual support. In this way, it is hoped that a mode of research can be evolved in which the unique contribution that art makes to the understanding of the human experience is acknowledged.*¹⁷

8. Conclusion. Towards a Fully Reflexive Architectural Education

Helena Webster, in the most successful article in its journal, *Architectural Education after Schön: Cracks, Blurs, Boundaries and Beyond*¹⁸, asks for an update of Schön's proposal on architectural and professional education. Professor Webster talks from what she calls a 'post-enlightenment orientation'. Instead of considering Schön's approach a remarkable contribution to make the design experience comprehensible

for non-designers, Webster contemplates reflexiveness as a 'particular narrow lens' and reintroduces academicism in the discourse through 'inter-textual' and 'social/situational' viewpoints. Blaming Schön's 'research dubious validity,' this vision constitutes another episode of the 'epistemological battle' denounced by Schön just before dying.

Going beyond Schön should imply converting all architectural courses that are not studio in a practical scheme. Calculus, structures, building systems, history and theory should find way of applying reflexiveness to teaching methods.

In that sense, Don Finkel's ideas could help. Finkel is another Deweyan that went beyond Dewey. In this case, Dewey's motto that 'no thought, no idea, can possibly be conveyed as an idea from one person to another'¹⁹ made him write an essential book called *Teaching with Your Mouth Shut*²⁰. Maybe with this sort of inspiration it would be possible to reconsider architectural education and research practices in academia in order to make schools of architecture truly reflexive institutions, able to change the way architecture is taught and researched in accordance to the uncertainty globalization has brought with it.

Notes

¹ This itinerary was suggested for the first time by Renato de Fusco in *L'idea di architettura, storia della critica da Viollet-le-Duc a Persico* (1964). The book included no reference to reflexiveness and the historical sequence is commented through rather general observations.

² Philippe Junod, *Transparence et opacité. Essai sur les fondements théorique de l'art moderne*, Paris, Editions Jacqueline Chambon, 2004.

³ Konrad Fiedler, "Sobre el origen de la actividad artística", in Pérez Carreño (Ed.), *Escritos sobre arte*, Madrid, Visor, 1991, 202-220.

⁴ Donald Schön, *The Reflective Practitioner. How professionals think in action*, London, Temple Smith, 1983.

⁵ Donald Schön, "Knowing-in-Action. The New Scholarship Requires a New Epistemology", *Change*, vol. 27, no. 6, 1995, 27-34.

⁶ Bruce Archer, "The Nature of Research", *Co-design, Interdisciplinary Journal of Design*, January 1995, 6-13.

⁷ The notion of "tacit knowledge" was previously pointed out in the realm of architectural design by Schön, who in turns took it from Polanyi. See Michael Polanyi, *The tacit dimension*, New York, Doubleday, 1967.

⁸ Archer, *ibid*.

⁹ Christofer Frayling, "Research in Art and Design", *Royal College of Art Research Papers*, vol. 1, no. 1, 1993/94

¹⁰ Herbert Read, *Education Through Art*, London, Faber and Faber, 1958

¹¹ Stephen Scrivener, "The art object does not embody a form of knowledge", *Working Papers in Art and Design*, no. 2, 2002.

¹² Stephen Scrivener, "The practical implications of applying a theory of practice based research: a case study", *Working Papers in Art and Design*, no. 3, 2004.

¹³ Stephen Scrivener, "The Art Object Does Not Embody a Form Of Knowledge", *Working Papers in Art and Design*, no. 2, 2002. pp. 2

¹⁴ From the biography published by The University of the Arts London: <http://www.arts.ac.uk/research/research-staff/a-z/professor-stephen-scrivener/> (last accessed May 8, 2014)

¹⁵ Stephen Scrivener, "The Art Object Does Not Embody a Form Of Knowledge", *Working Papers in Art and Design*, no. 2, 2002.

¹⁶ The author connects the value of experience with Schön's explanation of the architect's creativity: seeing new and unique situations as "familiar" is the way architects overcome the novelty and uniqueness of professional problems. See Donald Schön, *The Reflective Practitioner. How professionals think in Action*, London, Temple Smith, 1983.

¹⁷ Donald Schön, "Knowing-in-Action. The new scholarship requires a new epistemology", *Change*, vol. 27, no. 6, 1995, 27-34.

¹⁸ Helena Webster, "Architectural Education after Schön: Cracks, Blurs, Boundaries and Beyond". *Journal for Education in the Built Environment*, vol. 3, no. 2, 2008, 63-74.

¹⁹ John Dewey, "Thinking in Education" in *Democracy and Education*, New York, Macmillan, 1926,

²⁰ Donald Finkel, *Teaching with Your Mouth Shut*, Portsmouth Boynton/Cook Publishers, 2000

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Top-down and Bottom-up MOMO Advocacy Strategies in the City of Wrocław

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Abstract

This paper presents two seemingly antithetical information strategies, aiming at awakening of appreciation for modernist architecture among lay people. MOMO architecture is not viewed by the public as heritage, and is generally underestimated by the owners of listed 20th century buildings, which results in neglect and disrepair. The first strategy is an example of a ‘top – down’ public education campaign accompanying a system of grants undertaken by the city of Wrocław focusing on the WUWA estate of 1929. WuWA, despite its innovative architecture, a revolutionary program of housing and high artistic value fell into oblivion shortly after its completion. Despite entering most buildings into the architectural heritage’ register in the late 1970’s, Wrocław residents still fail to notice its value and historical importance. City authorities have launched a wide-ranging action - from maintenance and conservation grants to the owners of individual buildings to a series of lectures and popular publications on the estate. The second example describes a ‘bottom - up’ strategy of saving a late modern auditorium building through a social action of a group of city activists. Currently disused, the auditorium is a part of the Wrocław University’s ‘Grunwaldzki’ campus. Thanks to the activist group ‘Save the Auditorium of Chemistry (ACH)’ protests, the building was protected by heritage listing in 2012. Bottom-up type actions within the space of the auditorium are currently organized by activists. Workshops and lectures, as well as pro bono consultancy in the formulation of reuse and conservation programs for this ‘unwanted legacy’ are under way. Both educational actions aim at appreciation and preservation of MOMO architecture heritage. The existence of a collective consciousness can help to find resources for the restoration of the ACH, and justify the costs incurred by the municipality in the grants for restoration work of WuWA buildings owned by private persons.

Keywords : wrocław, revitalization, advocacy, education.

1. Introduction

*When the process of communicative action induces collective action and change is enacted, the most potent positive emotion prevails: enthusiasm, which powers purposive social mobilization*¹.

The paper presents two *public advertisement* strategies, carried out by the city of Wrocław authorities and activists’ groups, both aiming at awakening of appreciation for modernist architecture among lay people. Both cases concern listed buildings and their owners. Both strategies use contemporary tools of communication theory in a positive way: to create values rather than to condemn and put to shame those burdened with the ‘unwanted heritage’²

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2. The *Wohnung Und Werkraum* Ausstellung (Wuwa) Housing Estate

The first strategy is an example of a ‘top – down’ public education campaign accompanying a system of grants undertaken by the city of Wrocław focusing on the WuWA, the third Werkbund model housing estate built in 1929.³

2.1. Preservation Problems

WUWA, despite its innovative architecture, a revolutionary program of housing and high artistic value fell into oblivion shortly after its completion, the city residents still fail to notice its value and historical importance. All the WuWA buildings were entered into Wrocław Heritage Register in 1972 and 1979, and the whole estate’s urban plan in 2007. The listing did not, however, change the poor state of repair of the estate. After more than 80 years of almost unchanged existence WuWA needs thorough renovation of the individual buildings, as well as the surrounding public space. The city have appointed Wrocławska Rewitalizacja

Ltd., a municipality owned consultancy to draw a ‘General restoration strategy of WuWA estate in Wrocław’ (Grażyna Adamczyk-Arns, Justyna Dudek, Grzegorz Szewczyk, 2010).

2.2. The Course of Actions

The city resolved to adopt below listed restoration – inducing actions.

In 2011 - launch of a grant program of financial support for the façade, flat roof and garden repairs made by the proprietors of WuWA buildings. Grants cover at least 70% costs of house exterior or garden restoration and are awarded for designs approved by the city conservator office, under strict supervision. Only two restorations within this program have been completed so far, and there are three more projects approved and scheduled for 2014.

In 2011 - start of the public space renewal scheme. The architectural contest winners: BASIS architects (Krzysztof Szkółka, Dariusz Sirojc, Filip Kozak) submitted their design in 2012 to the City Conservator’s Office, but the public consultations on the project have not ended yet (May 2014)⁴.

In 2012 - the ownership of a land piece with burned down remains of WuWA kindergarten was transferred to Lower Silesian District Chamber of Architects, who undertook an exact reconstruction of this wooden pavilion. The building, opened in February 2014, serves two functions: it is the seat of architect’s order and the temporary entrance pavilion for tourists and exhibitions concerning WuWA.

2.3. Education and ‘Advertisement’

In view of an universal lack of knowledge about the WUWA estate among the city-dwellers, tourists and even some of the authorities⁵ turning to the advertisement techniques was the natural solution. To overcome reluctance of the public⁶ and WuWA inhabitants, who may benefit from restoration programs ‘soft’ actions were launched.

The strategy for WUWA embraces such means of ‘soft’ public advocacy as: ‘brand building’ plan towards tourist recognition of the WuWA, in form of publications (a book, maps, website in 3 languages) and actions aimed at children, students, and tourists; public debates and lectures in WuWA best known building - Hans Scharoun’s *Ledigenheim* - aimed at the residents (to promote the idea and draw them into active participation in public grants), combining educational content with public consultations on the ongoing programme



Fig. 1 Theodor Effenberger, semidetached house with garages, WuWA 1929, Wrocław, Poland, only one part of the building was restored thanks to the grant from the municipality. Photo: J. Urbanik, 2014, inlet: the same building in 1929, photo: Muzeum Architektury we Wrocławiu, Mat IIIb 533-4.



Fig. 2 Hans Scharoun, interior of a basement of Ledigenheim (now Park Hotel), WuWA 1929, Wrocław, Poland, participants of public lecture and debate. Photo: G. Adamczyk-Arns, 2013

-s; publication combining historical knowledge of WuWA with interviews focusing on WuWA inhabitants' family histories.

2.4. Public Debates

The strategy embraces public debates on two programmes: restoration grants for individual home owners of the WuWA estate, launched in 2011 and distributed by the City Conservator Office; refurbishment of public space, owned by the municipality and supervised by Rewitalizacja Wroclawska Ltd. - participatory consultations on public space of the estate, merged with lectures on good practices in historic preservation and WuWA estate history (J. Urbanik) and meetings with the municipal authorities (the City Architect and the City Conservator's Office Director). This should serve as means of establishing contact between the local authorities, architecture historians milieu and WuWA inhabitants.

Interconnectivity and creating links between the actors of restoration processes is the key quality of the strategy adopted. Lately WuWA joined in creating a network of six existing pre-war model Werkbund housing estates. Its aims are to obtain the UNESCO certificate and, above all, to exchange the experience of their conservation and re-use.

3. The Auditorium of Chemistry (Ach)

The second example describes a 'bottom – up' strategy of saving a late modern auditorium building through social action of a group of city activists. As a result of local branch of Polish Architects Association's action the building was enlisted as a modern heritage within the framework of urban planning strategy of the city of Wroclaw in 2010⁷. Thanks to the activist group 'Save the Auditorium of Chemistry' (ACH) protests, the building was entered in Wroclaw Heritage Register in 2012.



Fig. 3 Krystyna and Marian Barski, Auditorium of Chemistry Wroclaw University 1966-1971, Wroclaw, Poland, exterior views. Photo: M. Lamber, 2009

3.1. Wroclaw University 'Grunwaldzki' Campus and ACH

The story of the Grunwaldzki Campus dates back to 1950-ties, when the first architectural contest for the design of university grounds alongside Odra river close to the Grunwaldzki Bridge (former Kaiserbruecke) took place⁸. The 1st prize went to a couple of young local architects – Krystyna and Marian Barski⁹, the scheme, however was not executed and the architects had to win a similar contest for the second time roughly ten years later, in 1964. The resulting university campus master plan was realized gradually between 1968 and 1971, but remained incomplete¹⁰. Nevertheless, the University buildings formed a riverfront with a rich variety of interlocking forms individualized by the use of artistic decoration – sculptures and mosaics.

The realized part of the campus consisted of two faculties: mathematics and chemis-

try, both provided with their own auditoriums. The two auditoriums were similar in plan but differed in interior and facade designs.

The unfinished university master plan of 1960's, was abandoned, and further buildings and extensions have been built since late 1990's regardless of its spatial composition. Institute of Mathematics underwent a refurbishment in the year 2005 (extension by addition of one storey) and external thermal insulation in 2007-2010, resulting in serious disfiguration of the building and loss of its architectural values¹¹. General disapproval for the above mentioned refurbishment draw attention of the public to the endangered Auditorium of Chemistry.

3.2. The Architecture of ACH

The Institute of Chemistry's complex composition is tripartite: a tall, 10 storey office building clad with matt sheet aluminium¹² is counter-balanced by a 3 storey slab of laboratory wing connected to the auditorium by a covered footbridge at the first floor. The auditorium opens into the riverfront with its circulation space and terrace. The building is largely transparent, facades wrapping the interior with glass and aluminium. The inner space flows freely around two lecture halls, ramps connecting four levels of the building, three of which allow con-

nection either to the campus or riverfront, the fourth, top level hall oversees Wrocław's Old Town from the opposite riverbank. The building is preserved in an almost unchanged state: most of the original finishes, furnishings and fixed furniture are intact. The only element dismantled was cloakroom hangers cum seating structure with a long cloakroom front desk. Two lecture halls are furnished with original pulpits, strapontine chairs, wall decorations and coverings, including wall lamps in the form of Mendeleyev Table, and aluminium ceilings made of triangular panels. The auditorium has survived to date almost untouched, due partly to its obsolete state.

3.3. Heritage Listing of ACH

The building ceased to be needed by the Faculty of Chemistry after the completion of laboratory wing extension encompassing new lecture halls (1999 and 2002-04)¹³. Auditorium was disused and started to deteriorate rapidly due to lack of maintenance, by 2006 it was partly abandoned. The owner – Wrocław University wanted to resolve the problem by demolishing the structure¹⁴. The University of Wrocław own about 120 listed or otherwise protected buildings, many of them dating from the Baroque. University authorities do not consider the disused 20th century building as a significant value, therefore they withhold from conservation works. The structural risks of maintaining the status quo have caused disquiet among architects. Heated discussions between the university officials and the members of local branch of Polish Architects' Association (SARP), art historians grouped around prof. A. Zablocka-Kos and modern architecture advocates (different informal groups and individuals, among them the Society for the Embellishment of Wrocław and EMSA

Wrocław) were recorded by the largest daily newspapers¹⁵. In 2011 a group of professional architects and MoMo advocates signed a letter, addressed at prof. M. Bojarski, at the time Rector of the University, with a proposal of professional help in rescuing the valuable building¹⁶. Finally, on June 11, 2012¹⁷ the building was entered into the heritage register of the city of Wrocław.

The reluctance on part of the university resulted in a partial solution: the listing does not cover the whole assemble of the Institute of Chemistry, and it does not protect the inner space furnishings of the Auditorium, which constitute a unique architectural value due to their unchanged state.



Fig. 4 Krystyna and Marian Barski, Auditorium of Chemistry Wrocław University 1966-1971, Wrocław, Poland, interior of the main hall during Students' workshops OSSA, inlet: the same interior shortly before the action. Photo: W. Nowak, 2013

3.4. Activist Action Strategy After listing

The university, having acknowledged the listing without opposing it, continued to use the Auditorium as an informal storage facility. Discussion about preservation of the building, started by activists, changed its main topic. The main objective is to find a new use and a way of preserving as much of the unprotected values as possible within a scheme of adaptive reuse. Hence the start of bottom-up student actions augmented by staff members of Faculty of Architecture Wrocław University of Technology.

A well-known Polish architecture students' organization OSSA decided to place its main yearly event – a week – long students workshops in Wrocław in 2013. Aware of the state of the Auditorium of Chemistry, the local organizing committee approached new Dean of the Faculty of Chemistry at Wrocław University and obtained permission to allocate the event in the ACH. By this simple action and with cooperation of the Faculty of Chemistry of Wrocław University it was possible to clear away all the stored disused lab equipment from the building, and clean it's interiors. More than 150 architecture students from different Polish cities accompanied by international tutors took part in the workshops.

This action had three goals: to arise awareness of modern heritage among the students of architecture and to teach them how to recognize MoMo values; to start educational campaign about architectural heritage value of the late MoMo architecture aimed at the University of officials; to prove the spatial organization of ACH building's worth by using it in a new way, consistent with its design.

Having succeeded in the first round of architectural workshops the organizers volunteered to realize another action, aiming at finding different proposals for adaptive reuse of the building. The action named *ReACHtywacja* (or ReACHtivation) took form of an on-line students' contest followed by a workshop within the ACH building between 6th and 8th of May 2014.

In preparation for the workshop a link with the University Chancellor R. Zukowski was established, programming guidelines obtained, a new architectural survey drawn up by the students of architecture, and design guidelines prepared (G. Hryncewicz-Lamber). The organizers decided that the students' competition could allow for more freedom of architectural intervention, so no preservation guidelines (except the information about the building's listing and on-site lectures) were issued. The response was very satisfactory: 35 competition entries from students groups arrived and 12 groups were selected to partake in subsequent workshops¹⁸.

The students' task was: to define an adaptive reuse and the viable interior preservation strategy; to strengthen the link between the riverfront and the campus buildings.

The workshop form was a charette, with different tutors – architects and preservationists, and art historians working with all the groups on architectural and functional, authenticity values, strategic programming of functions, financial feasibility and such. The final presentation was honoured by the presence of the City Architect and University Chancellor as well as the vice Dean of the Faculty of Chemistry and Polish Architects' Association representatives, who acted as judges in the contest.

The outcome of workshops will be shortly published and handed over to the University as pro-bono work to enhance the discussion about the preservation strategies of the ACH building, surveys and some and advertisement material.

4. Conclusion

What is the common element of the two strategies? Both depart from apparently ineffective protests against endangered heritage towards more positive educational actions and inclusion of the users, by their involvement and advertisement-like promotion of preservation and adaptive reuse. This course of action may be time-consuming, but seems likely to bring about a positive outcome. Both strategies underline positive emotions, in WuWA – by creation of an identity of common history of the estate's inhabitants, in ACH by engaging architecture students, dwelling on the fashion for the 1960's¹⁹. Both strategies use different tools to merge education with MOMO advocacy and address the problems of modern heritage's owners.

Notes

¹ Manuel Castells, *Networks of Outrage and Hope. Social Movements in the Internet Age*, Cambridge, Polity Press, 2012, p. 219.

² Rutkowski Roman, 'Niechciane dziedzictwo. Unwanted Legacy', *Architektura – murator*, 11/2006, p. 74-75.

³ Up to date WuWA bibliography can be found in: Urbanik Jadwiga, Renovation and Revalorisation of the Werkbund Wuwa Housing Estate – from the Interiors to the Entirety, *Proceedings of the 12th International Docomomo Conference, The Survival of Modern, From Coffee Cup to the Plan, August 7-1-, 2012 in Espoo, Finland, Porvoo 2013*. The estate's monograph: Urbanik Jadwiga, *1929 WUWA 2009. Wrocław's Werkbund Exhibition*, Wrocław, Muzeum Architektury, 2009.

⁴ Urbanik Jadwiga, *Renovation....*

⁵ A street survey conducted by the sociologist, dr Natalia Niedzwiecka-Iwanczak for Wrocławska Rewitalizacja Ltd, in 2013 on a probe of 230 people.

⁶ A survey on the problems of public participation in revitalization schemes in Poland, Pirveli, M., *Procesy uspołeczniania w projektowaniu rewitalizacji, Rewitalizacja dziedzictwa przemysłowego*. Industrial Heritage Revitalization., Julian Kołodziej [ed.] 2011, Instytut Historii Nauki PAN, Bydgoszcz-Warszawa, p. 87 – 99.

⁷ Listing as modern heritage does not protect buildings legally, it is only a guideline for city planners to devise some means of heritage protection within future master plans, Rozenau-Rybowicz A. et al., *Atlas dobr kultury współczesnej województwa małopolskiego*, Krakow, Urząd Marszałkowski Województwa Małopolskiego, 2009, p. 16.

⁸ It was Max Berg's idea to localize university campus alongside Odra river close to the Kaiserbruecke, Berg Max, 'Zukunfftige Baukunst in Breslau als Ausdruck zukunfftigen Kultur', *Deutschlands Staedtebau*, Berlin, 1921, p. 34, 39.

⁹ Barska Ewa, (ed.), *Barscy, 1952-2002*, exhibition catalogue, Wrocław, Museum of Architecture, 2002.

¹⁰ Ibidem, illustrations 1 - 26 (pages not numbered).

¹¹ Ziental Krzysztof, "Siedziba Instytutu Matematyki Uniwersytetu Wrocławskiego". *Leksykon Architektury Wrocławia*, 2011, Wrocław, Via Nova, p. 766.

¹² It was the first extensive use of aluminium cladding in Wrocław, Ziental K., "Siedziba Wydziału Chemii Uniwersytetu Wrocławskiego", *Leksykon Architektury Wrocławia*, Wrocław 2011, Via Nova, p. 787.

¹³ Ibidem.

¹⁴ The yearly technical survey of the building conducted after its heritage listing in 2012, reads 'rebuild or demolish' as maintenance guideline... (courtesy Wrocław University).

¹⁵ Krzywka Lukasz 'Dyskusja o Audytorium Chemii – głos Uniwersytetu', *Gazeta Wyborcza*, Wrocław, 2012, 01, 24; Maciejewska Beata, 'Mackow: Audytorium Chemii to pomnik architektury!', *Gazeta Wyborcza*, Wrocław, 2012, 01, 21, Sawka Jerzy, 'Terror konserwatorów. Zamiast pomagać szkodzą zabytkom', *Gazeta Wyborcza*, Wrocław, 2012, 03, 06.

¹⁶ The letter of March 11th 2011 was signed by art historians: A. Zablocka-Kos, A. Gabis, K. Ziental, M. Duda; architects: Z. Mackow, A. Ruminska, M. Smolenski; city activists D. Szymczak, P. Filar.

¹⁷ Wrocław Heritage Register no. A/5833, date of listing: 2012.06.11.

¹⁸ OSSA Wrocław and subsequent workshop were organized by Faculty of Architecture, Wrocław University of Technology students: L. Wolenski, J. Janikowska, M. Romanski, A. Halas, K. Chmielowski, W. Nowak P. Woldan, J. Kisiełewska, J. Turowska; press documentary: OSSA 2013. "Podsumowanie studenckich warsztatów", *Architektura-murator*, 1/ 2014, p. 96.

¹⁹ Note the popularity of books on modern architecture. Filip Springer, *Źle urodzone. Reportaże o architekturze PRL-u*. (Kraków, Karakter, 2012) was the Book of the year 2012 in Poland.

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Renewal, Listing and Democracy

Poul SVERRILD *

Abstract

This paper will present, analyze and discuss a danish modernist housing project in relation to a conflict between renewal, cultural heritage, listing and democracy. It focuses on the challenges in recognizing and protecting heritage values in underprivileged neighborhoods in the segregated city-scape.

“Grenhusene” is described as the most innovative danish social housing project of its period. Experimental in layout, architecture and construction: concrete, prefab., low dense and a new approach to private/public.

The architect Svenn Eske Kristensen designed 158 dwellings with attached joint facilities. The aesthetics of the architecture were based on a danish/scandinavian combination of modernist ideals and functionality with emphasis on the last. S. E. Kristensen, a danish post-war frontrunner in implementing new techniques, scales and functions in housing projects, chose in “Grenhusene” an honest method-communicating design of the facades. Miming the design of medieval nordic wooden buildings he created concrete facades, that visualize the actual construction.

After half a century the buildings face a major renewal. The forthcoming renewal presents a threat to the heritage values, and it has made an evaluation of these values imminent. As a result the building complex has recently been nominated to be nationally listed.

Resting on the proven underrepresentation of listed buildings in danish working-class areas, the paper will discuss the obstacles in the listing process from the national level of legalities over ruling cultural and social prejudices to the local confrontation with tenants democracy and tenants rights.

The listing of “Grenhusene” is a work in progress. The coming process in the Agency will not influence the discussions and the points in the paper, but the result will at a later point inevitably give a new indication to the relative strengths of the stakeholders.

“Grenhusene” is only the second danish listing case concerning social housing projects. The relevance of the case is underlined by the overwhelming wave of renewal projects concerning important postwar modernist buildings due to aging and climate agenda.

1. Introduction

In the working-class suburb Hvidovre west of Copenhagen, the modernist architect Svenn Eske Kristensen (SEK), 1905-2000, designed, in the 1950's, six housing projects together holding just under 2.000 dwellings--ranging from traditional block-design to the very first Danish prefab housing plans. Two projects were for the non-profit housing association, Dansk Almennyttigt Boligselskab (DAB).

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One of these would become the first modern Danish *dense/low* housing project, *Grenhusene* (“the branch houses”, named after their branch-like layout).

2. On “GRENHUSENE”

SEK approached the project start from scratch:

... and I spent a long time pondering; I believed there was a sufficient number of housing blocks out there, and I also thought there was enough terraced houses in the municipality. Then I spent time in the country and could not stop thinking, why don't we construct small houses with a small garden. People don't have the time or strength to take care of a large garden, so what about implementing the system they have in Dragor [*small oldtown near Copenhagen*] and in Vesuv [*probably refers to Pompeii*]. Suddenly one day I sat on the beach with a stick in my hand and made drawings in the sand, which I often did, and all at once I believed I had the idea of *Grenhusene*.² (Fig. 1)

SEK's inspiration from mediterranean and old Danish urban structures led to a layout far from the classic terraced houses or even chain-built houses that were common in the period—a type later to be named *dense/low* [*taet/lav*]. The housing project was planned in 1953 and was published in the weekly architectural magazine *Arkitekten*, but due to financial difficulties the project was postponed for nearly five years.

By then general building technology and layout ideals had developed further, the radical character of the project was less obvious and the novelty was somewhat weakened. Hence the interview with SEK carried out forty years later reveals that *Grenhusene* in the memory of the architect was not as unique, as the project appears today. SEK was now more concerned with the fact that the experimental housing plan had been extremely cheap in construction.

In SEK's attitude we probably find part of the answer to the question, why the project was forgotten in the literature. *Grenhusene* was not treated in the architectural literature until the year 2000, when the project was included in a work dealing with Danish residential dwelling in the 1950's. The writer concludes on *Grenhusene*:

“... *Grenhusene* is a unique housing project which in its modest scale holds an admirable approach - strangely enough it never set the example for other housing projects.”³

And—indeed—in the literature we do not find references to *Grenhusene*, when trying to trace the early roots of Danish *dense/low* housing.⁴

In construction method, materiality, aesthetics, layout and social scope, *Grenhusene* heralded what was to come. The term *dense/low* was



Fig. 1 The first sketch of *Grenhusene* was drawn in the sand on the beach near architect Sverre Pilegaard Kristensen's summer house and captured in a photo. It reveals his inspiration from nature: the branch with individual leaves. Forstads museet



Fig. 2 The layout of *Grenhusene* illustrates the ideas of individual privacy combined with a shared identity of each “branch” within the overall community of the housing project. *Arkitekten* Ugehefte 3, 1955

¹ The description of *Grenhusene* is based on SEK's article in *Arkitekten Ugeskrift* 1955, p17 and in the listing proposal published on www.byogland.dk/fredningogbevaring_fredningsforslag.html

² Quotations from Sverre Pilegaard Kristensen are from *Interview with Sverre Pilegaard Kristensen*, 1989, Forstads museet.

³ Hermann, E.: 50'er boligen - en eksempelsamling, 2000, p 117

³ Hermann, E.: 50'er boligen - en eksempelsamling, 2000, p 117

⁴ Jørgensen, L.B.: *Danmarks Arkitektur - Enfamiliehuset*, 1985, pages 155-58. In this volume of the recognized six volume architectural history of Denmark the writer investigates the efforts to develop new layouts in the post-war housing plans. They are presented as variations of terraced houses, chain-organized houses and court-yard houses, but the focus is on housing projects more traditional in materiality and production than *Grenhusene*. The text points to “Kingohusene” by Jorn Utzon from 1956-60 as the court-yard plan that set the example for the future. This house type was created for a competition in Sweden in 1954 and was therefore nearly simultaneous with Sverre Pilegaard Kristensen's far more radical project in sketch as well as in completion.

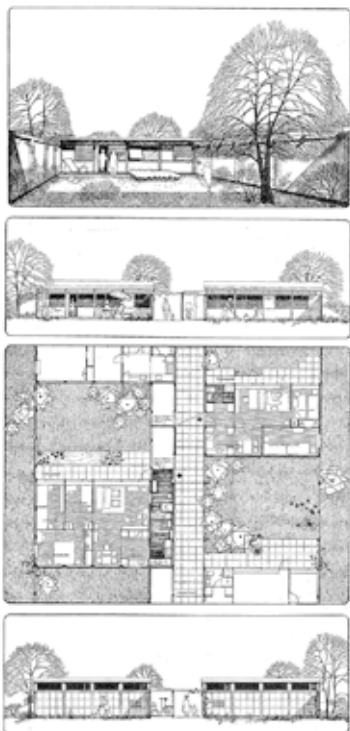


Fig. 3 The perspective of the garden illustrates the intended privacy of the plan. The sketch of the facade of the private garden shows the intimacy of the alley that connects the dwellings on each branch. The pergola over the alley underlines the homeliness. The ground plan gives the idea of repetitive inspiration from the industrial processes behind the building production. Finally, the sketch of the neighboring facade from the garden illustrates how access to light from the back of each house is obtained without risking the privacy of the neighbor's garden. *Arkitekten ugehefte* 3, 1955

non-existent at the time of the project, and SEK himself in his list of works grouped *Grenhusene* with his one-family and terraced houses.⁵ He chose to use the terms terraced and chain-built houses, and found that *Grenhusene* related to the last group.⁶ (**Fig. 2**)

SEK designed 158 dwellings with attached joint facilities: community houses, laundries, garages, garbage handling etc. Integrated shops were planned but not realized. The 85 m² dwellings + 6,5 m² sheds have individual shielded gardens which offer total privacy indoors and outdoors combined with a semi-public meeting-place for the nearest neighbours in the shared walkway. There is no access by car to the individual dwellings, and parking is organized along the main access road that encircles the plan.

As part of the rational planning/construction all the technical installations (pipes, cables etc.) are placed under the alleys, and bathroom, scullery and kitchen is consequently located next to the alley. The inner walls were de-signed as light constructions ready to be moved in accordance with the needs of the inhabitants.

The aesthetics of the architecture were based on a Danish/Scandinavian combination of modernist ideals, regional characteristics and functionality with emphasis on the latter. Being a state-subsidized experimental project there was a demand for the use of the newest materials and technologies, low-cost production and the use of mainly unskilled workers.

Svenn Eske Kristensen designed *Grenhusene* at the same time when he was building the first Danish full scale experimental housing-project nearby using prefabricated concrete slabs, and he used his experiences from this project in a modular grid based on 60 cm units and as a new undertaking he combined the concrete walls with wooden upper parts and light masonite roofs covered with roofing-felt. Masonite was also the material in the light facades in combination with rock-wool insulation whereas the light and moveable partitions were constructed in Svedex.⁷ In a number of ways *Grenhusene* preceded later national building regulations on modular constructions, something which probably had to do with SEK's engagement in the rationalization of building processes on national and Scandinavian levels.

In *Grenhusene* SEK implemented new techniques, scales and functions and chose an honest construction-communicating design, while miming the design of medieval Scandinavian wooden buildings he used prefab slabs to create concrete facades, that visualize the actual construction. In the same way the project presents an experimental approach to inner walls and foundation principles. (**Fig. 3**)

3. On Wear and Renewal

After half a century *Grenhusene* face renewals which the tenants look forward to. Due to the experimental construction principles and consequent use of cheap materials there have been necessary changes made since the first years. The internal walkways were constructed in asphalt but did not last and were substituted by flagstones, and the wooden constructions edging the roofs have been changed into a construction demanding less maintenance.⁸ An additional agenda has been added with the climate challenge that demands new initiatives to reduce energy consumption.

⁵ Kristensen, S.E.: ...et liv i byggeriets tjeneste, n.y. p 188

⁶ Interview with Svenn Eske Kristensen, 1989, *Forstadsmuseet*, p 9

⁷ As note 1

⁸ Interview with Børge Jensen, chairman of the *Grenhusene* Committee, *Forstadsmuseet* 2014

In 2011 the elected representatives of the residents had a report made on the technical state of *Grenhusene* which recommended a number of renovation initiatives: New insulation of the concrete facades, new roofing, insulation of the light wooden facades and new boards along the sides of the roofs. On top of this the tenants' representatives work with plans for mounting solar panels as part of the new roofing.⁹

The renewal plans present a challenge to the heritage values of *Grenhusene* which are grouped around the overall layout, the completely enclosed gar-dens, the traffic-separation, the simplicity and honesty in materials, the communicating construction--all characteristic of the ideals of modernism and the more regional functionalism.¹⁰ (Fig. 4)



Fig. 4 Winter allows an impression of the building-structure whereas the area in summer-time is dominated by trees and bushes that blur the shape and structure and leaves an impression of built parkland. *Forstadsmuseet*.

4. Listing, Social Bias, Democracy and Communication

Grenhusene was proposed for listing at the Danish Heritage Agency in August 2013 but has since been put on standby there. The listing proposal faces at least three main obstacles: cultural bias, legal hindrances and tenants' democracy.

There is a well documented underrepresentation of listed buildings in Danish working-class areas,¹¹ and no Danish non-profit housing project has ever been listed. This has to do with the relatively homogeneous cultural back-ground of the stakeholders in heritage-preservation work. The architects and civil servants engaged in the sector tend to live in the bourgeois suburbs north of Copenhagen or in the inner city and certainly not in the traditional working-class areas west of Copenhagen. This means that the latter areas are relatively unknown to architects, and buildings from this area do not pop up as knee-jerk reaction when examples are sought for in the listing process. *Grenhusene* is solidly placed in a working-class area and furthermore it is a prefabricated concrete slab construction - of which nothing so far has been listed in Denmark.

Furthermore, the listing proposal has demonstrated built-in weaknesses in the listing legislation that seem to prevent non-profit housing associations from receiving tax-reductions equal to other kinds of ownership.

Lastly, listing face the paradoxical situation, that the long fought-for and extensive Danish tenants democracy works as an opponent. In underprivileged areas the economical situation of the tenants combined with the decades of negative mention of prefabricated concrete housing plans leads to automatic resistance to ideas of heritage values in relation to their homes.

The listing proposal was at an early stage discussed with the chairman of the tenants-elected DAB-board but was - by common agreement - not introduced to the local board or the tenants until the proposal was a reality. This approach was chosen in case the listing proposal for some reason should be aborted in-house before completion in the heritage association behind the proposal.

"The board is highly sceptical and several unclarified issues remain. We will contact the association behind the proposal for a dialogue."¹²

This balanced though sceptical reaction

from the board upon being informed reflects the responsible approach by a board led by the chairman.

The local reaction from *Grenhusene* was harsher: "The *Grenhusene* Committee" cannot accept a listing of *Grenhusene*. Necessary renewals will be hindered or more expensive. The tenants' rights of use and influence on their own dwellings will be cut back. It will lead to unnecessary rising rents."¹³ The tenants have the decisive vote on all economic dispositions in the housing plan. (Fig. 5)

The tenants' comments reflect not only their economic conservatism but also the importance of sharing information, which could not be given at the early stages of the work with a listing proposal. Involving the chairman at the early stage was thought of as a safeguarding measure, but it neglected the ground rules in the established tenants' democracy. The fact that the tenants were to hear about it from the

⁹ <https://www.bredalsparken.dk/pdf/beboerblad/beboerblad2013-10.pdf>

¹⁰ The website referred to in note 1.

¹¹ *Politiken* 23.09.2007, article. Sverrild, P.: "Udfordring. Find forstæderne i kulturarven".



Fig. 5 The well-kept and well-preserved alleys of Grenhusene obtain individuality through the decoration created by the tenants. *Forstads museet*

herit-age sites i Denmark in 2007.¹⁴

newspapers before being formally informed led to a final bitter comment on their part: “How can you produce and hand in a listing proposal for a building plan of 158 houses without the knowledge of the dwellers?”

The latest development has been a public meeting, where the heritage values in the non-profit housing was discussed, and where a softening in the tenants’ resistance was heard, and where the Danish Heritage Agency advocated support for the mentioned heritage values and announced more flexibility relating to change and renewal of the buildings.

This attitude has been developing over a period and is part of a new protection-strategy based more on communication, collaboration and persuasion than coercion. This was effectively demonstrated in the Agency’s nomination of the 25 most important industrial

5. Conclusion

The process has just been initiated and it will take cultural, legal and communicative change before proper listing practices without socio-geographical biases can be implemented. As a test case *Grenhusene* illustrates the need for new approaches in order to comprehend and handle the challenges that cultural heritage is facing in a society, where democracy plays a crucial role in all aspects of life. At the same time it illustrates how important it is to relate in an unbiased way to materiality, social and cultural expressions.

¹² https://www.bredalsparken.dk/pdf/bestyrelse/afdbest_15.pdf

¹³ As note 8. Applies also to the tenants’ comment below.

¹⁴ “25 fantastiske industriminder” is the title of the Danish Heritage Agency’s web-site on the most worthy industrial heritage. The challenges in dealing with heritage-protection in functioning industrial sites is in some ways similar to dealing with heritage-protection in large-scale housing in relation to economical and social consequences.

kulturstyrelsen.dk/kulturarv/kommuneogturisme/industrikultur/25fantastiskeindustrier

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A Conservation Policy for Modern University Buildings

Caroline ENGEL *

Abstract

The revolutionary visions of post-war university architecture are in jeopardy. Historic buildings of all ages are continuously under pressure to meet demands for technological newness and to accommodate unforeseen functions, but university buildings must also visually present erudition and innovation. While buildings of 30 years of age, and sometimes those only 10 years old, are listed in Britain, the United States still only lists buildings that were constructed more than 50 years ago. Modern buildings in both countries are commonly seen as intruders on the typical Collegiate Gothic campuses, and over the years, campus administrators have shown their distaste for them through deferred maintenance and ad hoc, temporary repairs. Yet, despite their reputation, a number of universities, like New York University, have begun to address the needs of their post-war architectural heritage through conservation plans.

Whether or not these buildings are deemed 'fit for purpose', the sort of 'compromise conservation' that has been demonstrated through the on-going refurbishment of the modernist George Square Campus at the University of Edinburgh is characteristic of the rather free interpretation of heritage value often applied to these buildings. In the short history the conservation of Modern Movement heritage, have we given up advocating for preservation or are the less iconic modern buildings truly only worthy of refurbishment? Conservation measures should allow for much needed energy-efficiency upgrades, but we must be wary of an acceptance of 'pick & mix' conservation, whereby historic characteristics unsuitable to current tastes are discarded in a trade-off to save others. The modern redevelopment of George Square continues to be regretted by many Edinburgh residents; however, we must address whether full-scale refurbishment is the most appropriate conservation policy for controversial Modern Movement buildings, or if we as professionals are catering too greatly to the business demands of the University at the expense of historical integrity.

Keywords : post-war Architecture, modern movement, conservation theory, refurbishment, rehabilitation

This paper stems from a larger body of research on the development of modern movement conservation in the United States and United Kingdom. In this occasion, the case-study is drawn from current refurbishment work completed or underway at the University of Edinburgh, George Square Campus.

1. Conservation Theory and Advocacy for Modern Heritage in the UK and the US

The conservation of less iconic post-war modern buildings is gaining support across the United Kingdom and the United States, yet modern post-war public buildings and spaces remain a challenge for conservation professionals in terms of appropriation of restoration expenses, the building up of public support for an often long disliked structure and the lack of legislative support for the widening of the preservation agenda.¹ The recent designation of the Peavey Plaza in Minneapolis (M. Paul Friedberg & Partners, 1975) as a National Historic Landmark bodes well to the expanding recognition of modernist heritage, yet the preservation of a post-war university library is still controversial to say the least. The pressure upon universities to keep relevant in time with modern technologies and educational theories is greater than

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those on most other buildings, plus there is great pressure to aesthetically appeal to the students and their guardians. Since the turn of the 21st century, the heritage value of these innovative and ambitious universities have come into the focus of academics and architects, producing documentation such as Stefan Muthesius' extensive study of post-war universities² and the documentation and conferences that resulted from funding provided through the 2006 Getty Foundation Campus Heritage Grants. These studies and the practical need to update facilities have driven a growing number of discussions on what sort of conservation approach should be applied to post-war university buildings, and what level of conservation is appropriate to safeguard their heritage value. As a result of the Getty Campus Heritage Grants programme, New York University developed a campus-wide conservation plan that aimed to not only evaluate and document the architectural heritage within NYU's possession, including post-war apartment buildings and late-20th century commercial buildings, but also to develop management guidelines and 'a rational strategy and schedule for performing necessary preservation work on all of NYU's buildings'.³ It comes as no surprise that all buildings from the 1940s through the 1960s were found to be suffering from poor maintenance. In Theodore Prudon's 2008 publication, *Preservation of Modern Architecture*, he argues that of the four 'treatment approaches' proposed by *The Secretary of Interiors' Standards for the Treatment of Historic Properties*, rehabilitation is the most applicable economically and functionally. 'Preservation', in the traditional sense, is suitable for some iconic, privately owned, modern properties as it promotes the consolidation of original and new materials with an emphasis on accumulated patina. These signs of aging can arguably be seen as incongruous to the design intent of these ultra-modern, eternally new buildings, and Prudon argues that traditional preservation practice may miss the larger significance of the period.⁴ By definition in *The Standards*, rehabilitation emphasises the *process* that created a building over the tangible structural elements, thus, allowing for alterations to improve a building's energy-efficiency. Through this treatment approach, the building's original function may be altered if the change requires minimal modification to the defining characteristics of the building, site or environment. While the approach still values original historic materials and features, it does permit exterior alterations and additions as long as these changes are differentiated but compatible, and can be reversed without negatively impacting the integrity of the original structure.

2. Conservation Policy in Practice:

The Refurbishment Program for the George Square Campus, University of Edinburgh

In post-war Britain, the University was regarded as 'a moral and scientific hothouse' and great financial and legislative support was given toward the expansion of established universities and the development of completely new universities.⁵ Yet, the inner-city expansion of the University of Edinburgh in the 1950s-60s, and the resultant demolition of the historic Georgian buildings, was met with great resistance. Project architect for the on-going refurbishment (or rehabilitation in America) of a number of the post-war university buildings around George Square, Dermot Patterson of LDN Architects LLP, has said that the refurbishment has even proven controversial because many people still regret the day these buildings were built.⁶ This enduring guilt has perhaps played too heavily into the conservation of the George Square Campus, leading to compromises and final results that less than glorify the inventive nature of the original designs. While a formal conservation statement has not been written for the University of Edinburgh, the modern post-war buildings around George

¹ In England, English Heritage and the Royal Institute of British Architects (RIBA) held an exhibition and series of talks entitled Brutal and Beautiful to coincide with the 20 September 2013 listing of four additional modern buildings to the National Heritage List, including a Cold War bunker and a 'High Tech' warehouse in Swindon designed by Lord Norman Foster. Conversely, in Scotland, the controversial Red Road Flats in Glasgow were proposed for demolition by dynamite as a sort of fin-de-siècle for the opening ceremony of the Commonwealth Games in July 2014. Former MSP Carolyn Leckie led the petition (signed by over 17,000 people) against the demolition of some 1100 social housing flats, attacking the ceremony organisers for the callous and vulgar "disrespect displayed by blowing up homes for entertainment". The proposal has since been dropped due to widespread criticism and officially, for health and safety reasons.

² Stefan Muthesius, *The Postwar University : Utopianist Campus and College / Stefan Muthesius* (New Haven, Conn. ; London : Yale University Press, 2001., 2001).

³ LLC Murphy Burnham & Buttrick Architects with Higgins Quasebarth & Partners, *New York University Campus Preservation Plan* (New York: New York University, 2007). P 2.

⁴ Theodore H. M. Prudon, *Preservation of Modern Architecture* (Hoboken, N.J.: Wiley, 2008).

⁵ Clive B. Fenton, "Appleton's Architects : Building the University of Edinburgh (1949-65)" (Non-fiction, University of Edinburgh, 2002). P 3.

⁶ Caroline Engel, "Interview with Dermot Patterson of Ldn Architects, Llp," (Edinburgh: 2013).



Fig. 1 Robert Matthew, Johnson-Marshall & Partners, Adam Ferguson Building, Edinburgh, Scotland, 1965-67, South Elevation - new extension and infill of plinth. Caroline Engel



Fig. 2 Robert Matthew, Johnson-Marshall & Partners, Adam Ferguson Building, Edinburgh, Scotland, 1965-67, Window Pattern. Caroline Engel



Fig. 3 Robert Matthew, Johnson-Marshall & Partners, Adam Ferguson Building, Edinburgh, Scotland, 1965-67, Light Well and Refigured Circulation Pattern. Caroline Engel

Square have been assessed by Historic Scotland and were A-listed as a group in January 2006, with individual buildings of outstanding

value - the Sir Basil Spence designed Main Library and the David Hume Tower designed by Robert Matthew – designated in their own right at Category A (**Fig. 1** shows David Hume Tower standing tall over the Adam Ferguson Building and extension). The Adam Ferguson Building, now the School of Business and the focus of this study, and its matching partner, the William Robertson Building, were both individually listed at Category B, but are considered significant contributors to the grouping and environment. Work by LDN Architects LLP was guided by the listing statements and recommendations of Historic Scotland's Senior Inspector of Historic Buildings, Steven Robb, who worked to ensure that the most appropriate solutions were found for structural and functional shortcomings in the building. Despite the high level of supervision and discussion, the refurbishment has led to some unexpected outcomes.

Improving the energy-efficiency and indoor quality of the building were main concerns of the University and the users of the building. Upon inspection, very little insulation was found in the exterior walls and the timber-frame windows were badly weathered and rotted beyond repair. It was decided by Historic Scotland and LDN Architects that the most suitable option to both improve the thermal functioning and retain historic character was to replace the windows in-kind with new double-glazed, timber-framed windows. The rhythm of the window pattern was deemed more significant than the windows themselves, so this was carefully recreated (**Fig. 2**). To attain the Target Emissions Rating (TER) standard set out by the Scottish Government, the building was tied into one of three University of Edinburgh combined heat and power (CHP) facilities installed around George Square in 2005-06. In the first full year of operation the CHP system cut CO₂ emissions by 1,250 tonnes compared to the emissions of the 50-year-old steam boiler system previously in place.⁷

Greater liberties were taken with the interior, even though interiors can be protected with designation in the UK. This does not necessarily demonstrate a more lax systematic approach to the protection of modern buildings, as some would argue, but it does demonstrate the greater flexibility of the refurbishment approach versus the more strict regulations of a preservation project. The plan had originally been laid out with a circulatory movement pattern, with services clustered at the centre and offices at the exterior. This layout let very little natural light pass further than the rooms bordering the exterior and created an unsatisfactory, unnatural interior space. Planning permission was granted to extend the building upward by one floor and to open up the core of the building with a light well, both reducing the reliance on artificial lighting and improving the comfort of the building (**Fig. 3**). The building was also further opened up and reoriented toward George Square with the addition of a new entrance and additional ground floor glazing where originally there had only been small clerestory windows (**Fig. 4**). The extensive gutting of the interior was permitted by Historic Scotland on grounds that the interior finishes and furnishings were deemed of lower quality than those found in the Category A listed David Hume Tower and Main Library.⁸

⁷ "Edinburgh University Chp & District Energy Facility", Clark Energy <http://www.clarke-energy.com/2011/edinburgh-university-chp-district-energy-facility/> (accessed 30 April 2014).

⁸ *Listing Description: 36 George Square, University of Edinburgh, Arts Faculty, Adam Ferguson Building (Block D)*2006. Ref:50188.

Expansion plans to the south side of the Adam Ferguson Building were guided and legitimised by a 1958 archive drawing by architect Robert Matthew that illustrates a small indeterminate (unbuilt) square building in that location. As it turns out, after construction began, an unfinished passageway was uncovered that would have connected the two buildings. An earlier proposal by LDN Architects for a long, low 2-storey building was rejected for a squatter 3-storey building with a smaller footprint, and though the latter hides more of the façade of the Adam Ferguson Building from a street level viewpoint, Historic Scotland felt that the lower building obscured the Acropolis-like ‘plinth’ upon which the university buildings were ceremoniously raised (**Fig. 4**). Through numerous review meetings with the Edinburgh City Council and Historic Scotland, an extension was agreed upon that satisfied their request for appropriateness in scale and form. Also of note, earlier renderings by LDN Architects depicted the glass box extension with timber fins matching the timber frames of the main building. When and why this design was abandoned for the matte grey metal frame, I cannot say for certain, but in my personal opinion, I feel the timber fins would have been that key element to tie the extension back to the original building in a refined and contemporary way.

In terms of function, the extension seems to satisfy the spatial needs of the users (**Fig. 5**). However, a personal inspection on a bright, spring day found the interior insufferably warm despite the cool outdoor temperature of 9° C (48° F). The thermal inefficiencies of a glass box seem to continue despite the firm’s great efforts with thermal modelling, frosted thermal glass, high-level operable windows and exterior fins. The addition is unmistakably contemporary and fits the widely accepted mantra of ‘different yet compatible’, but one has to question whether the design was driven more by contemporary fashion than material compatibility and sensitivity. This determination to force the old to accommodate the new is evident in the firm’s RIBA profile: ‘LDN Architects is best known for its award-winning approach to conservation blended with creative contemporary design *that recognises that history must be made in the 21st century as well as respected*.⁹ The refurbishment of the Adam Ferguson Building has greatly improved the programmatic functionality, the energy-efficiency and the beauty of the exterior has been carefully restored for at least the next fifty years, however, the wholesale loss of the interior is disorientating and is an example of the growing systematic acceptance of façadism for modern movement buildings.

In general, facadism has been abandoned as a conservation practice in Britain after witnessing the chronological incongruence the practice gave us in the post-modern period, however, in this case, I have to say I agree with Historic Scotland and, in general, with the work of LDN Architects. And that is the point I want to make – there is no prescriptive measures that we can apply cleanly to all of these buildings. In this particular case, there was very little, if anything, worth saving of the original interior; there weren’t any fine finishings or poetic spaces to maintain. Do I think that the architects could have worked harder to create an interior aesthetic less institutional and more on trend with the era of its construction? Yes, but this is what the client wanted and that is often the bottom line. These new interiors can be replaced in 20-30 years, and in time, the new addition may not look so stylistically incongruent. The important thing in this instance is that the distinct pattern of the original strip windows was painstakingly and expertly replicated, and other faults in the main building exterior were remedied



Fig. 4 Robert Matthew, Johnson-Marshall & Partners, Adam Ferguson Building, Edinburgh, Scotland, 1965-67, Academic ‘Plinth’. Caroline Engel



Fig. 5 Robert Matthew, Johnson-Marshall & Partners, Adam Ferguson Building, Edinburgh, Scotland, 1965-67, Extension interior. Caroline Engel

⁹ "Ldn Architects Llp", Royal Institute of British Architects <http://www.rias.org.uk/directory/practices/ldn-architects/> (accessed 1 March 2014). [author’s emphasis]

in a sympathetic fashion. So while refurbishment projects are most often driven by the best intentions, the path to respectful conservation is not clear-cut and we must be mindful of current trends encroaching on our interpretation of significant buildings from our recent past. ‘Compromise conservation’ need not be a faulty venture employed as a means to bypass real heritage conservation, but can, if innovatively and knowledgeably executed, reveal the most significant elements of a historic building for a new era of users.

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Caroline Engel's doctoral research covers the development and evolution of conservation policy for modern movement architecture in the UK and US. She has presented aspects of her research at the IUC Dubrovnik conference, *Our Modern: Re-appropriating Vulnerable XX Century Heritage*, and the APT NYC conference, *Preserving the Metropolis*. She has worked as an architectural conservationist for the Adirondack Architectural Heritage and the Grand Teton National Park, and currently works as editor of the forthcoming journal published by the Scottish Centre of Conservation Studies, *clau (conservation|architecture|urbanism)*. Recently, alongside Dr Miles Glendinning, she coordinated the DOCOMOMO ISC:U+L conference, *Inventorisation of Modern Heritage: Urbanism and Landscape*.

New that becomes Old

Luisa DURAN ROCCA*

Abstract

This paper aims to list the problems concerning the preservation of modern architecture, referring to some Brazilian examples in order to establish a set of intervention guidelines.

According with Brandi's Theory of Restoration, preserving modern architecture is, at first, not different from traditional architecture operations, if both apply to it a work of art value. However, if modern vanguard is indeed in the past, the interval between creation period and intervention period is too short. From there come the difficulties as follows: 1. Confusion between valuing and critics; 2. New that soon becomes old; 3. Incomprehension of modern aesthetics; 4. Relativism on the authenticity of matter; 5. Fragility of the unity, expressed in the total ensemble and when the building is part of a complex; 6. Vulnerability on the spatiality, obstruction of free plan and empty areas; 7. Obsolescence and loss of the value of use; 8. Authorship of the intervention; 9. Preservation of documentation of recent architecture and 10. Absence of education on modern heritage preservation.

As in all immovable heritage, it is impossible to approach the complexity embedded in valuation and conservation of modern architecture if based in nostalgic excerpts that aim the preservation of the *historical document / work of art*, without the commitment to the vitality of spatial enjoyment, an inherent function of architecture. The true assurance of the permanence of recent buildings and spaces - without having chronology characterizing them as antiques and beholders of an aesthetic misunderstood by most - lies in their adaptation to today's needs, through the review and reformulation of uses, compatible with their materiality, spatiality, character and capacity, satisfying universal accessibility, environmental and technological demands.

How to preserve and reinsert, in the present dynamics, buildings that in a small time span, were built, used and degraded? It's impossible (and absurd!) to conserve everything; however, today's ordinary may tomorrow be meaningful. Aiming to establish a set of intervention guidelines, this work lists the problems concerning the preservation of modern architecture, referring to certain Brazilian examples.

Interventions in modern architecture polarize between the unjustifiable disappearing of quality exemplars and doubtful reconstructions (Hernandez, 2008). Since the 1980s, with globalization and the acceptance of the geographic and cultural differences, the Charters of Burra (1980) and Nara (1994) relativize and dinamize the concepts of cultural significance and authenticity of matter respectively. In consequence, the idea that *each case is different* becomes acceptable.

Brandi's Theory of Restoration, published in 1963 influences Mediterranean countries and Latin America; however, it (...) *has largely been absent from Anglo-American conservation discourse* (Ciccone, 2007, p.X), partly because its translation to English didn't occur until 2005. As a consequence, the Latin world values the authenticity of matter, whilst the Anglo-



Fig. 1 San Francisco Church. Pampulha, Belo Horizonte. L. Durn, 2013

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Saxon context emphasizes the interpretation of the idea.

I think that the initial point for preservation modern architecture is to recognize its artistic value, according with Brandi's theory. At the start, intervening on modern architecture shouldn't be different from doing so on traditional architecture, if both are works of art; however, when considering the modern as part of the past, the interval between time of creation and time of intervention is too short. From there come the following difficulties:

1. Confusion between valuing and critics



Fig. 2 Casa do Povo, Vacaria, before restoration.
L. Dum, 2009

Valuing and critics are different, but they are necessarily complementary. Valuing depends on the subject-object relationship, its cultural context and does not necessarily comprehends critical approaches. Caballero (2010) explains that each valuing exercise has the potential to promote changes on the frame. Modern architecture emphasizes the *object* by reinforcing the values related to its material configuration and quality, while traditional buildings generally underline the historical value. This confusion must be avoided, so as not to emphasize the singularity and authorship beyond the representative aspect and diminish the qualities of great built masses from a more anonymous and local modernity.

2. New that becomes Old

Modern architecture represents a recent past, It isn't new and it isn't *antique*. As if it were built to be forever new and never become old. What on traditional buildings is *patina*, on modern architecture – with few exceptions – is *dirt*.

Pevsner (2001) claims that it's frequent for immediate generations to dismantle their parent's belongings and latter, grandchildren are responsible for revaluing them. A possible explanation is that they see them as a sentimental heritage. Interventions such as Viipuri's Lybrary (Vyborg, now Denmark) and the Farnsworth House (Plano, Illinois, USA) were carried by the grandchildren of Aalto and Mies, respectively. In Brazil, the intervention of Carlos Eduardo Warchavchik – Gregori Warchavchik's grandson – stands out, from the acquisition to restoration and re-functioning of the Modern House at Itápolis Street (São Paulo, SP). Claudia Santana Werneck's restores the external panels to the Niemeyer's São Francisco da Pampulha Church (1943, Belo Horizonte - MG), made by her grandfather Paulo Werneck.

3. The incomprehension of modern aesthetics

Modern architecture interventions are in most cases, conditioned by cultural and institutional frames that privilege figurative aspects. We can see the persistence of figuration and the incomprehension of modern aesthetics by the great majority. The matter becomes more complex when the modern aesthetics is put against ideologies. Blumm (2009) analyses the transformations of modern buildings during the Nazi hegemony, and concludes that the return of figuration is in tune with the ideology. In Brazil, Niemeyer's Pampulha Church wasn't used at first, because the responsible cleric thought that its sophisticated lines are inconvenient for religious ceremonies. When it was registered in 1947, Lucio Costa mentioned it was (...) *in a precocious state of ruin (...) due to certain building defects and the abandonment doomed it*. (In: Pessoa, 1999, p. 67-68).

By comparing the percentage of modern movement properties registered as cultural heritage and the total of protected pieces, the previous are few – which corroborates the privilege given to traditional and/or antique architecture in comparison to modern. Of the 759 cultural sites registered through 2013 on the World Heritage List, 34 belong to the 20th century. Off these 34, only 15 belong to the modern vanguard, none of them from Le Corbusier, Wright or Aalto; one from Mies, perhaps not the most representative.

Brazil's situation is special. Modern buildings were legally protected soon after concluded. In 1947 the first national level registry was made: the Church of São Francisco, part of the Pampulha Complex. The Ministry of Education and Culture building (MEC, Rio de Janeiro, 1937 – 1943) was also registered five years after completion. Brasilia was in fact born preserved. On June 15th 1960, two months after inauguration, President Kubitschek requested SPHAN (National Secretary of Historical and Artistic Heritage) secretary, Rodrigo Melo

Franco de Andrade the protection of the new capital's Pilot Plan. National registry of the urban ensemble occurred only in 1990 – curiously after Brasilia's inclusion on UNESCO's World Heritage List (1987). However modern architecture's recognition is minimal in comparison to the total of registered pieces. Of 1007 immovable objects under IPHAN's protection – 97 historical sites and 910 individual buildings – only 10 modern pieces are registered.

4. Authenticity of Matter

Materiality, according to Brandi's theory, is composed by *structure* and *aspect*. In modern architecture they're usually associated, and therefore structure must be kept within its static behavior and appearance, without being modified or hidden to maintain the honesty of its form-structure relationship.

The conservation or not of materials and/or industrialized systems that are today dated, that suffered from precocious aging or obsolescence, causes problems for the preservation of the aspect. Many times its preservation demands the recovery of an interrupted process or outdated machine, whereas while acting upon traditional architecture depends mainly on the quality of the material to be used and the working force needed.

The poor execution because of lack of detailing or wrong work compromises the *materiality*. Niemeyer's works such as the Pampulha Church and the Casa do Povo (Vacaria – RS, 1985) are examples. On the first, three of the concrete expansion joints weren't made, and were added on the 1990 and 2005 interventions. On the second, discussions between the architect and the working team (Municipality of Vacaria) reached a point when Niemeyer refused authorship. In 2011's restoration, a part attached to the circular building, a barbecue area, was demolished and rebuilt.

To that, modern materials are considered to be of poor durability and there is a low level of knowledge about its performance and conservation. MacDonald (2003) says modern buildings need restoration after 50 years, while traditional architecture needs it from 100 to 120 years on. The author confirms that around 40% of the problems come from mistakes from the design's conception period.

5. Unity

The recovery of the *potential unit*, according to Brandi's theory is fundamental in every restoration. Unity expressed in the total ensemble and when the work is part of a complex set.

The review of recent interventions shows how fragile the total ensemble is. The restoration of main residential building on the *Pedregulho* (Affonso Reidy, Rio de Janeiro, 1946 – 1952), and the mentioned restoration of the Pampulha Church are insufficient if there aren't adjustment of urban legislation and an appropriate plan for the recovery of other elements. At Pampulha, the registry wasn't extended to the whole complex (Casino, Dance hall and Yacht Club) until 1997; the rehabilitation of urban context and landscape is still in the process of being undertaken, as well as the decontamination of the lake is urgent. At Pedregulho the requalification of interstitial spaces between buildings and local accessibility are priorities.

6. Spatiality

As in every estate, a modern building is indissolubly connected to a site, and is therefore unique and non-reproducible. Whether it is a single work or a serial one, at the moment it is built its setting determines a dynamic relationship, however inseparable from its surroundings.

Concerning internal configurations, layout modifications must be reversible, respecting the inherent adaptability of the free plan; empty areas must remain as such as well.

A walk in any city corroborates the vulnerability of modern architecture, its context and internal layout. The free plan isn't free, *piloti*, terraces and gardens are occupied, the void and context being obstructed, interspaces are closed, without mentioning additions with pretense intentions of ornament and publicity or security demands.



Fig. 3 Pedregulho Complex. Rio de Janeiro

7. The value of use

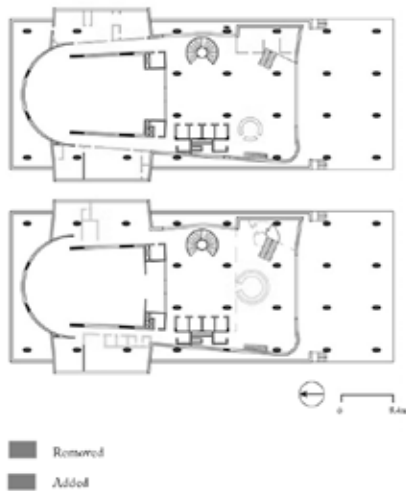


Fig. 4 Palace of Justice Porto Alegre. 1st floor plan

As in any building, the compatible and measured use is always guaranty of conservation. In modern architecture there's often a functional obsolescence due to the overrating of the program, since its creation phase, principally in residential projects. Houses were designed for bigger families and with substantially different program elements than nowadays. The only likely destiny for the masters of architecture's dwellings are *museum houses*, which is unsustainable. For the great mass houses, creative alternatives must be given to adapt them to current demands.

It is also important to solve systems of comfort (air-conditioning), accessibility (elevators), electrical networks, equipment and other issues, obsolete due to technology progress. Most restorations eliminate and replace old systems for more efficient ones, with reduced energy consumption. However, within a longer time span, those can become destructive interventions of technological memory.

8. Authorship

This is a polemic aspect that involves several questions: how to value works of living authors without favoring and overrating their production, while preserving or intervening on it without interfering with the authorship? Two possible ethical issues are: first, that one generation shouldn't build and award its own cultural production, rendering necessary a time span for the full understanding; second, that when an architectural piece is registered, its restoration shouldn't be carried out by the same architect that created it, to avoid the temptation of extending the creation phase. On Niemeyer's works, Pampulha and Casa do Povo, he collaborated on the restoration discussions, but wasn't directly responsible for it. On the contrary, the restoration/conclusion(?) of the Palace of Justice of Porto Alegre - Carlos Maximiliano Fayet and Fernando Corona's (1952) - remained unfinished until 2002, when it was registered at the national level. At the time it already required modifications and conservation interventions. The works were carried out by Fayet himself. Despite the technical quality of the intervention, the question remains, in the terms of Brandi, whether it was creation or restoration.

9. Documentation

The existence of documentation is a positive point in preservation on modern buildings if comparing it with the resources of traditional architecture, often incomplete. However, aside from archives of iconic examples, in institutions and specific foundations, the production of most 20th century architects - with less known or more ordinary works is highly threatened, for it doesn't have the needed age to be treated as historical documents or the available space for its preservation.

10. Teaching and Heritage Education

Schools of architecture and engineering teach how to build, but rarely how to preserve modern architecture. The lack of regular maintenance is more evident on modern than traditional heritage. Whether in private or public properties, costs for regular maintenance are rarely foreseen; deficient technical resources and even ignorance irreversibly damage buildings.

11. Conclusions

As in all architectural heritage, preservation of modern buildings and complexes should foresee adaptation to current demands, through the revision of original activities or addition of new ones, compatible with their configuration, character and structural capacity, fulfilling accessibility, climate, new technologies and security requirements. One must consider what can be done to preserve modern architecture

according to its understandings and ideals. From then on, proposing levels of intervention – between conservation and partial reconstruction – balanced between preserving their authenticity and the meaning of their designs.

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Conservation as a Counter-Act of Innovation The Amsterdam Bijlmer Neighbourhood as a Contested Field of Experimentation

Marieke KUIPERS *

Abstract

The story of the post-war neighbourhood 'Bijlmer' of Amsterdam, built 1966-1975 and in on-going renewal since 1986, is full of controversies and dramatic changes. It was conceived as the ideal materialisation of CIAM's Functional City model with a strict separation of functions and meant for about 100,000 residents. The first aim was to provide a quick response to the immense need of rented dwellings for workers and middle class families for a reasonable price. In practice, however, the Bijlmer resulted in a continuous field of experimentation in multicultural living (with about 150 nationalities) in a large scale urban structure. The neighbourhood received a bad reputation in the 1980s and 1990s, it was regarded a 'no go area'.

A great disaster happened in 1992 when an El-Al aircraft crashed and hit one tower block, causing the death of 43 victims. This tragic event was the trigger for drastic urban renewal. Like a boomerang, the modernist slogans that had promoted the replacement of old 'outdated' houses by new urban quarters, now came back to the high-rise blocks. Again, the Bijlmer proved a good testing ground, due to protests from local artists and other residents with sympathy for the ideals of the Modern Movement. Successfully, they proposed to create a 'Bijlmer museum' as a living urban laboratory and to start renovation instead of total removal and replacement.

This paper will explore these recent experiments in urban – and partly concrete – conservation as counter-acts of innovation, which will have also a great impact on other practices of architectural design and urban renewal of modernist built heritage.

Keywords : functional city, post-colonial immigration, post-modern transformation, innovative intervention.

1. Utopian Ideals versus Practical Realities

The post-war neighbourhood Bijlmer was designed as the modernest New Town in the reclaimed land of the Bijlmermeer polder South East of Amsterdam. This location of about 230 hectares was not included in the functionalist *Algemeen Uitbreidings Plan* (AUP, General Extension Plan) of 1934-1935, simply because it was outside the existing administrative territories of the national capital. In the 1958 revision of the AUP, the projection of a south eastern 'city lob' appeared for the first time and it became the stake of both regional and national conflicts of administrative powers.

A special procedure was needed to obtain this rural area from the – non-adjacent – municipality Weesperkarspel, at a distance of about 7,5 km from the historic core of Amsterdam, and to transform it into a Corbusian 'City of the Future'. The central government of the Netherlands was not in favour of the intended growth of Amsterdam to 900,000 or 1 million inhabitants, which would make the 'red' (socialist) city even more dominant than it was already. Yet, practical preparations were made for the creation of a metropolitan enclave based on various ideals of 'makeability': construction site, society and behaviour.¹ According to the Dutch standards, this single urban extension project was of unprecedented proportions and thus risky.

The main urban planner was Siegfried Nassuth (1922-2005), born and raised in the Dutch Indies but trained as an architect-urbanist at

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the Delft School of Technology in the 1950s. Two of his (parttime) professors were directly involved in the design of the AUP: Cor van Eesteren (1897-1988) and Theo van Lohuizen (1890-1956). Van Eesteren was not only Head of the municipal division of Urban Development (*Stadsontwikkeling, SO*) of the Public Works department at Amsterdam (1929-1959) but also chair of CIAM from 1934 till 1947. He was a strong promoter of the modernist ideal of the 'Functional City' and its spatial separation of living, working, traffic and leisure.² No wonder, then, that Nassuth found common ground when he entered the Amsterdam SO in 1959, although Van Eesteren had just retired and his colleague Co Mulder had become his successor.³ Three years later Nassuth was appointed head of the planning team for the urban extension project 'Bijlmermeer' (or Bijlmer in short), which was intended as an improved and enlarged version of the Western Garden Cities of the AUP.⁴ One of the newest ideas – inspired by the French urban extension Toulouse-Le Mirail (1961-71) – was to create a green 'car-free' city, where traffic was hierarchally organized with separate roads for cars, bicycles and pedestrians and where a new metro-line would connect it with the core of Amsterdam. The elevated structures for fast traffic, built in concrete, were intended as the major supporters of the urban structure. According to the 'Principles and norms for the south-eastern urban extension', publicly presented in 1965, the fast growth of both population and traffic justified the creation of a large-scale 'City of Tomorrow' with collective amenities and a high degree of standardization.⁵

Apart from Nassuth's personal ideology of egalitarianism, there was also a technical reason for the final result of 30 almost identical high-rise apartment buildings of 11 levels with access balconies (*galerijflats*) and average 110 m long, consisting of circa 40,000 units in total. The Ministry of Housing, which provided national grants for social housing estates on the base of the Housing Act, had made contractual arrangements with two new construction firms that specialised in industrialized housing, Intervam and Indeco-Coignet, for 13,000 units each. Both firms applied prefabricated systems of large concrete elements and they wanted a guarantee of a series of commissions for the annual construction of at least 1,000 units to reach the financial break-even points of their prior investments (including also the building of new factories for the production of the elements). They forced an inversion of the common practice by taking the lead of the design and production process, after which the architects and housing corporations became involved in the final fine-tuning and financing.⁶ So the municipal Housing Department was constantly struggling with *faits accomplis* before the architects could really develop detailed designs for the dwelling units. Moreover, it was confronted with increasing costs, which led to higher rents and less facilities. Another pressure was the political emphasis on a speedy production in order to tackle both the housing shortage and the risk of unemployment of the construction workers.⁷

As a consequence, the design of the dwelling units was strongly influenced by a 'technocratic' approach that made the social ideals of collectivity and equality subordinate to the business requirements of economy and efficiency. The elongated bent flat blocks were arranged in a honey comb-like lay-out around public greens but these megastructures were basically all stand-alones due to the blind storage plinths.

2. Unforeseen Effects of Expansion and Decolonization

The utopian 'paradise for everyone', as the Bijlmer was intended by the Amsterdam SO team and the responsible socialist politicians, was anyhow a 'top-down' affair in which the supposed future residents had no voice at all. Nevertheless, the decision was made that the rented apartments would mainly serve for families with children and be much larger (100m²) than the existing units in the 'old' city. The level of comfort inside the units would be much higher than usual (e.g. central heating, double glazed windows, shower, kitchen with sufficient space for a washing machine and a fridge, garbage disposer as well as a 'play hall' for the children), but outside all extra's were skipped or reduced (e.g. elevators for 90 units).

Meanwhile, various external factors and too optimist taxations led to new difficulties for the full realisation of the intended 'City of the Future'. For instance, the projected metro line and shopping centre were not completed before the 1980s, whereas the brutalist car parkings – connected by tubular walkways with the access balconies of the flats – were often used for other practices, criminal as well as cultural. Another important factor was the competing supply of new housing schemes in satellites like Purmerend, Almere and Lelystad, which most middle class families found more attractive than the monotonous and large-scale Bijlmer flats. Hundreds of units remained vacant, others were occupied by target groups that were not envisaged, particularly people without children, who had hardly any choice to find an affordable apartment in the existing city.

Totally unforeseen was the massive migration of people from Surinam, a Dutch colony of the West-Indies that was officially decolonized in 1975. Many Surinam families decided not to stay in the independent nation but tried to take a share in the wealth of the former 'motherland'.

Enabled by a direct flight connection and national grants, they settled in the brand new neighbourhood of the Bijlmer, that was originally meant for typical orderly ways of urban living. Other immigrants from non-European countries as well as from the Antilles (still West-Indies colonies of the Netherlands) followed and made the Bijlmer a multi-ethnic melting pot of people who could hardly communicate with each other. The strong 'total control' that was presumed in the planning process, was absolutely lacking in the post-occupancy phases. Instead of the ideal modernist city, the Bijlmer had become synonymous with a multiple 'problem district' dominated by crime, unemployment, trash and tensions between different communities. All had different views on the future.⁸

3. Demolition versus Adaptation

The Bijlmer flats were partly named after the historical farm steds (*hoeve*) in the area that had been removed for the urban project, such as 'Gliphoeve' and 'Grubbehoeve' (hence the G-district). They were owned by 13 different housing corporations, representing various Christian or socialist communities, which had hoped to benefit from the town extension, but in vain. In 1983 they were pressed to merge into one huge corporation called 'Nieuw Amsterdam' and to lower the rents, because 25 % of the flats were vacant, but the fusion failed. Gliphoeve had become the informal outpost of Surinam immigrants, no 'white' people wanted to stay or to start there and they preferred to move elsewhere.

In response to the existing – mainly social – problems, dozens of inquiries and meetings had been held, but only relatively simple interventions were made in the 'hardware', such as applying bright colours on the grey concrete parapets, splitting a number of units and removing some of the abused parking garages. Three years later, the first propositions were suggested, by the Working party 'Future of the Bijlmermeer', for demolishing the flats. This reaction was partly in line with the previous propaganda of the Modern Movement for slum clearance but at odds with their basic ideas of modern metropolitan urbanism, because the flats were just two decades old and technically sound. The total removal was meant for replacement by low-rise post-modern dwellings for a higher segment of the dwelling market in contrast to the social housing that had been the base of the Bijlmer project.

Precisely the most radical architect of the new post-war generation, Rem Koolhaas (not yet as famous as today), was invited by Nan Raap, Head of the Housing Department at the time, to draft a design for urban regeneration in 1985-86. Koolhaas appreciated the urban structure 'as strong as Stonehenge' and believed 'the Bijlmermeer to be robust, even monumental' but at the same time he noticed a lack of truly urban facilities. To his opinion, the possibility of modern architecture was yet not exhausted and so he proposed the insertion of a new *Bijlmerstrip* parallel to the Bijlmerdreef with huge commercial and cultural buildings on the ground-level alternated by new tower blocks with apartments along the crossing Gooisedreef. Predictably, his ideas met resistance because of the large investments that would be needed while the real problems in the flats remained unsolved at the short term.

However, both Koolhaas' studies and the first demolitions of tower blocks evoked a renewed interest in the origins and qualities of the Bijlmer. Public debates between the 'anti-Bijlmer' protagonists and the 'Bijlmer believers' were followed by new initiatives to restructure the neighbourhood. For this ambitious goal the project bureau *Vernieuwing Bijlmer* was installed in 1992 and it started a phased approach of renewing relatively small entities instead of an all-over master planning strategy. In the fall of the same year, the sudden aviation accident of



Fig. 1 Overview of the 'Bijlmer museum' at Amsterdam with partly renovated Grubbehoeve, elevated infrastructure and giant M'Aisa (Mother Earth, Chaim Oren). (Photo: Marieke Kuipers 92011).

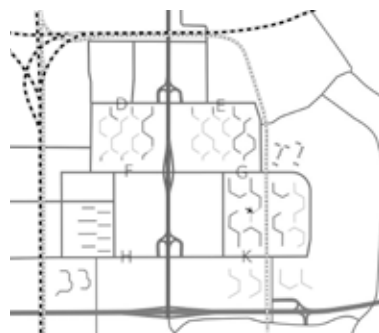


Fig. 2 Demolition map of the Bijlmer: grey demolished, red: remaining high-rise, black: spot of the 1992 air crash, other colours: differentiated infrastructure. Source: Wikipedia.



Fig. 3 Aerial view of the initial phase of the Bijlmer neighbourhood. Source: www.Erfgoedstem.nl/behoud-laatste-originele-bijlmerflat-dichterbij/ (Photo by Dienst Stadsontwikkeling, Amsterdam)

the cargo airplane that hit the blocks Groeneveen and Klein-Kruitberg had directly destroyed 50 dwellings. In addition, 220 other dwellings had to be demolished, too, because of serious damage. The disaster led not only to a broad support of the Dutch society for the inhabitants but gave also a great boost to the radical restructuring plans that were already under preparation (and the renaming of the neighbourhood as Amsterdam South East). It also revealed many socio-cultural differences between the groups of occupants.⁹ The tragedy brought, finally, a positive turn when in 1996 a monument was inaugurated near ‘the tree that had witnessed all’.¹⁰ Moreover, Nassuth, already retired, received the 1998 oeuvre Award for his prolific ideas, in fact the urban design of the Bijlmer neighbourhood. By then, the massive demolition of dwellings and even parts of the elevated traffic roads for radical replacement was at its heydays but, also, a substantial start was made with the addition of new urban facilities for the whole of Amsterdam South East, as if Nassuth’s dreams would come true, at last.¹¹

4. Innovative Counteracts

In the 1990s, some (autochton) tenants came in action against the propositions of radical renewal because they believed in the potentials of the urban concept as a ‘high-rise city in the green’. They wanted to preserve the basics of the ‘hardware’ and to find alternative solutions to improve the social problems (such as ‘flat guards’ and partial re-use) instead of demolition and densification by means of low-rise terraced housing schemes with normal streets. With their informal concept of a ‘Bijlmer museum’, these Bijlmer believers pleaded to keep at least one honeycomb ensemble of six more or less original high-rise blocks with the public green as a living urban laboratory in order to preserve a characteristic part of the unique urban lay-out and its hardware in combination with pragmatic solutions for the social problems. The flat blocks were too young (less than 50 years) for any act of official conservation based on the Dutch Historic Buildings and Monuments Act and in those years the protection and conservation of the modern interwar housing estates had just started.

Since other legislation to prevent demolition was (and still is) not available in the Netherlands, the activists adopted the museum concept as a strategic tool to convince the decision-makers and suggested the old GK-quadrant, the most beautiful part of the Bijlmer, as the future museum site to be preserved as a lived-in example of modernist urbanism. In addition, two renters initiated the project ‘Buy your own Bijlmer’ unit, as another tool to counteract the corporation and its replacement plans. For this purpose, they managed to create a collective of interested ‘believers’ and to acquire a part of the Grubbehoeve for less radical interventions.¹² The firm CASA architects was commissioned to provide designs for the re-use of the two levels high plinth for living and workshops, while keeping some of the characteristic features, such as a part of the original ‘dry walkway’ (*droogloop*) and a collective space.¹³

In the so-called F-district, a different approach was practised under the supervision of urbanist Rein Geurtsen, who was commissioned by the local authorities to draft a plan of urban renewal and inspired by the model of the ‘Villa Parisien’: small districts which became incorporated in larger urban blocks. The architectural firm Van Schagen, involved for the renewal of the high-rise flat block Florijn, is specialized in the challenge of the existing. It started with a series of basic questions before developing an architectural concept for the intended interventions by means of ‘research by design’, specially for the adaptation of the plinth and the connection with the new low-rise houses to the design of another architect (Roelf Steenhuis). Step by step the idea of a two-level extension by patio-dwellings came into being. Initially termed as a project of ‘offensive of despair’, it was, after realisation, applauded as an intelligent act of repair, or rather an actualised reinterpretation of the original idea by Nassuth.¹⁴

After all adaptation in and around the Bijlmer flat blocks – including also the execution of a huge urban program of non-residential functions, varying from an academic hospital to the ArenA stadium, a cinema and office tower blocks– Kleiburg remained as the last more or less ‘original’ flat block. A new counteract of joined forces led to the relatively new phenomenon of the so-called klusflat (refurbish your own apartment), by which 500 apartments were for sale to interested starters or deemed to be torn down. The specially created consortium ‘De Flat’ promised the starkly furnished units for a low price

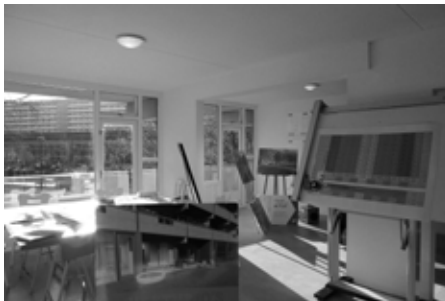


Fig. 4 Florijn after the recent intervention by Van Schagen architects. Source: www.architectuur-fotograaf.eu. (Photo by Dirk Verwoerd)



Fig. 5 Kleiburg, interior of the so-called kijkstudio (look studio) of the ‘Refurbish-yourself-flat’. (Photo by Hielkje Zijlstra, 2013)

provided that there would be enough (70 %) buyers before the 1st of July, 2013. The consortium would renovate the exterior (window frames and double glass, access balconies, elevators), the new private owners were allowed to create their own living over the full depth of 10 m by removing partition walls or making others or joining apartments above or besides each other.¹⁵ Similar initiatives in Rotterdam seemed the source of inspiration, but in fact, the basic idea of free adaptation of an existing hardware structure was already proclaimed by architect-philosopher John Habraken in the 1960s when the Bijlmer was built. Habraken (born in Bandoeng, 1928, in the former Dutch Indies, trained at Delft and professor at the Technical University at Eindhoven and MIT at Cambridge, Massachusetts) published his seminal theory on resident's participation in 1961, *De dragers en de mensen*, translated in 1972 as 'Supports, an Alternative to Mass Housing'. His main interest was to research and develop methods for the design and construction of adaptable housing for the millions.¹⁶ Whereas Habraken concentrated on the redesign of each individual unit, the Klusflat model allows for new combinations and adaptations, that previously were difficult to realise, due to the technical limitations of the original building structure.¹⁷

In conclusion, the recent counteracts of informed and careful architectural interventions are, in my opinion, the optimal approaches for the preservation of such large urban units as the Bijlmer and will really support the further evolution as a mixed metropolitan neighbourhood, if not the rejuvenated 'City of the Future' 2.0.

Notes

¹ Mentzel 1989, p. 127-192.

² Mentzel 1989, p. 39-76.

³ Ir. Jacoba (Co) Helena Mulder (1900-1988), graduated in 1926 at Delft as one of the first female architects, had collaborated with Van Eesteren on drafting the AUP. She was the driving force behind 'open court' structures (*hoven*). Preferring differentiation, she criticized the typological uniformity and immense scale of the Bijlmer project, but she could not prevent the high degree of standardization, due to all other controversies that complicated the creation and realisation of the extension; Kessel & Palstra 1994; Bolten & Meijer 1981, p. 259-265.

⁴ Velden 1968, p. 148-154.

⁵ Bolte & Meijer 1981, p. 192-242.

⁶ Mentzel 1989, p. 197-204.

⁷ Bolten & Meijer 1981, p. 243-345. Another pre-fab system that was applied (for 4,000 units) was ERA (*Eesteren Rationele Aanpak*), developed by construction firm J.P. van Eesteren (led by Cor van Eesteren's brother); Priemus & van Elk 11.13, 12.4 and 12.6.

⁸ Wassenberg 1990 and 2013.

⁹ Bruijne et al. 2010; Zandvliet 2012; Wassenberg 2013.

¹⁰ This meaningful site, designed by Herman Hertzberger and his daughter Akelei, consists of a wall with texts, tables and benches and a 'tapestry mosaic' of 2,000 tiles painted by relatives and friends of the victims in a collective effort to commemorate (see: www.buitenbeeldinbeeld.nl/Amsterdam_ZO/Bijlmermonument.htm).

¹¹ Stralen 1998.

¹² Initiators were Bernadette de Wit and Henno Eggenkamp; www.bijlmermuseum.nl/geschiedenis.

¹³ The multi-purpose project Grubbehoeve received two awards in 2009; www.casa-architecten.nl/attachments/469%20Grubbehoeve%281%29%281%29.pdf.

¹⁴ Schagen 2009, p. 84-99.

¹⁵ Stam, J. 'Klusflat als sociaal cement voor de Bijlmer'. In: De Volkskrant d.d. March, 4, 2013; www.klusflat.nl.

¹⁶ Bosma 2000; www.habraken.org.

¹⁷ The author wishes to thank here her TU colleague Lidwine Spoormans at the Heritage and Architecture section for this observation.

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Urban Design Issues in Brasilia: Streets or Roads and the Fight Against Topography

José GALBINSKI *

Abstract

This paper focuses on Brasilia's public spaces, with emphasis on the streets and the "superblocks" as they stand today. Superblocks are residential areas (270 x 270m) comprised of six story plus pilotis, high-rise condominiums. This study is based on data collected on site, with no purpose of creating a new interpretation or formulating a new urban theory of Brasilia. The objective is to improve the existing public spaces, aiming to promote and stimulate the use and the welfare of people and, at the same time, to preserve and enhance the city's unquestionable merits and values, recognized by the Cultural Heritage Nomination-UNESCO (1987).

Lucio Costa was the winner of the nation wide architectural competition for the Brasilia's Pilot Plan (BPP). The BPP was implemented not as pilot plans as the name indicated, but, to some extent, as something finished, final, untouchable, which inspired deep veneration and sacredness. The idea of its sacredness remains through time until the present. In a recent article Maria Elisa Costa, his daughter and a well-known spokesperson reveals: "Brasilia was born ready, as Minerva and was located exactly so, as it was conceived". In a late text by Lucio Costa about Brasilia "what is needed now is to understand it", as if the city contained a content to be discovered, which could explain her sacredness. The origins of this idea go back to the Report of the BPP where, the second paragraph reads: "... (I) just present a possible solution which was not sought but emerged, so to speak, ready-made". In the 3rd paragraph the Author says "... despite the original spontaneity, she was then strongly considered and resolved", confirming the earlier statement of a finished product. Brasilia is located on the western side of Lake Paranoa basin where the topography has a gentle slope. However, when we look closely at what happens at the ground level, in the streets and superblocks, we are surprised. In Brazilian cities, like the rest of the world, the buildings adapt to the urban topography, in Brasilia a struggle occurs between topography and the buildings which creates urban disturbances.

Keywords : public space, street, via, road, sidewalks

1. Introduction

Lucio Costa was the winner of the Brazilian nation wide architectural competition for the Pilot Plan of Brasilia (PPB) in 1957. After more than 50 years, since inauguration, Brasilia today reached its fullness as a city and faces local urban planning problems that call for action. The time has come to understand the origins of the problems and to confront them.

This paper focuses on Brasilia's public spaces, with an emphasis on the streets and sidewalks, and on the residential superblocks' *pilotis*, as they stand today. In spite of the urgency of these problems, they were considered of minor importance up to now. These are issues that affect citizens' day-to-day lives, such as dangerously paved and uneven sidewalks making it hard for pedestrians to walk, and those that severely hamper local traffic flow, as well as other problems related to the *pilotis* in the superblocks. This is the smallest urban planning scale, but it should be said, it is not less important.

This study is based on data collected on site, with the purpose of providing positive critique and solutions to the issues at hand. There is a

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deep understanding and respect for the original urban theory concerning the design of Brasília. The objective of this study is to improve the existing public spaces, aiming to promote the welfare of the people and, at the same time, to preserve and enhance the city's unquestionable merits and values, recognized by the Cultural Heritage Nomination-UNESCO (1987).

The paper is based on a research conducted by the author, with the participation of 25 students of the School of Architecture, University Center of Brasília-UniCEUB.

2. The Design Process

Didactically described in the presentation text of the Report of the Pilot Plan of Brasília (PPB), Lucio Costa conceived in the first place two main axes, contained in an equilateral triangle (**Fig.1**). Similar to a regulatory scheme of an ideal city in a tradition dating back to Vitruvius and of widespread use during the Renaissance with Alberti, Filarete, Scamozzi, Cataneo, among others.

The theme of the equilateral triangle appears again in the composition of the Three Powers Square (Praça dos Três Poderes), the symbolic place where there is a convergence of the buildings for the Congress, the Supreme Court, and the office of the President, “linked to architecture from ancient times, the correct elementary form for such an important buildings.” (Costa, item 9). The residential areas were located along the arched axis, the “axis with circulatory function” (Costa, item 3). Imbued of modernist theses, the next step “... was intended to apply the technical principles of traffic”, continuing with the description of the “general network of automobile traffic” (Costa, item 8, emphasis added).

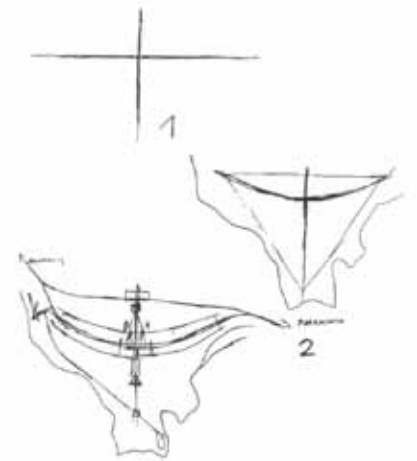


Fig. 1 Lucio Costa's croquis, Pilot Plan Brasília Report, Architectural Competition 1957

3. The Implementation Process

The Pilot Plan of Brasília (PPB) was implemented, despite the effective adjustments, not exactly as a “pilot plan”, as the name indicates, but as a definite finished object, untouchable, like something inspiring deep veneration, coated with an aura: the idea of the sacred. The origin of this idea goes back to the PPB Report, by Lucio Costa, where the second paragraph reads “...(I) just present a possible solution which was not sought but emerged, so to speak, ready-made”, and on the 3rd paragraph “... despite the original spontaneity, she was then strongly considered and resolved”, confirming the earlier statement of a finished thing. In a later text Lucio Costa says “what is needed now is to understand it”, as if Brasília contained a secret sense, a content to be discovered, which could explain her sacredness. (Costa, 1988)

The idea of the sacred remained over time, as it is reflected in a recent article in which Maria Elisa Costa (Costa, 2013), his daughter and a well-known spokesperson reveals “... Brasília was born complete as Minerva, and was built exactly so, as it was conceived”.

It is noteworthy that the untouchability bias had the merit of preserving the original design of PPB, amidst political and cultural conditions at a time which, somehow, threatened the very existence of Brasília – Brazil at that time was under a military dictatorship after inauguration. Lucio Costa's design, which differed from all others Brazilian cities morphology, was then preserved by the intransigent defense of PPB.

4. Motorized Access Roads, Local-vias, or Streets

According to Lucio Costa's original concept, local streets would remain just as “motorized access roads”, a place for the exclusively and efficient use of automobile traffic (Costa, 16). This concept is in line with the Chart of Athens, 1933, in which the street is no more a place for the people's use. In Brasília there is not even the word ‘street,’ nor never is it officially employed. Streets are denominated mostly as *vias* which by nature are not pedestrian friendly. The local *vias* carry no name whatsoever, but the numbers of the residential superblocks on either side. In this paper we employ the expression “local-via” to distinguish it from streets.

Each of the superblocks was designed to have small retail shops, with bakeries, butchers, grocery stores, etc. for consumers' daily needs,

disposed in a row opened to the interior of the superblocks. A typology sort of *fin du siècle XIX*. Notwithstanding, in the very first 7 to 9 years the incipient city life was strong enough to subvert this prescript: slowly but steadily, the retail shops have changed their orientation, opening doors toward local-via, profoundly changing the relationship with the superblocks. In a certain way, the transgression has humanized the local-vias, as they came closer to the concept of street. Nevertheless, they remain merely as small portions of a street, approximately 180 m each, homogeneous in their typology, not interconnected: A shy version of streets.

These local-vias were designed with 4 lanes, 2 in each direction, flanked by retail trade and parking sized for the automobiles, without spaces for trucks to load/unload (**Fig. 2**). However, truck sizes vary from 7 to 9 meters in length, causing the invasion of one lane for parking, and this occurs on both sides all day long. The 4 lanes are reduced to two, with cluttered traffic jams and, at the same time, generating a barrier for pedestrians. The point here is that the local-vias, actually, were not conceived as streets for pedestrians.

It is urgent to restore the public domain quality of streets: “public domain as a common world, gathers us in the company of each other and yet prevents us from falling over each other, so to speak.” (Hannah Arendt). Much remains to be done to transform them into streets with conditions for full and enjoyable use of city dwellers.

5. Sidewalks vs. Topography

Brasilia is located on the western side of Lake Paranoa basin, where the topography has a gentle slope, around 5%. All the local-vias are located in position east/west which cut contour lines. The length of a service road is standard in the city, about 180 m, with a natural slope, which might come up to 9 m, but for the most it is around 4 m. However, looking closely at what happens at the ground level, we are surprised: the sidewalk in front of the buildings is horizontal, ignoring the slope, thus creating architectural hurdles. In all the other cities, buildings have to adapt to the local topography, but here is quite the opposite: topography has to adapt to buildings.

In the North Wing the buildings standard for retail shops are quite different from their counterpart in South Wing, the original conception. Here the buildings are larger, with galleries all around. The galleries are in the horizontal so, in a single building, the height gaps between the extremes of his gallery along the street, acquire greater height, which is overcome by clumsy, unsafe stairs (**Fig. 3**).

Few buildings have handicap ramps and even the ones that do pose a challenge to wheelchairs and strollers because of their vertical ascent and lack of standard materials and safety measures. (**Fig. 4**)

In the South Wing most of the sidewalks in front of shops are built horizontally while the street slopes. On the sidewalk, at each boundary between shops, the pavement has a small ramp or a little step, approximately 8-10cm, for accommodating the levels, which force the pedestrian to double their attention and take care to not fall down. This is the smallest planning scale of the city and this quote from Jan Gehl, must be noted: “this is the city as the people who will use city space experience it at eye level. It is not the large lines ... or spectacular placement of buildings that are interesting here, but rather the quality of human landscape.” (Gehl. 2010)

The city is not responsible for paving the public spaces and do not issue standards of building materials; the sidewalks abruptly change from terracotta to slippery tiles and so on and each store adds whatever finish they like or can afford.



Fig. 2 Local Via, Photo by Jose Galbinski



Fig. 3 Stairs & sidewalk at the end of a gallery
Photo by Jose Galbinski



Fig. 4 Stairs & sidewalk along a 'str
Photo by Jose Galbinski

6. Superblocks vs. Topography

The residential superblocks (280 x 280 m) are a typical trait of Brasilia, highly valued by dwellers and the people at large. In the PPB Report, Lucio Costa recommended “inside the super-blocks the residential buildings could be arranged in a more varied way obeying, however, to two general principles: maximum uniform height of, maybe six floors and *pilotis*.” (Costa, 16). Further on “... the super-blocks would be only leveled...” (Costa, 23-italics added). These two general principles were applied *ipsis litteris* leading, in some cases, to higher landfills placing, paradoxically, the ground floor more than 3 meters above sidewalk, losing the expected and soft continuity between *pilotis* and the surrounding lawn.



Fig. 5 Excessive landfill. Photo by Jose Galbinski

Total height of the superblocks residential buildings was established and fixed on 6 floors plus *pilotis*, with no allowance for variation. The location of residential buildings in the superblocks sometimes looks like it is fighting against the local topography, as planning guidelines did not foresee interferences of any kind in the morphological *pilotis* concept. Given the natural profile site, instead of varying the *pilotis* floor heights and adjusting them to the terrain, procedure that could exceed the fixed height limit, builders opt to modify the terrain profile, altering topographical contour lines, to obtain an artificial flat platform for building. The idea of facilitating pedestrian displacement and resident access with the mandatory *pilotis* more often than not poses an obstacle, because the elevator shafts and stairs are only accessible from the *pilotis* platform, and not from ground level. The causes for this inflexibility are given above.

7. Afterthoughts

In Brazilian cities, like the rest of the world, the buildings adapt to the urban topography. In Brasilia, Lucio Costa applied the same concept in the overall planning process. However, at the site planning level a struggle occurs between topography and buildings, which creates some urban disturbances. It is important to discuss these situations in order to promote, on the one hand, the proper preservation of the city and, on the other hand, to oppose to a purely developmental vision from business that use the legislation from the past solely to cut corners, which ultimately threatens the intrinsic values of Brasilia's conception.

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Cinema-theatres: From ‘Jesus Christ Superstar’ to ‘Jesus Christ is the Lord’

Joana GOUVEIA ALVES *

Abstract

The Pentecostal churches had an extraordinary expansion during the last three decades and bought a number of bankrupt cinemas. These are provided with auditoria with large seating capacities, for a low price, built in central sites with good exposure. Being cinema such an important urban function in the twentieth century, it is worth preserving some examples of its architecture. However, a sense of decorum, is reflected in the opposition to the conversion of a cinema into a church. After all, to what extent should the sense of decorum condition the material conservation?

While comparing this new function with others, such as multiplex cinemas or stores, this type of conversion cannot be considered destructive in terms of materiality. The main spaces are kept as they were and restoration has been carried by these churches.

Having its origins in the magic lantern performances, the first films are loaded with pictures of fantasy and the phantasmagoria that characterized the magic lantern shows in the eighteenth and nineteenth centuries. Characters such as the devil, ghosts or walking skeletons, are all figures of the Christian narrative featured in the early screenings. Moreover, the character of a cinema-theatre is associated with voyeurism and fetishism due to the required darkness.

In the services the light is bright. Light has been an essential element, symbol of the Holy Spirit, in the religious architecture. The entire auditorium can be seen as well as all the architectural elements in the room. Believers find themselves watching each other since the reactions of the people in the church make part of the religious ritual. Thus, while fiction films explored the interest in the forbidden, the dark side, the figures of fantasy, lust and vanity; the same premises are now dedicated to exorcizing the demons, condemning vanity and lust, proclaiming the love of Christ.

Keywords : modern architecture, western european cinemas, re-use, conversion, pentecostal churches

This paper is part of a wider research project into cinema theatre design in Western Europe during the period 1910-1939. The research is based on articles on cinema design published in *L'Architecture d'Aujourd'hui*, *La Construction Moderne*, *Casabella*, *The Architectural Review*, *The Builder* and *Deutsche Bauzeitung*, using the information they contain to trace the history of the cinemas which had the greatest influence on the development of this building type in Europe. The paper presents only part of the conclusions of the study, referring to the conversion of cinemas into places of worship, in particular the conversion into Pentecostal churches in the United Kingdom.

The first permanent cinemas in Europe opened in 1904 (Sharp 1969:50) and the first regulations for the exhibition of motion pictures were issued between 1908 and 1910.¹ Cinema design evolved from occupying ordinary shops, the nickelodeon, to adapting theatres. With the gradual recognition that classic theatres were not well-suited to the screenings (Vergnes, 1925), one by one, the architectural features of the classic theatre, such as the proscenium, boxes or even the stage were discarded and a new building type was born: the cinema.

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With their origins in magic lantern performances, the earliest films are filled with images of the fantastic and the phantasmagoria that characterized the magic lantern shows of the eighteenth and nineteenth centuries. Characters such as the devil, ghosts, winged skulls or skeletons that move as if alive are all figures from the Christian narrative which have been subverted. This universe has influenced the first films namely the work of Méliès and the German Expressionist movement. Therefore, the characterization of the cinema-type is associated with mystery and the profane.

At the same time that architects such as Mallet-Stevens valued film for its capacity to spread new ideas to the most remote locations (Mallet-Stevens 1925), some people considered cinema a place lacking moral virtue. It is particularly interesting the dispute for Sunday openings in the United Kingdom. Until the *Cinematograph Act* was passed in 1909, it was possible to open the cinemas on Sunday. But an extended interpretation of the licensing rules had as a consequence it would not be permitted to open the cinematographs on the ‘Lord’s Day’ (Low 1949). The dispute ended in 1932 with the Sunday Entertainments Act which authorised cinematograph sessions on Sundays, or the ‘Lord’s Day’. Part of the profits were donated to charity and it ensured that employees would not work for more than six days per week.

The arguments in favour of Sunday opening included the fact that the cinematograph could screen sacred subjects on Sundays, which would be equivalent to reading the bible (Low 1949). Church could use cinema to spread the Lord’s Word. This opinion was opposed by those who considered that some sort of censorship for cinema was necessary since films were exploring real life dramas such as suicides, death and disease in a disrespectful or “blasphemous” way from the point of view of the defendants of moral and ethical values. It was not only the subjects presented on the screen but also the fact that the auditorium was in darkness that led the cinematograph to be viewed with suspicion. And this was not absurd: Roland Barthes linked the darkness in the cinemas to eroticism, which can be sensed in the attitudes of some spectators who let themselves slide on the seats during the screenings (Barthes 1975). The author opposes this attitude to the one of watching TV.

There was a general feeling that people preferred to go to the cinema rather than to church and that the Seventh Art was becoming a new cult. As a matter of fact, there were some examples of churches being converted into cinemas. For example, the *Saint James Picture Theatre* (Stanley Beard, London, 1923) was built on the site of a nineteenth century chapel. As part of the conversion, the vaults were kept as well as the foundations used to decorate the tea room.²

Surprisingly, this phenomenon has reversed in recent decades. According to data published by the Cinema Theatre Association (CTA), among the 210 listed cinemas in the United Kingdom 21 are now used as churches.³ Although some of them are used as catholic churches, the large majority is owned by Pentecostal churches.⁴ The Pentecostal religious movement started in the sixties in North America, expanding to South America in the following decade.

The Universal Church of the Kingdom of God (UCKG) expanded rapidly worldwide over a period of 36 years. According to the official website, the church was founded by the bishop Edir Macedo in Rio de Janeiro in 1977. Macedo began preaching in the Meier garden, but the number of followers soon justified the search for new premises. The first house of UCKG the *Bruni Meier* cinema in São Paulo.

Cinemas met the needs of this church. Cinemas were auditoria with large seating capacities for a low price, built in central sites with great exposure and openness to the passer-by. Furthermore, they did not require substantial construction work to be converted. Some of the old cinemas had a decor that provided the desired air of solemnity for worship. This was the case of the *Astoria* (E. A. Stone, Finsbury Park, London, 1930) or the *Granada Woolwich* (C. Masey; R. Uren; T. Komisarjevsky, London, 1937), both atmospheric cinemas.⁵ It can be observed that the interiors of the theatres converted into church have been conserved, specifically the decor, stage and audience. According to the principle of proximity, in some of the ceremonies the entire audience is closely involved in the music, chants and prayers. So the acoustic properties of cinema theatres, namely the sound absorption at the rear are also convenient for these churches.

In the conversion of a cinema into a church, the auditorium and stage are preserved, as well as the ornaments in some of the cases. The general layout is retained and preserved. And in some churches sporadic sessions were organised to keep the memory of the building.

Buildings have also have a character, things that make it specific and recognizable. A cinema theatre is not only a place where we find culture, it is a place where people go because they are available. The acquisition of cinemas by Pentecostal churches was opposed by various groups, particularly cinema-goers. They argue that is a shame or discredit that buildings of such importance should pass to the hands of a church. There is a clear problem of *decorum* in this criticism. One of the reasons for this is the memory of a building associated with a cultural purpose which makes its conversion into a religious function unacceptable.

Case Study: *Astoria*, Finsbury Park

The *Astorias* was a chain of cinemas in London, where four of them were designed by the architect Edward A. Stone: the *Astoria Streatham*, the *Astoria Brixton*, *Astoria Old Kent-Road* and the *Astoria Finsbury Park*.

The *Astoria Finsbury Park*, in the Northern suburbs of London was located on a crossroads not far from a railway station. The façade has two different expressions: the main facade tiled in white and light-blue glazed faience and designed with vertical openings (close to the corner) and a plain brick façade juxtaposed to it with technical openings. Over the canopy, there was place for hoardings and lettering announcing the films.

Stone designed the cinema on a very irregular site in such an ingenious way that the irregularity is imperceptible from the inside. The double height entrance lobby had an octagonal plan with a star-shaped fountain in the centre. The first floor tearoom balcony surrounded the entrance hall, inviting people to venture upstairs and offering the people seating above visual control of the entrance.

On the left-hand side of the entrance there was a wide circulation area towards the auditorium. The auditorium had an irregular octagonal shape and only one circle. The stage was equipped for live performances with a stage-well and dressing rooms for artists and musicians.



Fig. 1 E. A. Stone. *Astoria*, Finsbury Park, London, 1930. Main Entrance.



Fig. 2 E. A. Stone. *Astoria*, Finsbury Park, London, 1930. Main Entrance.

The stalls were surrounded by a gallery which resembled a Moorish arcade from where it was possible to see the entire audience. The walls of this atmospheric cinema represented Hispanic elements such as lions, Moorish tiles or turrets. The plain blue ceiling represented the sky: small bulbs produced a starry sky and the lighting system created an artificial sunrise and sunset in the intervals between films. The carpet had grass and cobbled path motifs. Many of these decorative elements are still in place in the auditorium and the set has been conserved as it was by the new tenants.



Fig. 3 E. A. Stone. *Astoria*, Finsbury Park, London, 1930. Lateral façade (©Joana Gouveia Alves, 2013).



Soon after opening, in 1931, the *Astoria* was bought by the Paramount chain and consequently renamed *Paramount Astoria*. It then passed into the hands of Oscar Deutsch in 1939, becoming the *Odeon Astoria*. By the sixties some concerts were already being offered, but it was in 1971

that the *Astoria* was officially converted into the Rainbow Theatre, dedicated to rock concerts. It subsequently changed hands a number of times and was closed from 1981 until it was bought by the UCKG in 1989. Due to its listed status, the church was obliged to carry out thorough restoration work. A large part of the building was restored and conserved.

Today, the reception desk is in front of the main doors and the fountain remains in the same place, as well as small counter where snacks and refreshments can be purchased. On stage, images and phrases from the bible are displayed besides the microphones. There is a clear advantage of doing this in an inclined floor so that people can see each other while keeping a good visibility of the stage, what would be impossible in a traditional church. In the peripheral aisle surrounding the stalls, men stand, equipped with headsets and dressed in dark suits resembling security guards.⁶ These aisles were, originally, designed to give the patrons an overlooking perspective of the auditorium, today they are also convenient for security purposes.

In the UCKG Help Centre website there are pictures of the other rooms and it may be concluded that the restoration was quite conservative what was confirmed by the British specialist Richard Gray.⁷ Comparing to other *Astorias*, the *Astoria Brixton* has become a concert hall, they removed the stalls and the décor has suffered several damage, the *Astoria Streatham* was demolished and the *Astoria Old Kent-Road* was gutted by a conversion into multiplex (8 screens).

In religious ceremonies, the light remain on and are bright. Light has been an essential element in religious architecture. The neopentecostal churches work with artificial light: the entire auditorium can be seen and all the elements in the room are visible. Believers find themselves watching each other, since the reactions of people in the church make are part of the religious ritual. Thus, while fiction films explored the interest in the forbidden, the dark side, the figures of fantasy, lust and vanity; the same premises are now dedicated to exorcizing the demons, condemning vanity and lust, proclaiming the love of Christ.



Fig. 4 E. A. Stone. *Astoria, Finsbury Park, London, 1930.* Ground floor plan. (Source: *The Builder*, vol. 139, 563-568).



Fig. 5 E. A. Stone. *Astoria, Finsbury Park, London, 1930.* View of the auditorium from the stage. (Source: *The Builder*, vol. 139, 563-568).

Notes

¹ Fletcher, Banister. 1914. "Cinematograph Act, 1909." In *The London Building Acts*. London: B. T. Batsford.

² (Anonymous 1923)

³ <http://cinema-theatre.org.uk/uk-cinemas/listed-cinemas/england/> [accessed June 6th, 2014]

⁴ Pentecostal is a term coined to the churches who believe that it is possible to have nowadays a relationship with god and the Holy Spirit similar to the one that the first missionaries had, in direct communication, believing that it has the power to heal, to rescue the souls, . Their spiritual approach proposes a return to the original texts and the primitive religion believing. The root of the word is linked to the episode of the Pentecost, when the Holy Spirit came to the Apostles and gave them the gift of speaking languages they did not knew and which is celebrated fifty days after Easter.

⁵ 'Atmospheric Cinema' is a type of cinema invented by John Eberson to reduce the costs. The ceiling is plain with small bulbs inserted to recreate a sky, while the lateral walls are an outdoor set representing, as an illustration, a Mediterranean city, an Hispanic town, etc.

⁶ I attended a service on the morning of the 22nd July, 2012.

⁷ Interview to Richard Gray, author of *Cinemas in Britain*, on the 22nd July, 2012.

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Renovation of the Stora Enso Headquarters

Leena MAKKONEN *

Abstract

The long cooperation between Alvar Aalto and the Stora Enso Company resulted in construction of numerous industrial buildings, power plants and houses in different communities in Finland. The headquarters building (1961) in Helsinki was the last site Aalto designed for the company.

The building is a visible element in urban landscape. The façade material was originally Italian Carrara marble. By the early 21st century the condition of the façade had deteriorated significantly, the stone was corroded and the marble slabs badly curved. Renewal of the entire façade was called for. At first, the owner planned to replace the marble with granite.

Docomomo Finland put forward a motion for protecting the building. Docomomo was worried both about the outer appearance and the interior of the headquarters building. The interior was in those times outstandingly well preserved. In the same time the City Planning Department started to prepare a protection plan.

After much discussion, the owner changed the opinion and chose the original surface material. This time it wasn't Italian but Portuguese marble.

The motion for protecting was accepted in 2010. The protection regulations were prepared together with the owner whose needs were carefully taken into account.

After the façade renovation the owner started to consider the efficiency of the building. In the owners opinion too much space was wasted for corridors and anterooms; a modern office would have a totally different concept.

The renovation (2012) was extremely radical. Only a few original spaces were preserved, else-where the separating floors were knocked over and a modern open-plan office was created.

This was not the original idea of Docomomo who aimed to preserve the whole building as near as possible to its original appearance. The process shows that protection is not a simple question. Building's first meaning is to serve as a space for activities, not to be a museum. And the best way to keep building alive is to give it an opportunity to change. The question is however: to which extent.

1. History

The long cooperation between Alvar Aalto and the Stora Enso Company resulted in the construction of numerous industrial buildings, power plants and houses in different communities in Finland. Stora Enso is an important large-scale Finnish wood-processing enterprise. The headquarters building (1961) in Helsinki was the last site that Aalto designed for the company.

2. A Controversial Building

The cityscape and architectural value of the headquarters building have inspired opinions both for and against over the decades. Mostly it has caused extremely critical opinions - not common in the case of Alvar Aalto, highly appreciated architect. The critics started soon after the building's completion. Not everyone was pleased with the strong 1960s look of the building. It has deridingly been nicknamed "sugar

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lump”. The most critical comments stemmed from displeasure regarding the removal of Norrmén House (Theodor Höijer 1897) from the place of the new headquarters building.

On the other hand some people recognised the aesthetic value of the headquarters immediately upon its completion: A well-known Finnish writer and artist Henrik Tikkanen wrote in a newspaper article: “The cover of the construction scaffolds has been removed and the Carrara marble beauty reflects its slightly sleepy façade in the water ... just as the building is perfect in its own form, it is in harmony with the environment. Here a person does not consider old and new, only the fact that it is beautiful.”¹

3. Appearance

Standing near the waterfront like a gate to the Katajanokka district, the headquarters building is a continuation of the Neo-Renaissance and Empire-style buildings in the environment around the Market Square, and a visible element in the urban landscape. It was characteristic of Aalto to carefully examine the relationships of the entity formed by the building and its surroundings. He felt that adapting a building to an urban environment was just as difficult as situating it in nature. At his initiative, the intended building rights for the plot were reduced, making the structure lower than originally planned.

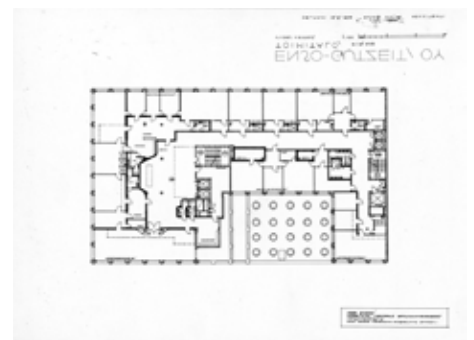
When starting the work, Aalto spent a lot of time studying the surrounding buildings in terms of the rhythm of their façades and the horizontal and vertical relationships between them. The headquarters building’s strong characteristic appearance results from the regularity of its façade. A similar grid façade can be seen also in other office and commercial buildings designed by Aalto in downtown Helsinki. The first of these buildings was Rautatalo (Iron House, 1953). Here he found a solution, which “has a rhythm that is in harmony with the neighbours without any structure imitation”.²

The Stora Enso building is recessed in the Uspenski Cathedral direction, symbolically providing space for the monumental sacral structure. The terrace on the top floor is set back from the façade surface and represents one of the essential characteristics of the headquarters building.

4. Façades

The main façade material was originally Italian Carrara marble. Italy was an important source of inspiration for Alvar Aalto throughout his career, and thus Italian materials were also close to his heart. Aalto considered marble to be a material that could enhance the worth of buildings. The important cityscape position of the headquarters building and the national importance of the forest industry provided good reason to draw attention to its status. The other construction materials are also valuable; the plinth is granite, and copper and brass were used in the metal parts of the façade. By the early 21st century, the condition of the marble façade had deteriorated significantly. In addition to being dirty, the stone surface was corroded and weathered, and the marble slabs were badly curved. A renewal of the entire façade was called for. At first, the owner planned to replace the marble with granite.

A long and a very complex process started:



¹ Henrik Tikkanen, *Hufvudstadsbladet* newspaper, October 10, 1961.

² *Arkkitehti*, no. 9, 1955.

Docomomo Suomi Finland put forward a motion for protecting the building under the Act on the Protection of Buildings. - Protection in Finland happens either by means of the town plan or under the Act on the Protection of Buildings, the first one being the most common way and the second one used for the very special cases where also very rigorous regulations are possible. Docomomo was worried not only about the outer appearance but also about the interior of the headquarters' building. The interior was in those times outstandingly well pre-served.

In the same time the City Planning Department started to prepare a town plan with a view to protect the values of the building.

After much discussion, the owner changed the opinion and chose the original surface material. This time the stone was not Italian but Portuguese marble.

However Docomomo's motion was processed. Finally the Supreme Administrative court reject-ed it. The argument was that the City Planning Department had already started the process for protecting the building by town plan. Another and very important reason was the lack of adequate information about the values of the building, and especially about its interior.

The research on the building history was begun immediately. After its completion the City Planning Department presented a draft with very detailed regulations for protecting both the exterior and the interior of the building. The owner opposed claiming that the regulations were too rigorous. The Ministry of the Environment declared that this kind of regulations concerning the interior were not possible in town plan.

The result was that the City of Helsinki proposed - as Docomomo had already done three years ago - that the best way to protect the building would be the Act on the Protection of Buildings. This time the Court accepted the motion.

During the process it happened that the owner of the building changed: the Finnish Stora Enso Company sold it to a German real estate developer company.

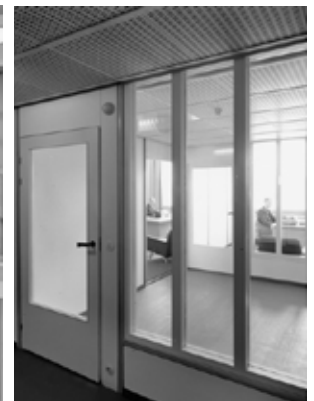
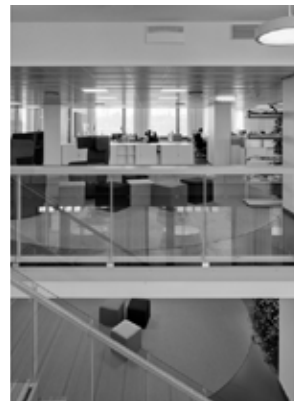
When a building is protected under the Act on the Protection of Buildings it is the National Board of Antiquities who gives the regulations. The regulations were prepared together with the owner whose needs were carefully taken into account. This is why not all the valuable interiors shown in the research on the building history were included in the regulation.

5. Interior

After the façade renovation the new owner started to consider the functionality and especially the efficiency of the building. The owner was not satisfied with the original interior arrangements. Too much space was wasted for corridors and anterooms. In the owners opinion a modern office has a totally different concept.

Originally the ground-level floor had a spacious entrance lobby, and housed the Finnlines shipping company sales office, crew facilities and offices. The next three office floors were nearly identical to each other, with offices arranged in small groups around the central lobby and along the wide corridors. Each group had an anteroom that served as the entrance to several rooms. The fifth floor housed the managerial facilities and differed from the other office floors in terms of its more valuable materials and solutions. The top floor is smaller than the others and has a formal lobby, banqueting facilities and a large staff restaurant. This floor has a door to a large roof terrace with a magnificent view of downtown Helsinki and the sea.

The interior, furnishings and light fittings combined to form a central part of the building's architectural value. The many materials in the interior varied according to the hierarchy of the spaces. The floor materials ranged from travertine and oak parquet to mosaic concrete, wall-to-wall carpeting and linoleum. The slanting ceilings in different styles were a special feature of the interior.



Wood panelling was utilised in the more formal spaces. The material selected for the doors also illustrated the importance and purpose of the space. The door handles were mainly mass production designed by Aalto, but some of them were created especially for the headquarters building. The light fittings for the main entrance, lobby spaces, restaurant and terrace were also designed for this building.

Until 2012 the interior was well maintained in nearly its original condition. Many small changes and repairs had been made over the decades but they were well implemented in the original spirit of the building.

The big renovation which took place in 2012 was extremely radical. Practically only the main entrance hall, staircases, the previous directors' rooms and the upper floor's banquet rooms and restaurant were preserved according the protection regulations. Elsewhere the separating floors were knocked over and instead the wide corridors and individual rooms a modern and more efficient open-plan office was created. This was not the original idea of Docomomo. The idea was to preserve the whole building as near as possible to its original appearance.

6. Reflection

The radical renovation was necessary and in actual fact unavoidable. For the company there were only two possibilities, either it would leave the building or the building would be renovated for their current needs. It was considered important that the headquarters of the company would stay in Helsinki. It is an honour for Helsinki to have an important international company in the city, also it is a financial matter the company being a good taxpayer. It was also considered valuable that the company could continue its functioning in a building which was originally built for it.

Every company wants to advance, to be a modern company, and the present-day working methods require an open-plan office. The architect who designed the renovation is talented and experienced. He is used to work with protected valuable buildings and their renovations.

His task was to fulfil the needs of the company, but he also considered carefully the properties and values of the headquarters building. He knew the history of it, and also the negative and positive estimations of the 1960s'. His solution was a conscious decision.

The process of Stora Enso headquarters' building shows us that protection is not a simple question. Building's first meaning is to serve as a space for activities not to be a museum. It seems that the aim to preserve the values cannot always come totally true. The best way to keep building alive is to give it an opportunity to change. The question is however: to which extent.

Among the circle of experts the renovation project is highly appreciated. Last year the project was rewarded with an honourable mention in a competition called "Rose of construction" - an important price which is annually given for an exemplary architectural project in Helsinki.

The renovation project was evaluated by the words:

"The successful renovation of the interior of Stora Enso headquarters building proves that a protected building can be changed quite substantially if the alterations are made discreetly. The most valuable parts of Alvar Aalto's partly protected interior were preserved or subtly re-stored. The refurbishment was carried out respectfully in a way that the building deserves. The final result is a totally modern headquarters building."



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inter[VENSTER] Re-re-use early Modern Intervention: Winning Awareness for Rehabilitation.

Lucas VAN ZUIJLEN *

Abstract

Rotterdam grew mainly because of its increasing harbor since around 1900. Serving the basic needs for the inhabitants, it became the most industrial and modern city in the Netherlands. In 1940 the city centre located more than 20 cinemas, which basically had the function to amuse people, instead of having a cultural purpose.

In only one day in May 1940, German bombs destroyed 28.000 houses, 24 churches, 13 hospitals, 60 schools, 12 cinema's and 2 theatres. During the 5 years of the German occupation the Rotterdam cultural protagonists invest money and ideas to resolve the lack of a cultural centre in the city. Soon after the ending of the war a multidisciplinary arthouse was realized with a cinema, a theatre, an art-gallery and a public bar. It was the place where artist, artlovers, intellectuals and politicians could meet.

For a number of reasons this postwar cultural centre became the building *Ons Huis (Our House)*, a cultural building in classical style that was financed by a rich harbor company owner. It was built in the beginning of the 20th century to educate children of harbor workers in craftsmanship, art and culture. Ons Huis became since the 30's already an alternative place for theatre and cultural film screenings.

With the extension of cinema 't Venster, *Ons Huis* became a multidisciplinary arthouse that played an important role in postwar exhibitions, debates and presentations on a higher cultural lever. Mainly through a playful and modern design by young architect *Bakema* in 1947, the 16 year older architect *VandenBroek* asked him to become his partner in his office, the follow-up of the world famous office *Brinkman&vdVlugt*. Working as a complementary team they designed postwar architectural and urban icons in the new centre of the city.

Now in 2014, 65 years after the architectural intervention, we can conclude that the modern intervention on the building was not only a first trail of a young and insolent architect. By breaking away parts of a classical building to win the aesthetics for its own contemporary design, he added the new program and complements also the aesthetics of the existing building. His contrast was a legal action and in his re-use policy the intervention became an invitation for the new progressive users.

With the cinema extension and new multidisciplinary function of the building it played an important role in physical and social city development. In the 70s *Lantaren 't Venster* give birth to the first edition of *Film International*, which soon after became the *International Film Festival Rotterdam*, the biggest international and cultural event in the Netherlands.

Although the arthouse function with its historical name *Lantaren Venster* is moved to a new contemporary building designed by *Alvaro Siza*, the existing building *Ons Huis* with *Bakema's* and later extensions still is an alternative and multidisciplinary platform for artist in the city centre. A smaller part of *Bakema's* interventions is physically still present and some are still in use.

For the rehabilitation of his design and making visible the contrast of his and later interventions the building needs a good research to make visitors aware of the value of the layered heritage. At least the documentation of the first modern intervention can be used for education about early modern interventions and winning public awareness to sustain the exchange of opinions.

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Synopsis

*The impact on the postwar citycentre of Rotterdam after the architectural renewal and modern intervention on historical building **Ons Huis** (Our House in 1909) to early postwar cinema '**t VENSTER** ('the window') by young architect J.B. Bakema, in 1947-48.*

Introduction

In my 15 years career as an architect, working in different jobs, I had to deal with the cinema 't Venster in Rotterdam. Working as programmer at the *International Film Festival Rotterdam*, working as facility manager in the theatre itself, as being teacher at the rMIT department at the *Delft university of technology* dealing with architectural Intervention, teaching at the department of Real Estate management of the *Rotterdam university of applied science* and researcher at *Rotterdam Festivals* organization. Each time I studied the building history I realized the importance of the Bakema architectural intervention in 1947-1948. Several institutions guard historical material about the building 'Ons Huis' and the later by Bakema added cinema room 't Venster. This presentation is not based on scientific research and gives a first summary of a subject worth mentioning.

1. Rotterdam: an Industrial and Modern City

Rotterdam is an industrial, modern and *Cinematic*¹ City. Actually it was the city with the most cinema's in the Netherlands. Rotterdam is called the most modern Dutch city and it is a fact that Rotterdam became a city worth mentioning in the end of the 19th century. In earlier times Rotterdam didn't have a great cultural reputation. The entry of the film industry in for example Amsterdam had a higher cultural approach than in Rotterdam where movies were mainly introduced for entertainment.

Rotterdam grew mainly because of its harbour, twice the size in the last decades of the 19th century and doubled again at the beginning of the 20th century. In this expanding city the local government and entrepreneurs used entertainment for social cohesion and amusement. In this way Rotterdam was influenced mainly by 19th century industrial- and 20th century modern cultural developments.

In the beginning of the 20th century –the 'cinema age'– the first improvised screenings took place in rooms of a commercial complex beside the town hall around 1896. From 1900 fairs introduced cinema cabins on wheels and in 1915 the first cinema theatre was built in front of the new town hall. From the twenties till the mid thirties about 15 theatres have been built in classical, typical *Art Deco* or a modern cinema-style.

In May 1940 the German officers were ordered to capture The Netherlands in just one week. With the goal to conquer the political centre of the country, Den Haag, the soldiers got stuck on the river and ended at the south side of the Maas, trying to capture the city centre of Rotterdam. After three days waiting for the Dutch capitulation the Germans made the tactical and disastrous decision to destroy the complete heart of the city. On 14 May 1940 the centre was bombed in just a few hours and the enormous fires continued for some days and took another large part of the eastside of the city. (Fig. 1)



Fig. 1

While the ruins were still smoking the authorities of Rotterdam started already with planning the reconstruction of the city using plans that were already made in the decades before. The Second World War held on for five years and took many lives and houses. Without building activities architects put their energy together to work on studies and plans to construct buildings with multifunctional spaces and less material.

¹ Floris Paalman, *CINEMATIC ROTTERDAM, The Times and Tides of a modern City*, 010 publishers Rotterdam 2011, ISBN 9789064507663

In May 1940 the city centre of Rotterdam lost twelve cinemas. While occupied by the Germans, a few movies selected by the Nazis, were screened and non political worldwide news items screened in the *Cineac*. In June, one month after the end of the war, the first three cinemas already opened their doors again for public. Rotterdam inhabitants were used to visit the cinema and yearned again for movies. Cinemas which lost their building showed movies on temporary locations like shops, schools and even churches.

In the new urban plan for the western part of the city centre the new streets are organized in an orthogonal grid. At the corner of the *Lijnbaan* and the *Kruiskade* three cinemas (*Corso*, *Lumière*, *Thalia*) opened in a few years time. In the beginning of the sixties the first new post war wholesale building finished in 1953, was extended with cinema *Kriterion* on top. Until 1979 twelve bigger and smaller cinemas were built in and around the new heart of the city (*Tuschinski*, *Centraal*, *Scala*, *Corso*, *Cinerama*, *Grand/Studio '62*, *Calypso*, *Lijnbaan*).

2. Cinema 't Venster

Comparing to other greater Dutch cities, the development of Rotterdam was based on labour by working class people and less cultural or governmental staff. Till 1960 there was no university and Rotterdam never had a large group of progressive intellectuals. The leading persons in culture were mainly wealthy businessman, politicians and a few intellectuals and architects united in foundations or companies.

One of the rich owners of a harbour related company, donated in 1907 a large amount of money to raise a building for cultural activities for the children of harbour workers. After the opening in 1909 it starts its activities like music, literature, handicraft and theatre for children during the day and adults during the night.

This centre, *Ons Huis* [Our House], became a non-political and non-religious rendezvous during the twenties and thirties and developed contemporary relevant activities. Courses in photography, handling a microscope and cooking with electric equipment took place and in the thirties they started the first cultural film screenings.

The building *Ons Huis* was near the destroyed city centre. It stood on the west side of the bombed area and survived the fires. During the war it was used as a hospital. In the summer of 1945 the organization restarted their cultural activities and the function as a meeting point became more important. In 1947 the director decided to add a modern and professional screening room to the building and invited the young architect *J.B. Bakema* to make the design for 't Venster (the window). With this design started his career as an architect in collaboration with the famous architect Van den Broek of the office *Brinkman&VandenBroek*, a follow-up from the world famous office *Brinkman&VanderVlugt*.

Working at this Rotterdam based and dedicated office, *Bakema* designed a modern intervention in the 40 year old building *ons Huis* (Fig. 2). On the ground floor he designed a typical and contemporary extension with a cinema-like façade including a new asymmetrical entrance. The interior of the room was filled with modern gadgets like steel *Gispen* chairs, spots in the ceiling and a turnable silverscreen (Fig. 3). For the new entrance he used modern forms, materials and colours and he made an update

for the art gallery and the library. In the fifties he also updated the adjacent theatre *Lantaren*.

The intervention of the public cinema 't Venster in the existing cultural building became fruitful in the next decades. The gallery became the cultural heart of Rotterdam where the crossover of different cultural disciplines (music, film, theatre, dance, poetry, architecture, cookery, fashion, arts&crafts, etc.) became the nature of the place. Through exhibitions on diverse subjects, studies about social people development and the necessary role of a cultural building in the area give the institute a high level of self-consciousness.



Fig. 2



Fig. 3



The bar in the public gallery became a meeting point for artists, politicians and intellectuals.

The *Bakema* family lived not far from 't *Venster* and he and his family where weekly seen guests. Colleague *Van den Broek*, who was 16 years older than *Bakema*, was invited often to the gallery to give lectures about his progressive ideas on the quality and architecture of housing. Both were member of an art group of painters *Groep R*, based in 't *Venster*.

In my opinion the function and the physical quality of the original building and the intervention done by *Bakema* defined the post war cultural quality of Rotterdam. The institute gave the opportunity to intellectual and multicultural meetings and performances.



The best example is the birth of the festival in the Netherlands, the *International Filmfestival Rotterdam*.

The RKS (*Rotterdam Art Foundation*) founded in 1945 and dedicated to *Ons Huis* / 't *Venster* supported Huub Bals to start his first festival with 19 international films in 1972. In only 20 years the festival grew out to the biggest cultural festival in Holland with more than 350.000 visitors in 10 days today.

3. Architects Van den Broek & Bakema

Architect *Van den Broek* became a partner of the world-famous architectural office *Brinkman&VanderVlugt* in the late thirties. *Van den Broek* was a well known architect for his good and new concepts for housing plans.

Bakema was 16 years younger, raised in Groningen and studied architecture at the academy in Amsterdam. Directly after the Second World War he worked at the municipal service on housing in Rotterdam. In this function he met architect *Van den Broek* and he admired the post war solutions with creative and skillful architectural quality.

The exact discussions and conversations in and after these meetings are not saved, but the first time both names are on paper is for the design of cinema 't *Venster* in 1947 and is their first official collaboration. The plan is unmistakable a *Bakema* design signed on paper of the office with the name *Brinkman&VandenBroek*. For sure both *Van den Broek & Bakema* were dedicated to the building and its function, by finding their names separately in many occasions, lectures and openings of exhibitions during several years.

The results of their collaboration are obvious especially in post war Rotterdam. The name of the office *VandenBroek&Bakema* is linked to many urban and architectural projects in the city centre (de Lijnbaan, shops, offices, schools, churches and municipality buildings) and urban city extensions. A new architectural urban approach, from doorstep to city, gave a new push and swing in designing and realizing urban quality. The production, influence, international interest and professional knowledge of both architects was enormous.

In order to arrange activities in the empty city heart, the government of Rotterdam started a range of temporary exhibitions around a current theme. The first post war exhibition was in 1950 in a park at the west side of the city centre. The theme was 'the harbour' with the name *AHOY*. *VandenBroek&Bakema* made the urban plan and designed pavilions. The follow-up was in 1955 on the theme 'energy', also with a site plan and building by *VandenBroek&Bakema*. In 1960 the theme of the exhibition was nature and gardens.

For the world exposition of 1958 in Brussels, *VandenBroek&Bakema* worked together with Dutch artists and (landscape) architects. The pavilion consisted of several departments like fashion, housing and furniture and was placed directly beside the Philips pavilion, *le poème électronique*, designed by *Le Corbusier* and composer *Xenakis*. In 1970 *Bakema* made the Dutch pa-

vilion for the world expo in Osaka-Japan, in collaboration with architect *Weeber*, filmmaker *Vrijman* and designer *Crouwel*.

On international level *Van den Broek* joined the 6th *CIAM congress* in Bridgwater in 1947. The *CIAM* started in 1928 in Switzerland by *Le Corbusier*, *Gropius* and twenty more international architects. Besides the *CIAM* meeting, architects were invited to discuss the need of a new international architects network in rebuild post-war Europe. This *Union Internationale des Architectes* (UIA) was founded in 1848 in Lausanne and *Van den Broek* was till 1967 member of the executive committee. The UIA was a non-political and non-religious organization and had a good relationship with *UNESCO*, the cultural department of the *United Nations*.

Bakema joined the *CIAM* since 1946 and presented urban plans on behalf of the Rotterdam *CIAM*-related network *Opbouw*. From 1955 he was the secretary of the *CIAM* and followed and discussed the future of the *CIAM*. At the 10th *CIAM congress* in Dubrovnik, organized by a group of the younger architects *Bakema*, *Van Eyck*, *the Smithsons* and others who called themselves *TEAM X*, responded to a letter of *Le Corbusier*, to start a new network with more focus on integration of architecture and urbanism. Team X also organised the XIth (and last) *CIAM* meeting in the Kröller Müller Museum in Otterlo, Holland. After that the *TEAM X* group started their own new network. They met regularly, became close friends and published articles and manifests until 1982. *Bakema* was secretary and spent with the office a lot of time and energy in organizing meetings. The last activities of *Team X* were in the beginning of the eighties.

As a result of Bakema's numerous, multidisciplinary and sophisticated activities of *Bakema* he worked together with television director *Leen Timp* to prepare a broadcasting series with 'lessons in architecture', a story *Bakema* already had outlined and later assembled in the publication '*Van Stoel tot Stad*' (from chair to city). In the story *Bakema* starts with the essential needs of a human being to protect himself against the physical elements of nature and gives a historical sketch along civilizations and its solutions for building and housing.

Later, *Bakema's* daughter *Brita* made a publication of the material and later translated into English with the title *From Doorstep to City*. The English version is never published but *Bakema* sent handmade copies to colleagues all over the world, including *Le Corbusier* and *Neutra* and received a lot of reactions, all saved in the Dutch *National Architects Institute* (Nai).

After the death of both *Van den Broek* (1978) and *Bakema* (1981) the office was taken over by a younger generation of talented architects.

The work of *Bakema* will be the main subject in the Dutch pavilion at the Venice Biennale in 2014.



Lucas Van Zuijlen

Finished his study as re-use heritage engineer/architect in Delft in 2000. Worked in several architectural offices on urban, architectural and social heritage. Besides his recent occupation as a teacher he started his own office on social and sustainable urban planning and 20th century architectural and material research with a main focus on modern and post war architecture and a specialisation in 20th century cinema's. Since 10 years he is based in Rotterdam and lives 4 months a year with his wife and daughter in Buenos Aires. Both are (DOCOMOMO) architects and working on exchange knowledge about design and intervention on modern architecture in both continents.

Giancarlo De Carlo's Collegi in Urbino: Towards a Management Strategy for the Conservation and Sustainable Use of the Complex.

Andrea CANZIANI * Maria Paola BORGARINO **

Abstract

The Dormitories of Urbino University (*Collegi* following the original name) is one of the masterpieces widely published and recognized worldwide in the panorama of modern architecture of Team X generation. Designed by Giancarlo De Carlo, between 1962 and 1963 and then from 1973 to 1983, the complex consists of 5 buildings integrated with each other, perfectly fitting into the landscape. De Carlo conceives the *Collegi* as an “organism in the form of the city”, that use the matrix of the historic old town centre.

The complex draws on the changes that occurred in the Italian society between the 60s and 70s (participatory architecture, the university for everyone, the student riots, the community and assembly life ...) and has a strong architectural character, since very different and multiple details coexists with the use of a limited number of materials (fair face concrete, bricks, wood, linoleum, plaster...).

The social needs that generated the *Collegi* and their architectural features are nowadays the contemporary weakness of this architecture. The *Collegi* present many problem of preservation and do not meet the current needs in terms of use, management, energy consumption and regulations. A significant refurbishment is expected to start in the next years, addressing the main critical issues, dealing with use, access, levels of comfort, energy consumption.

The results of a two years research program for a conservation and re-use policy presented here highlight the importance of planned conservation, of management guidelines based on heritage value assessment, of owners and users' awareness and involvement programs.

Keywords : team x, giancarlo de carlo, urbino, collegi, modern, heritage, maintenance, planned-conservation.

1. Building the Collegi in Urbino

The university dormitories of Urbino, designed and built between 1962 and 1983, are one of the most famous and significant works by Giancarlo De Carlo (1919-2005), who for over thirty years works in Urbino, signing two master plans (1958-64 and 1994) and some emblematic interventions in and around the historic centre (the market square Mercatale, the Faculties of Law and Magisterium, the philosopher Sichirolo's villa Ca' Romanino ...). In 1962, De Carlo was asked to design a first nucleus of residences for 150 students on the hill facing the old city. The Collegio del Colle was completed in 1966 and between 1973 and 1983 the settlement was expanded with the construction of new dormitories (Nuovi Collegi: Tridente, Serpentine, Vela, Aquilone), increasing the number of beds to over 1000 units.

(Fig. 1)

The project was part of a comprehensive redevelopment strategy, supported by the local authority and the university, aimed to transforming Urbino in a "capital of studies and culture," attracting students from all over Italy.

The role De Carlo plays in those years within the Team X has an undeniable influence in the design of the *Colle*, reflecting his idea of the relationships between architecture and society ¹.

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From the Team X critics to some Modern Movement assumptions arise a new appreciation of the diverse and “imperfect” spaces of the historic cities, with clear links to the studies on the perception of urban space proposed in the same years by Kevin Lynch² and Gordon Cullen³. The “in-between” spaces, without specific function, are no longer seen as an anomaly to be corrected but as something which is necessary to enable social interaction. According to that idea, the *Collegi* are designed like an urban structure. The rooms, that contain the minimum equipment for everyday life, are arranged along a complex system of internal roads, “semi-public” spaces provided to each cluster of rooms and common areas. *My effort –De Carlo writes- has been to build a university settlement indubitably contemporary but run by the echoes of Urbino’s history: to the extent that the citizen could consider it another part of the town they already knew and feel it so familiar to want to use it on a daily basis, even though it was inhabited by students rather than by fellow residents. In other words, the intention was to establish a permanent exchange between the historic city and the Collegi city.*⁴

2. The Present Situation: between Weathering and Decay

The *Collegi*, widely published and recognized worldwide as a masterpiece of second half of XX Century architecture, are nevertheless not listed nor protected.

In few decades they passed through small but continuous changes that affected the perception and the use of the spaces. Decay of materials, illogical replacement of architectural elements, forgotten functions and spaces left in a state of abandon, are the main issues affecting nowadays the buildings.

Fair face reinforced concrete is a significant example of the problems to be handled. De Carlo used it in very thin slabs (**Fig.2**). Not surprisingly, the weakness of these elements led almost immediately to the corrosion of the reinforcement bars and to the consequent decay. De Carlo himself proposed to repair the concrete at *Collegio del Colle*, designing precise quadrangular patches with a uniform texture that makes immediately recognizable the interventions in the original surface texture (**Fig.3**)⁵. Nowadays spalling is a widespread decay and the reintegration of large portions of the concrete surfaces is also a design problem: De Carlo’s solution that establishes a new historical layer is possible when dealing with large surfaces? In the medium and long term it is necessary to find a way to control such a problem that is endemic to the building. It must be considered that De Carlo was expecting the weathering and he considered it an added value: “Red pink and purple moulds are deposited on the concrete making it alive...after all, it seems to me that weathering has improved the quality of the building”⁶

Wooden windows and doors are another critical issue. The frames are often rotten due to the lack of some simple design features that would prevent the most serious damage: overhangs and window sills slope is reduced to minimum, gutters and flashings are absent. The manoeuvrability is hard everywhere the wooden frames are warped. Regular maintenance and repair were disregarded and a certain number of frames have been replaced with modern materials like aluminium and PVC (**Fig. 4**). They are cheap, they have good energy performances and no operating cost, but they deeply modify the image of the buildings and they don’t solve the thermal behaviour of the rooms, especially during summer when the absence of shading causes an intolerable overheating. This issue also need a long-term perspective and the solution cannot be unique: even assuming that through



Fig. 1 Giancarlo De Carlo, Collegi Universitari di Urbino, Italy, aerial view. (GDC&a)”



Fig. 2 Giancarlo De Carlo, Collegio del Colle, Urbino, Italy, 2014, the terraces. (Canziani)”



Fig. 3 Giancarlo De Carlo, Collegio del Colle, Urbino, Italy, 2014, the fair face concrete repairs by De Carlo. (Canziani)”



Fig. 4 Giancarlo De Carlo, Collegio della Vela, Urbino, Italy, 2014, the original timber window on the right, compared with a new PVC window. (Canziani)”

proper maintenance most frames can be saved, some replacement will be unavoidable in the future. Is it right to reproduce without any improvement solutions that have proven to be problematic? where is the point of balance between cultural, environmental and economic sustainability?

Safety is another urgent and complex problem, which have so far been addressed or excluding areas from the use or introducing inappropriate elements. Safety cannot be underestimated in a building used everyday by hundreds of people, though not always the exact compliance to the standard means that people are really safe. Adapt these buildings to the norms need a very careful approach considering the heritage value; otherwise it may change the most significant and characteristic features.

Maintenance has always been a problem and the situation got worse over time due to a constant lack of planning and because of two distinct owners (ERSU-Regional Agency for the Right to University Study of Urbino, is the owner of the *Collegio Tridente* and manager of other buildings which are owned by the University of Urbino). They are always constrained by the need to contain the operating costs. Over the years a reactive approach prevailed above a proactive strategy, that would allow early interventions, instead of replacing what could no longer be saved and make some areas inaccessible due to some rather trivial problems.

3. What about Use?

De Carlo designed here flexible spaces for a community of conscious people, but the use and the users contradicted the expectations of De Carlo:

I noticed that students tended to live in this building, as if it were a hotel. The common part has never been used intensively (...) In the rooms they lived in a very private way. Sometimes I saw the sign "Do Not Disturb" on the doors. This is scary: it is the representation of life in a hotel, you do not communicate with anyone and virtually lives in a secret way. For this reason, I have completely changed the overall organization. I have introduced many intermediate spaces between the private and common areas. There are a number of more and more public spaces, changing the scale at every step, starting from the aggregation of small groups to those larger and larger, until you get to the great outdoors where many people can come together, even with the city's residents.⁷

Over time, the *Collegi* became just a dormitory, because most services were never activated and the academic activities were relocated in the city centre. Students spend most of their time in the rooms, where they cook, study and meet friends. The common areas are unused, underused, misused, mainly because they lack appropriate furniture and lights, comfort and cosiness (**Fig.5**).

We are typically facing a situation of incomprehension between modern spaces and users. Are the users not able to experience the possibilities offered by modern architecture because they lack appropriate interpretation tools? Or are we facing a failure of modern architecture because is imposing an idea of life that doesn't belong to the users?

Some changes, perhaps even radical, will be necessary to allow the building to be used in the next future, but priorities and limits of acceptable change must be defined taking into account the actual behaviour of users and the actual use of the building, rather than responding to theoretical standards and requirements. And above all, we should not forget that we are dealing with heritage, even though is

not a listed building, yet.

It is therefore necessary to understand if it is really so urgent to adapt spaces that are almost always deserted to conditions of overcrowding that are unlikely to occur or that it is rather more urgent to understand how to refurbish those underused areas or if there are areas that although formally excluded from use (as part of the roofs) have now become a hangout for students. Moreover, it is necessary to understand if it make sense introducing the services that were never activated –like shops-, or figure out if those services are not interesting anymore and the life and survival of *Collegi* is more linked to new educational facilities –like workshop and conference rooms for guests- that can bring new functions, life and incomes for the *Collegi*.

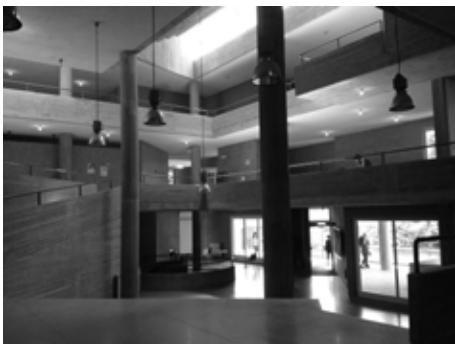


Fig. 5 Giancarlo De Carlo, Collegio dell'Aquilone, Urbino, Italy, 2014, the central distribution hall with the study places on the terraces. (Canziani)"

4. Towards a Comprehensive Strategy

In 2012, the regional government has granted a loan for the refurbishment of the *Collegio Tridente*, and the University plans to refurbish also the *Collegio Aquilone* adding new spaces for workshops and may be even a new building. De Carlo Associates have been called to develop the projects and they asked DOCOMOMO Italia for an expertise. The preliminary studies⁸ were an opportunity to "test" some theoretical assumptions, from which descends a method that gives priority to planned conservation of heritage. They already gave few answers about a comprehensive strategy that entails:

- Changes guidelines, based on heritage value assessment, establishing criteria and procedures applicable to different parts of the complex;
- Maintenance plan, draft on the basis of the actual state of conservation of each element, aimed at preserving the complex, preventing future damages and keeping under control the recurring criticalities;
- Rules for a sustainable use of the complex including owners and users acknowledgment and involvement.

This means outlining a coherent process that includes planning, intervention and management, ensuring the preservation of the complex⁹
¹⁰. Due to the very fragile nature of fair face building materials, intervening before any damage is better than any restorations. That's why is very appropriate a Planned Conservation approach¹¹, that reviews the role of the conservation project and its methods: from restoration as a single extraordinary event, that can bring the building up to a fixed state of perfection – the icon – to conservation as continuous attention, as a process, as a set of activities directed to preserve the original fabric and to manage transformations. That means introducing the idea that not every problem must be solved immediately, but solutions that require adjustments over time and also include the control of the conditions are the most appropriate. It is the shifting from individual repairs of *a run-to failure* maintenance to a strategy that starts with planning and ends with management. This calls into question our ability to manage a state of uncertainty that is an absolutely contemporary philosophy and at the same time defines the greatest challenge that we face today in the resilience of the inheritance of modern architecture.¹²

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Notes

- ¹ The 1966 Team X meeting in Urbino and from 1976 to 1981 the ILAUD (International Laboratory of Architecture and Urban Design) chaired by De Carlo, become in those years a laboratory to put into practice the new idea of architecture and a new way of looking at the city.
- ² Lynch, K. *The image of the city*, MIT press, Cambridge, 1960.
- ³ Cullen, G. *Townscape*, Architectural press, London, 1961.
- ⁴ Buncuga, F., *Conversazioni con Giancarlo De Carlo. Architettura e libertà*, Eleuthera, Milano, 2000, p.132
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State Theatre Darmstadt – Updating a House and a City

Alex DILL *

Abstract

The theatre building in Darmstadt designed and built by Rolf Prange 1963 –72 has been one of the most representative, public architectural pieces in the **POSTWAR GERMAN MODERN ARCHITECTURE**. Because of the total destruction of cities and their infrastructure and a new sense of democratic and public cultural development every big city was aiming to face new schools, new museums, new theatres and also hospitals, city-halls and new stations and airports. Among them theatres as most complex, exclusive and public architectural projects have been also a demonstration of the transformation of the cities and a new democratic society going towards the future. Some famous Examples are Philharmony Berlin (Hans Scharoun), Theatre Essen (Alvar Aalto), Theatre Kassel (Scharoun/Bode), Liederhalle Stuttgart (Abel/Gutbrod), Opera House Frankfurt (Appel, Beckert u.Becker).

The **STATE THEATRE DARMSTADT**, then was one of the most ambitious theatre project in Germany in that time, a Theatre-, Opera-, Ballet Stages- and Music House, one of the best examples, maybe number one among the new theatre buildings, very functional, expressing the aesthetic power of MODERNISM in an outstanding way.

Now after about half a century it had to be renewed and it is done excellent by new design of some parts or details without destroying the character of its origin, by the architects Lederer, Ragnardottir, Oi (Stuttgart). The addition of a new SCENOGRAFIC ENTRANCE and the face-lifting of the underground garage-parking with its new arrangement of an urban space on its top as a “common ground” now has become a **delicious highlight of great value for both, THEATRE AND CITY**.

To demonstrate how great public buildings like theatres could be treated and at the same time the City’s space could be renewed by good and professional work of talented designers the STATE THEATRE DARMSTADT gives an outstanding, excellent example.

Keywords : theatre, scenography, public space, conservation, renewal, design

The very first moment we think of Architecture we refer to it’s BEAUTY, the aesthetic quality and its values of space that enriches the city or the landscape. At any time Architecture is also a political statement and a social act. Therefore it is the key to all public space, to the quality of life, to the options of culture and the understanding of the history of the place and the people.

The architectural research, the modernisation and the renewal of the State Theatre Darmstadt by the architects LEDERER, RAGNARDOTTIR + OEI (Stuttgart) 2006 + 2010 deals with the language of modern architecture, underlines its existing qualities and introduces new strong architectural elements. Their design gives new perspectives not only for the house but also for the city.

2000 the big theatre had to be renewed because of technical standards, fire protection, new demands on stage technology, standards for public buildings and because of damages.

* docomomo Germany / KIT Karlsruhe

To describe the values and the treatment by genius architectural design work, I face
first the quality of the design and the building 1963-72,
second the design ideas and concept of the renewal and update 2006 -10.

1. Historic Context / War / New Cultural Life

Long before the twentieth century there was already a theatre building in Darmstadt designed and built 1819 by the architect GEORG MOLLER in neoclassical style, facing the castle and the public buildings around.

In the night of September 11th 1944, the bombardment of some hundred British airofighters using 300.000 firebombs destroyed the City totally within half an hour. 25.000 People died painfully, 1 house and 1 ancient tower still existed in the city next day, 80 % of all inhabitants lost all their existing goods and places to live. This was one result of the total war, initiated by the Germans and the total destruction of civil people and European cities.

Then in many places in EUROPE the politicians decided how to rebuild the demolished cities, either in historic version or in a new modern style, the examples of Warschau or Würzburg as historic Versions and Le Havre or Royan as new contemporary cities are wellknown. DARMSTADT was supposed to be rebuilt along contemporary, new principles of urbanism and architecture.

So on one side facing the TRAUMA on the other side reconstructing a new social, political and economical life, democratic principles were installed and with the foreign help cultural life began to grow again. Again there started international Dialog in art, music, architecture, science –

Darmstadt hosted the first open Symposium about the future of architecture and urbanism in GERMANY the so called „DARMSTÄDTER GESPRÄCHE“, it started the international conferences for the practice and theory of contemporary music „DARMSTÄDTER TAGE FÜR NEUE MUSIK“ with international Participants like John Cage, Luigi Nono. Visual Art, for example the group ZERO with Joseph Beuys, Literature, for example the group 47 and social science, for example „die Frankfurter Schule“ gave new ideas and power towards a new open minded, lively and democratic society.

The economic reconstruction of the industry and commerce was developed hand in hand with social and political development, towards a new society. Good education for everyone, democratic principles, healthy living and working in a modern world have been the goals. Architecture was to solve all new demands.

2. 1972 New City + New Life / Modernity

Architekt Rudolf Prange

So the State Theatre, designed by Rudolf Prange in the 70th was one of the various big cultural investigations and new signals in GERMANY following the reconstruction, the „Wiederaufbau“ of the destroyed Cities. In these days it was the most expensive, but exclusive new theatre building in Germany. It was following and further developing very strictly the functional and aesthetic principles and goals of the modern contemporary architecture.

Its three parts, the Opera, the Ballet and the Theatre together with a constantly working Symphonie Orchestra fulfilled the cultural needs of a modern city, with international standards. The Theatre was one of the biggest in Germany, with 500 Employees, the big Audience facing 956 visitors, the small 482, all seats with excellent visual and acoustic conditions.

The Modernity of the design of Rudolf Prange was the very complex composition of space and infrastructure to fulfill all contemporary needs.

All in the workshop produced environments could directly and in full scale be moved on Stage. They could easily be stored in three directions around the stage, to support the many changes of programm or training during the day. An excellent Technology was installed for all the mobility, for the lightning and for the audiomedia support. This all supported a current standard of technical and social security. The place around the stage is the most dangerous working place, because of missing railings, turning platforms and volumes and because of running or flying loads.

The architects designed very largescaled all representative parts of the theatre, also the working places, offices and the spaces for the artists as a unity.

Following the principles of functionalism, the socalled „Car adapted City“ was realized. Cars and Busses entered the Theatre under the two

main entrances like a „DRIVE IN“, people transferred directly into the upper foyers or in front of the entrances. There was place for some hundret cars in the big parking basement.

The Ästhetic of the building was a reduced, very generous use of material:

top roofs of the stages in light Aluminium panels with small vertical riffels, walls of the fassade covered with smooth sheeds of the white Carrara Marble, all other elements of the building like stairs, balustrades, ramps in grey Concret, wide glas fassades in all foyers, white coloured plastered walls inside, black colored iron frames together with the glazing, dark antrazit slate in all foyers as bottom, white coloured ceilings and white colored garderobe boxes for individual use. The very generous foyers are a continues composition of space in three levels, full of daylight. A big roof terrace dominating the whole east front of the theatre gives the proportion of an understatement, helps bring light deep into the foyers and facing the city as a generous balcony.

After some decades of intensive use the theatre had to be basicly renewed because of missing maintenance, new technological standards, new stronger regulations for fire protection, for the asses of handicapt visitors and new energetic standards.



Fig. 1 nightview of the theatre 1972



Fig. 2 view after renewel 2010



Fig. 3 view of the new entrance building as an outdoor stage

3. 2004 Competition / Concepts for the Conservation + Modernisation

Lederer, Ragnarsdottir, Oei Architects

1. Part Theatre Building / Technic + Architecture

Because of the size and the number of artists the theatre should not be closed, all work had to be done while the theatre continued its programm.

Therefore the architects designed a third stage and small Audience instead of the drive in basement and they decided to concentrate the acces into the theatre by only one Entrance instead of two. They designed a new sculptural entrance building.

So the theatre got a new face and it got a new small chambertheatre together with a bar, that enriches the whole working conditions very much.

The „new face“, a sculptural, very expressiv building opens in the upper floor with an „Outdoor Stage“ to the public place in front of the theatre. It is a big sculptur, founded in white concret. Inside is the main staircase iluminated by a skylight and in the surface of the white curved walls are copper sticks in the place of the fittings to support the process of developing the patina. It is at the same time a signal because the big wings covered by messing sheeds open into red colour whenm the theatre gives its performances at night.

The Architects say that they gave a big contribution to connect and to integrate the theatre into the urban space. They did it together with the ideas for the public space as a wide open area with a classizistic middleaxis and right and left a raw of framing elements connecting the city with the building.

It came out that this public space became one of the very popular spaces for all kind of citizens, the young and the old, the rich and the poor. It is a lively place of very high quality beginning with the morning light from east, bringing the front of the theatre into bright light scenery, ending with the sunset and the illumination of the place the theatre is like a skyline sculpture at the end of the day.

The Foyers got a new, more unique and even more lightened spacial quality by taking away the two different entrances, using only the new doorhouse as central asses for all of the three audiences. The glass walls are now running over the whole front and a skylight in the middleaxis, right above the main entrance is giving even more light and orientation. There is also a new reception integrated into the wall, that can be totally closed and hidden by two sliding walls, when it is not needed.

The ceilings of all foyers had to stay open because of all the technological demands and new instalation. They have been coloured totally in black. Hanging accoustic sails that also keep the sprinklers and deal as light reflectors give an atmosphere of swinging lightness. Curved new garderoobe elements with transparrent paravent doors give space for the people to dress and talk and walk while the roof terrasse with the new balcony is very much used to relax, to take drinks as a big open air lounge.

For the foame exit of the foyers, white metall chimneys have been designed and situated regularly on the roof terrasse. They also deal as seats, sculptures and as lightreflectors by night illuminating the view according to a sophisticated constant light design concept.

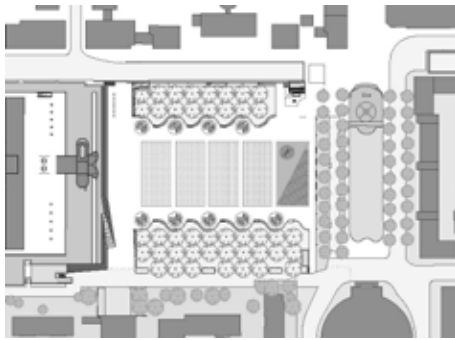


Fig. 4 entrance building (stage) and the public space „Georg-Büchner-Place“ (audithorium)



Fig. 5 night view & day view 2013

4. 2006 Concepts for the Conservation + Modernisation

Context of urban green and space / Stadtgestalterische Erneuerung

2. Part Basement Parking / Public Place „Georg Büchner Platz „

As result of their analysis, that the functionalism of the original design did not evoce a urban density of space, that the open and individualistic orientation of buildings at that time with green around them does not help giving an urban identity and context. the architects designed a lightly terrassed open space with a middleaxis to give full view to the scene, flanked by sculptural elements of the stairs to the basement, allees of trees and benches.

The green lawn in the middleaxis gives a excellent audience towards the outdoor stage and is used very much by the children or people passing by to see and to be regarded, also for couples to meet or familys to rest with little children. Stripes of concrete support the lawn supporting insensiv use.

The new stairs leading to the basement parking at the same time are light reflectors giving a scene in the night and they bring full daylight into the parking level. Curved low walls together with green (box) frame the pedestrian area. All concret elements are in white concrete. They by the way are covered with a transparent glaze against grafitti attacks.

Following the design ideas all materials are ästhetically attractiv and in dialog to each other. The public space is connected to a green allee axis called „Wilhelminenplatz“ by an area with water games and the turning sculpture „GRANDE DISCO“ of the italian artist Arnaldo Pomodoro.

5. Finally

The architects tried to work out a urban context with architectural elements and a formal language of the modern architecture of the theatre, using the material for the goal of a strong, integrated, uniform scene. Together with an excellent light conception they introduce a new quality into that part of the city, that is now one of the big attractions. Updating a house and a city by good and sophisticated architectural design work.

The project part one and part two meanwhile received numerous awards and prices. Most of all these people, that did not like modern architecture, that did not like this generous theatre and that did not like progressive architectural work at all feel happy now and are convinced by that example. Even if they don't understand why, they like it because of its new options and bright scene.



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- 2004 visiting professor University of Moscow / MARCHI
- 2007 professorship „architecture + design“
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- 2008 visiting professor State University St. Petersburg
- 2010 member of „German Werkbund“
- 2010 member of „THICOM-Intern. Commission of Experts for Tugendhat House, BRNO“
- 2010 chair of “docomomo Germany”

Severiano Porto: The world Cup lost

Marcos Paulo CERETO *

Abstract

This article highlights the importance of the work of architect Severiano Mário Porto in the Brazilian Amazon in the period post-Brasília Brazilian Modern Movement. *Mineiro* in *Uberlândia*, formed by the Beaux-Arts at the National School of the University of Brazil in 1954, Severiano Mário Porto moved to Manaus in 1965, invited to make the project of the reform of the *Palácio Rio Negro*, residence official of the State of Amazonas, and the headquarters of Legislature. In 1967, he received the awards in the category Building recreationally IAB (Institute of Architects of Brazil) with the restaurant *Chapéu de Palha*. In 1971, he won the category Single Family Residence with the residence of the architect. Received the award in the building for the purpose of supply category in 1972 with the Water Reservoirs of *COSAMA*. In 1974, he won first prize in the category for building institutional and administrative purposes with headquarters of *SUFRAMA*. Received an honorable mention in the category of the IAB buildings for sport and recreational purposes in 1976 by Vivaldo Lima stadium. In 1978, he received the awards in the family house with the residence of Robert Schuster in *Manaus* and honorable mention with *João Luiz Osório* residence in *Cabo Frio* in *Rio de Janeiro*. In 1982, he received the award in the category Architecture with the hotel in *Silves*. In 1985 he was honored with the Universidad de Buenos Aires Biennial Award in Buenos Aires. He received the award for Personality of the Year in 1986 by the IAB / RJ and honorable mention by the Center for Environmental Protection project in Balbina and also at the University of Amazonas campus project in 1987. This article presents a discussion point on the Universality and Regionality Modern Architecture in portraying the work of Severiano Mário Porto as an example of the adaptation of modernist concepts in different realities. It displays the current publication about the buildings that were demolished or mangled demonstrating the need to preserve this architectural heritage that represents the culture of "man in the forest". It analyzes the *Vivaldo Lima Stadium*, demolished for the World Cup 2014, for the construction of a "stadium for FIFA". It contributes to the awareness of the preservation of this heritage in contrast with the "placeless architecture" that every day is established in Brazilian cities and in particular in Manaus.

Keywords : modern architecture, regionalism, severiano porto

1. Vivaldo Lima Stadium, 1970-2010

Considered the "Paris of Tropics," the city of Manaus is located in the North of Brazil within the Amazon rainforest far about 2.000 km from the river mouth of the Amazon River. It had an economic boost with the beginning of the Republic in Brazil. It is the leading global producer of rubber, the raw material industries. The rubber boom promoted urban development of Manaus and many important buildings built among them include the imposing *Teatro Amazonas*, the *Mercado Adolpho Lisboa* and the *floating* harbor. In 1910 rubber began to be extracted from seringueiras that were planted in Asia determining the decay of manauara economy. Manaus enters into deep economic and cultural decay and would be changed in 1965, with the establishment of the *Manaus* Free Trade Zone, the import

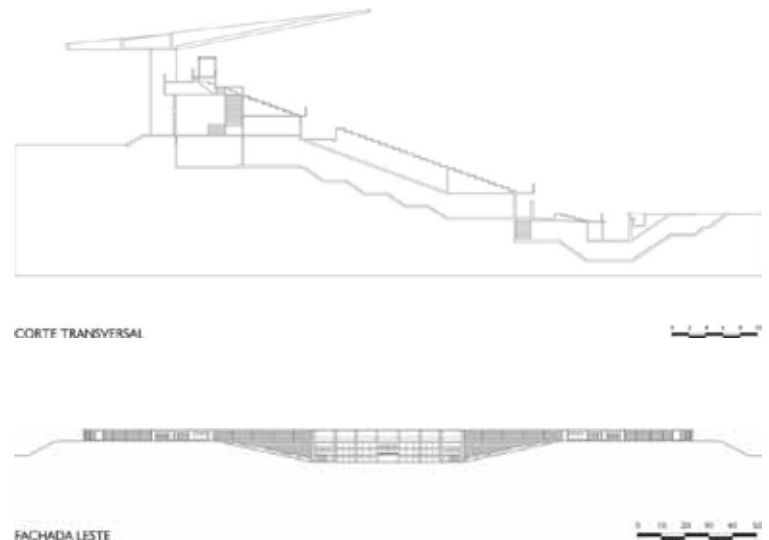
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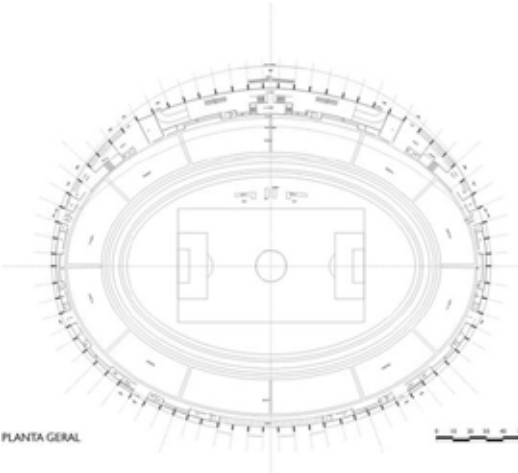
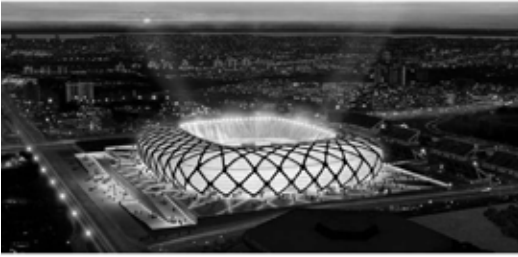
and trade and then industrial subsequently, with the aim of promoting economic recovery in the northern region and ensure protection borders in the Amazon region . The Vivaldo Lima stadium was the first major public work of this second cycle, economic, and initial milestone of modern architecture in *Manaus*. In 1967, the city had an estimated population of 250,000 and the building was on the edge of the urban area with the forest. Currently the city has about 2,000,000 inhabitants and the stadium is located in the geographic center of the municipality. The purpose of the construction of the stadium, according Severiano “*was to meet the growing demand of football in the north and make exchanges with neighboring countries (Peru, Ecuador, Guyana, Venezuela and Bolivia) away from traditional sports centers in the south-central country*”. The stadium was awarded by the Institute of Architects of Brazil in 1976 and demolished to build the Arena Amazonia in 2010, architectural project developed by GMP Architekten German office.

Before the implementation of the new economic model for the developmental Northern Brazil in the 60's and architectural projects, Severiano Porto already had some specific projects of modern architecture in the city: Airport Ponta Pelada by Alvaro Vital Brazil in 1944 and the *Hotel Amazonas* by Paul Antunes Ribeiro in 1948. Nevertheless, we consider the arrival of Severiano in *Manaus* as the birth of modern architecture . Severiano Mário Porto was born in 1930 in the city of *Uberlândia in Minas Gerais* and five years old when he moved with his parents to the *city of Rio de Janeiro*. In 1954, he concluded the course of architecture at the *École des Beaux-Arts in Rio*, and in 1965 he was invited to develop the project of reform of the *Palácio Rio Negro* and the outbuilding to the *Assembléia Legislativa* by a neighbour . *Jardim Botânico in Rio de Janeiro*, Governor *Arthur Reis* who had been appointed in 1964 by the then brazilian president *Humberto Castelo Branco*. Still residing in *Rio*, he was named by the State Government of Amazonas and an interministerial group in 1966 to design a Supply Center near the *Mercado Adolpho Lisboa*. Both projects were not executed. He was invited to design the stadium state in 1967. The confirmation of this construction by the state government decided to keep the office with partner Mario Ribeiro in *Rio de Janeiro* by the need to be close to suppliers but would be essential to live with his wife in *Manaus* to be responsible for the execution of the work.

The architectural production of Severiano is founded on the principles of the *escola carioca*, with adaptation to local features of the Brazilian amazon. According to Cristian Fernandez Cox, it was an “appropriate modernity”. This reality more of a principle that was exercised by the shortage of skilled manpower in place for the use of reinforced concrete added to the high cost and scarcity of cement stones for the aggregate in the region. Still, he perceived a deep knowledge in the use of the vernacular wooden expressed in pleasure boats and neighboring dwellings - *palafitas*. Severiano claimed that there was this moment which began to live in *Manaus* “*deep shame in the use of wood , symbolizing low-income housing .*” Beginning of modern architecture in *Manaus* was marked by the adoption of universal concepts proposed by modern architecture with interpretations and adaptations to regional reality proving the efficiency, validity and vitality.

The ground chosen by the state government to implement the Vivaldo Lima stadium had a huge horseshoe-shaped crater result of excavation and blasting for the construction of landfill sites. Neighborhoods of the dawn lacks and would allow the accommodation of this stage resulting topography. Severiano did not participate together in the choice of site. When we visited the site, we found it profit the slopes of the crater to enter the stadium by plotting the levels of the grandstand that slope like a large amphitheater. During the period that developed the architectural design, he has made visits to the stadium *Mineirão in Belo Horizonte* nearing completion and was informed by scheming to “*execute the stadium from the inside to out , because the lack of financial resources at the end of the work could not affect the final result by custom interrupt service on the part of finishes at the end of the work as with the Maracanã stadium*” . The integration of the topographical constraints was a strategy used in Ancient Greece for the construction of stadiums in most buildings also reducing the





volumetric impact on the city. This concept of adaptability is used by Le Corbusier in 1938, the design for a stadium to 100,000 spectators and it would also be applied by architects Augusto Palacios, Raul Salinas and Jorge Bravo in the stadium of the University Town of Mexico project, and Frei Otto in Munich to the Olympic Game . The model used in the stadium project was a half covered closed loop adapted to the topography of the terrain. This stands was divided into three parts. The larger north-south axis of the ground would allow the perfect adaptation of the field in proper solar orientation. The east-west axis would be the main lines. In eastern access along the avenue Constantino Nery, who still makes the main road link between north and south of the city, which was a large scale with the transition of the city and accessed the stands and also the administrative functions, as well as main portico with monumental access. There were gates along the perimeter of the stadium, both the north and the south creating a module which determined the tariff in the set. In the west access the changing rooms were in the basement, VIP lounge, main lounge, handicap access, press boxes, tribunes of honor and also access and parking within the volume of the independent stage for athletes, officials and guests a novelty in Brazilian stadiums this then and now a determination to reform or new architectural designs of the stadium by FIFA. This private access provides privacy for the actors of the show, the press and public with more expensive tickets. Occurred in the parking lot of the fragment in the south and north. The perimeter of the stadium is totally clear with ample access to all gates. The project included a partial stadium coverage specifically in the western sector and has started and abandoned by the difficulties in implementation for the sloping slab. On the occasion of the reform of the stadium in 1992, he has completed the coverage with the original design, but performed on

metal frame, along with the press box of the stadium .

The building's facade is mostly treated as a thin line dividing from the stands to the outside looking silently integrate the building resulting topography. Only two instances showed a different treatment: the western and eastern access to the stadium. In the east access, Severiano treated the facade of the structure of reinforced concrete and wooden fence panels. In west glass panels allow access to the whole transparency. The use of wood in the administrative part of the brick and the outer limits of the building determined the use of vernacular building techniques of the local workforce ensuring the quality of the final finishing of the work. The correct insertion of regional materials within a universal context, defines an identified with the principles of the *escola carioca*, adapted to place architecture - critical regionalism of Kenneth Frampton .

The appreciation of the structural system in the projects, highlighting the structural mesh as the foreground of facades, was a strategy of stages produced in Brazil during this period with the dematerialization of the facade making it the consequence of the game being filled and empty the grid or swing structural system. This concept has not been applied by Severiano in the facades of Vivaldo Lima stadium .

2. Final Thoughts

The Vivaldo Lima stadium was demolished in 2010 on the grounds of not meeting the criteria established by the FIFA stadiums wishing to receive soccer matches in the World Cup. It was part of a strategic plan developed by the state government intended to win the dispute between the cities indicated by the Brazilian government to bid for host city for the World Cup 2014. *Manaus* was competing on an unequal footing with *Belém*, which has greater tradition with traditional clubs and a participatory relationship with the local fans with good occupancy in stadiums. To win the contest, it would be necessary to combine the positive image of the state of *Amazonas* with concrete actions for sustainable development in the twenty-first century with a stadium that synthesized this image through a project that represent this environmental ideal. The strategic thinking of the state government understood that reformed Vivaldo Lima stadium, with all its history and representation in modern architecture of *Manaus*, would not be enough to win this dispute with *Belém* would need a stadium that the

project architectural had a global impact by reusing the principles of universality with regionality. Hiring office GMP Architekten for the development of the initial study represented the affirmation of a city that was determined to be chosen as host city considering criteria of visibility and marketing in their application .

Unfortunately, Severiano Porto's important buildings were demolished by the fragility of "appropriate modernity" in the face of globalization and the proliferation of "architecture without a place." Construction quality without eliminating the use of wood and vernacular construction techniques. Stopping this letter spells trouble for the maintenance of wooden structures in the work of Severiano. This occurs with the buildings of the Center for Environmental Protection of *Balbina* and in the *Aldeia SOS* that have been defaced and at risk of demolition. The three projects awarded by the Institute of Architects of Brazil were demolished: Straw Hat Restaurant in 1986, the house of the architect in 2003 and the Vivaldo Lima Stadium in 2010.

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Jungle Gardenia: Resistance and Triumph of Italian Modernism in Caracas

Hannia GOMEZ *

Abstract

In Venezuela, since the 1930s, a pléiade of engineers-architects-planners coming from diverse foreign schools, returned to Caracas, to help the country to enter into modernity. This would qualitatively mark Caracas' first modern architectural production.

By the mid-century, an outstanding national architect, Carlos Raúl Villanueva, began to mark with his personal style and with his most important work, the Ciudad Universitaria de Caracas, the evolution and modern architectural personality of the city. The power of this monumental work and the opening in 1953 of the School of Architecture shaped the new way in which the architects of mid-century Caracas would design architecture. A "poor", naked, sculptural, forthright –and Frenchier- way to make modern architecture.

Within this context, Philo-American on one side and Neo-Corbusian on the other, that the great Milanese master Gio Ponti opened the Villa Planchart in 1957. Ponti found that his villa, considered by himself as his masterpiece, went virtually unnoticed within the capital's architectural scene. The villa was, for quite a while, despised, although Caracas already had a huge fabric of domestic architecture "alla italiana" built by the immigrants.

The early local resistance to this more hybrid, all-welcoming and lover-of-history kind of modernity, went hand in hand with the difficulty to conserve this gem during its over 50 years of life. Nothing more difficult to preserve in Caracas than Italian Design, with its sophisticated lighting fixtures, its precious woods, its many ceramics, its delicate furnishings, all too far from the production source of their refined construction materials.

However, a beacon of civility shining on the valley of Caracas, the Villa Planchart, like an exotic white Gardenia in a tropical jungle of modern influences, overcame all the initial resistance, and expanded triumphantly to create an offspring of winged and light architectures which shaped the modern identity of Caracas forever.

Keywords : venezuela, caracas, modernism, carlos raúl villanueva, gio ponti, villa planchart, italian influence

'A leader, conquering and supreme, I saw

Such as triumphal chariots used to bear

To glorious honour on the Capitol'

Triumph of Love. Francesco Petrarca (1442).¹

1. A Happy Paradox

As everywhere else in the world during the last century, modern architecture expanded in Venezuela following precise economic, political, and cultural changes, but also due to the unique history of its protagonists and their singular works. Since 1936, with the beginning of formal oil exploitation in the country, much of the land's urbanization and the construction of the most remarkable public and civil works

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began to be built following the codes of modernity. And this was to show, first of all in the capital, Caracas.

In a few years, Caracas became modern, and not only so: it became spectacularly modern, full of new architectural typologies and a new building scale. The most powerful international models were bluntly absorbed and applied directly to the urban fabric. Already by the mid-century, the new architecture and engineering shone with such an splendor that Venezuela became a Latin American architectural leader, as contemporary Mexico and Brazil.

However, Caracas always retained somehow its traditional city memories. Thus, both the large architectural complexes and modern buildings ended up carrying implicitly a local urban, environmental, and artisan wisdom that tamed the modern radicalism. This happy paradox of the Caraquenian modernity encouraged the successful blossoming of the architectures of the European immigrants in the expansion of the city.

2. The Framework

On this particular cultural background cultural, a *pléiade* of engineers-architects-planners (which performed all of these functions), coming from diverse foreign schools of architecture and engineering, came to Caracas (where until as late as 1953 there was no formal School of Architecture), to qualitatively mark its first modern architectural production. Some of these professionals were Venezuelan, who were associated many times with foreign firms; some were immigrant professionals who came fleeing from their countries in war, and some, in many cases, were also foreign professionals that were commissioned directly for local projects.

But, as the urban growth in Caracas predominantly adopted the forms of the American city, with its highways, its suburban urbanisms and its zoning patterns, the impression for a long time was that the major influence that shaped the Caraquenian modernity was American. Nevertheless, reality was much richer and complex than this: the American-influenced urban grid, modern and vertiginous, car-oriented and informal, served as the modern framework in which the most diverse modern architectures would be inserted.

The architecture that most strongly influenced the course of Venezuela Modern Architecture was that of Master Carlos Raúl Villanueva, through his most important work, the Ciudad Universitaria de Caracas. By the end of the 1950s, Villanueva had already begun to mark, with his personal style, the modern architectural personality of the city. Trained in Paris at *l'Ecole Nationale des Beaux-Arts*, Villanueva began in the 1930s to follow with his works an increasingly decisive path towards abstraction, structural expression, preponderance of space, response to climate and integration of the arts in architecture. The overwhelming power of this monumental work together with the opening in 1953 of the School of Architecture within its campus -so heavily influenced by the work of Le Corbusier-, shaped the new way in which the new architects of mid-century Caracas did architecture.

They all learned to be modern in Villanueva's way: a "poor", naked, sculptural, forthright –and Frenchier- way to make Modern Architecture.

3. Jungle Gardenia

Within this context, urbanistically Philo-American on one side and architecturally Neo-Corbusian on the other, that the great Milanese master Gio Ponti in 1954 began the construction of Villa Planchart on top of its hill overlooking Caracas.

When in February 1954 Ponti came to Caracas for the first time, "he watches in astonishment the panorama of the immense construction site that was the city at that time."² His visit to Caracas was good for everything. Of all the buildings he toured, Villanueva's university city and the Cipriano J. Domínguez's Centro Simón Bolívar complex, had the most impact on him. Ponti established contact with the most important architects in the city: Carlos Raúl Villanueva, Leopoldo Martínez Olavarria, Gustavo Ferrero Tamayo, Moises Benacerraf, Graziano Gasparini, Diego Carbonell... Later, he will be the first ever to publish them worldwide, in *DOMUS* magazine.

Such enthusiasm lead him to exclaim that he would build the most glittering jewel of the city. "This is my jewel," he said.³ And indeed, as a precious, crystalline, faceted, gleaming stone the house reflects the white light of the tropics from the top of its hill.³ The house is a perfect body, a finite form surrounded by greenery to its very base, a modern Acropolis of an almost surreal white, blooming



Fig. 1 Gio Ponti, Villa Planchart, Caracas, Venezuela, 1957, "Jungle Gardenia", 2009, Hannia Gómez.



Fig. 3 Carlos Raúl Villanueva, Aula Magna, Caracas, Venezuela, 1950s, Archivo Fundacion de la Memoria Urbana.



Fig. 2 Carlos Raúl Villanueva, Ciudad Universitaria de Caracas, Caracas, Venezuela, 1950s, Archivo Fundacion de la Memoria Urbana.

amid the modern jungle. Totally resplendent and immaculate.

On the other hand, inside the villa, the entire universe of its *arredamento sui generis* surprises with its own rules. There the “flying” stairs and the tropical spaces are very much from 1950s Caracas, but at the same time are direct relatives of Milano’s villas from 1910. This work has both its own offspring in Caracas as a family tree, starting with its Milanese parentage with the Pirelli Tower.

The house’s modern, yet archaic forms are impressive, but, notwithstanding its undeniable modernity, show it as a traditional Florentine villa. Thus, this work began to speak to the entire city in fluent “Tuscan language”, opening the doors to the understanding of another form of modernity: Italian. A different kind of modernity, limitless, where nothing is forbidden and in which, as Alessandro Mendini said, “all colors, all shapes were possible”.⁴ The modernity of Italian Design. Ponti, in his other “Caribbean *domus*”, the Villa Arreaza or ‘Diamantina’ (1955), the Villa Guzmán-Blanco (1958), the renovation of Quinta La Barraca (1958), and the projects of Villa González-Gorron dona (1957) and of the Alfred J. Mouton building (1957), re-edits the tropical house, showing that decorative traditions can be reinvented, recreating the modern sensibility in every age and in every place in the world. The elegant Pontian elaborations, with their extravagant formal wanderings and unique decorative performances, fit divinely in the continent of magical realism, recharging with the fantastic weather. In 1957, when the Villa Planchart opened, Ponti wrote: “In the happiness of the tropics modern architecture will flourish”.⁵



Fig. 4 Antonio Montini Foschi, Villa Monzeglio, Caracas, Venezuela, 1953, Archivo Fundacion de la Memoria Urbana.

4. Resistance and Triumph of Italian Modernism in Caracas

Sadly, Gio Ponti found that his masterpiece went virtually unnoticed at the time within the capital’s architectural scene. Caracas’ architects seemed to understand very little of the work’s formal deployment, of its rich baroque spatiality, its innovative ideas for the tropical light, its decorativeness brought to its ultimate consequences, its operation of representing all of Italy’s production in one single work, and finally, of the whole idea of an Italian *Gesamtkunstwerk*. The villa was, for quite a while, despised, although Caracas had already an increasing fabric of domestic architecture “*alla italiana*” built by immigrants.

This dislike was somewhat understandable. The delirious formal deployment of this work contrasted in a powerful way to the more balanced and austere modernist aesthetics prevalent in the Caracas architecture of the time.

An architecture more prone to an elegant and more frugal compositional balance, which was already a collective taste present in the rest of the local modern architectures, and mainly the university city.

It was as if the design blast represented by Villa Planchart was too difficult to assimilate immediately...

...or as if it was too difficult to accept that there could be another version of the Integration of the Arts beyond Villanueva’s Aula Magna. This early local resistance to this more hybrid, all-embracing, all-welcoming and lover-of-history kind of modernity, due to which the work of Ponti at first was also so hard and unfairly criticized worldwide, went hand in hand with the difficulty of the local architectural community to embrace it... at the beginning. Meanwhile, Venezuela had already become the fourth largest Italian colony in the world.

Almost all modern works in the capital would carry the indelible Italian imprint. The constructive moment that the country was living “found in the refined architects, experienced engineers, wise builders, poetic artists and magnificent Italian craftsmen the most efficient tool for the transformation of the environment, learning from them, trusting them... and also becoming them somehow.

Their vast urban memory and architectural culture, of light and refined modern designs,

also marked and modeled the character and identity of the Venezuelan modernity. The city was transformed. And whole fragments of Caracas ended up as pieces of Rome, Genoa, Florence or Naples”.⁶

Furthermore Ponti, in the early 60s, while he finished the internal equipment of Villa Planchart and built his other works in Caracas, continued to publish all the Venezuelan architecture that impressed him on his visits... Gasparini’s Scarpian architecture, Carbonell’s light houses, Guinand, Benacerraf & Vestuti’s elegant Caribbean modernity, thereby doubling the Italian influence in the capital. DOMUS, thus, also became the diffuser of a new mythology of Venezuelan design.

5. *Moderna Città Eterna*

Gradually, Villa Planchart began to age. And with it started the need to preserve it. Nothing was more difficult to preserve in Caracas than Italian Design, with its sophisticated lighting fixtures, its precious woods, its many ceramics, its delicate furnishings, all too far from the production source of their refined construction materials. What followed, to preserve it, were fifty years of loving preservation by the original owners of the house, the Plancharts. With this, they unknowingly established a kind of living school for the preservation of the Venezuelan modern heritage that would achieve, over time, the passion that nowadays the town feels for this house, and the actual claim of the Italian architectures of the period.

Learning to live with the huge windows, with the soaring illuminated ceilings, with the delicate neon filaments that run through all the crevices of the architecture, with the fabrics and leathers of precise colors, with the fine woods of very slight edges and the great amounts of bronze in strips, sheets and tubes, they became pioneers of the country’s modern restoration. A new routine, that of the creative, perennial, and persistent maintenance, was born. Ponti, of course, had pointed the way. In the house’s basement he provided boxes of materials waiting to promptly replace each tile, each marble slab, each neon tube when it was needed.

After half a century, the villa remained perfectly preserved, in pristine inalterability. Over time, nature regained its lost grounds over the hill. However, a beacon of civility shining on the valley of Caracas, the Villa Planchart, like an exotic white Gardenia amidst a tropical jungle of modern influences, overcame all the initial resistance, and expanded triumphantly to create an offspring of winged and light architectures which shaped the modern identity of Caracas forever, promoting that the huge universe of the modernities brought by the Italian immigrants, be appreciated and recognized.

Notes

¹ Francesco Petrarca, “...Vidi un vittorioso e sommo duce / pur com’un di color che ‘n Campidoglio / triunfal carro a gran gloria conduce”, In: *Triumphus Cupidinis*, I, Trionfi, Arezzo, 1442.

² Hannia Gómez, *El Cerrito: la obra maestra de Gio Ponti en Caracas*, ULTREYA Edizioni / Fundación Planchart, Caracas, 2009, 56.

³ H. Gómez, *Op.Cit.*, Caracas, 2009, 19.

⁴ H. Gómez, *Ibid*, Caracas, 2009, 52.

⁵ H. Gómez, *Idem*, Caracas, 2009, 144.

⁶ Hannia Gómez, *Las Italías de Caracas*, Sala TAC/Docomomo Venezuela, Caracas, 2012, 18.



Fig. 5 Gio Ponti, Villa Planchart, Caracas, Venezuela, 1957, Night View, 1961, Paolo Gasparini.



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Pluperfect Architectures: Falsely Old and Falsely New

Ana Carolina PELLEGRINI *

Abstract

Reconstructions and replicas of both remarkable architecture and ordinary buildings in special contexts are always controversial. In the field of art, copying has usually been considered falsification. Regarding architecture, many people disapprove of the replication of a building complaining about the lack of authenticity or of the incompatibility with the Zeitgeist. Reconstructions are accused of being falsely old and falsely new, and of not being aligned with the spirit of the time.

Avoiding moral criticism, this paper seeks to tackle two exemplary cases: the replica of Rietveld Aula – reconstruction of notable architecture; and the Luiz Gonzaga Backwoods Wharf – reconstruction of ordinary architecture in a remarkable context.

The Aula, completed in 1967, was designed by Gerrit Rietveld for the Wilgenhof cemetery, in Hoofddorp, The Netherlands. In 2003, it could no longer be used because of the construction of the fifth runway of Schiphol Airport, and Bertus Mulder was commissioned to design a replica of the auditorium in the new Meertenpen Cemetery, in the same city. He designed some adaptations to the new building, but maintained the original appearance. Just as the first one, the new Aula is listed as a heritage site. The former auditorium was then demolished. The Luiz Gonzaga Backwoods Wharf is a museum dedicated to an important Brazilian musician and was completed in 2014. During the construction of the contemporary building, the first design made by Marcelo Ferraz and Francisco Fanucci to the Brazilian city Recife included the maintenance of a harbor warehouse. However, at the end of design process, the warehouse collapsed. Once the design was already concluded and completed, the architects decided to reconstruct the warehouse, but in a more convenient place, in order to qualify the project.

Both design operations aroused conflicts with heritage institutions which usually perceive the reconstructions as fake.

Keywords : reconstruction, heritage, rietveld, falsification

1. Introduction

Reconstructions and replicas of both remarkable architecture and ordinary buildings in special contexts are always controversial. In the field of art, copying has usually been considered falsification. Regarding architecture, many people disapprove of the replication of a building complaining about the lack of authenticity or of the incompatibility with the Zeitgeist. Reconstructions are accused of being falsely old and falsely new, and of not being aligned with the spirit of the time. s These arguments, along with the concerns about intentions to deceive, however, seem to be more related with moral values than with disciplinary architectural culture. While attempting to avoid moral criticism, this paper will tackle two exemplary cases: the replica of Rietveld Aula – reconstruction of notable architecture; and the Luiz Gonzaga Backwoods Wharf – reconstruction of ordinary architecture in a remarkable context.

Both design operations aroused conflicts with heritage institutions which usually perceive reconstructions as fake.

Avoiding hasty judgments, this work intends to address the reasons that led to such reconstructions and the adopted procedures, in addition

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to analyzing the quality and pertinence of the results.

2. The Rietveld Aula

The aula, designed by Gerrit Rietveld for the Wilgenhof Cemetery, was completed in 1966, in Hoofddorp, in the Dutch polder of Haarlemmermeer. Although it was approved in May 1959, when Rietveld died, the work had still not been completed in 1964, and the necessary design adaptations were made by two of his collaborators: J. Van Tricht and J. Van Dillen.

The building shape was determined by funeral rituals in order to create an atmosphere of peace and tranquility. The metal structure defines a grid of 3.3 m x 3.3 m. Externally, the building is made of glazed bricks in white, gray, and black colors, while the interior is white plastered. The ceiling is made of wood fiber boards, whose softness contributes to the acoustic condition.

The natural wood chosen for the benches contrasts with the gray and white linoleum floor. The transparent double-height hall is limited by brickwork prisms, which makes a transition to the lower volumes that join the light metal structure of lower roofs.

After almost forty years, in 2003, construction of the fifth runway at Schiphol Airport prevented the use of both the cemetery and aula, mainly because of the noise from the aircraft traffic. Thus, a new cemetery was built in Zwaanshoek, about 7 km away. The Rietveld Aula became unused, although listed as municipal monument.

Intending to transfer the Aula to the new cemetery, the municipality invited Bertus Mulder, former Rietveld collaborator, who had worked on the restoration of the Schröder House, in Utrecht, and had restored the Hoofddorp School, also in Haarlemmermeer. As the building had cracks, leaks and damaged bricks, Mulder advised it should be rebuilt according to its original specifications.

Based on drawings filed in The Netherlands Architecture Institute, the reconstruction maintained its original shapes, although constructive detailing has been improved, mainly regarding thermal insulation – added to the walls and to the ceiling – and the addition of double paned glass. The solar orientation was kept in order to preserve the effects of light over the external and internal plans. The relation of the new aula with the open space has changed. Instead of direct access through cemetery principal path, now the visitors must round the building before entering. Additionally, the disposition of graves in the new cemetery is completely different.

In order to avoid duplication of monuments, the old chapel was demolished after conclusion of its replica, and the new building is now listed as a monument in place of his predecessor.

3. Luiz Gonzaga Backwoods Wharf

The Luiz Gonzaga Backwoods Wharf was completed in April 2014, in Recife, capital of the Brazilian state of Pernambuco. The work honors an important musician, and it is located in the historic Recife's harbor area, which is undergoing urban requalification which was encouraged by its being listed as national heritage in 1998.

When the Brasil Arquitetura office was commissioned, the area to be designed included the Warehouse 10 - which should be maintained and restored - and the empty space next door, known as the Mill Yard. Another factor was the Malakoff Tower (also listed), built in 1855.

Francisco Fanucci and Marcelo Ferraz designed the first museum version considered for the restoration of Warehouse 10 and proposed building a new volume in the Mill Yard. Its insertion would maintain the alignment of the other remaining warehouses, respecting the linearity and volumetric constancy of the pavilions series.

After having the design approved and being hired, the design was being detailed when structural deterioration in Warehouse 10 was detected. Demolition was recommended.

The impasse led the architects to find alternatives that could ensure the project development in contracted terms and the quality of result. In order to maintain the design, reconstruction was the most appropriate procedure. The challenge became an opportunity when the architects decided to flip the design. According to this new version, Warehouse 10 was to be rebuilt in the Mill Yard, while the new building would occupy the released site. The new distribution allows the integration of the area under the free span of the main block with the Malakoff Tower. The change of course resulted in a fierce battle with heritage institutions, but even after much controversy, the new design version was authorized by the National Institute of Historical and Artistic Heritage.

According to final version, the rebuilt pavilion comprises a permanent collection, and contains the main access to the Museum. Height and volumetric characteristics of Warehouse 10 were maintained and the metal trusses of the roof were reconstructed with new parts, because

of other damage.

The new block is raised behind Malakoff Tower. The concrete structure pierces the rebuilt warehouse and it's crossed through a large square, giving back the view to the tower which passes along the sea. The volume still maintains its alignment with warehouses and completes the gap left by the demolition, housing temporary exhibitions, an auditorium, workshops, library and restaurant. This part of the Museum is still under construction and should be completed on December 2014.

4. Reconstruction and Authenticity

Two main issues come to light from the speeches against reconstruction operations: the concern with authenticity and with the loss of historical value.

The guarantee of authenticity calms the fear of forgery. Inherited from the field of fine arts, the concern with the falseness was intensified in the nineteenth century, influencing technical and moral judgments about architectural heritage.

Clearly, concern about falsification has an economic aspect, since the rarity and exclusivity has always meant greater value. Books, jewelry, artwork, stamps, are just a few examples whose rarity implies more value. That's not, however, the usual discourse of those who repudiate the false that prefer to claim that falsification means a lower quality than the original.

Indeed, in the field of arts, fashion or technology, falsification often involves loss of quality. However, it is true that modern times gave rise to technologies able to produce copies as perfect as their originals. It's not impossible, either, that some copies may be better than their origin, such as in movies and re-mastered songs, for example.

What is suggested is that a similar phenomenon may take place in architecture, considering the improvements granted to the replicas studied here. This is not about properly about restoring a complete state that never existed, as suggested by Viollet-le-Duc, but to give to a copy an excellence that the original never had.

Second issue: Replicating architectures could weaken its historical value. However, Alois Riegl of the Modern Cult of Monuments argues that there should be a distinction between the historical value and the age value. Both are memory values. The first concerns the role played by the monument in history. The second is related to the visible traces that reveal its age, which may be due to the obsolescence of shapes or the wear of its materiality; the patina of time.

Therefore, if reconstruction affects some of these values then that would certainly be the age value, and not the historical, since the relevance of the building in history does not vanish because of its reconstruction. It is true, however, that the replica is ambiguous, as it keeps memory values as well as contemporary ones, and the Riegl himself explains that the novelty is also a value of monuments. But is ambiguity not a characteristic of *Zeitgeist* in our times?

Some say that the reconstructed architectures are incompatible with the Spirit of the Time because they are built today, but appear to have been made yesterday. However, pertinence between formal repertoire and time does not guarantee accordance to *Zeitgeist*, which should be determined by the coadunation of the adopted procedures with the way of thinking of the time in which we live.

As a matter of fact, the validity of reconstructions must be argued case by case, but its defense must respect criteria similar to those that lead to highlight any building as heritage.

The new Rietveld Aula kept the former function in a nearby and similar place. Technical-constructive detailing is more sophisticated but respectful in relation to the previous image and spatiality. If material authenticity is impaired, careful reproduction of forms ensures fidelity to design and, therefore, to its historical value. Undeniably, the reconstruction recovers the spatial experience – so important to Rietveld – undermined by the airport expansion.

Regarding Luiz Gonzaga Backwoods Wharf, the new materiality of rebuilt warehouse does not seem to discredit the operation, since the heterogeneity among those pavilions is not a novelty, given its construction in different times and conditions. The rebuilt Warehouse 10, moreover, occupies a “warehouse place”, whose vacancy was the exception to the rule. Finally, releasing the square behind Malakoff Tower denotes respect for a listed heritage and allows pedestrians crossing between the city and the sea a clear view of the area, restoring a former condition of the waterfront.

Rebuilding implies designing. The architectural heritage is dynamic, therefore, may pass through transformations as well the city around. Hence, reconstruction is also submitted to criteria and decisions that can – and should – vary from case to case, according to the relevance of the project, of authorship and contingencies of the design and construction process.

Selectively restoring the “pluperfect” past as a presence in the future, replication operations can be, after all, particularly extreme preservation methods of architectural heritage.

The dilemma between remembering and contemporary issues is solved by this truth: built in period X, rebuilt in period Y, assuming the coexistence of the historical value of design with the novelty value of reconstruction, accepting the paradox of those who believe in architecture and not only in the material of which it is made.

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Exhibition and conflict: the MASP case

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Abstract

In 1968, the MASP, *Museu de Arte de São Paulo*, a Lina Bo Bardi's project, was completed. This building and exhibition system receive the same importance and are part of the same intellectual operation. The museum is transparent, enveloping its content. The concrete box has its longest facades in glass, showing the collection to the city. Inside the tempered glass exhibitor put different works of art side by side, in a more direct and simultaneous coexistence, which also mix art and building.

After Lina's death (1992) and the retirement of her husband, Pietro Maria - both curator and chair of the museum - criticism about the exhibitor transparency emerge from within the own museum. So, during a work of maintenance and converting (1996), the original exhibition design was altered: regular plaster walls replaced the glass supports. From this same date the shutters of the glazed facades began to be permanently closed. These changes modify the original proposal and provoke much discussion among the conflicting parts. In 2003 the National Institute of Historical and Artistic Heritage, IPHAN, declared the building as heritage, but protecting the building while the exhibition design is still discovered. Recently a new potential conflict looms on the horizon: for security reasons there is talk of closing the famous free span, once again with the approval of the curator of the museum.

It is true that light and tropical heat hinder the conservation of painting and that addicts frighten the public and threaten the museum's collection, but since a decade ago the MASP committee hasn't concerned themselves with preserving the original idea of the building. It is at least a contradictory understanding: the preservation of the artwork is so much more important than that of the building. This article discusses this conflict.

Keywords : brazilian architecture, exhibition design, modern architecture, preservation

In 1968 the MASP - *Museu de Arte de São Paulo* - a Lina Bo Bardi's project, was completed. This building and exhibition system receive the same level of importance and are part of the same intellectual operation. The museum is transparent, enveloping its content. The concrete box has its longest facades in glass, showing the collection to the city. Inside the tempered glass exhibitors put different works of art side by side, without big neutral frames, in a more direct and simultaneous coexistence, which also mix art and building, a system of exposure as dashing as the famous 70 meters span of the ground floor of the building.

The building is located on *Avenida Paulista*, one of the main avenues of São Paulo, in the place where the old *Belvedere Trianon* used to sit, just in front of the *Parque Siqueira Campos*, a privileged spot in the city, at the intersection of two overlapping highways: the *Avenida Paulista* and the *9 de Julho* tunnel. The solution is a porch holding a parallelepiped glazed in its two major facades. Under the dropdown box, part of the program was half-buried to accommodate activities such as an auditorium and temporary exhibitions, taking advantage of the gap toward *9 de Julho*; on the other hand, the dropdown box houses the permanent collection. Between them, the generous space of the terrace is an extension of the street, a large town square; the belvedere area, along the gap, is intended to rest and contemplation.

In the permanent collection room, unlike traditional exhibitions and museums, the paintings were not placed against the wall, but occupied

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the whole place and presented themselves on a transparent easel - a large tempered glass, inserted into a roughly cast concrete cube with a notch turned upward, with both glass and cube stabilized by a wooden wedge. The final dimension of the set is similar to the human dimension, leaving the artwork at a similar height to the observer. Each piece leaned against a white piece of plywood trimmed to the exact proportions of the frame and bolted discreetly onto the glass. Also the frames were eliminated (when they were not authentic) and replaced by a neutral thread. Photographs and texts were placed on the backside of the easel, compressed between the plywood and the glass. All the paintings were faced toward the east, to the entrance of the hall, as if waiting for the public to come, dispersed and not arranged in any kind of classification; the absence of walls put them in direct contact with the building, besides referring to the situation of their conception: pictures loose in space, on the artist's easel.

Lina Bo Bardi was already experiencing new exhibitions alternatives before, in the first MASP headquarters, at *7 de Abril* St., from October of 1947, when the museum was founded by herself and by her husband, Pietro Maria Bardi, with the key participation and sponsorship of Assis Chateaubriand. Taking advantage of the offerings of the European post-war art market, highly important Western artists screens were acquired, forming an enviable collection. Not yet having its own headquarters, the museum settled on some floors of the recently opened building of the Chateaubriand's newspapers network, the *Diários Associados*. The physical structure of MASP boiled down to one main room for the collection, another for didactic exposition on art history and an auditorium for 100 people, which was also used for courses and practical activities - thanks to the folding chairs designed by Lina Bo Bardi, who facilitated its use for multiple activities.

Along with Lina, Pietro Maria Bardi was the one who thought and defined conceptually the MASP and for him the contemplative museums were very limited. His idea was to change the traditional conception of the museum as a place of conservation of artworks, only exposing them chronologically in a closed environment; he wanted a different place. Criticizing the nineteenth-century European model of museums, aligning his proposal with the new guidelines that oriented the establishment of institutions such as the Museum of Modern Art in New York (MoMA) and the new museums and institutes established in North America, free of weight of tradition, made under new bases facing an educational orientation.

Then, the first MASP design exhibition should not divide the collection into detached compartments, isolating works of the same period or genre. The project developed by Lina Bo Bardi translated this proposal and located in one single space works from various periods and schools. Her project is designed as an educational project, with design solutions derived from experiments carried out in Italy, seeking a closer relationship between artwork and the public. The work is collaborative between the architect and the director of the museum, as well as the contribution of other artists, such as the architect Giancarlo Piretti, who worked with Lina in the exhibition design, and artists Roberto Sambonet Buffoni and Bramante, who did the graphic material.

The exhibition design proposal derived from *allestimento*, an experimental field of Italian artists and architects, such as Edoardo Persico (tubular grids used in a display of political advertising in the Galleria Vittorio Emanuele in Milan - 1934 - ushering in a way to expose in which the pictures are suspended in space) and Franco Albini (in a contemporary art exhibition - 1941 - puts the loose artworks in the space inside the old building of the Academy of Brera, structuring them in thin metal pieces). But in this case, in the first MASP, the intervention of Lina Bo Bardi was restricted to the interior of the building.

If the design exhibition of MASP *7 de Abril* already sought a rapprochement with the public, they actually participated in the second one, MASP *Avenida Paulista*. People mingle with paintings and sculptures, performing a fusion of images that symbolize the desired approximation between art and everyday life, eliminating any alleged monumentality. Expanding the scope of the art gallery for the city, through the glass facades, this mixture of images also breaks the closed box. Paintings float in a unique space that covers museum and city, generating a spatial and temporal continuity between the set of works. Transparent facades and easels are complementary resources in the effort to popularize the work of art and the museum.

This theme of transparency had previously appeared in another work of Lina Bardi, with a different program: the photos of promotion of their first project, his own house (1951), shows the disposal of furniture, objects and works of art, a juxtaposition of different genres and ages, and that has bottomed out external landscape that appears through the glass facade. Lina Bo Bardi already experienced the potential of simultaneous perception of the building, its contents and surroundings.

After the death of Lina Bo Bardi, in 1992, and the retirement of her husband, Pietro Maria Bardi (curator and chair of the museum since the beginning) criticism about the exhibitors transparency become very strong, and finally, in 1996, along with the beginning of a work of maintaining and expanding the technical reserve, altered the original exhibition design: the glass easels were replaced by plaster walls. The curator at this time, the art historian and university professor Luiz Marques, is the responsible for the changes. The original single room is

now subdivided into ten smaller rooms and two pairs of corridors, turning it into a conventional exhibition space. The paintings found the neutral background, as the curators like so much. The transparency of the facades was also lost: from this date the shutters came to be permanently closed, in order to avoid excessive incidence of light that would put the paintings at risk. Externally, giant billboards announcing the planned exhibitions.

On the ground, many changes were transforming the original appearance of open space: the water mirrors that surrounded the building were reduced or covered, as well as the rough stone paving was replaced by polished granite. These important changes of material nature turned the MASP in a cleaner, hygienic and conventional building, closer to other museums in the world and farther from the face proposed by Lina Bo Bardi. All these changes have generated much discussion and there was a strong response from the São Paulo cultural sectors, but it was not enough to revive the original design.

Here we have a conflict; a conflict between two different - or even antagonistic –concepts of a museum: one of the new directors and the other from the authors of the original proposal of MASP. Even disguised as technical arguments, the issue is primarily conceptual. So much so that, at the same time (in 1996), Piers Gough admits to be inspired by the MASP to design the exhibitors of the renewal of the National Portrait Gallery, for example. And about the building, it is true that the glass facades can bring problems to a museum, however the idea from Lina and Pietro Bardi for MASP is not to create a showroom, but a catalytic center with striking, modern architecture; a place at the same time democratic and didactic, that contributes to cultural development. This concept is linked to the modern ideas that are part of the post-war CIAMs debate, especially the CIAM VIII, “The Heart of the City” (1951), when Le Corbusier and Sert identify museums as strategic buildings that would help to revive the urban centers. From this point of view, transparency to the outside makes all sense.

Besides all that, there is a large distortion in this process - or contradiction: in the interest of protecting the artwork is it possible to change, without care or guilt, another work of art, which is the building? Or architecture can not aspire to this status? And exhibition design is not a kind of work that deserves to be preserved? In 1999 the Institute Lina Bo and Pietro Maria Bardi asked the Brazilian Heritage organs for the protection of MASP. A month later, the museum itself does the same thing, but the request was only for the building itself. Finally, in 2003 the IPHAN listed only the building: the exhibition design is not protected.

Currently the museum got rid of the billboards, but the original layout of the art gallery never returned. The transparency of glass facades was eliminated in all the exhibitions rooms, including spaces in the lower block. And now a new potential conflict looms on the horizon: for security reasons there is talk of closing the famous free span, once again with the approval of the curator of the museum. This could be another disrespectful episode to the original design.

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Thinking on the Selecting Criteria and designation guide of Industrial Heritage in China

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Abstract

As the material evidence of Industrial Revolution, the industrial heritage is a special type of the remains of modern movement. In China, the absence of appropriate recognition leads to the ignorance and demolition of industrial heritage in urban and suburban areas during the past decades. This condition has been moderately improved when industrial heritages received an increasing attention in recent years. It is very urgent now to define and publish an criteria and guide for assessment and designation, so as to guide the identification, recording and research of industrial heritages which being conducted wildly in China nowadays. Supported by the three committees concerning industrial heritage conservation, we are dedicated to study out the criteria in the past year. The criteria are developed on the fundamental criteria which have been defined by the international charters on cultural heritage conservation and widely accepted in China's current practice, such as historical value, scientific and technological value, aesthetic value, social value, and authenticity, integrity, rarity and representativity, etc. Meanwhile, they seek to embody the characteristics of industrial heritage and the historical process of Chinese modern industrialization. The criteria guide has now been approved by the the Industrial Heritage Committee of the Cultural Relic Academy China on its first annual conference in 29th of May 2014, as a trial version for the Designation Listing Selection Guild for Chinese Industrial Heritage. We hope the criteria guide will achieve a general public acceptance of rational and consistent standards for understanding and assessing the values of Chinese industrial heritage.

Keywords : industrial heritage, selecting criteria, designation guide, china

1. Introduction

The Industrial Revolution is an important clue to understand modernity. As the material evidence of Industrial Revolution, the industrial heritage is a special catalogue of the remains of modern movement. In China, the cultural heritage conservation has undergone a progressive development from the repair for utility towards the conservation around heritage values in the last hundred years. During this process of evolving perception and "heritagization", the range of cultural heritage kept expanding and new varieties of heritage emerging, including the industrial heritage. Unlike the ancient relics which mostly completed the heritagization process, modern relics are still at an intermediate stage of heritagization. That is, although being increasingly recognized, the values of industrial heritage are still not getting into general consent to make the conservation being institutionalized and legalized. This makes modern heritages, especially the industrial relics are extremely vulnerable when exposed to the rapid urbanization and industrial restructuring and technological upgrading during the past decades in China. Many industrial sites and monuments of national importance are facing ignorance and demolition. It is very urgent to achieve a common understanding and recognition of the heritage values of industrial heritage (including modern and pre-modern industrial relics), and based on this, formulate criteria and guide for the assessment, selection and identification of industrial heritages. They can also serve to

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guide the protecting, conserving and investigating of nationwide industrial heritages.

In China, three committees have been founded recently concerning industrial heritage conservation, the Industrial Heritage Committee of the Cultural Relic Academy China, the Academic Committee on Industrial Architecture Heritage of Architecture Society of China, and the Industrial Heritage Division of State-list Famous Historical and Culture Cities Committee. These platform gathering and integrating many scholars and researchers of industrial heritage, laid the foundation for the formulation of the guide. Supported by three committees, we are dedicated to preparing the guide in the past year. This paper is the preliminary results of this work.

2.Understanding the Values of Industrial Heritage

“The Nizhny Tagil Charter for the Industrial Heritage” (TICCIH, 2003) provides a fundamental frame to understand the comprehensive values of industrial heritage. The heritage values mentioned in the document include historical value, technological and scientific value (technological value, architectural or scientific value), social value, and aesthetic value. In China, the understanding frame for heritage values instituted by the “Law of the People’s Republic of China on the Protection of Cultural Relics”(2002) and the “Principles for the Conservation of Heritage Sites in China”(2004) outlines three dimensions of heritage values, that is, historical value, technological and scientific value, and aesthetic value, which is dependent on the inherent quality of the heritage. In recent years, social value which derive from ordinary people’s identification with the heritage got an increasing attention and is now in a heated discussion of being added to the revision of the “Principles for the Conservation of Heritage Sites in China”. In addition, utility and market values are another heated discussed issue. Many people hold that these values are also important values of industrial heritage and integrated them into the proposed value criteria for industrial heritage. But as it revealed by the results of partial discussions among committee members and the English Heritage’s “Conservation Principles: Policies and Guidance for the Sustainable Management of the Historic Environment”(2008) which we referred to, the relationship between utility values and heritage values can range from mutual support to conflict. The former is different from the latter both in nature and effect. Based on the above consideration, we defined historical, technological and scientific, social and aesthetic values as the basic understanding of heritage values for the guide. In the third seminar on industrial architecture heritage held in November 2012, we conducted an experts’ questionnaire investigation. The results of the questionnaire showed that most experts accepted the four dimensions of values of industrial heritage, and the rating for them from highly important to less important is like, historical value > technological and scientific value > social value > aesthetic value.

3. The Designation Criteria and Guide for the Industrial Heritage

As a guide for the assessment and designation of industrial heritage, we need to further extend the basic understanding of values into elaborate, specific and feasible criteria, which can not only help to achieve a comprehensive understanding of all the values of a specific heritage, but also help to judge its significance for grading, that is, whether a particular value is above a defined threshold of importance. In China, such specific guides and criteria for different kinds of heritages like industrial heritage are still not fully developed. In developing these criteria, we reviewed all the previous studies on the value criteria and assessment system of industrial heritage in China, and conducted a comparative study on the criteria and principles of selection for industrial sites and structure in England (Fig.1, 2). Based on the above analysis, we distilled 12 primary criteria and 15 secondary criteria as a draft assessment criteria system which submitted to the Academic Committee on Industrial Architecture Heritage of Architecture Society of China and the Industrial Heritage Division of State-list Famous Historical and Culture Cities Committee in November, 2013. After being fully discussed and considered by the committees, we condensed the criteria system into 12 criteria which are more simple, clear, and specific for industrial heritage, that is, (1) Period; (2) Historic importance; (3) Industrial machinery and technical innovation; (4) Architecture design and construction technology; (5) Cultural and emotional identity, mental inspiration; (6) Promoting development of local economy and society; (7) Rebuilding, repair and survival conditions; (8) Integrity of regional industrial context or group, the sites and the production line; (9) Representativity and rarity; (10) Fragility and vulnerability; (11) Documentation; (12) Potential values. These criteria guide has just been approved by the the Industrial Heritage Committee of the Cultural Relic Academy China on its first annual conference in 29th of May 2014, as a trial version for the Designation Listing Selection Guild for Chinese Industrial Heritage. We will keep revise the guide through using it for the industrial heritage designation in several pilot regions, such as Tianjin, Fuzhou, Luoyang, etc.

Fig.1 Summary of previous studies on the value assessment criteria of industrial heritage in China

Primary Criteria	Secondary Criteria	References
Historical Value	Age	Liu BY, etc, 2010 ; Zhang J, etc, 2010 ; Liu X, 2009; Qi Y, etc, 2008 ; Jiang N, 2013.
	Time span	Liu HX, 2012.
	Correlation with historical figure	Liu BY, etc, 2010 ; Zhang YS, ect, 2008 ; Li XQ, etc, 2011 ; Liu HX, 2012 ; Jiang N, 2013 ; Liu Y, 2010.
	Correlation with historical events	Liu BY, etc, 2010 ; Zhang YS, ect, 2008 ; Zhang J, etc, 2010 ; Jiang N, 2013.
	Correlation with historical institution or organization	Jiang N, 2013.
	Importance in the Chinese industrial history	Zhang YS, ect, 2008 ; Liu X, 2009.
Technological and Scientific Value	Originality in a specific industry	Liu BY, etc, 2010 ; Zhang J, etc, 2010 ; Qi Y, etc, 2008 ; Li XQ, etc, 2011.
	Progressiveness in manufacturing technology	Liu BY, etc, 2010 ; Zhang YS, ect, 2008 ; Liu HX, 2012.
	Progressiveness in architectural design and construction technology	Zhang YS, ect, 2008 ; Jiang N, 2013.
	Progressiveness in the management of manufacturing and construction	Liu X, 2009.
Aesthetic Value	Industrial landscape	Liu BY, etc, 2010 ; Zhang YS, ect, 2008 ; Zhang J, etc, 2010 ; Qi Y, 2008.
	Architecture style	Zhang J, etc, 2010 ; Zhang YS, etc, 2008 ; Qi Y, etc, 2008.
	Planning and layout	Zhang J, etc, 2010 ; Liu HX ; 2012 ; Liu X, 2009.
	Architecture design	Liu X, 2009 ; Jiang N, 2013.
Social Value	Enterprise culture	Liu BY, etc, 2010 ; Zhang J, etc, 2010 ; Li XQ, etc, 2011.
	Roles in the development of local economy and society	Zhang YS, etc, 2008 ; Li XQ and Liu HX, 2012 ; Jiang N, 2013.
	Correlation with local people's life	Zhang YS, 2008 ; Liu HX, 2012.
	Attachment	Liu BY, etc, 2010 ; Zhang J, etc, 2010 ; Liu HX, 2012.
Mental and Emotional Value	Mental inspiration	Liu X, 2009.
		Liu X, 2009 ; Liu Y, 2012.
Authenticity		Zhang J, etc, 2010 ; Liu X, 2009 ; Liu Y, 2012.
Integrity		Zhang J, etc, 2010 ; Liu X, 2009 ; Liu HX, 2012.
uniqueness		Li HP, etc, 2012 ; Li XQ, etc, 2011.
Rarity		Li HP, etc, 2012.
endangerment		Li XQ, etc, 2011.

Fig. 2 Summary of criteria and principles of selection for industrial sites and structure in England

Scheduling Monuments		Listing Buildings	
《Scheduled Monuments: Identifying, protecting, conserving and investigating nationally important archaeological sites under the Ancient Monuments and Archaeological Areas Act 1979》 (2010)	《Designation Scheduling Selection Guide Industrial Sites》 (2013)	《Principles of Selection for Listing Buildings: General principles applied by the Secretary of State when deciding whether a building is of special architectural or historic interest and should be added to the list of buildings compiled under the Planning (Listed Buildings and Conservation Areas) Act 1990》 (2010)	《Designation Listing Selection Guide Industrial Structure》 (2011)
Criteria for assessing the national importance of monuments • Period • Rarity • Documentation • Group Value • Survival / Condition • Fragility/Vulnerability • Diversity • Potential	Historical Summary Designation Criteria • Period • Rarity, representativity, selectivity • Documentation • Historic importance • group value • survival/condition • Potential	Statutory Criteria • Architectural Interest • Historic Interest General Principles • Age and rarity • Aesthetic merits • Selectivity • National interest • State of repair	Historical Summary Designation Criteria • The wider industrial Context • Regional factors • Integrated sites • Architecture and process • Machinery • Technical innovation • Rebuilding and repair • Historic interest Specific Considerations for different industrial division • Extraction • Processing and manufacturing • Storage and distribution

4.Conclusion

The criteria guide we developed is based on “The Nizhny Tagil Charter for the Industrial Heritage” (TICCIH, 2003) and refers to the designation guides for industrial sites and structure in England. It is also an integration and summary of the scattered learnings about industrial heritage in China over the past ten years, to make it both adaptive to Chinese situation and in line with international practice. We hope that the guide will not only embody and prompt the common recognition of the values of industrial heritage, but also be a model for the guide preparation of other kinds of modern heritages in China. However, the guidelines need be further testified and revised through practice. Several issues need be further discussed, such as: ¹ the historical summary of Chinese modern industrialization process; ² the broad definition and narrow definition of Chinese industrial heritage; ³ the classification of Chinese industrial heritage, the characteristics and specific criteria guide of each category.

Notes

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One Hand to School Them All The experience of the Society for the Construction of Educational Facilities in Chile, 1937-1987

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Abstract

The experience of the Society for the Construction of Educational Facilities (SCEE, for its Spanish name) is a unique case in Chile of a public agency dedicated to a single task, lasting for 50 years, and delivering a final product that constitutes the image of the public school even today. Totalling more than 41 million square feet of schools along the country, the SCEE shows, between its creation in 1937 and its closing in 1987, the leading waves that oriented the discipline of architecture during its more active and polemic years, from the initial modernity of the massive concrete building to the prefabricated and modular systems of the 60 and 70s. Its production can be today seen as a showcase of modern heritage, mostly still in use but subject to modifications and threats from the dynamics of contemporary economy.

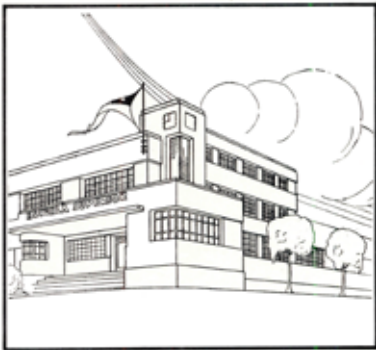


Fig.1 Original drawing of a type school, by José Aracena, 1938. Source: Sociedad Constructora de Establecimientos Educacionales, *50 Años de Labor*, 1987.

The work of the Society for the Construction of Educational Facilities (or SCEE, for its Spanish name¹) started in 1937 and lasted for 50 years, finishing with the closing of its activities and the dissolution of its organizational structure, as well as –sadly– the disaggregation of its archives, in 1987. During those 50 years, it built around 560 primary and high schools, together with a series of other buildings, all over the entire country, from the northernmost city of Arica to the southern extremes of Punta Arenas and the Strait of Magellan.

The idea behind this ambitious and far-reaching institution was born in an epoch imbued with the sense of State-consolidation and the fixing of the rules that would give order to the Chilean nation after the tumultuous years of the European interwar period, characterized by military risings, leftist revolutions, and a general chaos in the organization of the government. It would be during the second administration of president Alessandri (1932-1938) that Chile would start building its administrative and productive bases, with the foundation of several of the crucial institutions that constitute even today the core of the public structure.

In the realm of education, the separation of the State and the Church as provided for in the 1925 Constitution –drafted and approved during the first Alessandri Presidency (1920-1925)– would mean that the State would have to implement a policy to extend the reach of public education throughout the country, and the means to secure funding and technical abilities had to be established by law.

The scope intended when creating this society was larger than the mere construction of buildings. As in every policy reflected in a specific action, there was a broader sense intended in concentrating the erection of schools in one single agency. Since this sense is not explicit, is not written in any text, we can only find it in its production.

We can relate it to two key features.

The first one is the close identification with the idea of a strong State and the centralization of decision-making that would characterize the Chilean Administrations starting in 1925. The SCEE would be the face and the arms of the State in securing the definition of modernity as a means to improve the condition of its educational system, expressed in new typologies, new materials, and a new approach to the structure of

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the educational building starting in the classroom and finishing in its urban role.

Even if it was strongly inspired by the modern intentions of the Alessandri administration, it looked back on the tradition of the educational history in Chile and the rest of the world, as a means to understand when it was necessary to innovate and when to learn by previous experiences. Since its independence, Chile had organized its primary education system around the action of the Church and of private institutions that took the responsibility of educating children in a context of rigidity and a strong identification with the religious precepts that defined the 18th century society.

It would be at the turn of the new century that the idea of a modern State would find the impulse to define the action of organized institutions. After the First World War, when even in the far context of South America, it was evident that the old order would be replaced by a new one, modernity took the helm of all public action and traced the direction in which the new modern State had to be erected. In that sense, it was necessary to enforce the participation of the official institutions in every circle of life: and where there were no institutions, they had to be created.

By 1939, Chile had begun to establish the set of laws and institutions that would characterize it as a modern country, such as the Labor Code with the 8-hour work day and the protection of the unions and other pro-worker regulations. It had a new Constitution (approved in 1925) that granted universal suffrage (although women's suffrage would not be tolerated until 1935) and a whole collection of laws and institutions that promoted the country's industrialization. That same Constitution that was operative until the 1973 *coup d'état*, stated that education was the "preferential attention of the State", and established primary education as compulsory.

In precise terms, it meant that it was the State's obligation to provide education for all children, and it could no longer rest on the activity of private institutions to comply with this "preferential attention".

It was in this context that the decision to create an agency whose main purpose would be to create the infrastructure needed to do that was taken. The law that created society (effective since January 18th, 1937) established a capital divided in two types of stocks, some owned by the State (30%) and the rest offered in the market (70%). The law set a fixed revenue of 8% and provided for loan contracts between the State and the Society for the future use of the buildings, hence ensuring a rent to pay for Society's expenses. These functions were handed down to the Society for Primary Education, a private, philanthropic corporation dedicated to the construction and running of private schools oriented to the middle classes. It had been founded in 1856, and it was the leading organization on the development of quality education, before it was included as a responsibility of the State.

In spite of its specific name, the intention was to expand the Society's reach to get it involved in the development not only of education but of other typologies, together with the research and study dedicated to generate new and more appropriate systems depending on climate, latitude, speed of construction, or the internal quality of the educational space. The work of its technical departments was not limited to generating plans, work schedules and budgets for buildings, but it was supplemented by a research intended to make better classrooms, and to propose prefabricated systems when it was necessary to lower the costs or increase production, especially after the 1960 earthquake in the country's southern regions.

The second key feature is related to the uniformity of its buildings, and the way it established itself as the leading producer of sets of public facilities (schools, museums, and other public buildings) following a recognizable aesthetic pattern identified with the modern principles of design. What brought the Society's work to prominence was the work of two architects that worked at the Department of Architecture. All the design work was assigned to these two architects, Gustavo Mönckeberg (1884-1944) and José Aracena (1890-1971), who were working together before at an independent office, for the Society for Primary Education, designing the most important schools belonging to that orga-



Fig. 2 Boys school in Santiago, School E-66, 1938. Source: Sociedad Constructora de Establecimientos Educacionales, *50 Años de Labor*, 1987.



Fig. 3 Girls school in Viña del Mar, School D-316, 1938. Source: Sociedad Constructora de Establecimientos Educacionales, *50 Años de Labor*, 1987.

¹Its Spanish name was Sociedad Constructora de Establecimientos Educacionales



Fig. 4 Grouped schools in Curicó, Schools E-21 and D-35, 1945. Source: Sociedad Constructora de Establecimientos Educacionales, *50 Años de Labor*, 1987.



Fig. 5 Grouped schools in Talca, called the Escuelas Concentradas, Schools D-147 and D-164, 1939. Source: Viviana Fuentes, *Expediente Técnico para la Declaratoria Patrimonial de las Escuelas Concentradas de Talca*, 2010.

nization. When the SCEE was created, they established the Department of Architecture, first led by Mönnckeberg and then, after his early death in 1944, by Aracena.

The unity of design provided the identity that the State was seeking in promoting public education as a tool for creating the basis of a modern sense of citizenship. It expressed, in concrete and steel (more concrete than steel), the image of an active apparatus dedicated to comply with its constitutional obligation to give a preferential attention to education. Until the development of prefabricated systems around 1960 (when the Valdivia earthquake forced the Society to find faster, more adaptable systems), all the buildings designed by the Department of Architecture had the signature of José Aracena, and all had the same image, unifying, from the north to the south of the country, the idea of the public school.

In 1938 Aracena designed the typology that would be used –with some changes– in all the buildings, looking for a strong image that would represent the ideals of austerity, honesty, and atemporality that were promoted by the State. It consisted in an elongated body comprising the classrooms, two-story high, normally with wide windows towards the street and with an open corridor towards the inner court. The access was marked by special features, like a mezzanine over the entrance, or a tower containing the stairs, with a clock on top. It had to adapt itself to different settings, climates and urban conditions. In every city or mid-sized town there was an SCEE school, usually in very central locations, and in every case it was one of the main representatives of the State.

Aracena's design was not isolated or personal. It was in close relation to what was being proposed as new forms for new needs in Europe since the 20s. As an ideal for the modern school in Chile, it was very much in harmony with the rationality of spaces designed to serve a purpose, following a syntaxis of recognizable elements. The original drawing that condensates the elements of that syntaxis reveals the far-reaching aims set by the architects in order to develop a coherent image for the new educational building.

The first school was inaugurated in 1938 in Santiago. During that first operative year, the Society worked on 29 buildings, and in its first ten years it inaugurated 189 buildings, and would continue with an average of 20-30 schools built each year. At the end of its existence, it had built more than 3.8 million square meters.

Today, hundreds of SCEE schools are still in use. Almost all of them have been modified due to damage by earthquakes or local needs. Some are relevant urban pieces still regarding the contemporary standards of urban development, and others are in the center of strong struggles for preservation, like the twin schools (one for girls, the other for boys) in the city of Talca.

In terms of a consistent action to promote a certain vision of the social body, the experience of the SCEE is a unique case in Chile. The strength of its presence in almost every town and city in the country is a signal of a period forever lost, when the State had an intention expressed in its fundamental laws, and that intention had a physical presence through the direct participation of its technicians, its engineers, its architects and, in the end, its teachers and students.



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Planning for Expansion and Dissent: The Modern Australian University Campus

Hannah LEWI *, Andrew SANIGA **

Abstract

With the expansion of the suburban metropolis, in Australia the establishment of new places of learning saw attempts to create master-planned universities that were independent in their geographic re-positioning, relevant to more established and self-sufficient academies. In planning, building and landscaping these new campuses, the sense of social, cultural and political innovation was potent. This saw attempts to physically stamp alternative ideals onto the campus landscape. Buildings and their settings were envisaged as ensembles that could evoke an empathetic response to a popularised vision of Australian identity whilst engendering experimental plans with elements such as native tree-lined organic road and parking plans; courts and forum-spaces in a bid to reinforce university life and socialisation; consciously modern, yet regionally-tempered buildings often designed by a singular hand; and, planning for expansion whilst embracing flexibility for growth and change. As with any significant aesthetic and cultural shifts, innovation also provoked reaction, conflict and dissent, the traces of which form the focus of this paper.

Through comparative historical and spatial analysis of 5 University campus designs - Monash (1958), La Trobe University (1964), Flinders (1966), Griffith (1971) Murdoch (1973) - the paper will expose a new understanding of modernism as translated into regionally particular, suburban and peripheral contexts and will touch on the consequences of ongoing expansionist agendas in higher education in tackling questions of longevity, documentation, management and protection.

Keywords : australian university campuses, post-WWII planning, landscape design history, heritage.

1. Introduction

The enthusiastic commitment to the planning and building of modern University campuses worldwide in the decades spanning the 1950s to '70s was both a direct consequence and driver of public education expansionism that wrought profound social and cultural effects. In Australia, as in England and America, as a result of a post-WWII population boom there was a rapid increase in potential students wanting to gain a tertiary education and training. In response, a number of formative commissions and reports from 1957 to 1965,¹ came to insist on rapid and ambitious expansion and accommodation of growth for a new kind of society.²

In Australia, commitment to funding and planning new campuses on greenfield sites was not taken up immediately, as entrenched beliefs saw that established city campuses took first priority in terms of expansion and modernisation.³ However a number of these lacked space, and their traditional typologies based on English quad and college models such as Oxford and Cambridge - which had been reinterpreted in Australia - were now seen to lack relevancy for the demands of new and more liberal and technical modes of education. Also, with the

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great expansion of suburban metropolis around the nation, a pressing need was perceived to locate new catalytic facilities away from the older urban centers. So by the mid-1960s commitment grew towards creating master-planned and self-sufficient academic communities in suburban peripheries. And an extraordinary amount was realised by the mid-1970s through government education investment programs.

The opportunities for these new Universities to foster a sense of social, political and cultural innovation was potently felt and was fuelled by energetic individuals - including planners, architects and landscape designers. For beyond the re-organisation of academic learning, attempts were made to physically stamp these alternative ideals onto the growing suburban landscape. New campus buildings, and their landscaped settings, were envisaged as ensembles that could evoke empathetic responses to an up-to-date and popularised vision of Australian identity. This phenomenon was not unusual, as Turner states university campuses have always provided 'an excellent opportunity to examine the ways in which architectural design is shaped by the aspirations that societies and cultures value most importantly and in turn the character of a particular type of institution'.⁴ As in Britain, Australia's new suburban universities would exhibit tempered utopian ideals: they aspired to community-orientation and planning as a mode of facilitating the coming together of people.⁵

Therefore although borrowing much from discourse and design in England, America and Canada, Australian campuses developed their own particularities, the impetus for which was, as we argue here, often to be found within the distinctive qualities of the Australian landscape combined with a strong will to reinforce university life and socialisation. But as with any significant aesthetic and cultural shifts that carried utopian ideals, such innovative approaches upon implementation provoked reaction, conflict and dissent. In Australia, as elsewhere, these campuses emerged out of an era of student protests and demonstrations. And the spaciousness and egalitarianism imbued in thoughtful site-planning, when taken to isolated, barren and windswept sites, often struggled to sustain activity. This was compounded by deep doubts surrounding institutional viability and sustainability, with low student numbers and competition from established older universities in the early years.

To investigate the character and current significance of this era of new campuses in Australia, we have generated historical themes and a set of analytical diagrams for reading campuses, as part of a larger ongoing study. In this short summary paper we briefly examine Monash, and La Trobe Universities in the state of Victoria, Murdoch University in Western Australia, Flinders University in South Australia, and Griffith University in Queensland - all established within a 15 year period from 1958 to 1973. We conclude by touching upon heritage and conservation concerns surrounding these campuses today, and the pressures of ongoing expansionist agendas in higher education.

2. Siting and Landscaping:

*'We are looking to landscape more than to any other single feature to weld and unify the campus.'*⁶

All the campuses in our study are situated between 10 and 20kms from established city centers. Site planning was crucial and approached in different ways, but all campuses faced the challenge of making enclosed places of learning from empty spaces of land. The earliest campus to be realised in this period, Monash University (opened 1961) in eastern suburban Melbourne, developed as an open and outward looking campus. A V-shaped arrangement of the initial ensemble of buildings created a central open space, the views from which were directed toward the surrounding Dandenong Ranges. Linear and axial planning created strong linkages through an open space system defined by Australian native plant material, a cue that had been taken in part from the pre-existing indigenous character of the site and in other part via the drive of early advocates for native plants as symbols of progression and the developing nation.⁷ La Trobe University in Melbourne's north was established in a broad, shallow valley on degraded farmland that had little indigenous vegetation or surrounding development. So an imperative in the early master-planning, as laid out by Simpson and Pryor in 1964, was to define perimeter boundaries using dense planting. This was seen also as an economical way of minimising dust - that inevitable by-product of antipodean emptiness. Rather than open and outward looking, early master-planning here created a sheltered inwards focus for the future campus. Simpson wrote: 'Ultimately the formal approach to the university will be made, not past stately stone piers and wrought iron gates, but via the twentieth century device of a cloverleaf intersection and an approach road skirting around the lower lakes, with the formal composition of the academic center gradually unfolding.'⁸

Across the other side of the country in Western Australia, Murdoch University (opened 1975) was set on the Perth's southern periphery in a former pine plantation on undulating sand dune and lake geography. As buildings and courtyards emerged from the master-plan by planner Gordon Stephenson and architect Gus Ferguson, the aim was to create inward looking unity and outward-facing protective, green boundaries. Griffith University was sited on 'an island that stands above the tide of suburban development flowing from Brisbane towards the South.'⁹ Early master-planning also acknowledged the need for an 'outward-facing institution' in terms of function and outlook, however again the compact campus was sunken into a natural bush setting. At Flinders University, the rugged topography was a significant factor in developing the master plan. The site planning effectively involved a functional ordering of buildings in a horse-shoe arrangement dictated by the crown of a ridge line meaning that the siting of buildings, student dormitories, and open spaces responded foremost to topography.

This attention to sensitive siting and landscaping was in no small part due to the adoption of Australian native planting in these decades which was in tune with a national movement towards the favouring of Australian native vegetation over exotics. It was adopted generally enthusiastically to symbolise much about the new utopian campus environment that, in the past, would have been represented through the language of historical and colonial style architecture. And while in some cases pragmatic site planning decisions fell victim to a degree of post-rationalisation in terms of the benefits afforded to the aesthetics of the site, it is also apparent that the role of landscape in the creation of the new Australian university campus was hotly debated and often vehemently upheld. As Simpson questioned at La Trobe University: 'How did one go about transforming 500 acres (200 hectares) of flood-prone farmland into an environment that might one day stand in the same company as Oxford and Cambridge, Harvard and the rest?'¹⁰

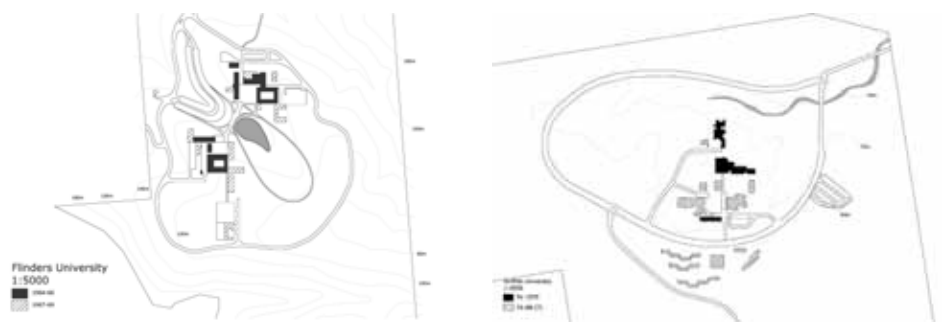
Landscape architects and designers were prominent in the conception of all the campuses we have studied, and a number won subsequent awards for civic and landscape design.¹¹ Indigenous planting was described as sometimes providing contrast to utilitarian buildings; sometimes as a harmonising element; sometimes as creating community spaces of shelter and gathering. Landscape was therefore given the active role of growing meaningful places such as courtyards, walkways, arboretum, water reserves, and gardens out of soulless new plans.

3. A Civic Heart to Avert Lost Souls:

*'There will be no cathedral of learning dominating the campus, but on every walk there will be much to be learned about nature; human nature, architecture and an unusual university.'*¹²

Perhaps most crucial to all the new campus plans we have studied was consideration given to the creation of central civic space, with a library and shared facilities at its core. A shared premise of planners, architects and clients alike was that the physical layout should create a spatial focus that expressed, both functionally and symbolically, the new university civic community at its root and heart - its role in society at large and the fostering of interpersonal relationships within. Such ambitions were not unique, as Universities throughout the 19th and 20th century have often been refereed to as civic ideals: 'cities in microcosm'.¹³ But this vision gained strong voice in the 1960s. For example, these utopian aims are encapsulated in the vision for Murdoch University, summarised in 1973 by one founding Professor as a need to foster an environment of 'humane and vital intelligence': 'Humane in that it is orientated towards development of the maximum human potential for creativity, love community and joy rather than towards exploitation of man and nature. *Vital* in that it is deeply routed in the real emotional, spiritual and physical needs of men rather than being mere cleverness.'¹⁴

At Murdoch, the concept of a large 'bush court' or open quadrangle of grass and trees emerged early as grounding the master-planning, with the library and first academic buildings flanking this court that was described as an 'oasis' in an otherwise desolate landscape when the campus opened in 1975.¹⁵ Exotic gardens in the smaller



courtyards contrasted with the bush court - including a Chinese garden of rocks and stones and a specialised botanical garden for the study of Poisonous plants. At Flinders University¹⁶, the academic buildings were arranged around a central park and pedestrian route book-ended by a lake, with significant topographical variation for sheltered contemplation and relaxation. The park was compared to ‘the Backs at Cambridge and the Harvard Yard’.¹⁷ At La Trobe, the central landscaped space and library was core to the growth and usability of the campus. It became known as ‘The Agora’ and fulfilled; ‘The University’s desire for a clustered Bohemia, where members of all departments and colleges will unavoidably meet and mingle.’¹⁸

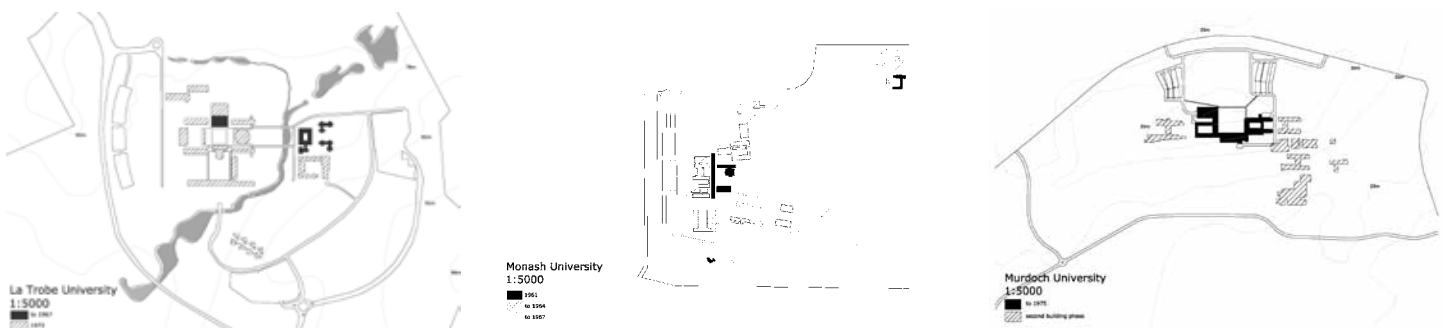
At Monash University this central space was labeled ‘The Forum’¹⁹ and in being invested with sustaining student and academic life, there were repeated attempts to transform it from barren, flat and wind-swept space into a space that would host a broad range of activities. However, in the context of 1960s and 1970s radicalism and political activism, the Forum landscaping plan was also seen as a tactic to soften and break-down the impact of community ‘action’, for the site was the venue for frequent mass protest and demonstration such as the anti-Vietnam War movement: ‘Monash became a giant theatre of protest, and the forum – Red Square indeed! – its stage...a symbolic geography... the student chaos of the Union facing the academic ivory tower...’²⁰

Modernist planning and design had brought a tool kit of strategies - often tried (but not necessarily tested) elsewhere – that went beyond the city square or college quad language in attempting to invoke civility, humanity and social cohesiveness. The strategy of creating a large civic space that anchored the heart of the campus, yet was also open and expansive and often indicative of the Australian landscape, had an uneasy reception. In part this reflected the predictable delay in gratification that often results from the time taken for trees to establish and traditions or rituals to take hold. But it was also a product of student actions and human preferences and behavior often amidst a mood of rebellion, the energy of which some university administrations both encouraged and inevitably sought to sanitise and control.

4. Arranging and Designing Buildings

In his detailed account of post-WWII British universities, Muthesius characterises the 1960s as a time of transition, when earlier more unified conceptions of the modernist campus institution start to be eroded towards an emphasis on change and flexibility, in tune with new interests in reflecting the cultural make-up of the individual rather than the unified whole. With salutary lessons already being learnt from international modern campuses, planning for new universities in Australia became ever more realistic and pragmatic. This pragmatism - at times manifest as utilitarian austerity - was also necessitated by severe lack of funding to realise complete master-plans all in one stage.²¹

In this short account, the arrangement and design of buildings on the five campuses is unfortunately outside the scope available. But in all cases the pedagogical and structural aims of these new institutions - that were seen to be more inter-disciplinary, open and flexible in their learning aspirations - were in some shape or form paralleled in the arrangement of its buildings and spaces.²² Flexibility was highlighted as a key design goal, thereby attempting to cater for the certainty of uncertain futures. But alongside flexibility, were debates around appropriate density that could create walkable configurations, with a grain of urbanity - if within Australian parameters of scale and openness. Models were explored ranging from a townscape clustered models, to linear spines with courtyards, to higher density tower blocks with interlinked walkways. Again here international comparisons informed the master-planning aspirations of a new and ‘fearless approaches’, including Essex University (Kenneth Capon) and Sussex University (Basil Spence) Universities in England; Simon Fraser University (Arthur Erickson) and Scarborough College (John Andrews) in Canada.²³ However, fearless intentions were greatly tempered by lack of finances



for 'aesthetics', and campuses were built in stages rather than a unified whole that mostly served to further water-down earlier visions.

Buildings were designed on all campuses - aside from the more universal modernism of Monash - using a muted, harmonious and robust palette of materials, typically concrete block, timber and cement sheet. Like landscape, materials were invested with signifying longevity and gravitas in an Australian idiom. And they used a language that was regionally and climatically adapted, reflecting a shift in modern architectural concerns in the late 1960s to 1970s in Australia. At Murdoch, for example, the architecture adopts a low-slung form redolent of a homestead, with covered walkways suggesting a hybrid veranda / cloister around the bush court. Local Jarrah hardwood was compared to the oak beams of New College for its longevity. A similar aesthetic was described at Griffith: 'It should be neither monumental or fussy, but it should be consistent. A general scale subservient to the strong landform and responsive to the natural forest is likely to be more successful.'²⁴ At Flinders, the buildings were designed to include strong horizontal line that would respond to the form and colour to the natural qualities of the site. Low buildings were arranged along the crown of a ridge, using materials sensitive to the natural environment in a manner that would create a 'desirable environment' and would give 'pleasure to generations of scholars and the wider public.'²⁵

5. Change and Conservation

In recent years there has been significant change to accommodate expansion at all the five campuses. The next stage of our study will closely investigate the problems of accommodating inevitable change - due to shifting functional, economic and aesthetic expectations in higher education - while maintaining and conserving the integrity of the planning, landscaping and buildings of the first campus plans. Unlike older Australian Universities, none of these sites are protected by formal heritage overlays, as there is little perceived need given their recentness and lack of funding to replace existing buildings. To date, conservation has been discussed at La Trobe, Griffith and Murdoch Universities in terms of preserving the now ecologically and botanically valuable wildlife reserve areas on the campus peripheries that offer great public amenity. While at Monash University, heritage recognition has been proposed for two buildings: the School of Humanities 'Ming Wing', and the religious center designed by Mockridge Stahle & Mitchell and while some of the pre-existing exotic vegetation (oaks and cypress trees) has been deemed significant at the local city council level, the significance of the Monash's expansive Australian native plantings have been recognised by the Australian Institute of Landscape Architects as an 'Australian Significant Landscape'.

Recent design guidelines for a number of campuses do not indicate adequate appreciation of the history of campus planning and realisation. Very cursory and pragmatic guidelines for future additions are in place. Or, as at Murdoch University, new plans are treated as opportunities for showcasing contemporary generic urban design principles; here the model of 'reactivation' of a 'town-center' is being invoked afresh with little reference to local suburban contexts.²⁶ Rather, as in all Australian Universities new and old, comparisons and aspirations are again turned towards international horizons, with new 'signature' landmark buildings being built where funding can be raised that are deliberately noisy counterpoints to previous unified campus buildings - as can be seen at Griffith University.

In our broader historical project, we aim to demonstrate that there is great need for careful documentation and assessment leading ultimately to protection, in light of design and planning guidelines, so as to preserve these regionally significant late modern civic places. A number of key challenges remain. The fact that many of these campuses were master-planned with in-built flexibility so as to accommodate changing needs tends to give credence for future development to override heritage concerns. There is a general lack of appreciation of the recent past, particularly in comparison with the symbolic pull of the architecture and landscape of nineteenth and early twentieth century architecture and landscapes. And finally, the experimentalism and idealism inherent in landscapes that were largely defined by Australian native plant materials have today created considerable management issues that in the context of human comfort, budgetary and other constraints make them difficult to defend and to sustain. In charting a way forward, the complex qualities of the modern campus and the equally complex historic narratives that underpin their planning and design, require careful consideration if their heritage values are to be suitably recognised.

Notes

¹ For example The Australian University Commission, 1957, The Martin Report, 1964.

² Including the influential Robbins Report in the UK of 1963 that "registered sudden and belated insistence ... that there must be a rapid and ambitious expansion of English Higher Education'. While the Carnegie Commission on the Future of Higher Education stated: 'The universities are currently facing three great areas of related adjustments: growth, shifting academic emphasis, and involvement in the life of society.' G J Harrison, *Griffith University, The Development of the Nathan Campus Preliminary Report*, (Adelaide, s.n, 1971), 3.- Quotes Dr Clark Kerr of Carnegie Commission on the Future of Higher Education.

⁴ Paul Venable Turner, *Campus An American Planning Tradition*. (New York: The Architectural History Foundation; Cambridge, Massachusetts, and London, England: The MIT Press, 1984), 3.

⁵ Muthesius, Stefan *The Postwar University: Utopianist Campus and College*, Paul Mellon Centre for Studies in British Art, Yale University Press, Yale, 2000, p. 6.

⁶ Roy Simpson, "A University in the Suburbs," *Architecture in Australia*, 10 (1967): 833

⁷ See A Saniga, *Making Landscape Architecture in Australia*, pp. 150-164.

⁸ Simpson, "A University," 833.

⁹ G J Harrison, *Griffith University, The Development of the Nathan Campus Preliminary Report*, (Adelaide, s.n, 1971), 9.

¹⁰ Denis Stephenson, "From Silent Spring to Paradise Regained, La Trobe University - Bundoora Campus," *Landscape Australia*, 3 (1977): 261.

¹¹ (Griffith awarded civic design in 1978 and landscape commendation in 1986; Murdoch, La Trobe Monash etc etc.

¹² "Murdoch University," *The Architect* WA, 1 (1975): 12.

¹³ Turner, *Campus*, 3. And that hallmarks such as Thomas Jefferson's 'academical village' at the University of Virginia (1817) stemmed from an education ideal based on the familial whereby the very structure and layout and design of buildings emphasised the importance of personal relationships between academics and students. p. 83.

¹⁴ Geoffrey Bolton, *It had Better be a Good One: The first ten years of Murdoch University*, (Perth: Murdoch University, 1985), 30.

¹⁵ Bolton, *It had Better be a Good One*, 64.

¹⁶ The site planners were appointed towards the end of 1962 and consisted of Gordon Stephenson (1908-97) and Geoffrey J Harrison (1928-2007). Stephenson was a British architect and planner who had completed consultancies for the University of Western Australia, the city of Perth, and was involved in promoting the profession of landscape architecture in Australia in the 1960s. Harrison was Staff Architect for the University of Adelaide and became the University Architect for Flinders University as well as offering consultancies to other Australian universities such as Griffith University (1971). The landscape consultants were Lindsay D Pryor (1915-1998), Foundation Professor in Botany from the Australian National University, who worked in association with Richard Clough, landscape architect for the National Capital Development Commission. Pryor and Clough were key founders of the profession of landscape architecture in Australia.

¹⁷ G Stephenson and G Harrison, *The University of Adelaide at Bedford Park Site Planning Report*, (Netley SA: The Griffin Press, 1964), 25.

¹⁸ Simpson, "A University," 832.

¹⁹ The most energetic in this regard being Vice-Chancellor Louis Matheson. A Saniga, *Making Landscape Architecture in Australia*, (NSW: NewSouth Publishing, 2012), 159-161.

²⁰ The landscape architects were in fact instructed to design in such a manner as to break the large uniform space into smaller components; a physical attempt at destroying the infrastructure of mass-protest. J Rickard, "Monash The "University-In-A-Hurry,"" in *Making Monash A Twenty-Five Year History*, edited by F W Kent and D D Cuthbert. (Clayton: Monash University Gallery, 1986), 15.

²¹ P V Turner in his account of the American campus (1984) identifies a similar tendency away from the rigid and inflexible master plan and instead toward a plan for development that would accommodate changed conditions that were beyond prediction. See pp. 260 & 266.

²² Peter Karmel, foreword to *The University of Adelaide at Bedford Park Site Planning Report* by G Stephenson and G Harrison, (Netley SA: The Griffin Press, 1964), 7.

²³ Stefan Muthesius, *The Postwar University: Utopianist Campus and College*, (Yale: Paul Mellon Centre for Studies in British Art, Yale University Press, 2000), 153-155.

²⁴ Harrison, *Griffith University*, 14.

²⁵ Stephenson, *The University of Adelaide*, 38.

²⁶ Hames Sharley, *Murdoch University, eastern design precinct, Urban Design Framework* (WA: Hames Sharley, 2012)

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An adapted modern – a look on the preservation and rehabilitation of modern architecture in Taiwan

Rémi Wei-Chou WANG *

Abstract

It has been a delicate issue in conservation work – the adaptation of a protected historical monument or building. To find a new use with adequate program fitting to the actual structure and space is not easy, especially when a building has to transfer itself to a function other than the original one. Because of the original physical delimitation, which define severely the building from its exterior site, it is becoming problematic to for its re-use, especially for a modern building often built of concrete or reinforce concrete.

In Taiwan, buildings built in the 20th Century by Japanese for the first half and by KMT's reign after World War II use some relatively strong materials, such as brick or concrete. It is a bit easier to adapt large size buildings to new functions, but difficult for smaller.

We thus want to make some observation on protected modern buildings, to evaluate those buildings by their reuse in many ways. This paper will work on different cases of preservation, of different degrees of preservation and rehabilitation in Taiwan, in order to clarify not only the situation of preservation, but also how people carry out the re-use in Taiwan. The observation will be preceded into different levels. They are: 1) Building types; 2) Dimension and materials; 3) New functions versus old ones; 4) Work on preservation and rehabilitation, etc. This paper will work on different buildings of different areas in Taiwan, in order to present a panoramic view of modern architecture preservation.

Keywords : preservation, rehabilitation, adaptive re-use, Taiwan.

1. Prelude

One of difficult work in preservation of cultural heritage is the reuse of buildings and sites that bearing the protected buildings. It could be oriented in two ways: the first is to preserve the buildings or sites, trying to giving them new functions, but not necessarily fit to their spaces; the second is to preserve the buildings or sites, but not necessarily fit to their historical meaning. There exist always some gap between the preservation of protected buildings and the rehabilitation. Some building with large scale is easy to work on. Finding an adequate function for a large historical building is relatively easy. Yet for smaller buildings, one must conceive carefully their future function in order to preserve buildings at one hand, and finding out a smart and nice rehabilitation, which fit adequately or even perfectly with the history at another. Sometimes, it's hard to find a good program for those smaller buildings and sites. One could only make a monument for their rehabilitation program.

This paper will work on the rehabilitation problem by observing the different results of adaptive re-use, trying to classify and categorize them, searching the problematic of preservation, revealing by a theoretical approach of preservation. Through the observation on the cases of re-use, we might point out the characteristics and the culture for preservation of historical buildings, monuments or not, which are a mirror to a collective ideas in one society.

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2. Selective Cases of Adaptive Re-use in Taiwan

I select some different cases of adaptive re-use cases in Taiwan, for the study of this article. In order to have a panoramic view to the re-use of historic buildings, those cases should be of different dimensions and contexts, so to observe different ways of adaptation.

These cases are symbolic ones. They include buildings constructed before WWII, i.e. in the period of Japanese Rules, and those, which are constructed after WWII, mostly under the reign of Nationalist Chiang Kai-Shek. They are of different dimensions, so that we see different adaptations to those preserved buildings.

3. Browse on the Protection of Cultural Heritage in Taiwan

The first Cultural Heritage Preservation Act is approved on May 1982, after a series of demolition of historic buildings. A large-scale revised version of the Act is approved in the end of the year 2005. The newly revised version includes new concepts of preservation, such as cultural landscape, historical sites, archeological sites, etc., which were not mentioned in original version. The new version has been widening on definition, so to catch up new concepts of preservation of the last twenty years.

Though, the moving ideas on the protection of cultural heritage are not only appeared on the revised Act and its definition on cultural heritage, they're also emerged in the changing concepts of protection. Protection of industrial heritage and modern buildings is becoming one of mainstream concepts.

4. The Characteristics of Adaptive Re-use in Taiwan

14 cases are selected to be observed:

- a) Huashan 1914 Creative Park
- b) Haulien Cultural and Creative Park
- c) Songshan Cultural and Creative Park
- d) National Museum of Taiwan Literature
- e) Taiwan Land Bank Exhibition Hall of National Taiwan Museum
- f) National Taiwan Science Education Center
- g) Museum of Contemporary Art
- h) Taipei 228 Memorial Museum
- i) Student Activity Center of National Taiwan University
- j) Taipei Futai Street Mansion
- k) Taipei Spot
- l) Taipei Story House
- m) Guling Street Avant-Garde Theatre
- n) Former Prime Sun Yun-suen's Residence

We try to categorize the different cases on the above-mentioned. By observation, we find out that there exists a connection in between the dimension of the protected buildings and their re-use. Thus, three categories listed as below.

1st category: This category includes a building or a set of buildings with large size. They are often of old industrial buildings. They are: (a), (b) and (c).

2nd category: This category includes large size buildings, originally built for office buildings, mostly in the city. They are (d), (e), (f), (g), (h)

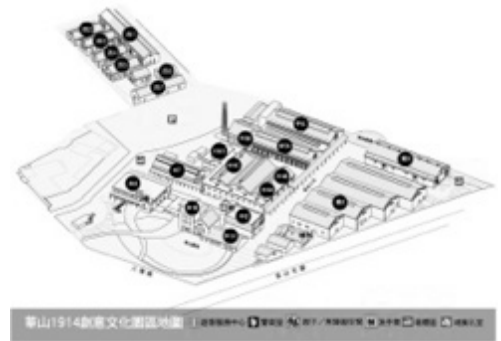


Fig. 1 Bird's eye view of Huashan 1914 Creative Park, Taipei, Taiwan, http://www.huashan1914.com/admin_place/place_images/NPM%20MAP0320.jpg



Fig. 2 Bird's eye view of Songshan Cultural and Creative Park, Taipei, Taiwan, 2013, by Taiwan Design Center.



Fig. 3 J.M. LIN Architect, section for the project of rehabilitation, Taiwan Land Bank Exhibition Hall of National Taiwan Museum, Taipei, Taiwan, 2007, by J.M. LIN Architect



Fig. 4 LOU Yi-Chunn, National Taiwan Science Education Center at Nanhai Academy (1946), Taipei, Taiwan, 2006, photo by Rémi WANG.



Fig. 5 LI Chung-Yao Architect, Taipei Story House, façade et extension, Taipei, Taiwan, 2014, photo by Daniel Aguilera Sanchez.

and (i).
3rd category: This category includes smaller buildings; most of them were built for private houses of medium or small size. They are: (j), (k), (l), (m) and (n).

In these three categories, most of the adaptive re-use are oriented to cultural functions. The three cases of the 1st category have their mission responding the governmental policy on cultural and creative industry. There's hardly problem of re-use. What is great to the cultural and creative parks is that, the former manufacture is of large spaces with big dimension for its exterior and interior.

The cases of the 2nd category, though they are often with only one or few buildings, are of relative large space for its original dimension. They are either former office buildings or institution buildings. They are originally constructed for public use, of massive users. The buildings we mentioned on the above are easy to be adapted to other functions. The choice of museum function for re-use seems to be the only (or the best, under ideology of the society) solution, in spite of their location or dimension. This category of re-use is still a nice solution for the preserved buildings, for they are relatively big and with public characteristics.

For those of the 3rd category, there seems to be more difficulties facing to the adaptive re-use. Their houses are usually of smaller or medium size, either distributed by the government, or constructed by their own. The buildings are, for most of the time, constructed for house function. It is hard to make those buildings opened for public use. Guling Street Theatre might be the most interesting case between those. It was a precinct of Police Department. The adaptive re-use is full of imagination. It has been quite longtime

for a theatre of small and medium size, and the building is protected because of a nice policy of Mayor Chen. It is inscribed as a Historic Building only in 2014, almost 18 years after its being theatre.

	Name of the Building	Year of construction	Year of restoration	Surface of the site (or building)	Classification of heritage	Original function	Adaptive function	Extension
a	Huashan 1914 Creative Park	1914-1916	2002-2007	3.5 ha	Municipal Historic Monument and Historic Buildings 2003	Distillery of liquor	Creative Park, temporary exhibition halls, cinema center, a lot of restaurants	Cinema Center (by CCA)
b	Haulien Cultural and Creative Park	From 1920s to 1950s	2000	3.38 ha	Historic Buildings	Distillery of liquor	Creative Park, temporary exhibition halls	None
c	Songshan Cultural and Creative Park	1937	2002	18 ha	Historic Monuments and Historic Buildings (2002)	Tobacco Manufacture	Cultural and Creative Park, multiple use	A complex building with a hotel, a shopping mall and restaurants
d	National Museum of Taiwan Literature	1916	2003	12,700 m ²	National Historic Monument (2003)	County Hall, Office building	Museum and a Research Unit, office	Both museum and Research unit
e	Taiwan Land Bank Exhibition Hall of National Taiwan Museum	1933	2007-2008	1,800 m ²	Municipal Historic Monument (known as Nippon Kangyo Bank Taipei Branch)	Office building, bank headquarter	Museum	None

f	National Taiwan Science Education Center	1946	Under restoration actually	5,260 m ²	Municipal Historic Monument (2006)	Exhibition hall	Museum	None
g	Museum of Contemporary Art	1920	2001	900 m ²	Municipal Historic Monument (1998)	Elementary school	Museum	School exists side by side with museum.
h	Taipei 228 Memorial Museum	1930	1996	2,180 m ²	None	Former Taipei Broadcasting Bureau, office building	Museum	Café-restaurant complex 397 m ² , exhibition spaces 1,183 m ² and office 528 m ²
i	Student Activity Center of National Taiwan University	1969	Still in use	6,000 m ²	None	Student activities center	Student activities center	None
j	Taipei Futai Street Mansion	1910	2009-2012	200 m ²	Municipal Historic Monument (1997)	Complex of shop and house	Place for exhibition of the history of	Building for office use
k	Taipei Spot	Around 1925	1997	1,200 m ²	Municipal Historic Monument (1997)	Former American Ambassador's Residence	Complex of café, restaurant and bookstore, with a small cinema	Cinema theatre
l	Taipei Story House	1913-1914	2000-2002	200 m ²	Municipal Historic Monument (known as Yuanshan Villa, 1998)	Private villa	Place for exhibition of the history of Taipei	A café and a restaurant
m	Guling Street Avant-Guard Theatre	1954	1997 & 2000-2001	579 m ²	Municipal Historic Building (known as « former Zhongzheng Second Precinct, Taipei Police Department, 2014)	Police Precinct	Theatre	One floor, before the inscription of Historic Building
n	Former Prime SUN Yun-suen's Residence	1901 & 1980	2013	The site: 2,863 m ² building: 546.5 m ²	Municipal Historic Monument (2006)	Government officer's residence	Museum in the memory of Mr. Sun	Previewed extension 546.5 m ² for Foundation Sun Yun-suen

5. The Results

We have some observation on these cases, that we make them in the below.

5.1 Narrow Adaptive Re-uses

For the 14 cases mentioned above, we notice that most of the adaptive re-use cases are oriented to be cultural institution. Many of them are museums, no matter the different nature of the preserved buildings. Two explanations will be led to this phenomenon:

a) Lack of cultural institution or demand of new cultural institution

The preservation of building of the 20th Century in Taiwan started late in the end of last Century, for the preservation work was focused on the 19th Century buildings or earlier ones. They are temples, government buildings, and mansions of rich people. Historic Monuments were

regarded as precious antique objects, that one didn't try to re-use them. This is the first phase of historic preservation in Taiwan. The second phase, is more from the end of 1990s. One might notice that most of the 14 cases, their restoration or rehabilitation work is held around 2000s. At that time, the society demanded to establish more cultural institutions, so to house new requirement on cultural activities. That might explain this phenomenon.

b) Responding to the cultural and creative industry policy

For responding this policy of Council of Cultural Affairs in the beginning of 2000s, the five chosen sites become places for exhibitions or auditoriums, so they could play roles other than formal museums or opera houses. In the mean time, the five cultural and creative industry parks reflect the other policy of decentralization, to offer possibilities to different areas, for their cultural lives. Buildings of relatively large dimension provide possibilities for exhibitions and spectacles. The government needs only to preserve buildings, to restore and rehabilitate them, or make some extension buildings or building extension to the existing ones.

c) The only imagination on the adaptive re-use topic

The third possibility to this singular phenomenon might be due to the lack of imagination to the adaptive re-use on preserved cultural heritage. The cultural heritage is literally related to cultural affairs. They become thus cultural institutions, instead of other functions. This decision seems to them an appropriate choice for the re-use. This might be fit more to the bourgeois ideology of the functionaries in charge of the preservation. People don't care if the re-use still remaining the historic meaning with which the monuments is classified. It is becoming more difficult to follow on the line of its originality.

5.2 Disregarding the Original Capacity of Buildings

As mentioned above, there're four factors closely related to the re-use problem on a preserved (or not) building. They are: 1) Building types; 2) Dimension and materials; 3) New functions versus old ones; 4) Work on preservation and rehabilitation. In the 1st and 2nd categories, sites of the preserved heritage, Historic Monuments or Historic Buildings, are relatively large, buildings themselves as well. They are constructed for manufacture or office buildings of good quality. The construction materials are more of solid bricks and sometimes mixed with a reinforced concrete of first generation. The strength of buildings is no doubt over qualified for cultural function provided for mass of people. If we could only evaluate the capacity of buildings, the possibility of their carrying out and bearing the future use, the two categories are of no problems.

For the 3rd category, buildings are relatively small, and the exterior and interior space is difficult to respond the new function. A museum for famous families or persons is not for people peeping their private life. Because of the nature of this kind of buildings, there exist some difficulties for their small spaces, and weak bearing structure to host the massive visitors. There is lack of excessive spaces for exhibition other than their personal life.

5.3 Convergence on the Extension Design

We have an eye on the extension design of a Historic Monuments or Buildings, we notice that most projects on the above have been operated with one or several extension projects. For the 3rd category, extension project is becoming necessary for their program. But in other categories, the extension project is applied as part of their rehabilitation work.

There's dilemma of using materials close to the original ones, and of new materials that might be strong contrast to the original ones. The dialogue of different materials doesn't seem to be in consideration of architects. They often pick some dramatic examples by juxtaposing old and new materials, so their design could be perceived easily. This concept on rehabilitation or extension projects leads to an old vs. new contrast, which is often emphasized in spaces, in forms, and in materials and colors. Concrete, iron and glass are three materials to be applied deliberately in those projects. Architects don't work much anymore with the notion of harmony, but more with the notion of conflict or collision.

6. Conclusion

– the Preservation of Modern Buildings, and the Awkwardness of Adaptation of Function

With this general review on the preservation cases, we would conclude as below:

Though the very first version of Cultural Heritage Preservation Act is adopted and promulgated in 1982, some thirty-two years ago. The concept of preservation evolves for the passed thirty years. We absorb different ideas of preservation, yet pretty selective. In spite of the evolution, the adaptive re-use on cultural heritage preservation is still very narrowing. Cultural institution seems to be politically correct solution for adaptive re-use. The functionaries in charge or maybe the society demands a cultural function so as to fit to the re-use program. Café or restaurant is proposed to be a necessary annex to the Historic Monuments, in the form of extension. One could say that the adaptive re-use is more a restaurant with a museum than a museum with a restaurant. People would come to a museum merely for its restaurant. This is a phenomenon, which reflect the social reality.

About the rehabilitation or/and extending project, architects restore, rehabilitate, and often try to mark themselves by making purposely contrast of materials and spaces. Few projects are under sophisticated consideration of original pieces and materials of the building to be preserved. They become more or less similar characteristics on spaces, with iron and glass, and lose their originality in space.

This panoramic observation on the adaptive re-use in Taiwan shows the society need some big and different ideas, so that the result would not be monotone. We have to take different processes to introduce some other approaches for preservation. We also need architects with different spatial visions. More debates on the meaning of preservation and architectural aspect will be needed, and it should be under the form of discourse, so to have multiple aspects, fitting to the original meanings, in the mean time, a flourishing results.

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Reusing the Old in Public Space: The case of Seoul's City Hall

Jieheerah YUN *

Abstract

This paper discusses the history of Seoul's old city hall and the architecture of the adjacent new city hall completed in 2012. From the beginning, the construction of a new city hall was an enterprise fraught with controversy, as it involved the issue of preserving the old city hall that was constructed during the Japanese colonial period. Many designs for the new city hall, which was to be built behind the older structure, had been rejected by the city government and the Cultural Heritage Association. Even after the final design was chosen, procedural ambiguities surrounding the execution of the project invited criticisms from various fields, including architects and historians.

This study looks at how public architecture reflects changing notions of urbanity and civic space. By examining architectural changes introduced in the mid-1920s and the contemporary design of the new city hall, this paper shows that a commonality exists between the two buildings with radically different architectural styles. The design of old city hall, meant to increase public accessibility, was a result of situated complexities, just as the design of the new city hall is.

Keywords : public space, conservation, architecture, city hall, colonialism

1. Introduction

In August 2012, the construction of Seoul's new city hall (fig. 1) was completed after many tumultuous events, and the public opening ceremony was held in October 2012. From the beginning, the construction of a new city hall was an enterprise fraught with controversy, as it involved the issue of preserving the old city hall that was constructed during the Japanese colonial period. Many designs for the new city hall, which was to be built behind the older structure, had been rejected by the city government and the Cultural Heritage Association. Even after the final design was chosen, procedural ambiguities surrounding the execution of the project invited criticisms from various fields, including architects and historians. Some commented that the building represents a radical departure from the older form and that it does not show any respect for the historical context of the area. After the completion of the city hall, some residents joined the critique by remarking that the form of the new building resembles a tsunami about to swoop down on the old building. Others have complained that the western facade of the building is visually awkward, as the spherical shape of the Multi-purpose Hall protrudes rather prominently, like the eye of a grasshopper.¹ Almost every South Korean seemed to have an opinion on the new city hall, regardless of his or her profession or educational background.

This paper consists of the following parts. First, it examines articles by Yiwai Josaburo, the architect of the old city hall; Iwasuki Yoshiyuki, an engineer at the Japanese Government-General building; and Sasa Gei-ichi, the project manager. The articles were published in *Chosun and Architecture* (朝鮮と建築), an early architectural magazine published in the 1920s and 1930s in Korea, which reveals that conflicting needs, such as need for functionality and need to develop new aesthetics, were addressed. Then, it traces how contradictions inherent in

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Japanese colonial regime have contributed to circulation of an architectural myth about the old city hall and the city government's adoption of the myth to justify its partial demolition. Finally, it turns to the design of new city hall to see how the theme of improving accessibility was carried into the new city hall despite controversy regarding the preservation method.

2. History of the Old City Hall

The old city hall was first built in 1926. It was called Gyongsong Buchung (京城府廳), meaning the government hall for Gyongsong, which was the name for Seoul during the colonial period. It was designed by a team led by Yiwai Josaburo (岩井長三郎), a Japanese architect who had received an architecture degree at Tokyo Imperial University in 1905. The previous Gyongsong city hall was a structure originally used as a consulate, and that was located south of the site of the current city hall. However, the Japanese colonial regime constructed a new building on the current site after the city went through expansion. The advantages of this site included easy access to the major streets of Gyongsong, and the fact that Taepyeong Street where it was located formed a “vista line” which culminated in the Japanese Governor-General building at one end and the train station on the other (**Fig. 1**)²

At first glance, the Gyongsong City Hall appears to follow the neo-classical—more specifically, French Renaissance—style which the Japanese Governor-General Building also adheres to (**Fig 3**). The southern facade gives the impression of symmetry, and with the projecting central bay and the rusticated lower wall, the overall design shows the influence of the French Renaissance style. Yet the layout of the Gyongsong City Hall constructed in 1926 shows a marked difference from the Japanese Governor-General Building, which was designed much earlier although built during the same year as the city hall. First, the new city hall was not strictly symmetrical. The eastern wing is shorter than the western counterpart, and this can be more clearly seen in the eastern facade (**Fig. 2**). The lobby was designed differently as well. A porte-cochère, a covered driveway in front of the building, designed to enable high officials to make a ceremonial entrance, was gone. Instead, the driveway was placed at the back of the building, making the front entrance more pedestrian-friendly, and thus, better oriented to an urban setting. At the same time, it appeared more accessible to the public. Arches, the ubiquitous element of classical architecture, are conspicuously missing, as well as the details on the engaged columns of the tower. The reduction of building's scale and ornaments was partly due to economic considerations, as this trend reduced construction costs significantly.³

On the other hand, the tendency to simplify architectural elements in the classical style reflected not only the changing economic condition in Korea but also an important political and cultural shift in Japan. The so-called Taisho Period from the late 1910s to the 1920s was characterized by a movement toward liberal democracy in Japan. In the preceding years of the Meiji Era (1868-1912), much emphasis was placed on the national project of modernization, and Japan absorbed various Western cultural forms. After the death of the Emperor Meiji, ideological and philosophical changes began to surface in Japan. By the end of WWI, Japan had emerged as a major player in international politics, and with this change came many new ideas. It was during this period that democratic parties and ideologically-driven organizations were formed in both Japan and colonial Korea. In 1922, a Communist Party was born in Japan, and its activities influenced many Japanese students, including many of those who were involved in the labor movement in China.⁴ New political ideologies such as communism, anarchism, and feminism started to surface in the Japanese media.

Reflecting such global trends, *Chosun and Architecture* (朝鮮と建築)—the major architecture journal in the 1920s and 1930s—frequently discussed the merits of a simpler and more modern style. For instance, in an article published in October 1926



Fig. 1

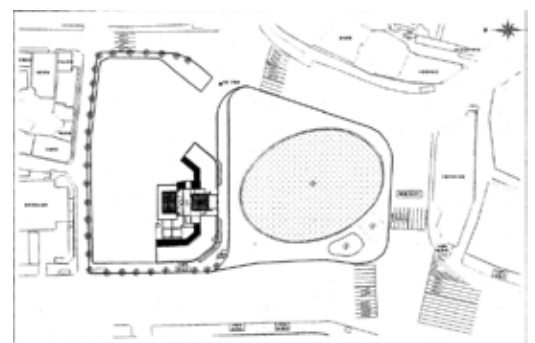


Fig. 2

titled “About Expression and Other Things in the New City Hall,” Iwasuki Yoshiyuki (岩槻善之), an engineer at the construction division of the Government-General noted,

For a long period of time, governmental office buildings had dignity and majesty as a theme. The practice of having an office attached to the palace in the royal castle changed over time. Eventually the governmental office did not need to have the governed people in awe of gilded splendor anymore. . . . Rather than building wasteful, loose, impractical and inconvenient palatial buildings, the focus was now on something that was above all practical and efficient.⁵

Yoshiyuki’s belief that government buildings in a modern society need to be different from those of the past is reflected in his statements. Interestingly enough, the fact that colonial political conditions had the effect of rendering most government buildings formidable in the eyes of Koreans did not deter Yoshiyuki and his team from pursuing a new kind of aesthetic. In terms of architectural style, new government buildings were to have fewer decorations or surface treatments, which may recall extravagant palatial structures. Yoshiyuki goes on describing the details of the new city hall structures, and he notes, “an effort was made to omit any wasteful elements, and painstaking efforts were made to render it with an almost lightness about it.”⁶ At the same time, the building was to employ a new style, “in which concave and convex portions, such as eaves and bellows, were reduced as much as possible.”⁷ Thus, this new style was in line with modern aesthetics, which preferred simpler rectilinear lines over curves. Although the article does not mention specific examples of Western architecture, Yoshiyuki mentions that the design of the city hall is heavily indebted to Sasa Gei-ichi (笹慶一), who graduated from Tokyo Imperial University in 1913. ⁸Gei-ichi travelled to many countries including the US and Germany in the mid-1920s, while he was engaged in the design of the city hall. Although the term “modernism” was not yet in use at the time, Gei-ichi must have witnessed the architectural trend of reducing the use of ornaments and simplifying architectural forms.

3. City Hall after Independence

In the beginning, several sites were considered for the possible location of the new city hall. Other areas such as Dongdaemun (Eastern Gate), Yeouido, and Yongsan, were considered. Some scholars, such as Heungsik Kim, argued that the new city hall should be located outside the historical center in order not to encourage further centralization of urban functions.⁹ Yet after several stages of deliberation, the current site was chosen in 2005. Shortly after the decision to build next to the old city hall was made, what to do with the old structure became a source of conflict between the Seoul city government and the Cultural Heritage Administration (CHA). Whereas the city government suggested dismantling, and then restoring, the old city hall, with the exception of the facade and the central dome, the CHA argued that most of the original building should be preserved.¹⁰ Although the city government acknowledged the historical value of the building as a rare example of early modern architecture in Korea, it did not agree with the CHA, which viewed partial preservation as unfaithful. Even after several attempts to reach an agreement were made, the CHA argued that Taepyeong Hall (**Fig. 3**) in the old structure should be preserved rather than taken apart and reassembled later. During the colonial times, Taepyeong Hall was used as the meeting room where conferences could be held. It was the room with the largest volume in the old city hall. Conflicts mounted when the city government ordered the demolition of Taepyeong Hall without the consent of the CHA in 2008. The CHA placed Taepyeong Hall under the temporal designation of



Fig. 3

historical landmark status to halt the process that the city government had already started.¹¹ As the disagreements over the scope and scale of preservation continued, those less interested in the architectural preservation began to question whether the building was in fact worth preserving when it was associated with colonial oppression. Some observed that, like the old Japanese Governor-General Building, old city hall symbolized Japanese dominance over the people of Chosun; therefore, they argued, it should not be preserved.

The preservationists including the CHA argued that the old structure is one of the few remaining modern architectural works in Korea, and that its main components, such as Taepyeong Hall, should be preserved. Those favoring demolition claimed that the city hall does not need to be pre-

served, since there are plenty of other examples of modern architecture with less problematic connotations, such as theaters and storage buildings.¹² When the preservationists argued that even buildings of negative connotation should be considered part of history, and therefore preserved, demolitionists countered by pointing out that some associate such buildings with Japanese superiority rather than past atrocities. With both camps armed with their logic, the matter was far from settled when the Seoul city government initiated the demolition of Taepyeong Hall without notifying the CHA.

Born into this contentious context, it is not surprising that selecting an appropriate design for the new city hall was very long and exhaustive. The first five design schemes proposed by Samoo Consortium, a design and construction company chosen by the city government, were all rejected by the CHA. According to Byungwook Ahn, a member of the Cultural Heritage Committee, the first design was rejected because the height of the building did not consider the effect of the building's shadow on Deoksugung, a palace complex located across the street.¹⁴ The subsequent rejections prompted the city government to reconsider the selection process from the beginning, and four well-known architects were invited to openly compete with one another. After deliberations by a committee made up with architects and historians, Yoo Kerl's design (**Fig. 4**) was selected as the winning design in February 2008. Yoo's design was daring and adventurous compared to the contender's rather conservative design.

Although the final design was determined, the subsequent construction process has invited yet another round of criticism. Some criticized the turn-key construction that the city government relied on as inappropriate for a public building of cultural significance. For instance, in a newspaper article published in *Hankyoreh Newspaper*, one architect (who requested anonymity) observed, "building public architecture, especially an important building like the Seoul city hall, with a turn-key method is nonsense."¹⁵ The article criticized the process by which the architect's role in the design development stage was limited, due to the dominance of the construction firm.

Although the city government made Yoo the general director to make sure his design ideas were reflected, conflicts arose regarding the design details.

In *Speaking Architecture: City Hall*, the documentary film which explains the process of constructing the new city hall, Yoo notes that his original design intention was to make the west side of the building transparent and make the diagonal support structures clearly visible from the street.¹⁶ Yet the new city hall ended up with a wall with diagonal lines as a surface treatment rather than showing the actual support structures. Also, the short time allowed for the completion of the project resulted in a situation in which interior details had to be changed to meet the deadline. For instance, the angles of the ceiling panels in the Multipurpose Hall had to be changed. Furthermore, the construction was finished on a rushed schedule, inducing a very intense negotiation process between the construction company and the architectural staff.

Despite procedural problems and criticism regarding the turn-key construction, the new city hall shares similar design thinking seen in the old city hall regarding the attributes of civic space. Just as Sasa Gei-ichi envisioned a civic space open and more accessible to citizens, Yoo considered accessibility the most important criteria in designing the new city hall. Yoo's design is focused on making the city hall approachable and communal in a significant part of its interior. In an interview, Yoo mentioned that he wanted to design a "vertical plaza" by placing on the upper floor a publicly accessible Multipurpose Hall (**Fig. 5**), which becomes an architectural metaphor of the horizontal plaza in front of the city hall. The plaza in front of the old city hall is about 14,548 square meters (about 3.6 acres), quite big in the context of a crowded urban setting. Covered with grass, this area functions both as a recreational space and a symbolic political stage where impor-



Fig. 4



Fig. 5

tant political rallies take place. Putting the Multipurpose Hall on the upper floor was considered a bold decision since it meant bringing the public to the inner part of the interior space. In the design of the new city hall, the upper floor office space recedes to make way for a bigger lobby space with a double skin system (fig. 10), and about 40 percent of the floor space is open to public. Symbolically, the underground interior space is named *simincheong* (市民廳), with *simin* meaning citizens. The Chinese character used for *cheong* is not the usual Chinese character which means a government agency but another character which means “to listen.” Instead of the authoritative image associated with the term *guan cheong* (官廳, 官厅), the naming of the space here conveys a democratic spirit according to which public officials in the city hall should always strive to be attentive to the voices of citizens.

4. Conclusion

So far, this article has examined the history of Seoul’s old city hall and the contemporary controversy surrounding the construction of a new city hall completed in 2012. Despite continuing controversy regarding the colonial experiences of Korea, this paper has focused on the diverse forms of modernity and design experiments with civic space by analyzing various design intentions associated with the Seoul’s old and new city halls. While not negating the ills of the colonial past or procedural inadequacies in contemporary public projects, I have sought to provide a detailed case study that analyzes a commonality between early and contemporary public architecture in South Korea. The main objective of colonialism is to benefit the colonizers and not the colonized. Yet colonial administrators had conflicting needs to reconcile, including the need to persuade colonial subjects to believe in the idea of progress and the project of modernization. Urban imagery associated with the civic center in colonial Seoul shows that increased public accessibility and engagement became one of the important design considerations for the Japanese architects in Korea in the mid-1920s. While this idea was limited to the design idea and was not extended to actual practices, the emergent architectural language illustrates that architects’ preoccupation with designing modern public buildings started fairly early in East Asia. Although the new city hall has been the target of much criticism, some of its architectural features show the aspiration to design democratic space by increasing public accessibility. As the case of Seoul’s old city hall shows, a single leitmotif cannot explain everything about a building. Perhaps it is time to develop a more nuanced perspective which takes into account situated complexities, including the architects’ intent and social rearrangement of meaning, in order to evaluate the historical significance of a given architectural design.

It is still too early to give a conclusive assessment of Seoul’s new city hall. Will it become an architectural example which portrays the historical significance of the old structure while simultaneously suggesting a new direction for the future? It is not yet clear whether the new city hall will satisfy the needs of occupants as well as the expectations of the residents of Seoul. While it may or may not become the exemplary public architecture of South Korea in the twenty-first century, it does show a progressive spirit which emerged after the democratization in South Korea. If the architect’s intent to make public architecture more accessible can be carried out in a meaningful fashion without too many functional sacrifices, the structure may be remembered as a successful case of designing a civic space. The convoluted history of the Seoul’s new and old city hall illustrates the extreme complexity associated with architectural preservation and restoration in countries with a colonial history. Yet the broadening definition of modern architecture around the world implies that the role of architects in interpreting modern history, and giving it a voice through architectural form has increased as well. This increased role poses greater challenges as well as opportunities for architects and architectural historians to explore different ways of designing and writing about civic space.

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- ¹⁷ K. Yoo. Interview in Speaking Architecture 2: City Hall, directed by Kiyong Jeong. The first showing was on May 10, 2013 in Seoul.



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Conserving Modern Architecture in Hong Kong - Problems and Challenges

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Abstract

Conserving modern architecture in Hong Kong is a relatively recent practice due to the shortage of professional knowledge on modern architecture within the government and amongst private owners, and a lack of recognition for the significance of this architectural style which appeared in the territory since the early 20th century. Because of this, a number of modern architectural heritage have either been destroyed or subject to excessive transformation which have a negative impact on the buildings' form and character.

This kind of out-of-scale remodelling of heritage buildings has become common practice in Hong Kong nowadays, but its damage to the architectural heritage has been underestimated or inadequately assessed. Behind the remodelling there is often a profit motive which encourages an increase in floor space on top of heritage buildings. Another motive is the attempt to create a new iconic structure. In this process, the form and character of the original modern architecture would be changed beyond recognition and very often the heritage building becomes just a decorative part of the new building. Such an annihilation of heritage buildings has been carried out in the name of conservation.

Keywords : Modern Architecture, Conservation, Central, Wanchai, Hong Kong

1. Introduction



Fig.1 Former Wanchai Market (now "One Wanchai" private residences) by Public Works Department, Hong Kong, 1937

This paper will study two "conservation" examples of modern architecture in Hong Kong and assess their impact on the heritage buildings. This includes the 1937 Wanchai Market whose facade and front section has been preserved to become the entrance lobby of a 36-storey private residential tower above. The proposed "revitalization" scheme for the 1939 Central Market in which a huge glass light-box structure is planned to be erected on top of the heritage building will also be examined in more detail. In both examples, the majority of the interior structures has been or would be removed, leaving only the shell of the heritage buildings. The newly-added structures completely overwhelm the original architecture and condemn the latter to something like the plinth of an artwork. This kind of "faux conservation" is detrimental to the preservation of heritage properties in Hong Kong as the true meaning of conservation is often lost amongst the business and egoistic motives.

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2. Wanchai Market

Completed in 1937, Wanchai Market was one of the first Modern market buildings in Hong Kong, and a sample of advanced pre-war construction technology with steel framed concrete. Located on a corner site, the building was designed as a triangular single block with curved corners, with the main entrance having steps. The building's steel framed concrete construction, advanced for its time, had a simple, elegant exterior façade of white solid surfaces and horizontal louvre windows that speaks of a 'Streamlined Moderne' vocabulary.

Although awarded grade III historical building status in 1990, that status was quickly rescinded a year later.¹ An early version of the urban redevelopment planned to demolish the market and replace it with residential hi-rises. After the Urban Renewal Authority (URA) took over the project in 2001, permission to demolish the old market was granted in 2004, as an adjacent replacement market to rehouse displaced vendors for the original building was planned.

Wanchai, being an old inner-city district with rich history, had many heritage buildings and neighbourhoods forming a cluster nearby. The community-based Wan Chai Heritage Task Force was formed to promote public engagement and alternative development options to the various heritage sites in question. After pressure from the Task Force, the URA's revised plan for Wanchai Market represented a compromise and partial retention of the building. The building's facade and front section has been retained to become the entrance lobby of a 36-storey private residential tower rising above the shell of the market.

3. Central Market

The Central Market is located on a rectangular sloping lot between Des Voeux Road on the lower north side, Queen's Road Central on the higher south side, and the sloping Queen Victoria and Jubilee streets on the east and west sides respectively. The 100x40m site was first used as a public market in the 1860s when that piece of land was first reclaimed from the shore. Designed by the Public Works department according to London County Council 1915 by-laws, the current building was the first purpose-built fresh food wet market in Hong Kong when it re-opened on 1st May 1939, replacing previous market buildings dating back to 1858 and 1895.

The building's design, with its unadorned streamlined façade accentuated by slim horizontal lines, rounded corners and standardized strip window treatments, identified well with contemporary British architectural Modernism and international architecture styles.² Internally, with stalls marching either side of longitudinal aisles that ring around an elongated central court, axially ending with the main staircases and entrances on different levels, high ceiling and window for natural light and ventilation, the architecture embodied representative attributes of architectural modernism - functionality, spatial flexibility and efficiency.



Fig. 2 History of the Central Market in four generations. The current architecture of the former Central Market was completed in 1939, replacing previous market buildings dating back to 1858 and 1895. by Public Works Department

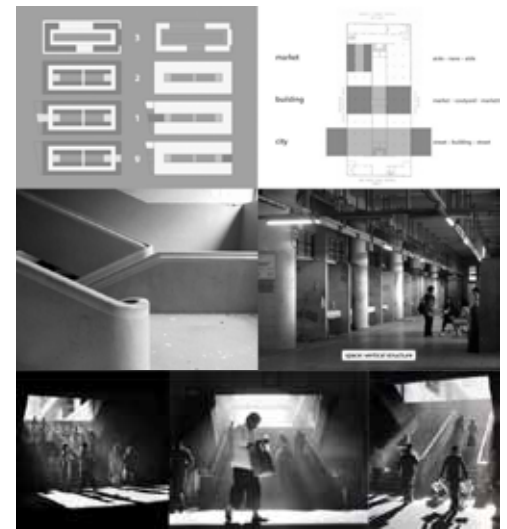


Fig. 3 The Architecture of the Former Central Market. Drawings and images taken from pp.15,17,18. Bertin, V., Gu D. & Woo P-L., *The Greatest Form Has No Shape – Three exemplary works of Hong Kong modern architecture*. Hong Kong: The Conservancy Association Centre of Heritage, November 2011. Old photos showing daily life in Central Market, from Chung Man-lurk (left); Yau Leung, 1963 (middle); Mak Fung, 1960s (right).

¹ Members of the Antiquities Advisory Board (AAB) agreed that "the market was not of great historical value and that efforts should be made to salvage useful material and fabric of the building before demolition." See Core Elements Preservation of the Wan Chai Market, April 2008.

² Not without reason, the stylistic label of "Streamline Moderne" has been applied by some to the building, as was the appellation of so-called "Bauhaus architecture" by popular media



Fig. 4 The four shortlisted proposals for the "Revitalisation of the Central Market Project" under the pre-set overarching theme of "Central Oasis" from the Urban Renewal Authority. Images from Urban Renewal Authority, *The Central Oasis: Design Concept Roving Exhibition Report*, HKSAR, April 2011. Retrieved June 15, 2014 from www.centraloasis.org.hk

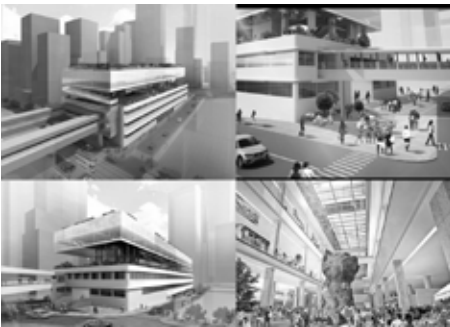


Fig. 5 Current proposed scheme for Central Market, developed from the Urban Floating Oasis by AGC Design, with the required collaboration with international architect Arata Isozaki. Images retrieved June 15, 2014 from <http://www.ura.org.hk/en/media/press-release/2013/20130524.aspx>

As the most advanced market in the city then, the four-storey reinforced concrete structure totalled 15,000m², containing 285 stalls encompassing five types – poultry and fish (ground floor), pork and beef (first), and fruit and vegetable (2nd floor). Hygiene was important, and the top floor with roof terrace contained the offices and living quarters for the Sanitary Department inspector and supporting staff, with the first roof extensions dating back to 1949.

3.1. Historical Testimony

The Central Market embodies a landmark site representing the 160 year lineage of Central's wet market activity that first started with Canton Bazaar back in 1842, and which subsequently underwent several relocations and reconstructions. In the 1960s the Central Market was declared one of the biggest retail trade only meat markets in Asia, and its importance attracted visits from a Hong Kong governor³. With more building alterations in the late 1980s, the current Central Market was accorded a Grade III Historical Building status⁴ in 1990. Three years later in 1993, as a testimony to witnessing historical changes, the market's original Chinese name (中環街市) was restored from the renaming to "Chung Yeung Shi Cheung" (中央市場) during the Japanese occupation (1941-45).

In 1994, to accommodate the construction of the Mid-Levels Escalator System and elevated linkages, second floor stalls on the west side were converted into retail units, a steel staircase was added together with new electrical and mechanical systems. For several years after its final closure in December 2003, the building remained vacant and inaccessible except for the 2nd floor public passageway, which became popular for weekend gatherings of foreign domestic workers.

Old photographs of Central Market, recounting daily life routines, appeared more frequently in books and prints reminiscing Hong Kong's past during the increasing interest in old architecture as part of Hong Kong's heritage. After becoming derelict, the building was once used as the backdrop for a gangster chase scene in the film *Sha Po Long* (2005), it had become derelict. A concurrent report⁵ recognised the Central Market's qualities, including it being an architectural manifestation of a unique period of political, socio-economic changes, one that also pointed to the transition in Hong Kong's architecture from favouring the "colonial"

3.2 Contesting Heritage

By the establishment of the Development Bureau in 2007, the demolition of popular historic landmarks to make way for harbour reclamation - the Star Ferry Clock tower in 2006 and the adjacent Queen's Pier eight months later, became a watershed for the outpouring of feisty protests and the attendant media attention focusing on the issue of Hong Kong people's "collective memory". A progressively assertive citizenry including civil society activists, local councillors, concern groups, NGOs wanting to stake a claim to "Hong Kong as home" voiced out their general dissatisfaction on the government's general incompetence in handling of heritage conservation vis-à-vis urban redevelopment. General complaints include a lack of macro planning vision, no conservation zoning to better protect heritage sites and no mandatory urban design guidelines as safeguard. In Central, amid fears that unchecked and uncoordinated development would lead

³ Governor Sir David Trench in 1967

⁴ Defined by the Antiquities Advisory Board as "buildings of some merit, but not yet qualified for consideration as possible monuments. These are to be recorded and used as a pool for future selection." This status does not protect the building from demolition, as only designated monuments are protected.

⁵ "A Study on Historical and Architectural Context of Central Market", The Hong Kong Institute of Architects, July 2005.

to irreversible loss of heritage as well as over-densification and increase in the urban ‘canyon effect’, academics, environmentalists and residents began calling for the extension of the Mid-Levels moratorium (restricting development to prevent overcrowding) to the entire district.⁶

In 2009, there were public submissions calling for a heritage status upgrade for the Central Market, eventually aiming for declaration as a statutory monument, based on its social, historical and architectural merits, continued market activity, testimony to societal transformation, its rarity and authenticity, and its heritage context adjacent cultural clusters. An official application to the Town Planning Board to change the site’s use of land was also made in order to prevent the possibility of the market replaced by a commercial tower.⁷

In October 2009, partly in response to pressure from concern groups, the government announced the policy of “Conserving Central”. The Central market was taken out of land auction list and the site entrusted to the URA for conservation and revitalisation for public use. Importantly though, the building was immediately designated to become “Central Oasis”. The apparent rationale behind creating this “urban oasis for all”⁸ was environmental, in order to improve air quality in the district and mitigate the urban heat island effect; retaining this important low-rise space to provide much needed space and greenery in hyper-dense Central.

An advisory committee was promptly formed to guide the public consultation process. In 2010, rounds of public engagement and charettes met with enthusiastic responses. In parallel, a structural survey, as well as an in-depth heritage study on the “character defining elements” of the building, was conducted. A design brief was drawn up based on public views and preferences, including: an affordable, accessible and relaxing retreat from the congestion of Central; a fun gathering place for all, but not a massive mall full of designer labels. Four architectural firms were shortlisted to submit design concepts, and in April 2011, the proposals went on display on a territory-wide Design Concept Roving Exhibition.

3.3. Contrived Interventions

All four proposals strived to distinguish themselves, with names such as Urban Floating Oasis, Central Gateway or Urban Cocoon, or by suggesting diverse programmes, from an elevated swimming pool to reinstating wet market activity, or the odd combination of placing a multimedia glass atrium adjacent a butterfly house.

The winning scheme "Urban Floating Oasis"⁹ installs a huge “glass box” that floats above the original building’s roof top of newly planted canopy of trees and landscaping. The proposal kept all the Character Defining Elements as recommended by the commissioned heritage study, and included public preferences of greenery and public space according to the predetermined ‘oasis’ theme. The new two-storey addition works with the rebranded programme. Referring to water and swimming, the “dematerialized box” floating atop the 75-year-old historic building is part of the project to transform the market into an arts, culture and dining complex. Further development, through the obligatory design collaboration with an international architect, saw the architectural concept clarified and exaggerated features simplified. With final approvals in place soon after mid-2013, the first phase is planned for completion in 2017/18, with the entire revitalisation project implemented in 2019/20.

The substantial intervention of the glass box, almost doubling the height of the building from 23 metres to 40.5 metres, has become a bone of contention. Community groups, while agreeing the need for revitalization and public space provision, are critical of this proposal which exceeds the height allowed in previous planning documents. Made possible by a "minor relaxation" of planning rules sought by the URA to accommodate this extra volume, this has led to pointed accusations that the authorities are "bypassing the rules" and setting an unwelcomed precedent for similar relaxations in future. Although the swimming pool idea has now been omitted, this massive addition is still the cause of ongoing complications to get the novel design to comply with existing building and other safety regulations.

⁶ Chloe Lai, “Fears towers in Central will cause ‘canyon’ effect”, South China Morning Post, 15 April 2007.

⁷ The Central Market was rezoned from "Other Specified Uses" ("OU") annotated "Bus Terminus, Open Space and Commercial Development" to "OU" annotated "Building with Historical and Architectural Interests Preserved for Commercial, Cultural and/or Community Uses". This was incorporated in the draft Central District Outline Zoning Plan (OZP) gazetted on July 16, 2010.

⁸ white collar workers during daytime, locals and tourists at evenings and weekends.

⁹ with its unfortunate but no doubt deliberate acronym of UFO.

¹⁰ Christopher Shay, “What Saved Central Market: The Environment”, Wall Street Journal, 06 April 2011.

Planning activists consider this design damaging the original modernist architecture, reducing the historic building to a plinth of the new addition. With most of the built-in market stalls not being preserved, arguably disrespecting the market's history as a vibrant social hub. Such change of use and ambience, downgrading the market's essence as everyday urban vernacular, clearly shows how such "faux conservation" is used to serve other ends. Instead of considering the heritage architecture itself as the first and foremost criteria for conservation, the government's agenda in maintaining the project as low-rise is driven by the environmental criteria of give breathing space and aiding air circulation to this last void of Central.¹⁰

4. Appreciating Design Value

The vigorous contestation of Central Market's heritage calls attention to multiple meanings in its historical, social and economic values, yet it tends to neglect the value of the architecture in itself. To rectify this, a careful study of Central Market's architecture was carried out by academics in 2011. The meticulous consideration of the building's architectonics, formal, spatial and material articulation enables genuine awareness and deeper architectural understanding of the original design. Ultimately, this study provided solid ground for the community groups' appreciation of the building's architectural heritage value, and their subsequent objection to the URA scheme.

The study recognizes the Central Market's architectural integrity on different scales, appreciating its intrinsic design values. This includes the strong overall architectural ordering of the building within the city, the central courtyard and the roof terrace with accompanying architectural expressions, the apparent composition the hierarchy of parts and whole is, axial centrality and linear repetition occurs on three scales, including the smaller stalls. The market aisles allow direct multiple views between users and vendors. The tripartite sectional differentiation – a bottom level of daily human use, middle level for light penetration, and top level for structure. The evident attention to details include the main stairs' handrails, the stall designs for vegetable, fruit, poultry, beef, and fish that express an independent sculptural quality while articulating spatial division. The study declares the building is an exemplary example of modern architecture in Hong Kong. This type of responsible understanding of any architectural heritage is necessary for informing any conservation process or revitalization effort, from strategic planning to intervention phases.

5. Conclusion

Wherever there is urban change, there will be competing interests. Conservation is an ongoing and cyclical decision-making process that requires constant checking and vigilance to prevent biased interests privileging commercial profit or egotistical motives prevailing over genuine preservation of heritage. This paper calls for a better understanding of modern architectural heritage in Hong Kong as a building style that represents the influence of the Modern Movement on the city, both in culture and in spirit. Although the mistake of the Wanchai Market redevelopment is unlikely to be repeated, for the Central Market, there is still much room for improvement, and an opportunity to promote wider awareness of its architectural attributes prior to the completion of the ongoing revitalisation.

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Katty Law

Katty Law is a founding member of the Central & Western Concern Group which advocates good urban planning and heritage conservation. Concerned with the city's loss of heritage, over-development and impacts of infrastructure projects, Katty promotes civil society's participation in the heritage conservation and community action through evidence-based advocacy. Katty initiated community campaigns to conserve the Hollywood Road Police Quarters, save the street market around Graham Street, save Wing Lee Street, retain the West Wing of Government Hill and develop the community of the Taipingshan area. The West Wing campaign was awarded "The Award of Excellence in Architectural Heritage Conservation" by Docomomo International in Xian, China, in 2013. Katty was the recipient of the Creative Lifestyle Award 2012 (Architecture) presented by City Magazine in Hong Kong.



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Time Lessons: heritage and tectonics, contamination of eastern culture in Portuguese architecture.

Edite ROSA *, Joaquim ALMEIDA **

Abstract

The relevance of the Modern Movement results from the amplitude of multiple contamination and assimilation, which contributed to the construction of modern lesson. Therefore we suggest the recognition of the eastern culture values and its influence in western architecture Modern Movement. Recognition conducted from a particular local context, the Portuguese modern architecture. We recognize the importance of identifying, analyzing and dissecting paradigmatic *case studies* of the contamination and contributions of eastern culture in the affirmation of modern Portuguese architecture identity. These *case studies*, buildings actually in bad condition or abandoned represent paradigmatic examples of architecture, founded on local heritage and simultaneously on values from other cultures.

The selected *case studies* present the following accurate, although dialectic, goals:

-To identify the contributions and assimilation of eastern culture, in paradigmatic modern Portuguese architecture.

To understand these influences in modern European architecture and particularly in Portugal it is vital to point out an analysis of modern roots and assimilation of eastern culture in some of the major achievements especially initiated by the important study, the “Inquiry to the Popular Portuguese Architecture”.

-The construction of the new paradigms of identity of Portuguese architecture will be observed by the presentation of architect’s Fernando Távora and Álvaro Siza buildings.

-The knowledge of other cultures through contamination of eastern architecture and *ethos* of modernity allows us to understand the formation of a new value system. A local phenomenon that permitted to develop and expand by its own Portuguese modern architecture influences from the eastern culture. Reading-through these buildings the robustness and definition of Modern architecture of its *ethos* of universality, simplicity, functionality and essentiality how these buildings contribute, beyond local, but on a global understanding are to allowing questioning their relevance and potential as spaces to be reused.

Keywords : modernity, tectonic, local, global, reused

The genesis of modernity although mostly associated with western architecture, reveals itself in the sharing of concepts derived also from eastern culture. For this understanding, it is therefore important to remember the fascination regarding eastern architecture of the architects that built the paradigm of the modern.

Bruno Taut, in his essay in *L'Architecture d'Aujourd'hui* in 1936, exalted the culture of eastern inhabiting as a demonstration of authentic modern life due to its simplicity and clarity of form, he wrote “(...) The Japanese domestic culture meant a great impulse to my efforts for the renewal of our home culture. (...) everything must develop from the very conditions of their territory. Nothing can be pure imitation, nor with reference to what is old, nor to what is modern and western (...)”.¹ Taut considered that Japanese best traditional architecture could be included among the greatest exponents of the Modern Movement, “(...) in eastern architecture, style and character is developed in such a

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way that the forms are born in harmony with the needs”.²

This paradigmatic shift on western architectural ideas had already been approached by Gottfried Semper. Turning away from the Hellenic and western culture interpretation search also on eastern primitive culture native hut, he created a new model that operated as genesis of the Modern Movement principles.

To understand these cultural influences in European architecture and particularly in Portugal it is vital to point out Portuguese architecture major achievements. Eastern culture influence along with the study of the “Inquiry to the Popular Portuguese Architecture”, from which Fernando Távora was one of the protagonists, permitted to develop Portuguese modern architecture making it also relevant to other cultures. As Távora argued the knowledge of others architectures will allow us to recognize our differences and help find our own identity.

As Bruno Taut, Fernando Távora also did a journey, according to his interests, from west to east, focus on participation in *WoDeCo* held in Tokyo in May 1960. He rediscovers in Japan, the history of Portuguese successive discoveries of the east, its influential cultural seduction that established matrices for the essentiality of Portuguese architectural way of doing, as commented in his diary “I visited Katsura (...) as expected it is a jewel. Has nothing of a palace according to our European idea. Nor greatness of dimensions, quantities, neither diamonds. It is a kind of bourgeois house, (...). But the great charm lays perhaps in the entire house-garden. It is not a house plus a garden, it’s a whole. What has it been for modern architects (and Mondrian, of course, among others) the discovery of Katsura!”³

According to Siza this eastern influence is visible, during the 50s and 60s, by the arrival of Japanese magazines to Portugal, curiously the cheaper ones. For Távora, the idea of essentiality and the relationship between architecture and landscape was critical and according to Siza, will have an influence on the *Quinta da Conceição* Park, at that date still in design phase. For Siza, Távora is interested in attempting through a contemporary architecture to keep the secular spirit of the Japanese landscape, together with western references, as the works of Wright and Le Corbusier. In Wright with special emphasis on the presence of the crossing of cultures and his Japanese work.⁴

The importance of eastern culture for Portuguese modern identity was already present in Távora’s critical readings at the mid 40s but effectively present in architectural production by the end of 50s.

The following *case studies* exposition has as selection criteria of understanding the eastern cultural influence in Portuguese paradigmatic modern production. Constructions started with Távora and marked the beginning of Siza career, as *Quinta da Conceição* Park, the *Boa Nova* Tea House and *Leça de Palmeira* swimming pool.

Quinta da Conceição Park, results of an adequacy of the traffic solution with maximum respect for the integrity of existence, the land and gardens of an old monastery. New public uses solved with the emphasis on the essence of constructing and its relationship with the site, which Távora will recognize in eastern culture, will lead to the intimate relationship of the Tennis Pavilion with the landscape in which it operates.

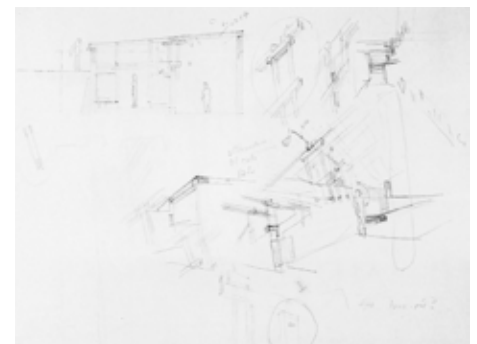
Távora tries through the minimum design operated at the set to acquire the timelessness of what has always been there. The design of architecture and the site as a whole is Távora’s contemporary reading of secular Japanese spirit of the relationship between building and landscape.⁵

The modern syntax is inspired in eastern architectural culture interpretations and consolidated by Frank Lloyd Wright lessons, visible in the requirements of the functionality of uses and culture of inhabitant space, through its local condition, as an architecture obeying to the cultural and natural grounds of a *place*.

The weight of popular culture is understood from the use of local materials, traditional constructive solutions, embedded in modern, almost neo-plastic syntax and simultaneously in Japanese details.⁶

Siza is influenced by Távora assumptions about the relationship between building and landscape and while designing the swimming pool in *Quinta da Conceição* Park transforms the building starting from the site topography. An exterior enclosed space with successive platforms and retaining walls that delimit the intervention. A built landscape as Kenneth Frampton wrote, a “walled court (...) that seems to be both Islamic and Shintoesque”.⁷

Unlike Távora’s Tennis Pavilion, this building loses its objectual autonomy due to its integration in the land modelling. The eastern references of constructions essence, as in



Távora's pavilion reveal themselves in combining traditional and contemporary building systems.

Result of a competition held in 1956 the Tea House was initiated by Távora who gave Siza in 1958 the responsibility for its design development.

The inhospitable site conditions, the conflict between the terrain slope and the sea are shaped as a set of stairs and platforms, similar principle to that adopted in *Quinta da Conceição* Park.

Despite the interdependence with the access system, the building appears as an autonomous object mediating the tension between land and sea. The project in its design reveals simultaneously international and regional influences, of Aalto and Wright and via Távora, the relationship between building and landscape of Eastern influence. Távora's influence is notorious in the global vs. local dialectic, expressed in the use of materials and construction systems.

The building presents itself with a structurally wood built expression that hides the true nature of the constructed work. The roof involved with wood, based on a concrete platform, leaves the viewer to interpret its representation, in a deliberate ambiguity of the semperian *structure/roofing* concept. The wood is the coating condition and maintains the symbolic representation of its tectonic origin. The Tea House thus condenses two themes of art essence of constructing, the stereotomic and tectonics, simultaneously affirms the slight expression of a construction that does not affect the place and a rooting condition with the hostile environment.

Visible here is Semper basics of constructing arguments, in which the constructive reasons change from one material to another but retain the primordial symbolism that gave them origin, consequently close to its figurative notion of architecture as art of (re)wear.

Leça de Palmeira swimming pool of 1959-1973 also poses the relationship with the landscape as the main theme of the project, as said Siza "(...) In these first works, these ripened a definite, undeniable feeling that architecture does not end at specific point, but extends from object to space and thus, though the relation to space, finds its completion in nature".⁸

The relationship with its surroundings does not result from the dramatic of rocks or the classic confrontation between object and nature, as in the Tea House, it approaches the built landscape of *Quinta da Conceição* principles although without the romantic and idyllic setting. The set acquires strength in the continuous wall, in the delineation of the inhospitable context and not in its artificial idealization. The existing context of sequential scenographic complex topography, models the built, recalling a Japanese stone garden. Távora formulations appear, used by Siza, as a design strategy of balance and harmony between architecture and landscape.⁹

Countless architectural citations of the construction essence and its relationship with the context as well as references neo-plastic, Alvar Aalto and Frank Lloyd Wright, particularly influenced by Távora,¹⁰ as referred by Siza "When I began the Project, I bought a publication on Wright's work, and particular aspects such as the Desert House had a positive influence on my work (...) I remember that at the time,

Wright acted as a kind of liberation for me".¹¹

Although, without an esthetical prior, its constructive differentiation, is reduced to a roof and wooden partitions stated as autonomous element. The wooden structure/ cover, is based upon a stereotomic concrete foundation/settlement, according to Semper's logic, an elementary and essential system of few compositional elements, just enough to assert the intervention onsite, mediating the transition to the beach.

All constructive events are disclosed and justified in the necessity "as found",¹² in the ontological sense of the structure as a basic element of primary protection, near to architecture basis principles and to the oriental essence of constructing.

The Modern global *ethos* of eastern culture influence as simplicity, functionality and essentiality was, this way, revealed in the Portuguese architectural production and by means of *permeability incorporationis and transfiguration* through local constructing were transformed into a poetic act of hide and reveal.

The knowledge of eastern culture represents the formation of a new value system in Portuguese architecture, solving the dichotomous conflict between its local condition and Modern Movement principles. These paradigmatic buildings, actually in bad condition or abandoned stand as iconic and allow us to questioning their relevance and potential as spaces to be reused.

However, only two of these buildings area being reused, those situated on *Leça de Palmeira*



marginal beach. This seafront with an urban growth in last decades justifies the public use of these equipment socially recognized as a qualified which should act as promoting factors for their revalidation. Only the Tea House, with a private exploitation, has undergone a recent conversion raising also problematic issues, especially in how this iconic architecture response to the incorporation of new contemporary requirements. The performed recovery by the original author, assures the knowledge and sustainability of the paradigmatic formal design and interests understanding the adopted strategies. This building has had more interventions probably due to its private hold and requirements of a several specific owners. This building was firstly refurbished in 1992 to introduce a air conditioning system and a complete change of the kitchen with new equipment. Currently under a new owner again the requests focuses also on the kitchen and the recovery of damaged materials by time and harsh conditions context. Siza's strategy maintains the public space in strictly integral recuperation logic (except the bathrooms) with a greater intervention in the kitchen. Although the formal expression and functional organization of basic (stove area, etc.) this modern continuous space initial design by Siza as a functional lab with its potent skylights, supports well these new change of fixed furniture and equipment.

The *Leça* swimming pool was built in several stages between 1959 and 1973. However the restaurant, further north was never constructed. The only maintenance works carried out in 1993, due to the extensive use of the set, had as most visible aspects the improvement of the roof covering. The copper plates as previewed in the initial project design, replacing the cheaper earlier built option, in 1973, a screen tar.

Quinta da Conceição Park and tennis pavilion, in reasonable conditions, is functioning although Siza's pool, currently in bad conditions, is closed to the public and awaiting intervention.

The intensive use, these buildings had in other times, even if periodic, and the mentioned relevance of these public Portuguese architecture building from the early 60, for the city, functionally and symbolically, makes us believe the need of their urgent rehabilitation, given its actual the state of degradation and abandonment. Rehabilitation that may permit testify our (re)discover of the contaminations between eastern in western culture in the construction of Modern Movement ideals as the full assimilation of modern essence, in its genuine formal feature visible in this Portuguese paradigmatic architecture. Examples of Portuguese modern architecture, simultaneously universal and local, founded on local heritage and simultaneously on values from other cultures.

Notes

¹ Bruno Taut, *La casa y la vida japonesas* (Das Japanische Haus und sein Leben, 1936), Fundación Caja de Arquitectos, Barcelona, 2007.

² Manuel García Roig, "Senshintei. A casa Japonesa de Bruno Taut", Bruno Taut, *La casa y la vida japonesas*, Fundación Caja de Arquitectos, 2007, 7-17.

³ Álvaro Siza, "Fernando Távora - o estímulo dos contrastes", Fernando Távora, *Diário de "bordo"*, Vol. 2 *Diário de "bordo"*. Estabelecimento de texto, 2012, 7-13.

⁴ Álvaro Siza, "Fernando Távora - o estímulo dos contrastes", Fernando Távora, *Diário de "bordo"*, Vol. 2 *Diário de "bordo"*. Estabelecimento de texto, 2012, 7-13.

⁵ Guillermo Bertólez, "Fernando Távora: Oriente, occidente y otras cuestiones" AA.VV., Fernando Távora, DPA 14, Departament de Projectes Arquitectònics, UPC, Barcelona, 1998, 68-72.

⁶ Javier Frechilla, "La Quinta da Conceição: Opus com amore" AA.VV., Fernando Távora, DPA 14, Departament de Projectes Arquitectònics, UPC, Barcelona, 1998, 24-30.

⁷ Kenneth Frampton, "The Architecture of Álvaro Siza", AA.VV., *Álvaro Siza 1954-1988*, A+U Architecture and Urbanism 6/1989, A+U, Tokyo, 1989, 177-186

⁸ Álvaro Siza, *Imaginar a Evidência*, Edições 70, Lisboa, 1998, 19.

⁹ Fernando Távora, *Da Organização do Espaço* (1962), Edições do Curso de Arquitectura da ESAP, Porto, 1982.

¹⁰ William Curtis, "Álvaro Siza: An Architecture of Edges", *Álvaro Siza 1958-1994*, *El Croquis* 68/69, Madrid, 1994, 32-4510

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¹² Reyner Banham, *The New Brutalism*, Architectural Press, 1966.

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Beyond the shell: colonial modernism in post-colonial times; Shanghai

Esther DA COSTA MEYER *

Abstract

The conservation of colonial buildings in Asia raises important questions for architectural history. Such works, imposed by fiat on foreign soil, are freighted with a host of associations, among them the complicity of Western architects in the colonial project. The results cannot therefore be considered exclusively from an architectural perspective. Nor should such buildings be seen in terms of a reductive binary of colonized and colonizer since they were often designed by Asian architects whose work could express both resistance to foreign interventions and accommodation. Focusing on the renovation of landmarks of the late twenties and thirties in Shanghai, this paper asks if such historically-contingent styles can be re-purposed so as to reflect the self-imagination of post-colonial nations. Can conservation practices impart a critical edge to landmarks once deeply embedded in an imperialist narrative or do they depend exclusively on market forces?

Now that the old dynamic between colonial centers and their peripheries has been reversed, Shanghai's new geopolitical configuration expresses itself not only in new construction but in the management of cultural heritage. Adaptive reuse has been one way of restoring buildings while downplaying references to the West's earlier hegemonic ambitions. On the other hand, transnational trends have exerted a decided impact on preservation, now part of a widespread global shift that valorizes historic architecture of all periods. Beautifully renovated modernist landmarks have been instrumentalized by local elites or global franchises as signifiers of taste and status. Colonial buildings of any style that cannot yield high revenues once they are renovated are often razed unceremoniously. Yet demolition of large swaths of Shanghai has also led to a vigorous preservation campaign on the part of many actors and institutions, bent on keeping historical structures not because of nostalgia but out of a principled and critical approach to history.

Keywords : shanghai, colonialism, re-use, gentrification

The preservation of modernist buildings from colonial times raises important questions for architectural history. Imposed by force on foreign soil, these works are freighted with a host of associations, among them the violence of the colonial project and the complicity of Western architects. Nevertheless, such indelible associations vie with newly emergent global aspirations, and with the harsh realities of transnational capital. The results cannot therefore be considered from a purely architectural perspective. Nor can the architectural past be seen in terms of a reductive binary of colonized and colonizer as many buildings were designed by Chinese architects or commissioned by Chinese clients. Despite the unquestionable asymmetry of power that regulated architecture and urbanism in colonial times, agency was not exclusively on one side. Focusing on the preservation/gentrification of modernist landmarks of the late twenties and thirties, this paper asks if such historically-contingent styles can be re-purposed so as to reflect the self-imagination of post-colonial nations. That is, can preservation practices impart a critical edge to landmarks once deeply embedded in an imperialist narrative? Or do they survive at the cost of embodying neoliberal profit-driven practices bent on rebranding downtown Shanghai? All Western styles dating from Shanghai's past have seen their meanings altered radically since the end of World War II. Regime

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change played a role in this respect, driving a wedge between architectural projects and their original ideological underpinnings, erasing and sometimes replacing forms of cultural and symbolic violence. Identified with foreign capitalism, the city received so few subsidies during the Cultural Revolution that little was done to its urban fabric. Neglect served the city well and preserved its remarkable heritage. Since the reforms of Deng Xiaoping, Shanghai saw its fortunes rise dramatically. Today, the old dynamic between colonial centers and their peripheries no longer holds: China has emerged as a major world power and forceful challenge to its former occupiers. In this supremely self-confident city, the new geopolitical configuration expresses itself not only in new construction but in the management of cultural heritage. Transnational trends exert a decided impact on conservation, now part of a widespread phenomenon that valorizes historical structures of all periods partly with a view to property values. Loss of faith in High Modernism's teleological goals encouraged this interest in other styles such as the *Beaux-Arts*, the neo-Gothic, and the Byzantine. Although most of the trophy landmarks renovated or retrofitted in recent years were designed by foreign architects, the authorship of Western-looking buildings, once unproblematically attributed to Anglo-European architects, has now been superseded by new research. With the overthrow of the Qing dynasty in 1911, the new Republic realized that foreign know-how was crucial if China was to compete successfully in world markets, and it began to send gifted young people to study architecture in Japan, Europe, or the US. Between 1915 and 1935, fifty-five architects – one of them a woman -- left China for Japan, Germany, France and the United States.¹ The majority opted to study in the United States, thanks to funding made possible by the Boxer indemnity. Their positive experience abroad should not obscure the radical inequality and deep-grained prejudices they encountered on their return, where they were often hired by Westerners as a liaison between foreign firms and local contractors, builders, and surveyors.² The first generation of Chinese architects, whose work is only now beginning to be fully documented, found themselves in an awkward situation, caught between a desire to be up to date and the inescapable fact that modernism and modernity came from the hand of colonizers, whether European, American, or Japanese. Study abroad eased them out of this quandary to a certain extent, by helping them realize how much the *Beaux-Arts*, with its symmetry, axial layout, orthogonals, and color had in common with their own traditional architecture based on modular timber framing, ornate polychrome, adherence to strict codes, and avoidance of individualist solutions.³ Like their counterparts elsewhere, foreign-educated architects became adept at designing in several different styles at once, whether Art Deco, Expressionism, and the International Style as well as the ubiquitous *Beaux-Arts* which remained influential in China throughout the twentieth century. It is not by chance that Chinese architects educated abroad, like Liang Sicheng, Yang Tinbao, and Liu Dunzhen, pioneered the country's earliest architectural histories.⁴ They were also the first to embark on preservation. Study abroad helped trigger a quest for self-identity, and they saw their work not in terms of short-term projects as did the foreigners, but as part of a shared history stretching back for millennia and predicated on a broader perspective.⁵ Furthermore, Chinese architects were not docile vessels, passively imbibing Western parameters. They built extensively on their own, and when they did, imported idioms were often customized, subjected to different interior plans, materials, solar orientation, and decorative details, adaptations that could connote resistance and loyalty to autochthonous traditions—or accommodation.⁶ A classic example can be seen in the Bank of China on the Bund which was designed by Lu Qianshou, in collaboration with the Hong Kong firm Palmer and Turner: its stripped modern classicism coexists with a Chinese roof, stone grilles on the façade, and guardian lions flanking the entrance.⁷ This hybridity explains the pride felt by the Shanghaiese concerning their magnificent waterfront and historic areas, and the conservation guidelines instituted to protect the Bund and its surroundings in terms of height, style, vistas, and sight lines.⁸ Modernism in all its varieties was eagerly embraced and indigenized not only because it seemed to offer exciting new lifestyles, but because, lacking historicist trappings, it did not come burdened with allusions to foreign pasts. It had become safely transhistorical, a set of idioms that evoked the intoxicating tempo of modernity. In the 20s and 30s, Shanghai could boast of a superb cohort of remarkable Chinese modernists. Poy Gum Lee, born to Chinese parents in the USA and educated at Pratt Institute, designed several buildings such as Shanghai's art deco YWCA with its intricate Chinese ornament. A native of Hong Kong, Dong Dayou studied in London, and was responsible for the China Aviation Association with its exquisite dragon overlay. Zhunang Jun's Continental Emporium, built in 1932, on the other hand, made no gesture to local context in its masterful the expression of volume and avant-garde ornament. The quality of these works and their alternative (that is, non-foreign) history has ensured their preservation. Patronage sheds light on the issue of agency, as all these cases reveal. Many of the sleek modernist buildings erected in Shanghai in the 20s and 30s were commissioned by Chinese businessmen or bankers who had a clear idea of what they wanted and exerted a strong influence on the city's architecture. Park Hotel, one of the most elegant skyscrapers in old Shanghai, was designed as a luxury building for

Chinese travelers, and the owners chose a style that referenced modern life rather than a specifically Western past. They deliberately chose a Hungarian modernist, Laszlo Hudec, who hailed from a nation that had not been involved in the opium wars and the Unequal Treaties. At the same time, given the scale of a megalopolis like Shanghai, cultural heritage management has to be seen in terms of global trends.⁹ As major cities around the world shift from production to services, the creation of wealth increasingly depends on real estate, insurance, and finance. In consequence, municipalities are assuming a more entrepreneurial role, often in public-private partnerships with national or foreign corporations. The main threat to heritage comes precisely from large-scale planning schemes predicated on overseas investment.¹⁰ The professionalization of the developer, a figure that did not exist in China when the state was the sole agent of urban change, has made huge amounts of money available for upgrading the city's architectural stock. In Shanghai, the dominant form of preservation is interventionist, and often coincides with gentrification, a euphemism for brutal forms of urban renewal that imply gutting or rebuilding structures entirely. Foreign firms often intervene in operations that yield inflated dividends as in large-scale gentrification projects that are not held back by procedural constraints, as is preservation. A notorious case is Xintiandi, where the original *lilong* houses were gutted or destroyed to create a themed enclave for upscale retail aimed at a largely foreign clientele. Adaptive reuse, which allowed these buildings to survive, has been one way of restoring heritage while downplaying references to the West's former hegemonic ambitions. In the case of high-end buildings and corporate makeovers, Western styles are in great demand as branding strategies, in a sort of reverse Orientalism.¹² Beautifully renovated *Beaux-Arts*, International Style, Art Deco, and Expressionist landmarks, whether villas or skyscrapers, have been instrumentalized by local elites or upscale global franchises as signifiers of taste and status. They have become crucial to the city's urban identity or at least to its financial side: the brand Shanghai. Representatives of an early form of globalization, they have easily kept pace with this rapidly-changing urban environment, restructured yet again under the sign of Capital. Urban landscape, wrote Anne-Marie Broudehoux, has become a "cultural resource that can be capitalized upon and repackaged for new rounds of capital accumulation and consumption"¹² These include foreign and national heritage tourism. In a market economy, historic preservation can widen the social fractures of the city, and inscribe economic inequality spatially through displacement and marginality. Social sustainability is rarely taken into account. In the overwhelming majority of cases, residents evicted by gentrification play no role in the decision-making process. Grass-roots endeavors have occasionally been able to win cases of historic preservation only in the case of vernaculars like the *lilong*, low-density alley-courtyard houses in the center. Originally built by foreign capital for Chinese residents, they cannot bring high revenue unless they are re-purposed as deluxe products as in Xintiandi. The disappearance of large swaths of the city's past has not gone by without protest. Preservation, that belated foster-child of destruction, has been growing steadily in China. Departments of architecture and non-profits have joined forces with the new stakeholders (scholars, journalists, photographers) to document cases of vandalism and demolition, militating on behalf of new laws, incentives for preservation, and comprehensive urban plans. Here again Chinese activists are appropriating a foreign concept – cultural heritage – and making it theirs, in accordance with their city's long cosmopolitan history.¹⁵ Tianzifang, another enclave of restored *lilong*, is exemplary of this critical attitude towards heritage, free of nostalgia and rich in social capital. Preservation is a complex attempt to re-write the past, a strategy that reveals the instability of the architectural referent, indelible but volatile, always prone to new forms of signification, and capable of expressing both agency and submission, critique and commodification. It is always the endgame of a complex struggle among conflicting interests in which different local and global actors jockey for economic, political, or cultural power. In contrast to essentialist conceptions of architecture, this paper argues that buildings are grafted with intangible properties that change over time according to a city's evolving urban identities. They cannot be neatly mapped onto categories like past or present but scramble our notions of temporality.

Notes

- ¹ Jeffrey W. Cody, "The Woman with the Binoculars: British Architects, Chinese Builders, and Shanghai's Skyline, 1900-1937," in *Twentieth-Century Architecture and Its Histories: Millennial Volume of Architectural History* (Otley, UK: Society of Architectural Historians of Great Britain, 2000), 267.
- ² For issues of racism, see Jeffrey W. Cody, "The Woman With the Binoculars: British Architects, Chinese Builders, and Shanghai's Skyline, 1900-1937," in *Twentieth-Century Architecture and Its Histories: Millennial Volume of Architectural History* (Otley, UK: Society of Architectural Historians of Great Britain, 2000), 251-274 (263, 267).
- ³ Nancy S. Steinhardt, "Chinese Architecture on the Eve of the Beaux-Arts," in *Chinese Architecture and the Beaux-Arts*, Jeffrey W. Cody, Nancy S. Steinhardt and Tony Atkin, (Honolulu: University of Hawaii Press, 2011), 8, 14; Xing Ruan, "Accidental Affinities: American Beaux-Arts in Twentieth-Century Chinese Architectural Education and Practice," *JSAH* 61, no.1 (March 2002), 33-34; Jianfei Zhu, "Beyond Revolution: Notes on Contemporary Chinese Architecture," *AA Files* 35 (Spring 1998), 4.
- ⁴ Nancy S. Steinhardt, "Chinese Architecture on the Eve of the Beaux-Arts," in *Chinese Architecture and the Beaux-Arts*, Jeffrey W. Cody, Nancy S. Steinhardt and Tony Atkin, (Honolulu: University of Hawaii Press, 2011), p. 20.
- ⁵ Guolong Lai, Martha Demos, and Neville Agnew, "Valuing the Past in China: The Sentinel Influence," *Orientations*, vol. 35, no. 2 (March 2004), pp. 82-89.
- ⁶ Many Chinese architects bitterly opposed this confluence of Western styles and local color in the same building. See Anne Warre, "Paradox and Complexity in Shanghai's 20th Century Architecture," ICOMOS (Un) Loved Modern Conference Sydney July 2009, p. 4.
- ⁷ Born in Hong Kong, Lu Qianshou (Luke Him Sau) (1904–1991) studied at the Architectural Association in London. For Lu Qianshou, see the forthcoming monograph by Edward Denison, Guang Yu Ren, *Luke Him Sau, Architect: China's Missing Modern* (Chichester, UK: John Wiley, 2014).
- ⁸ Susan Balderstone, Qian Fengqi, and Zhang Bing, "Shanghai Reincarnated," William Logan ed., *The Disappearing Asian City: Protecting Asia's Urban Heritage in a Globalizing World* (Oxford: Oxford University Press, 2002), p. 30.
- ⁹ Fulong Wu, "The Global and Local Dimensions of Place-Making: Remaking Shanghai as a World City," *Urban Studies*, vol. 37, no. 8 (2000), pp. 1359-1377. Neil Smith, "Gentrification Generalized: From Local Anomaly to Urban 'Regeneration' as Global Urban Strategy," in *Frontiers of Capital: Ethnographic Reflections on the New Economy*, M. Fisher and G. Downey, eds. (Durham: Duke University Press, 2006), 191-208 (205).
- ¹⁰ Susan Balderstone, Qian Fengqi, and Zhang Bing, "Shanghai Reincarnated," William Logan ed., *The Disappearing Asian City: Protecting Asia's Urban Heritage in a Globalizing World* (Oxford: Oxford University Press, 2002), p. 28.
- ¹¹ In some cases, as in the Pudong Development Bank on the Bund, the Western parts of the building were carefully restored but not the Chinese frescoes which are still covered up with stucco from Communist times. Peter Hibbard, *The Bund Shanghai: China faces West* (Hong Kong: Odyssey, 2007), p. 150.
- ¹² Anne-Marie Broudehoux, "Spectacular Beijing: The Conspicuous Construction of an Olympic Metropolis," *Journal of Urban Affairs*, vol. 29, no. 4 (2007), p. 383.
- ¹³ Chloé Aiglon, "Sauvegarde du patrimoine ou course à la modernité: les lilong à Shanghai," *Mémoire*, Institut d'Etudes Politiques de Lyon (2006), pp. 43-44; Wan-Lin Tsai, "The Redevelopment and Preservation of Historic Lilong Housing in Shanghai" (University of Pennsylvania Master in Historic Preservation, 2008).
- ¹⁴ Xuefei Ren, *Building Globalization: Transnational Architecture Production in Urban China* (Chicago: University of Chicago Press, 2011), pp. 99-101.
- ¹⁵ Susan Balderstone, Qian Fengqi, and Zhang Bing, "Shanghai Reincarnated," William Logan ed., *The Disappearing Asian City: Protecting Asia's Urban Heritage in a Globalizing World* (Oxford: Oxford University Press, 2002), p. 33.

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Urbanism and Landscape

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a Case Study on Urban Planning and Construction of British Concession in Tianjin, 1860-1945

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Irina Cheredina The Modern Movement In The Soviet Asian Republics

Zhao Pei Hidden Clue of Modern Architecture into China

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Claudia Costa Cabral Streets In The Air. Anatomy Of An Architectural Idea

Eunice Seng The City in the Building, Hong Kong c.1956-

Colonial Circulations and Contested Collages of Urban Space in Modern Tianjin: a Case Study on Urban Planning and Construction of British Concession in Tianjin, 1860-1945

Nobuo AOKI* Guodong CHEN**

Abstract

This thesis tries to explore further research on the urban and architectural history of nine concessions in Tianjin by resorting to interdisciplinary research and international collaborative research. Through detailed analysis of the first-hand historical documents and integrated application of research methods, like historical mapping and transcultural comparison, it is expected that a further understanding of the urbanization and modernization of Tianjin as well as the development of modern architecture in China can be provided.

This thesis mainly focuses on the process of city planning and construction of nine concessions in Tianjin, especially the British concession (B.C.T.) between 1860 and 1945. Meanwhile, it develops a comparative and trans-national analysis of contested space and interactive growth among the nine concessions and Chinese areas in Tianjin. In addition, it also attempts to figure out the internal forces and institutions of the physical spatial development in early modern urbanization of B.C.T., by contextualizing them in the Sino-British interactions since late 19th century and further making comparisons with developments in other British concessions like the Shanghai International Settlement and Guangzhou Shameen concession as well as certain British colonies like Hongkong from a comparative perspective of colonial circulations.

The British technicians who were found to have played a key role in the process of modernization and urbanization of Tianjin, effectively promoted a “orderly, profitable, sanitary, healthy” urban enclave in the city. As the first city planning in modern Tianjin, the “Gordon Plan” made by a military engineer in 1861, together with the “Anderson Plan” by an immigrant Architect in 1918, laid the foundation for the basic framework of the B.C.T. urban development, with constant rational adjustment in practice afterwards. Moreover, there emerged some uncontrolled development trends and local adaptive characteristics in the dynamic process brought on by the political environment, social changes, and natural disasters.

Keywords : tianjin, concession, planning, modernization, circulations

1. Introduction: Modern Tianjin Concessions under Nine Flags

1.1. Summary

There existed several dozens of treaty ports and concessions established by western powers and Japan in modern China. As the door of Beijing and the biggest treaty port in northern China, Tianjin was occupied and governed by nine powers, which is unique in world history. The concessions in Tianjin are the second most important behind Shanghai. Nevertheless, the existing research on urban planning and construction of Tianjin concessions are far from adequate due to lack of historical archival documents, appropriate research methods, and

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in-depth international cooperation. Of all seven British concessions in China, the British concession in Tianjin (B.C.T.) was the most flourishing and the only one established in northern China. Besides, among nine concessions in Tianjin, the B.C.T. was the first and had the longest life, broadest area, most mature management institute, most prosperous development, as well as the most significant status. Furthermore, as the most typical representative, it was ever called the “international concession”. However, the urban history of planning and construction of the B.C.T. has not been sufficiently investigated in the existing literature, especially lacking systematic and comparative research.

This thesis mainly focuses on the process of city planning and construction of nine concessions in Tianjin, especially the B.C.T. between 1860 and 1945, based on analysis of some precious historical achieves such as the annual “Reports of the British Municipal Councils in Tientsin”. Meanwhile, it develops a comparative and trans-national analysis of contested space and interactive growth among the nine concessions and Chinese areas in Tianjin. Besides, it also attempts to figure out the internal forces and institutions of the physical spatial development in early modern urbanization of B.C.T., by contextualizing them in the Sino-British interactions since late 19th century and further making comparisons with developments in other British concessions like the Shanghai International Settlement and Guangzhou Shameen concession as well as certain British colonies like Hongkong from a comparative perspective of colonial circulations.

The innovative points of this article include: 1. Detailed analysis of the first-hand historical documents; 2. Integrated application of research methods like historical mapping, trans-national analysis and interdisciplinary research; 3. International collaborative research; 4. Comprehensive interpretation on the process of the physical development and modernization as well as the visualization of spatial evolution.

1.2. Introduction of Nine Concessions in Modern Tianjin

The demarcation of the nine Tianjin concessions went through three stages. (See Fig. 3) (1) After the Second Opium War, Britain, France, America established their settlements on the right bank of Haihe River southeast of the old Tianjin city between 1860 and 1861. (2) After the Jiawu Sino-Japanese War in 1894(1895-1898), Germany and Japan set up concessions to the south of the British concession in 1895 and to the north of the French concession in 1898 respectively. (3) After the Eight-Power Allied Forces invaded China in 1900, Russia, Italy, Austria and Belgium demarcated concessions one by one on the left bank of Haihe River and meanwhile the British, French, German and Japanese concessions expanded successively between 1900 and 1903. Through three major wars and over 40 years, the nine concessions in Tianjin started to take shape, with an area of over 3800 acres, about 8 times the size of the old Tianjin city.

Compared with the other five concessions in Tianjin, the British, French, Japanese and Italian concessions had a longer life, more prosperous development, and have been better conserved. Among them, the British concession is particularly prominent. The Five Avenues area (Wudadao in Chinese) formally developed since 1919 belonging to the British concession was considered as the biggest and best preserved upper-class neighbourhood during that period. With more than 400 well protected historic buildings and outstanding universal value, this area was defined as one of the national key cultural relics protection units and is expected to become a world heritage site. Its graceful environment not only attracted lots of famous people in China to build houses there, but also many well-known architects to carry out great designs.

2. Contested Collages: the Process of Urban Construction of Tianjin Nine Concessions, 1860-1945

From 1860 to 1945, the process of urban planning and construction of Tianjin concessions can be divided in to three major periods in which the city developed a special morphology of a combination of nine countries’ concessions model.



Fig. 1 Establishment expansion and reoccupation of Tianjin nine concessions basing on 1939 map

2.1. The First Period 1860-94: the Development of British, French and American Concessions

The construction of Tianjin concessions in 19th century concentrated primarily on that of the British and French concessions, and it was described somewhat as a small Shanghai in 1884. Especially, as the first concession in Tianjin, the B.C.T. became the fastest-growing area and gradually developed into a European-style neighbourhood centered around Victoria Road based on the Gordon plan in 1860. However, the development of French concession was hindered until 1885 or so due to endless warfare, and the American concession was hardly developed because of domestic instability before it was merged into the British concession in 1902. 2.2. The Second period 1895-1918: the development of coexisting nine concessions The Gordon Plan in 1861, which directly or indirectly resulted in the growth of road networks between the British, French, German, Japanese and American concessions in their early development process, laid the foundation for the construction of nine concessions in Tianjin during 19th century or even 20th century. On the left bank of Haihe river,

2.3. Third period 1919-45: the development of British, French, Japanese and Italian concessions



Fig. 2 Plan showing the present state of the British Settlement at Tientsin, 1865

After WWI and the October Revolution in Russia,

2.4. Contested Collages: urban and architectural characteristic of Tianjin nine concessions

During the 85 years from 1860 to 1945 when the urban environment and buildings were completely or partly finished in the Tianjin nine concessions, it was filled with contest and conflict, as well as cooperation and integration among the authorities of concessions and Chinese government, different business communities and a variety of individuals.

The relationships among them were not completely fragmented or isolated from each other, but a combination of congested collages, through the sharing some urban functions with each other, the connection of similar road grids, and dialogues among different styles of municipal parks and buildings showing distinctive national identities. Although relatively independent, the construction of the nine concessions usually had to take their neighbours' construction into consideration. On the whole, the Central Street linking the British and French concessions performed as the centre of finance, business, politics, etc. The French concession owned the largest commercial centre in Tianjin. The urban space surrounding Victoria Park was the political, cultural, as well as social centre in the B.C.T. and even in all of Tianjin. The Russian concession played the roles of the industrial and storage district.

The diversity of a variety of architectural styles.



Fig. 3 Plan of British Concession at Tientsin by Henry McClure Anderson in 1918

The popularity of Modernism in Tianjin in 1930s.

3. Colonial Circulations: the Process of Urban Construction of the British Concession, 1860-1945

The British technicians who were found to have played a key role in the process of modernization and urbanization of Tianjin, effectively promoted a “orderly, profitable, sanitary, healthy” urban enclave in the city. As the first city planning project in modern Tianjin, the “Gordon Plan” made by a military engineer in 1861, together with the

“Anderson Plan” by an immigrant architect in 1918, laid the foundation for the basic framework of the B.C.T. urban development, with constant rational adjustments in practice afterwards. Moreover, there emerged some uncontrolled development trends and local adaptive characteristics in the dynamic process brought on by the political environment, social changes, and natural disasters.

Through three expansions and constant construction, the British concession developed into one of most flourishing urban entities consisting of B.M.C. (British Municipal Concession), B.M.E. (British Municipal Extension), S.E. (Southern Extension) and E.M.E. (Extra Mural

Extension) during the 85 years from 1860 to 1945.

3.1. Gordon Plan, 1861

In October 1860, the site of B.C.T. was chosen by Harry Smith Parkes, a British diplomat who had been already active in several treaty ports in southern China for nearly twenty years and established and planned the Shameen concession in Guangzhou in 1859. After the site was approved by Qing Government on Nov 6th, Captain Charles George Gordon, a British royal engineer who went back to Tianjin from Beijing and stayed there for 18 months until April of 1862, was responsible for preparing quarters for the troops and the road planning of B.C.T. From 1860 to 1862, Gordon's route from Britain to Tianjin was as follow: Britain- Mediterranean- Egypt- Singapore- Hong Kong-Shanghai-Tianjin-Beijing-Tianjin-south China.

"The rude area Gordon pencilled out into bund, roads, and lots for buildings, and on the plan he carefully elaborated the lots were subsequently sold to the highest bidders in August, 1861..." There were 10 blocks and 35 lots on the plan, 1865. (See Fig. 6) The Gordon Plan 1861 shows some similarities and associations with the Shameen concession and even the thirteen hong (factories) of Canton in control of road planning, spatial scale and function layout, as may be clarified with more proofs about and Gordon. The Gordon Plan focused on the commercial interests and rental efficiency and adopted an evenly spaced geometric road grid which may seem somewhat rough. It was the first time that the European urban spatial pattern was introduced into Tianjin. As the first urban planning project of modern Tianjin, the Gordon Plan had such profound impact on the Tianjin urban space that its traces can be still found in Tianjin today.

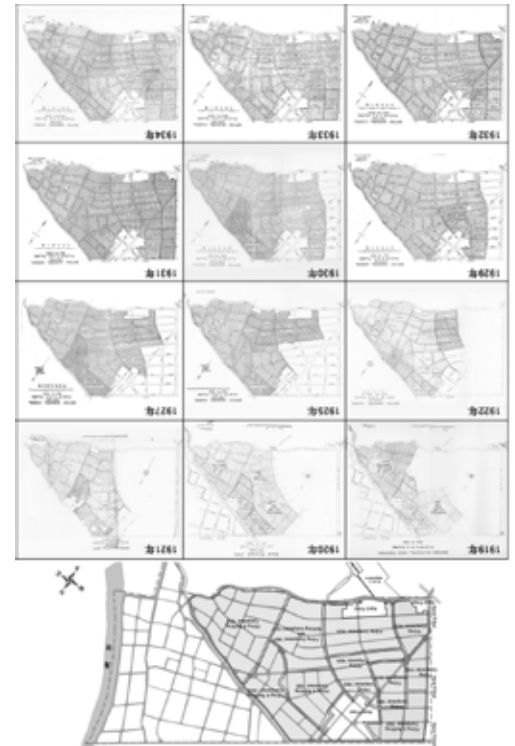


Fig. 4 Plan of E.M.E. Filling British Municipal Council at Tientsin 1919 to 1934

British Concession 1st and 2nd Period, 1860-1897-1918

First period, 1860-96.

Second period, 1897-1918.

The first part B.M.C.

The second part B.M.E.

3.3. Anderson Plan, 1918

There existed three major versions of E.M.E. plan.

The 1913 Plan

The road grids on the 1913 Plan, on the one hand, inherited the old square grid system of the Gordon Plan on which the roads were parallel or vertical to the Haihe river. On the other hand, the farther away from the Haihe river, the roads tended to become more consistent with those of the old Tianjin city and the Race Course that ran direct north-south or east-west.

The Anderson Plan 1918

The Plan of British concession reported to the Chairman of the British Municipal Councils by Henry McClure Anderson in 1918 was approved basically and carried out in the following years. The main points of Anderson Plan lay in creating a quiet, comfortable residential

BRITISH MUNICIPAL COUNCIL, TIENTSIN
租界大工務局

APPLICATION FOR PERMIT TO BUILD
建築工程申請書

ON BEHALF of the Chinese landowner (Chinese name) No. DATE

SITUATION: Corner of _____ Street No. _____ Lot No. _____
 Name and Number of Road _____

DESCRIPTION OF THE INTENDED WORK

AS SHOWN ON accompanying drawings to Applicant (attached) and dated _____
 prepared by the ARCHITECT (Name) _____

The area will be under responsibility of _____ (information to be supplied after decided)
 CONTRACTOR (Name) _____

DATE OF COMMENCEMENT OF WORK _____ **Possible date of COMPLETION** _____

Approximate TOTAL COST of the above described work TALES to be paid in "Cash" only
 建築工程費總額 _____ 建築工程費總額

Signature of Applicant (Name) _____
 Name _____ Address _____

Endorsed by the Council: _____

Fig. 5 Application for permit to build British Municipal Council Tientsin 1925

of a number of buildings for the Scottish and Irish Missions and afterwards in Tientsin where he worked actively in Tianjin for about 30 years until he died there. In 1913, he worked in partnership with Edwin Cook as Cook & Anderson, and later they were both admitted to FRIBA. Mr. Anderson served as the acting engineer in the British Municipal Council, Tientsin from 1917 to 1918, and he was invited twice in 1917 and 1922 together with other two architects to assist the Council in drafting new Building Regulations through learning Shanghai's experiences.

The Background of Anderson Plan

As in the original planning of the Five Avenues Area, the Anderson Plan had neither any relation with the Garden City literally, nor any relation with any modern western urban planning theory directly or apparently, but it was probably affected by the temporal municipal committee's ideas and Mr. Anderson's personal design considerations, etc. On the other hand, I think there is a somewhat indirect relationship between the Anderson Plan and series of British domestic reform of urban law as well as the Garden City Theory formally and ideally.

3.2. British concession 3rd period, 1919-45

- Filling works.
- The Hai-Ho Conservancy Commission, established by the authorities of the concessions and Chinese government together, ever collaborated with British, French, Japanese, German, etc. for the Filling works. The third part (E.M.E) of filling works lasted for 15 years (1919 - 1934) after the Anderson Plan.
- Roads and Sewers.
- Growth Machine.
- The urban space and architecture style.

environment with efficient traffic, direct sunlight, sufficient ventilation and healthy conditions. There were several major types of roads grids: winding east-west rectangular as in Britain, a baroque diagonal style like America, direct north-south like in China, and quadrant arcs like the conceptual graph of a garden city. This consideration involves the avoidance of direct north and south or east and west in setting out the building blocks. Preference is given to the latter general direction of the roads to gain as much southerly aspect as possible for the prospective houses.

The Revised Plan 1922

In 1922, the arc-shaped road grids on the very northwest corner of Anderson Plan which seemed somewhat romantic idealism, were changed into more like square shape and each block was made larger, probably in response to realistic commercial demand.

The Consideration of Zoning

The idea of Zoning came up in the Anderson Plan in which he planned an upper-class neighbourhood and an area in which shops & small Chinese property are permissible under proper regulations. It became more clear in 1930 Plan.

Architect Anderson

After Mr. Anderson qualified for his profession in Edinburgh in 1902, he began to practice in China, first in Manchuria where he designed and superintended the erection

4. Conclusion: the OUV of Contested Collages and the Historical Context of Colonial Circulations

The outstanding universal value of contested collages as a potential world heritage.

Colonial circulations: the spread of urban construction experience.

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Value of Eulji-ro's Urban Tissues as Modern Historical Environment

Yeol PARK*, Min Cheol PARK**

Abstract

This study reviews the value of urban tissues as modern historical environment with a particular focus on *Eulji-ro 3ga* and *4ga* blocks, the old downtown of Seoul, based on the concept of a historic environment.

A historical city of Seoul has undergone a rapid development and transformation driven by economic logic. In the process of going through several urban redevelopments, the urban tissues of modern Seoul are disappearing without any objective evaluations in the social, historical, and cultural perspectives. *Eulji-ro 3,4ga* blocks, urban industries districts, are still clustered remains of a modern historical environment for the realistic reason.

The urban tissues of the *Eulji-ro* blocks in these perspectives are summarised as follows: Firstly, in terms of roads, inner roads show an organic net system that was formed along the waterway in the *Chosun* Dynasty, whereas outer roads system which breaks down into urban blocks and functionally connections indicates a latticed vertical system that was formed in the colonial urban concept under the Japanese Colonial Period.

Secondly, lots have increased in numbers due to the change of the urban pattern during the land readjustment projects started in the 1960s together with land division resulting from the change of major land owners. The outer lots are cut by the latticed roads system from the colonial period, while the inner lots are allocated by the old roads system developed along the waterway.

Thirdly, the buildings built in the 1960s still remain through renovations accounting for more than 90% of building coverage applied to lower stories. It has served an urban function and urban industries (e.g. printing, machinery, materials, tools etc.) have well settled into the area over time.

This illustrates that *Eulji-ro*'s urban tissues have developed with each age values absorbed and cumulated, and that it still interacts with people's lives and livelihood. In conclusion, *Eulji-ro*'s urban tissues have an important value as a modern historical environment for Seoul by possessing both modern and contemporary historical identities of

1. General

1.1. Background and Purpose

Cities are complex entities comprised of physical and socio-cultural elements. Physical elements include city street systems, land parcels, and buildings. Socio-cultural elements mean human beings' customs contained within the physical elements. These elements have organic relationships amongst one another, and as time passes, build historical cityscapes through development, destruction, and substitution processes. Among diverse elements, we may call the traces of history which continue to exert influence in city dwellers' lives 'Historical Environment.'

Seoul, with a 600-year-history, has seen many changes in her urban tissues, but the most of the current physical city shape, a part of Seoul's identity, has been articulated in the modern era. Following the rapid urban redevelopment policy in the 1960s, which was based on the

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economic logic, many urban places have disappeared or been rearranged without objective evaluations. This has resulted in the destruction of Seoul's identity of modern history, which must be reconsidered for the development direction for Seoul as a historic city.

Therefore, with the aforementioned understanding of historical environment, this study aims to evaluate the value of *Eulji-ro* 3rd and 4th Street as a modern historical environment. It will add to the understanding of value of modern historical environments in Seoul and suggest a future development direction for Seoul.

1.2. Research Method

The first part analysed the relationship between a historical environment and urban tissues based on their concepts.

The second part looked at Seoul's urban tissues' process of change during the early modern period, and compared it with that of contemporary Seoul. A collection of archival records, including historical maps of Hansong during the *Chosun* Dynasty, the cadastral map of 1912 (called, '*Gyongsongbu Jijokwondo*'), serial cadastral map of 2013, and other GIS data, was carried out. Based on the archival research, this study then compared between the early and contemporary urban tissues in the research site.

The third part, as a conclusion, summarizes the value of research site's historical environment.

2. Modern Historical Environment and Urban Tissue

2.1. Historical Environment

'Historical Environment' means all that results from historical process in the broadest sense, and more specifically, it means valuable objects worthwhile to protect and pass on to descendants. It is a region or landscape, which consists of physical and cultural shapes. Elements of a historical environment contain organic characters which pass through processes of development, destruction, and substitution.¹ In this regard, a historical environment is something which does not 'simply exist but comes into being,' and a complex result of interaction between human and nature which will continue into the future.

Generally, a historical environment regards as a single piece of architecture. But it must include the cityscapes, which consists of not only of sites officially designated as cultural assets, but also have historical meanings and utilities as places for different industrial or residential activities. However, the grounds for evaluating the cityscape as historical environment, which has a characteristic of endless changes, can be ambiguous. Thus, the following criteria are necessary for evaluation.

First, it is the presence/absence of historical value within the object itself. Simply belonging to a past era does not make the object a valuable historical environment. What is important is whether it reflects the social value system of the time. Second, the assessment as to what that environment's effect on present situation is should be carried out. History is not a container but a changing trend and the process of life-styles² and historical environments consist not only of past results but also changes coming from a continuous relationship with present lifestyles.

2.2. Value of Urban Tissue as Historical Environment

Urban tissue is a basic unit of urban shape, and it can be differently interpreted depending on perspectives. M.R.G. Conzen has defined it as a unit, which consists of street patterns, shapes of lots, and buildings. S. Muratori saw urban tissue's basic unit as buildings, urban plots, house shapes, roads, and open-space. Another scholar named G. Caniggia interpreted urban tissue as collective buildings, space, and access roads.

Understanding city shape is generally possible through urban tissues consisting of street systems, shapes of lots, and buildings, and as time passes, these physical elements change organically in relation to city residents' lives. The present cityscape is the result of past urban histories, and it can be specifically perceived through urban tissues. Under these conditions, the present urban tissues can be considered as a historical environment which becomes the basis of city residents' lives with traces of the past. Therefore, studies about urban tissue should illuminate city's historical layers, and the evaluation of urban tissues must be considered an important factor in protection of urban environments and determination of future development direction.

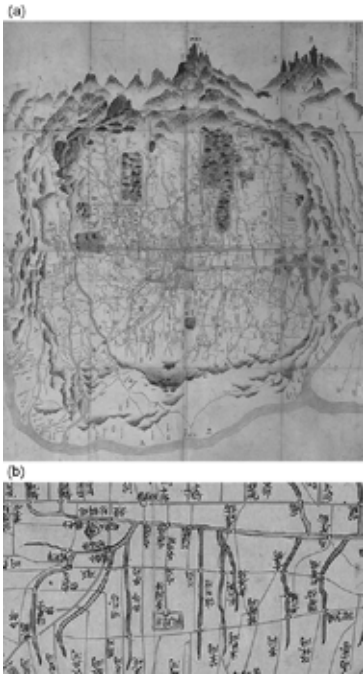


Fig. 1 Maps of Seoul in Chosun Dynasty. Anonymous, "Hanyang Tosong-do", Map of Walled Capital ; Seoul, 1770s. (Ref. Heo Young-Hwan, 600 Years' Maps of Seoul, Bumwoosa, Seoul, 1994, p.41.) Urban Tissues(19C) in the south of Cheongye River; Detail of "Tosong-do", Map of Walled Capital ; Seoul, 1860 ca.. by Kim Jeong-Ho. (Ref. Heo Young-Hwan, *ibid.*, p.69.)



Fig. 2, Urban Plans in the period of Japanese Colonialism. "Kyongsong si gu kaesu kyehoek noseondo, 1912", Urban Plan for the Improvement of the Streets in Seoul by the Japanese Government-General of Korea; The Gazette of the Japanese Government-General of Korea, 6 Nov. 1912. "Kyongsong si gu kaesu kyehoek noseondo, 1919", Urban Plan for the Improvement of the Streets in Seoul by the Japanese Government-General of Korea; The Gazette of the Japanese Government-General of Korea, 25 June 1919.

The value of urban tissues as a historical environment does not simply depend on their belonging to a past era. Rather, it must be found in the historical value of urban tissue's formation and development process, and in the potential of further development in present urban residents' lives. Especially, modern historical environments do not exist individually, but within the relationship among different types. Its value can be found in the fact that present functions exist side by side with past functions.

Seoul's modern historical environment has been underappreciated by many as having changed due to the "will of others" after the opening of ports, and as having traditional and modern elements chaotically juxtaposed together. It is disappearing without an objective evaluation in the process of urban redevelopments. In this regard, a study about urban tissue as modern historical environment has an important meaning in the sense that it can newly illuminate the history of modernity, and that it can suggest a development direction for Seoul's old city centre.

3. History of Eulji-ro's Urban Tissues

3.1. City of Waterway

The city system of *Chosun* Dynasty's *Hansong*, which was based on Feng-Shui theory, consisted of urban infrastructure following natural features, and the planned streets connecting infrastructures. Observing the city map made during the *Chosun* Dynasty reveals that street system has a discrepant layout due to *Feng-Shui* and military security reasons. Straight streets cannot be found. Most streets in the southern city are unplanned, and show a fishnet-shaped system which follow low and flat land with waterways. (Fig.1) As this example illustrates, waterways within a city have worked as an important element in the shaping of original urban tissues in Seoul.

3.2. Urban History and Transformation of Urban Tissues

During the *Chosun* Dynasty, the *Cheonggye* River, which traverses the city from east to west, functioned as a boundary which divided the urban space into southern and northern regions. The north of *Cheong-gye* River, called 'Bukchon', was the space of dominant class, with court and ruling class people's residences. The southern region, called 'Namchon', was a residential area of the dominated lay people. Thus, *Bukchon* was composed of planned streets which connect urban infrastructure, while *Namchon*'s street system followed that of the waterway.

Major streets south to *Cheong-gye* River, such as *Gurijae*-Road (now named, 'Eulji-ro') and *Jingogae*-Road (now named, 'Toegye-ro'), are oriented east-west. The shapes of the roads oriented north-south follow waterways, *Jujadong-cheon* and *Pildong-cheon*. After the opening of Ganghwa port in 1876, King *Gojong*'s implementation of 'Seoul City Renovating Project' for modernization, which planned a radial street system centered on Gyeongwun Palace, started urban change in *Namchon*. However, the Japanese, who won the Russo-Japanese War in 1904, colonized then Great

Han Empire, and King *Gojong*'s plan came to a halt. In 1912, beginning with urban arrangement by the Residency-General installed by Japan, urban redevelopment project to make a colonial city, *Gyongsong*-bu, began. Japan's urban rearrangement project continued into the 1930s with several modifications, and in the process, major streets which followed existing waterways and landscape features changed into a grid-based imperialist urban system. Urban planning in 1912 shows a radial street system centered on *Hwanggeum-jeong*(*Eulji-ro* District), along with an expanded *Gurijae*-Road and newly

constructed north-south oriented roads, which connect *Jong-ro*, *Hwanggeum-jeong*, and *Bon-Jjeong*(*Chungmu-ro* District) (Fig.2-a). In practice, most of the roads in the plan of 1912 have been actualized

except the radial road centered on *Hwanggeum-jeong*, and it had a big influence on the formation of lots (Fig.2-b). Examining the cadastral map, made in 1912, reveals the fact that many lots have changed to atypical shapes because of newly constructed *Eulji-ro*. (Fig.3-a) In 1941, an evacuation band, which the Japanese planned in the urban centre to prepare for the enemy's attack, introduced a big change into the 600-year-old urban tissues. Among these, the newly constructed evacuation band had become slums due to the absence of modification at the time of liberation. After the Korean War, deterioration of the district became more severe, and it had become *Euljiro*'s urban blocks for the 1st Central Land District Rearrangement Project. Today, *Saewun-sangga*, which traverses *Jong-ro* and *Pildong*, stands in *Euljiro*'s urban blocks. (Fig. 3)

As examined so far, the current street system of *Eulji-ro* has gone through processes of urban development after the opening of Korea's ports. It cannot be denied that the changes after the early modern period were mainly made by the mandates of colonial rule rather than by autonomous development. But the interior grid-based system and city blocks still contains the past *Hansong*'s city structure based on natural landscapes and waterways.

4. Investigation and Analysis

4.1. Boundary

The study site, the central area of Seoul south of *Cheonggye* River, is formed by a small street which followed the old waterways. It is a place with mixed results, such as urban rearrangement in Japanese Colonial Times, an evacuation band, and urban redevelopment plan in the 1960s. Now it consists of fourteen administrative units, called dong, and contains eight city blocks as well as *Cheonggye-Daerim-sangga*, and *Sampoong-sangga*. (Fig.4)

4.2. Roads

The study site contains mixed elements such as waterways following streets from the *Chosun* Dynasty, planned streets in Japanese Colonial Times, and small city blocks formed after the Korean War. The main street system is grid-based. In the east-west direction, it consists of *Cheonggyecheon-ro*, *Eulji-ro*, and *Marunnae-ro*. In the north-south direction, it consists of *Supyo-ro*, *Chungmoo-ro*, *Changgyeonggung-ro*, and *Dongho-ro*.

The street system, a fishnet-like form following old waterways, contains atypical small lots and makes up the unique cityscape of the district. Fortunately the inner city block could be maintained from the radial street system of 1912. (Fig.5-a)

4.3. Lots

The study site consists of 3,796 lots except streets, and this shows an increase of 1,480 lots, compared to that of year 1912. Looking at changes per administrative unit, the numbers of lots increased in every unit, except that of *Supyo-dong*. (Table-1) This can be understood as the result of urban redevelopments, lot rearrangement projects, and changes in property holders over time. Most lots, except *Supyo-dong*, *Eulji-ro 5-ga*, and *Ojang-dong*, retain small scale and atypical shapes in terms of scale and shape. (Fig.5-b)

Tab. 1, Comparison of land parcels by administrative districts.

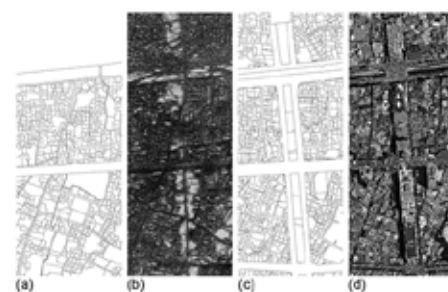


Fig. 3, Transformation of Urban Tissues by the Urban Evacuation Band.

(a) Cadastral Map in 1912, (b) Aerial Photo in 1947, (c) Cadastral Map in 2013, (d) Aerial Photo in 2014



Fig. 4, Research Area with Administrative Districts.

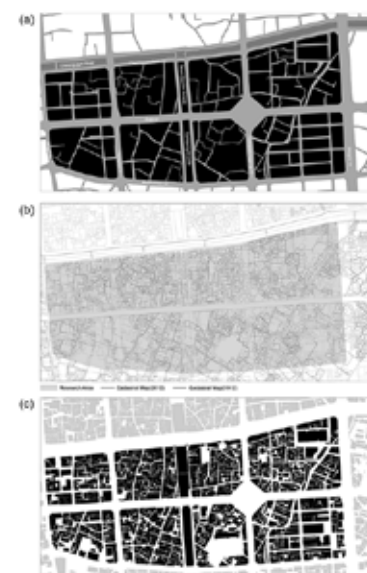


Fig. 5, Urban Tissues of Eulji-ro District. Structure of Roads.Overlap of the Cadastral Map in 1912 and 2013. Urban Fabric by buildings.

Administrative Districts		Land Parcel (excluded streets)		Change
1912	2013	1912	2013	
<i>Supyo-jung</i>	<i>Supyo-dong</i>	43	38	-5
<i>Ipjeong-jung</i>	<i>Ipjeong-dong</i>	274	355	81
<i>Im-jung</i>	<i>Sallim-dong</i>	300	473	173
<i>Jugyo-jung</i>	<i>Jugyo-dong</i>	330	568	238
<i>Bangsan-jung</i>	<i>Bangsan-dong</i>	89	159	70
<i>Hwangkeum-jung</i>	<i>Euljiro 3-ga</i>	350	559	209
<i>3-jungmok</i>				
<i>Hwangkeum-jung</i>	<i>Euljiro 4-ga</i>	318	492	174
<i>4-jungmok</i>				
<i>Hwangkeum-jung</i>	<i>Euljiro 5-ga</i>	87	144	57
<i>5-jungmok</i>				
<i>Youngrak-jung</i>	<i>Jeo-dong 2-ga</i>	21	34	13
<i>2-jungmok</i>				
<i>Yakcho-jung</i>	<i>Cho-dong</i>	58	79	21
<i>Aengjung-jung</i>	<i>Inhyeon-dong 1-ga</i>	99	231	132
<i>1-jungmok</i>				
<i>Aengjung-jung</i>	<i>Inhyeon-dong 2-ga</i>	129	155	26
<i>2-jungmok</i>				
<i>Hwawon-jung</i>	<i>Yegwan-dong</i>	67	122	55
<i>Choeum-jung</i>	<i>Ojang-dong</i>	151	387	236
TOTAL		2,316	3,796	1,480

4.4. Buildings and Programs

Buildings in the study site consist of types very different from those on the sides of major streets and inner blocks. Most buildings on sides of major planned streets are four to five stories high, and built in the 1970s. These can be considered the beginning of mixed-use buildings with the first floor dedicated to commercial uses, second floor to office spaces, and the top floor to residences. Currently, residential spaces have disappeared, and many office spaces are vacant due to the aged structures and underdeveloped surroundings.

Meanwhile, the inner city block has single to double story buildings used for manufacturing industries including printing, mechanics, and architectural material-related industries.³ Most buildings are remodelled wooden structures more than thirty years old, and are very dense with a 90 percent of building coverage. (Fig.5-c)

4.5. Summary

Examining the street system, lots shapes, and current conditions of buildings reveals that the current urban tissues contain the processes of change as well as history of city's formation. At the same time, the fact that current shops follow the old waterway street system shows the old urban tissue's continued function as the dominant historical environment. Thus, the urban tissue of the study site is the accumulation of historical layers, and its environment needs to be re-examined as the modern historical environment which contains the lifestyle of city residents.

5. Conclusion

This study aimed to investigate *Eulji-ro 3-ga* and *4-ga*'s value as a modern historical environment through the concept of historical environment and changes in urban tissues by time. The result can be summarized as below.

First, historical environment means cityscapes consisting of social and humanistic accumulations including historical architecture, district, place, and tangible/intangible cultural heritages. Second, *Eulji-ro*'s urban tissues, which have continuously changed since the Great Han Empire, can be called an accumulation of early *Hansong*'s concept, colonial city concepts, and others situations of different periods. The current *Eulji-ro* city block is a proof of this system of patterns. Third, many hardware shops in this area, such as printing, machine, and other manufacturing-related industries continue to retain the identity of this district within the city. These shops are important cityscape

elements which can confirm the historical identity of the area. As stated above, basic elements of *Eulji-ro*'s urban tissues, such as streets, lots, and buildings, are the result of its historical identity, and they are of great value as a historical environment. And the fact that such urban tissues are deeply engaged with current city residents' live shows the area's future potential for sustainable development.

Notes

¹ Kang Dong-Jin, "Exploring a Paradigm for Conservation of Modern Historic Environment in Korea", *From J. of Korea Planners Association*, v.34, n.1, Korea Planners Association, 1999, 139-140.

² Sigfried Giedion, *Space, Time and Architecture*, Harvard University Press, 1973, 5-7.

³ These shops are related to economic and cultural history which goes back to Chosun Dynasty's type foundry, and later 'Pak Mun Gook', the first printing shop in the Japanese Colonial Times, and other manufacturing shops centered on the side of Cheonggye-River.

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The Modern Movement in Soviet Asian Republics

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Abstract

The paper observes the history of the Modern Movement in Soviet Asian Republics and analyses the main architectural features of Modernity in Soviet Asia and their development. The Modern Movement left interesting traces in former Soviet Asian republics, but it is not fully investigated by scholars. Authors present significant works of Soviet architects in Turkmenistan, Kazakhstan and Uzbekistan in the 1970-80s

Keywords : modernism, ussr, asia, environment

1. Introduction

Over the recent years architecture of Soviet Modernism has attracted significant attention of Russian and foreign specialists. Ideas and works of Soviet modernism are represented at exhibitions, studied in universities, discussed at conferences. However many areas of study remain unexplored. Modernist movement affected all Soviet republics. In each republic it had its own regional features and peculiarities. The movement itself was a consequence of government decision to use this style to construct various official and public buildings. First steps towards Modernism were made in 1954 after the historical meeting of architects and builders, which declared industrialisation in construction and use of standard elements in buildings in the USSR. In spite of typical details it was allowed to use some special elements in designing public objects. The aim of latter ones was to form an individual view of a building.

The buildings of the early period of Soviet Modernism were, obviously, affected by western models. The style of these models was international as was declared by Modernist movement. Because of this objects in the USSR did not reflect national features and identity and looked as an artificial element of environment in regions, where they appeared. Buildings in Modern style were unfamiliar to Soviet Asian republics and were the first experience of designing objects there in the style that did not take in account national features. The appearance of the buildings did not have specific national details, it was universal. These objects could be built in any region of the USSR.



Fig. 1 Ladanov, Zaidov et al. The variant of reconstruction of the city center, Tashkent, Uzbekistan, 1960s.

2. The Early Period of Soviet Modernism

2.1. The Palace of Arts (Uzbekistan, Tashkent)

The Palace of arts in Tashkent designed by V.Berezin, S.Sutyagin et al. and completed in 1965. The sophisticated solid building resembles a cross-section of a column with flutes. A concert hall is placed inside the object. The massive and heavy body of the hall adjoins light glass lobby galleries at the right angle, which creates contrast to the main volume. The idea of contrast between geometric volumes was original, but typical for early Modernism. Also the building does not have national elements in its appearance.

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2.2. The Airport (Kazakhstan, Almaty)

The first attempt to install in the architectural object some elements that reflect the environment was made by V. Ishchenko in design of airport building in Almaty in 1965. Nevertheless the architect designed a typical object in international style of the 1960s. The terminal is characterised by simple volume and clear rhythm of pylons on the façade. This type of façade with frequent pylons became popular after construction of Kremlin Palace of Congresses in 1961 by M.Posokhin and A.Mndoyants in Moscow. However V.Ishchenko tried to add distinctive features to connect the airport building with the regional environment. The architect outlined national peculiarities using fine pattern of oriental ornament in grids, protecting inner space from sun. Local traditions were also supported by the presence of water – fountains were placed in front of the airport.

2.3. Karakumstroy Building (Turkmenistan, Ashgabat)

International Modernist style was used in design of Karakumstroy building, designed by A.Achmedov, F.Aliyev et al. and completed in Ashgabat in 1967. Mighty administrative object dominates the square. The composition of the façade is based on clear rhythm of vertical and horizontal lines, created by sun-protecting grid, which is superimposed on a glass parallelepiped of the building. The lobby is indicated by far protruding canopy that has a plastic emphasis – the decorative frieze deeply embedded in concrete. The image on the frieze is devoted to the water as the basis of life and the greatest value in Central Asia hot climate. The theme of water is continued in front of the building. Fountains and ponds, carrying coolness, are placed there. However it is obvious that the technical part of construction was more important and this object could be equally well built elsewhere in the USSR. Only sun-protecting grids would remind about the hot climate, for which the building was designed.



Fig. 2 Achmedov, Aliyev et al., Karakumstroy Building, Ashgabat, Turkmenistan, 1967

3. The Soviet Modernism in the 1970-80s

By the 1970s the situation began to change gradually. Architects cared for creating recognisable urban environment in cities, for their national identity. They tried to reveal and emphasize peculiarities and the character of the places for which buildings were designed. During these years the more sophisticated architectural plan and form of the object became a sign of modernity. In the 1970s there was an interesting trend in Soviet architecture: the further from the official center was built object, the more free felt an architect and a client and the more opportunities were available for designing. Such process could be observed in Asian republics of the USSR: Kazakhstan, Turkmenistan and Uzbekistan.

3.1. The Branch of Lenin Museum (Uzbekistan. Tashkent)

After the devastating earthquake in Tashkent in 1966, the city was almost completely destroyed. The whole country helped to build it up. Tashkent central district was designed by Moscow architects, who demonstrated their understanding of the national identity in the framework of Modernist architecture. In 1970 a branch of the Lenin Museum was built in the center of Tashkent (now the Museum of History of Uzbekistan). It was designed by V.Arsanov, V.Shestopalov et al. The authors created centric, strict and laconic by its shape building, raised on a high podium and surrounded by a parapet. The latter creates an open terrace around the main volume for walking. The broad staircase leads to the main entrance. The international Modernist design of the building is well supplemented by sun-protecting grids, which meet the city climate conditions and create the national character. Also the authors used pattern of *pandjara* grids and other Uzbek figures in the interiors of the museum.



Fig. 3 Ripinsky, Ukhobotov et al., Lenin Palace of Culture, Almaty, Kazakhstan, 1970

3.2. Lenin Palace of Culture (Kazakhstan, Almaty)

Architects N. Ripinsky, L. Ukhobotov et al. paid more attention to the origins of the national identity while they designed Lenin Palace of Culture in Almaty, completed in 1970 (now the Palace of the Republic). In this remarkable building architects showed an outstanding level of understanding of traditions. They achieved organic unity of modern rationalist architecture techniques and national traditions in the interpretation of the architectural space and plastic forms. In the front of the object a pool with a fountain can be found - an integral detail and local tradition.

3.3. State Library Building (Turkmenistan, Ashgabat).

One of the most interesting buildings of Central Asian Modernism was built in Ashgabat in 1970. It is the building of Turkmen State library, designed by A.Ahmedov et al. The library is a three-story massive building from monolithic reinforced concrete with frequent rhythm, created by the facade pylons. Two upper floors rest on pillars, creating shaded space for the ground floor. The building stands on the stylobate. The area around is architecturally designed with concrete grounds, lawns, retaining walls, ponds and small forms. All these create an open hall of the library. The internal space of the building is solved rationally and is convenient for visitors. The only blind wall separates the library from the book depositary. The latter forms a closed zone in the center, around which are reading rooms and recreation areas. Climate peculiarities and local traditions are emphasized by patios with pools and sculptures, located inside the building. Interiors and sun-protecting grids on the facade are decorated with relief ornament, made of raw concrete. This method creates a connection between the modern structure and the national tradition of Turkmenistan.



Fig. 4 Ukhobotov, Patushnogo et al., Hotel "Kazakhstan", Almaty, Kazakhstan, 1979

3.4. Hotel "Kazakhstan" (Kazakhstan, Almaty)

An interesting object is the tall volume of Hotel "Kazakhstan", designed by architects L.Ukhobotov, L.Patushnogo et al. in Almaty, completed in 1979. It stands on a multilevel podium, where various hotel services are placed. The plan of the high-rise the building resembles a convex lens. Clear rhythm or vertical and horizontal articulation creates sun-protecting openwork grid, which has not only functional, but also a figurative meaning. The superimposed grid gives the necessary shade and makes the hotel sound modern. The main entrance is marked with powerful plastic emphasis, which is created by a concrete canopy of complex configuration. The theme of water sounds in this building as in most of previously mentioned. Pools with fountains are in front of the building. The interiors impress with luxury and are abundantly decorated with the use of national ornaments.

3.5. The Palace of Peoples' Friendship (Uzbekistan, Tashkent)

A new stage of understanding of national traditions and innovation was showed by architects E.Arsanov, V.Shestopalov et al. in the Palace of Peoples' Friendship, built in Tashkent, completed in 1981. This stage is characterized by a shift from the flat facades to materially tangible forms and plastic elements. In front of the Palace is a large parade square with fountains, lawns and benches. The southern facade of the Palace is focused on Alisher Navoi monument and a park with a lake. Formerly in front of the southern facade was the artistic composition - coats of arms of all USSR republics, symbolizing friendship of Soviet peoples. Modern functional-constructive basis of the palace was supplemented by traditional folk motives, which helped to create graphically rich, distinctive and



Fig. 5 Arsanov, Shestopalov et al. The Palace of Peoples Friendship, Tashkent, Uzbekistan, 1981

memorable Uzbek flavor. The building has strong plastic, complex elements and a large number of national ornamentation on the facade. The frieze of volumetric tubular parts crowns the main volume of the building. National motifs are widely used in interiors, which also have rich plastic elements.

4. Conclusion

The search of national features and peculiarities, typical for regions, underwent noticeable changes in the process of development of Modernism. In the 1960s the Soviet architects used western buildings as models, which they could see after Khrushchev thaw. Mostly these were simple volumes with glass-metal glazing that emphasized international style. Obviously, simplified forms were aliens to places, for which they were designed. However this type of buildings was a new trend and was associated with the idea of modern architecture. Having mastered the experience of western architecture, Soviet architects have offered their own vision of Modernism. The national theme caused the revival of historicism, which gave Modernist works special oriental colour. Sun-protecting grids, necessary because of climate, became a special national feature in the Modernism era. These grids became a sign of the objects that were built in Central Asia. The connection with national traditions can be observed not only on the decoration level, but also in the layout methods, which widely used national traditions of building in hot climate (the through ventilation, the orientation of facades etc.). The most interesting works in Central Asian republics demonstrated not just copying of national patterns and details, but created sophisticated associative links with local traditions on the level of composition planning.

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Hidden Clue of Modern Movement into China: Undiscovered Paths to Modernism in China

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Abstract

The narrative of the Modern Movement's entry to China typically begins at the Reform era of the 1980s with the opening of the economy and society to the Western world. In authoritative research on the localization of modern architecture, most architectural historians and critics agree with this conclusion. However, from one interview on industrial building, unexpected counter-evidence is discovered. Through the aid of Union of Soviet Socialist Republics (USSR) in the earlier days of the PRC, the idea of modernism in architecture arrived through the field of industrial architecture in 1950s. By rethinking and reviewing this process, another perspective opens up. This case provides evidence that indicates how the Modern Movement diversified, transformed, and localized in different contexts and regions. Furthermore, with the rapid urbanization of China, it has become urgent for the working party of DOCOMOMO in China to find an efficient way to record and preserve the historical traces and proof of this process.

Keywords : modern movement in china, industrial architecture, path of momo

1. Modern Movement of China in the 1950s

Histories of China's engagement with the modernist movement typically begin with the Reform Era. In these narratives, the influences of modern architecture entered as China opened its economy to foreign markets. With Reform, large numbers of foreign architects began designing projects in Chinese cities, collaborating with Chinese firms, and increasing numbers of Chinese architecture students started to train abroad. Researchers of architectural history also source the modernist influences to the pre-Socialist period. They point out that students who studied overseas were influenced by the Modern Movement. These returning architects designed and built several modern buildings before the 1950s. Some of them also went on to teach at universities once back in China. However, those researchers also treat these cases as peripheral to the main stream of the field of Chinese architectural. Most architectural historians and critics agree that Modernism's movement into China started from 'reform and opening-up' in 1980s. However, an interview from last year presents an alternative history with implications for the genealogy of modernism in China.

Professor Liu Yongde, taught at Xi'an University of Architecture and Technology (from 1956~2002). In a 2013 interview, Liu recalled experiences beginning in the 1950's,¹ which suggest new vectors of modernist influence.

According to Liu's description, nearly a decade after the founding year of the PRC in 1949, a large amount of architectural design resources were moved into industrial architectural design. If as a premise, we understand industrial building as belonging in the category of architecture,² then the influence of the Modern Movement may have in fact arrived into mainstream Chinese architectural practice during the 1950s, not 1980s.

In order to determine this, we will need answer several questions. First, was industrial architectural practice indeed the core part of architectural practice during that period? Second, what were the design principles of industrial architecture design of that time? Finally,

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how similar were these principles to the concepts of the Modern Movement?

The first question can be confirmed through the following materials:

From 1950 to 1960, the total construction building area of China was about 5200 billion square meters. Of this, civil building in urban and industrial area was about 3500 billion square meters. The proportion of industrial building area was approximately 32%. When supporting facilities of industrial district are calculated in this total, the proportion reaches over 50%.³

At the end of 1956, the proportion numbers of all employees of architectural design institutes are as follows: the industrial system accounted for 49.1%. The railway, transportation, postal, and telecommunications system accounted for 22.1%. The water conservancy system accounted for 13.5%. Civil construction and other accounted for 15.3%. The proportion of heavy industry increased from 31% to 42% of total workload of Chinese Survey and Design from 1953 to 1955. By 1955, the proportion of industry workload approached 50%.⁴ After the founding of PRC, several state institutes of architectural design were founded in national regions. In the beginning, these institutes were called Design and research institutes, such as China Northeast Architectural Design and Research Institute, China Northwest Architectural Design and Research Institute, among others.⁵ Beginning around 1955, their names changed to Industrial Architecture Design and Research Institute.⁶ Today, the billing rate of industrial architecture design is still far higher than civil architecture design. The root of this divergence can be traced back to that age.

In 1955, Chinese officials promulgated a policy for architectural design that differentiated industrial from civil design. Industrial architecture "advanced technology, reasonable economy, safety, and appliance" as its principle whereas the principle of civil architectural design was "applicability, economy, and attention to beauty with the possible conditions".⁷ The paradox of the Chinese architectural field was that while civil architects were encouraged to follow the Soviet Socialist Realism, emphasizing "national form, socialist content" to critical "formalism" and "constructivism"; architects in the industrial architecture field meanwhile were required to apply the principle of the Modern Movement into their practice.

The above materials reveal that in the first the decade after the founding of the PRC, the mainstream of architectural practice of China focused on industrial areas, was explicitly separated from previous practice, and furthermore, was expressly directed by some principles similar to the Modern Movement. (I think there is little difference.)

2. Hidden clue of Modern Movement into China

The Modern Movement did not spontaneously occur without any imported influence. Before the founding of PRC, there were few industrial Chinese architects, and most industrial buildings in China were designed by foreign architects. However, if the dominant ideology of Soviet architecture in the 1950s was Historicism and Eclecticism, how then could the Modern Movement be brought into China as guiding principle of industrial architecture?

To answer this question, it is necessary to briefly review the architectural history from 1930s to 1950s. From 1920s to 1930s in Russia, there were two main avant-garde schools, Suprematism led by K. Malevich, and Constructivism led by V. Tatlin. The Constructivist's organization, "Association of Contemporary Architects" (OSA), was the biggest and most influential group of the time, expounding a theory similar to the Functionalism of the Modern Movement in Western Europe. In 1923, another influential group was founded by N. Ladovsky, the "Association of New Architects" (ASNOVA). The members of ASNOVA called themselves as "Rationalist."⁸ The two groups contended and were mutually critical, but their thoughts and theories could all be classified as branches within the Modern Movement. After 1930, with the centralization of ideology and the change of the public aesthetic in the USSR, historical eclecticism became the mainstream of formal architecture, embracing slogans such as "national form, socialism content," "against constructivism (OSA), against formalism (ASNOVA)." However, from the documents and examples of that time, the change only affected the civil architecture field, leaving the Modern Movement's influence intact within the industrial architecture practice.⁹

- In April, 1950, the Association of Soviet Union Architects held a conference on industrial architecture. In this meeting, the trend of Historicism was criticized as "using inapposite architectural form with unprincipled decoration to increase constructive investment, and not resolve the problem of art on industrial architecture." Further, members declared a new principle of "finding the most concise composition, the beautiful proportion of building elements, masterly combination of standard parts," that called for industrialization and standardization of industrial architectural design.¹⁰
- After a visit to Britain in 1955 by a delegation of Soviet architectural experts, the group published one book summarizing what they had seen and learned. In 1958, this book was translated into Chinese.¹¹ The industrial buildings they visited were built in the modernist style after the Second World War. The book speaks highly of British industrial building, building materials, and its prefabricating system of construction.
- In 1923, the constructivist A. M. Vesnin and his students focused on industrial architecture in Moscow Higher Technical School (current Bauman Moscow State Technical University).¹² This group would later play a defining role in the formation of the industrial architecture school. After 1930, as ideological requirements changed. For architects in the USSR who did not want to fully abandon modernism principles, it presumably would have been a good choice to engage in industrial architecture instead. Indeed the Vesnin brothers, M. M. Ginzburg, Ivan Leonidov with others kept developing and exploring modernist architecture within design for heavy industry, based out of the design office of Construction Authority, Department of Heavy Industry.¹³

After the founding of the PRC, many experts from the USSR were dispatched to China due to large scale industrial construction. These technical advisers and experts worked on 156 Projects that the USSR financed and built as part of the friendly agreement in between USSR and China. All of the projects were in heavy industry. They were built in different cities of China under the direction of experts from the USSR and other Socialist East European countries. All these worked closely and were supported by local Chinese design institutes. Since the heavy industrial architecture department of USSR was led by committed modernist architects, it is then no surprise that Russian experts introduced the modernism design and technology into China through their influence on the Chinese industrial Architecture field. This is a hidden clue to the roots of the Modern Movement into China in the 1950s arriving from the USSR, via industrial architecture.

3. Paths of MOMO

Of the 156 Projects built with the help of USSR and German Democratic Republic (GDR), 17 were located in Xi'an.¹⁴ Most of those 17 projects had high construction quality and were designed in the modern style – some with identifiable Bauhaus style. A number of them remain in operation today.

At the time they were built, those industrial areas were located at the edges of cities. With the current rapid urbanization of China, these industrial areas are now facing the serious pressure of urban development and post-industrial transformation. Most active factories are removed or relocated to far suburbs as cities expand. In developed cities like Beijing and Shanghai, former industrial lands have sometimes been reconstructed as creative industry parks or art zones. However, in developing inland cities like Xi'an, there is no large market to support their reuse within an artistic and creative program. The only way to squeeze profit and value from the land is to tear down and rebuild structures with high FAR as real estate development. Since these factories and industrial buildings do not qualify for protection under the Chinese historical and heritage preservation laws, many industrial buildings have been demolished or severely damaged. Considering the current rate of urban expansion, if we cannot find an efficient and useful means of protection, those industrial buildings will entirely disappear in the near future.

While these industrial buildings may not individually have high aesthetic and historical value, their existence records and reflects the materialization of a historic path of the Modern Movement into China through USSR in 1950s. Many historical and technological facts were embedded: the method of industrial architecture design, the level of construction technology, constructive materials and details at that age in formerly Socialist countries. Protecting and recording such a group of buildings, would be vital to actually to keeping some history of the Modern Movement's entry into China. These buildings are part of a history that transformed and localized the social construction of modern China. Although hidden, these industrial buildings are evidence of the process of evolution and translation of the Modern Movement, what we could call the Path of MOMO.

I introduce this word, not merely to play a terminological game, but to emphasize the difference we face in documenting and conserving work of Modernism's influences, compared with more familiar objects of preservationist concern. In a paper published by Docomomo,

the subjects of DOCOMOMO are buildings, sites and neighborhood of the Modern Movement.¹⁵ However, as mentioned above, most individual buildings related with the Path do not display high aesthetic and historical relic value. These buildings are also usually scattered across different cities or discontinuous sites, and span a period of time. By typical modes of categorizing, they do not qualify to be listed into any catalogue. Therefore, national DOCOMOMO working parties need tailor the scope of their research, the choice of subjects, and their standards for inclusion in accordance with the actual local and domestic situations. They should place emphasis on buildings that are representative of the historical period and that reveal the transformation of architectural design principles and technologies.

The Modern Movement professed universality. However, it can never have a clearly and unified definition when it traveled through different cultures and to be implemented in distinct contexts from where it was formed. Its scope, definition, and concept had to be modified and re-interpreted to comply with a host of local conditions and considerations. This represents a very common problem for national DOCOMOMO working parties in their research and practice. In this sense, the Modern Movement is not a single movement. Its significance varies and it achieves abundant connotations across locations. Its strength lies within this pluralism, and its value can be appropriately understood through following the Paths of MOMO.

Notes

¹ On April 23, 2013, Prof. Gu Daqing, Chinese university of Hong Kong, and me interviewed Prof. Liu Yongde on architectural education in the early days after PRC foundation, Xi'an

² Here the current definition of architecture is adopted, even we are not sure in that time the architecture category definition and understanding was same as the present.

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A Guided Expansion or a Forced Conflict” -- The 1986 National Interim Provisions on Cooperative Designing and its Influence on Architecture Design in Xi'an

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Abstract

As the Open and Reform continued to 1986, two parallel paths of architecture philosophy and practice were separately developed in Xi'an: one supported widely by local architects is the path of “oriental modernism” and domestically funded practice, represented by the Tang Cheng Hotel; the other generally promoted by international architects is the path of international modernism and externally funded practice, shown in the Golden Flower Hotel.

The original intention of the Provisions approved by the State Council in May 1986 is “to strengthen the administration of the cooperation” and “to promote the development of cooperative designing activities”. However, the enactment of this regulation forced these two paths mentioned above to merge. Consequently, local architects somehow gradually lost their power of expression in practice and were pushed to pursue the international design trends without wholehearted commitment to meet the requirement of Open and Reform in designing industry.

By comparative study of domestically funded and externally funded projects in Xi'an before and after the Provisions, this paper analyzes its influence on urban landscape, architecture practice in China as well as comprehension and interpretation of modernism in China. A method for modern architecture reconnaissance survey is also developed for this research.

Keywords : open and reform, 1986 provisions, oriental modernism, western modernism

1. Introduction

The early stages of Open and Reform has the strong character of the socialist planned economy, gradually evolving into Keynesian market economy. That meant that the national policy and regulations had the ultimate influence on any given field like architecture. Meanwhile, it was clear that new technologies, fresh ideas and foreign financial investment were in great needs to spur and empower the urban constructions. With these two factors in considerations, a series of policy concerning China-Foreign cooperation in architecture projects was composed and enacted, the most influential ones of which are the *Interim Provisions Concerning Chinese-Foreign Cooperation in the Designing of Engineering Projects (The 1986 Provisions)* in 1986 and the *Tentative Provisions on the Administration of Foreign Enterprises Engaging in Construction Design Activities in the People's Republic of China* in 2004 (the 2004 Provisions).

The 1986 Provisions was promulgated by the State Planning Commission¹ and The Ministry of Foreign Economic Relations and Trade², in order to “strengthen the administration of the cooperation between Chinese designing institutions and foreign designing institutions in the designing of engineering projects”³ In 2001, the 1986 Provisions was abolished for not being accordant with the current laws and regulations. The 2004 Provisions was promulgated by the Ministry of Construction, in order “standardize the administration of foreign enterprises engaging in construction work design activities in the People's Republic of China”⁴.

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During its fifteen years of enactment, the 1986 Provisions has huge influence on not only the amount of newly construction urban buildings, but also the design of them, resulting in fundamental changes to the trajectory of modernism development in China. And then when economic situation changed, following the abolishment of the 1986 Provisions, the 2004 Provisions continued to regulate the Chinese-foreign projects. The second chapter will explain these influences through inspecting case studies in Xi'an.

2. Documentation

We divided our survey scope of time into three phases as follows:

Phase I (1978-1986): Foreign investment and technology were first introduced after the Open and Reform.

Phase II (1986-2004): The 1986 Provisions were active.

Phase III (2004-2014): The 1986 Provisions were inactive and the 2004 is active.

2.1 Case Choosing Process

Our case studies includes both key cooperation projects and key non-cooperation projects in Xi'an, and we also considered both the professional and the non-professional opinions. We interviewed ten architects in Xi'an who held key studios in respective phases, and asked them about their opinions of most influential architecture of his/her time. Then we asked the same questions to non-professional citizens of different age group through online questionnaire survey. We integrated the results, and selected 27 cases in total for documentation, 6 for Phase I, 17 for Phase II, and 4 for Phase III, as shown in form 1. Among these three phases, Phase I and II are the primary periods of documentation, while Phase III was brought up for potential study in the future.

2.2 Documentation Method

There was a long debate in China before 1978 about the "oriental modernism" versus "western modernism" in architectural design field. For our research, it is necessary to include both aspects of modern architecture and the "oriental expressions" in our documentation category. Therefore, we developed a form of preliminary documentation to include informations shown in form 1,

Name		Year of Construction	Invested by	Designed by				Location			
Site Layout	Horizontal and Scattered	(Photo)		Façade	Window	Belt Window	(Photo)				
						Symbol Window					
						Structural Opening					
						Other					
	Courtyard				Enclosure Type	Weight Bearing				Free Bearing	Other
	Vertical										
	other										
Volume Character	Multiple Story, Low	(Photo)		Building Plan	Free	(Photo)					
	Massive, High				Gridded						
	Other				Other						
Roof Type	Slop	(Photo)		Historical Expression	None	(Photo)					
	Flat				Symbol				Interior	exterior	
	Other				Morphology				Interior	exterior	
					Other				Interior	exterior	

Form 1. Standard Documentation Form, drawn by the authors.

2.3 Documentation Results

The selected forms below are the projects most typical of its respective phase, two for phase I, two for phase II and one for Phase III, as shown in shadow rows in form 1.

名称	西安金花饭店	Golden Flower Hotel Xi'an	设计时间	1983	投资方	瑞典	设计方	瑞典美国	项目地点	西安市长乐路 ChangLe Road, Xi'an
场地组织	水平、分散		立面设计	窗	带型窗					
	符号窗									
	结构洞									
	其他									
形体特征	低矮多层		平面布局	自由	围合	承重	自由	其他		
	色彩				历史	现代	其他			
	材质				历史	现代	其他			
	其他									
屋顶形式	坡屋顶		历史表达	无	其他					
	平屋顶									
	其他									

Fig. 1 Golden Flower Hotel Documentation Form, drawn by the authors. Photos by She, Cheng, Wang, Yuanshun.

名称	陕西历史博物馆	Shaanxi History Museum	设计时间	1984	投资方	中国	设计方	中国本土	项目地点	西安市小寨路 Xiaozhai Road, Xi'an
场地组织	水平、分散		立面设计	窗	带型窗					
	符号窗									
	结构洞									
	其他									
形体特征	低矮多层		平面布局	自由	围合	承重	自由	其他		
	色彩				历史	现代	其他			
	材质				历史	现代	其他			
	其他									
屋顶形式	坡屋顶		历史表达	无	其他					
	平屋顶									
	其他									

Fig. 2 Shaanxi Museum of History Documentation Form, drawn by the authors. Photos by She, Cheng, Wang, Yuanshun.

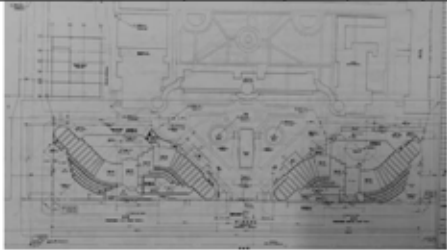
名称	西安大酒店 Xi'an Grand Hotel	设计时间	1986	投资方	香港	设计方	菲律宾	项目地点	西安市东新街 Dongxin Road, Xi'an
场地组织	水平、分散		立面设计	窗	带型窗				
	符号窗								
	结构洞								
	其他								
	围合	承重	自由	其他					
	色彩	历史	现代	其他					
	材质	历史	现代	其他					
形体特征	低矮多层		平面布局	自由					
	庞大高层								
	其他								
屋顶形式	坡屋顶		历史表达	无					
	平屋顶								
	其他								
	其他								

Fig. 3 Xi'an Hotel Documentation Form, drawn by the authors. Photos by She, Cheng, Wang, Yuanshun.

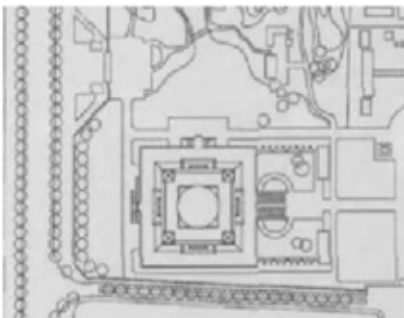
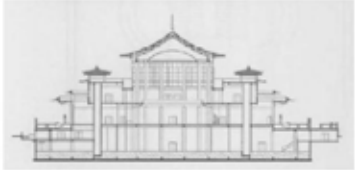
名称	西安博物馆 Xi'an Museum Hall	设计时间	2001	投资方	中国	设计方	中国 本土	项目地点	西安市朱雀路 Zhuque Road, Xi'an
场地组织	水平、分散		立面设计	窗	带型窗				
	符号窗								
	结构洞								
	其他								
	围合	承重	自由	其他					
	色彩	历史	现代	其他					
	材质	历史	现代	其他					
形体特征	低矮多层		平面布局	自由					
	庞大高层								
	其他								
屋顶形式	坡屋顶		历史表达	无					
	平屋顶								
	其他								
	其他								

Fig. 4 Xi'an Museum Documentation Form, drawn by the authors. Photos by She, Cheng, Wang, Yuanshun.

Year of Construction	Project Name	Influenced by			Influenced through				Funding Source		Designed by		
		oriental modernism	oriental and western	western modernism	Cultural tradition	importation	Communication	Imitation	Foreign	Domestic	Foreign	Domestic	
Phase I													
1983.07	Golden Flower Hotel			★		★			★		★		
1978.03	Abe no Nakamaro Memorial	★			★				★			★	
1983.07	Shaanxi Museum of History	★			★					★		★	
1984.12	Santang Project	★			★				★			★	
1985.05	Shaanxi Pavilion of Technology	★			★					★		★	
1980.05	Konghai Memorial		★				★		★		★		
Phase II													
1987.02	Historic Capital Hotel		★			★	☆		★		★		
1987	Tangle Hotel	☆	★				★		★		★		
1994	Kaiai Tower		★	☆			★		★			★	
1995	Shaanxi Provincial Library		★		☆	★				★		★	
2002	Jinshi Tower		★				★			★		★	
1987.06	Yiqin Tower			★				★		★		★	
1987.06	Unnamed Residential Tower			★				★		★		★	
1987	Xi'an Hotel			★		★			★		★		
1989	Huangcheng Hotel		☆	★		★	☆		★		★		
1989	Sheraton Hotel			★		★			★		★		
1997	Rose Tower			★				★		★		★	
1998	Jinyuan Garden			★				★		★		★	
2001	Jindu Garden			★				★		★		★	
1995	Drum Tower and Bell Tower District	★			★					★		★	

3. Analysis and Basic Findings

3.1 Form for Analysis

Based on the information we acquired through the documentation forms, we concluded whether a project is influenced by “oriental modernism”, or by western modernism, or by both, and how it was influenced, as shown in form 2.

Form 2. List of Projects and Styles, drawn by the authors.

(*The Foreign Affair Hotel is a special term used in the 1980s and 1990s to describe the hotels dedicated to accommodate foreigners; it was not used since late 1990s, all hotels run the same way across China, there was no more FAH.)

4. Basic Findings

From Form 3, we find that:

In Phase I: modernism reappeared after the long silence in the Cultural Revolution. As the Open and Reform continued to 1986, two parallel paths of architecture philosophy and practice were separately developed in Xi'an: one supported widely by local architects is the path of “oriental modernism” and domestically funded practice, represented by Shaanxi Museum of History (Figure 2); the other generally promoted by international architects is the path of international modernism and externally funded practice, shown in the Golden Flower Hotel (Figure 1). The former was common practice (66.7%); the latter was rather uncommon (16.7%). The project influenced by western modernism and oriental modernism was very rare (16.7%).

In Phase II: First of all, there is a clear increase in the amount of key projects influenced by western modernism (from 16.7% in Phase I, to 47.1%), and the ones influenced by both western and oriental modernism (from 16.7% in Phase I, to 29.4%), while the ones influenced by oriental modernism alone decreased to 23.5% from 66.7%.

2003	Tang Paradise	★			★					★		★
Phase III												
2005	Tang West Market Museum	☆	★		★					★		★
2007	Kempinski Hotel			★		★				★		★
2007	Westin Hotel			★		★				★		★
2010	Quijiang Convention Center			★		★				★		★

Another interesting thing worth notice is, among the ones influenced by western modernism alone and the ones influenced by western modernism and oriental modernism, which together (13 projects) constitute 76.5% of the total projects, 53.8% are funded by domestic fund, 61.5% are designed by Chinese companies. All projects funded by external funds are influenced by western modernism alone or western and oriental modernism, none are influenced by oriental modernism alone. Thirdly, among the 13 projects,

38.5% was influenced through importation, 23.1% through sino-foreign communication, and 38.5% through imitation.

Phase III: The amount of architectural projects went to a completely new level as it went into 21st century. It is clear that the six projects might not represent all projects in this phase. However, they are all key projects, supported by both professional and non-professional opinions. From the result of Phase III, we clearly saw the favor toward western modernism, as it continued from previous Phase.

5. Conclusion

Based on what we know about the Provisions, and what we find in the analytical forms, we now find some very interesting correlations between these two, summarized as below:

First of all, the 1986 Provisions clearly brought a forced conflict between the oriental and the western design philosophy. In the participation, the Chinese design institutions might have lost their right of expression through design or just embraced the western modernism voluntarily. Secondly, the influence of the 1986 Provisions might have gone beyond the cooperation projects. Although it discourages the involvement of foreign design institutions, the numerous high-profile cooperation projects in an age when large domestically funded projects were still rare, might have functioned as a channel of expansion of western design philosophy, resulted in a wide embrace of western modernism in both domestically funded projects and domestically designed projects.

Thirdly, the role of foreign-related urban construction is changing. In 1986, the projects related to foreign institutions were considered as critical matters of foreign relations and state planning, since it was promulgated by the State Planning Commission and The Ministry of Foreign Economic Relations and Trade; in 2004, the new set of Provisions was promulgated by the Ministry of Construction, clearly the role of projects concerning foreign institutions lowered from being strategic to regular.

Lastly, the openness of the architectural market is increasing. Following the 2004 Provisions, the architectural market in contemporary China is almost as free as any free architectural market in the world, allowing for a further expansion of architectural design philosophy, including but not limited to western modernism. That been said, the full influence of the 2004 Provisions might requires a few more years to be more profound.

Notes

¹ The State Planning Commission was established in 1952, and reorganized into National Planning and Development Commission in 1998. It was the major office in the State Council of China in charge of comprehensive governmental planning on national economy.

² The Ministry of Foreign Economic Relations and Trade was established in 1952, and was merged with the Ministry of Domestic Commerce to become the Ministry of Commerce in 2003.

³ Bureau of Legislative Affairs of the State Council of the People's Republic of China, *Laws and Regulations of the People's Republic of China Governing Foreign-Related Matters*(1991), China Legal System Publishing House, 1991.

⁴ Bureau of Legislative Affairs of the State Council of the People's Republic of China, *Laws and Regulations of the People's Republic of China Governing Foreign-Related Matters*(2010), China Legal System Publishing House, 2010.



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Landscapes Over Head: Artificial ground, Canadian cities and conservation challenges

James ASHBY *

Abstract

Artificial ground was a strategy adopted by architects in Canadian cities during the late Modern Movement. They created a new, public, urban realm above existing buildings, above the ground and above the water. Often contrasting with the existing urban fabric established according to nineteenth and early twentieth century planning orthodoxies, the projects from the 1960s and 1970s were an evolution of the Modern Movement's social, aesthetic, and technical principles, as well as a critique of its earlier strategies. A variety of approaches were adopted and the results were more than merely roof terraces and gardens, but rather significant extensions of the urban, public realm and a new type of designed landscape.

In recent years, contemporary architectural discourse has explored landscape urbanism and landform building, both of which were influenced by the megastructures of the late Modern Movement. Given the enduring significance of the built legacy of the 1960s and 1970s and its ability to provoke and inspire contemporary discourse, the conservation of the surviving examples should be a priority.

Accordingly, this paper addresses the new terrain that was established in several key architectural and urban design projects in Canadian cities in the late modern era; focusing on artificial ground in its various manifestations, and the specificity of the conservation issues that are emerging forty years later.

Keywords : artificial ground, cultural landscape, megastructure, roof, sustainability

Émigré architects, along with the first generation of Canadian architects educated in the principles of the Modern Movement, found extraordinary opportunities to explore emerging ideas in architecture and urban design in the 1960s and early 1970s. The projects were conceived in an environment characterized by dynamic economic expansion, urbanization, as well as cultural and social transformation. There was considerable government investment in projects designed to build a civil society based on social democratic principles. Within the global context, "The 1960s...signalled a transition from a period dominated by a unified paradigm in architecture and urbanism to a new era characterized by multiple visions and competing ideologies which opened up possibilities for exploring new approaches to urbanism."¹ Avant-garde groups in Europe and Japan, in particular Urbanisme Spatial, Archigram, Team 10 and the Metabolists, had a considerable influence on the work in Canada. With respect to the theoretical projects:

...These new structures defied building physics, and sociological preconceptions. No wonder that these mastodons could float, walk and be suspended above the old cities of Europe.²

In Canada, architects explored strategies that contrasted at times with the existing urban fabric, which had been established according to nineteenth and early twentieth century planning orthodoxies. While the projects in the 1960s and 1970s were an evolution of the Modern Movement's social, aesthetic, and technical principles, they also formed a critique of its earlier strategies. There was a particular fascination with the megastructure³ and with Brutalism. There was an urban planning strategy characterized as artificial ground; that is, creating an entirely new ground plane, where none existed. This occurred above existing buildings at Winnipeg's Centennial Hall (Moody

* Conservation Architect



Fig. 1 Affleck Desbarats Dimakopoulos Lebensold Sise with Schreiber Sasaki DeMay, Place Bonaventure, Montreal, Canada, 1964-1967. J. Ashby.



Fig. 2 Affleck Desbarats Dimakopoulos Lebensold Sise, National Arts Centre, Ottawa, Canada, 1965-69. J. Ashby.



Fig. 3 Arthur Erickson with C.H. Oberlander, Robson Square Law Courts, Vancouver, Canada, 1973-1983. J. Ashby.

Moore Duncan Rattray Peters Searle Christie, 1965-1972), where new construction formed a network of internal circulation and external courtyards over-sailing existing low-rise buildings. Examples above the ground include Montreal's Place Bonaventure where extensive

roof gardens were designed as part of a 12 storey, multi-use, commercial building. (**Fig. 1.**) An example above the sea is Ontario Place (Craig Zeidler Strong with M. Hough, 1967-1971), an urban park at Toronto's lakefront, where an entire landscape of islands and lagoons was created and populated with interconnected, mast-hung structures with walkways and roof decks. These projects, along with others, aimed to create significant extensions of the urban realm and new types of designed landscapes. The following three places are examples above the ground, where roof terraces and gardens are so extensive that these buildings are closer to landforms or landscapes themselves.

Place Bonaventure "was the second largest commercial building in the world when construction was completed,"⁴ in 1967. Atop the building, which was designed for trade fairs and associated business activities, is a 400-room hotel. Three floors of guest accommodation are arranged at the perimeter of the building around a series of interconnected, landscaped gardens including an outdoor swimming pool. The *ludique* or pleasure-seeking aspect of megastructural ambition is most evident in the series of lounges, restaurants and bars that relate to the outdoors spaces, which provide an abstract representation of the Quebec wilderness. The landscape on the roof is accessible by elevator, and thus connected through the building to the city's mass transit system below as well as the national railway station adjacent.

Ottawa's National Arts Centre, located in the city centre of the capital, was designed to showcase the performing arts in Canada. (**Fig. 2.**) Located alongside the Rideau Canal, it forms part of Confederation Square. The building accommodates three major performance venues, back-of-house facilities and underground parking. It is characterized by the extensive use of pre-fabricated concrete panels, with exposed aggregate of Quebec granite. It also features planters, gardens and sculpture. The National Arts Centre is carefully integrated into its site, with terraces, steps, and roof gardens that extend from the street to the canal and to the adjacent bridge. It has been described as "not a building in a landscape, but a landscape in itself."⁵ "The terraces cascade down...creating the sense of Laurentian granite boulders perched on the bank of the canal, and allowing for multiple paths to be taken from the street, meandering between the boulder forms, and down to the lower levels; it is a building that creates a simulated landscape."⁶

A later and even more ambitious project was Vancouver's Robson Square. (**Fig. 3.**) The Robson Square Law Courts is a complex, multi-functional structure that accommodates

judicial courts and a major, urban, public square and garden. The entire project spans three city blocks going both over and under existing streets. Facing the former courthouse (now the city's art gallery), low-rise administrative offices are largely built beneath an extensive network of open plazas, water features, terraces and plantings that pass around and over the structure. The southern block is dominated by the courthouse structure, which rises up seven stories and is dominated by a massive sloping glass and steel atrium. Due to the "splendid horizontality and its complex system of landscape terraces, pools and waterfalls, this vast urban landmark is able to embody a West coast sense of space and relationships."⁷

In recent years, there has been renewed interest in the built legacy of the 1960s and 1970s within contemporary architectural culture. Architects and theoreticians have returned to the megastructure, particularly the un-built projects, as possible models for future urban development.⁸ In addition, the 1990s witnessed the development of theories of landscape urbanism⁹ and landform building.¹⁰ With examples of cultural landscapes from the later modern era continuing to provoke new thinking about architecture, urbanism and sustainable

communities, surely the safeguarding of these surviving twentieth century examples must be a priority.

The pioneering examples from the late modern era, as the precursors to today's green roofs, are now discussed as "early green architecture."¹¹ Contemporary interest in sustainability has resulted in gardens installed on new as well as existing buildings.¹² Accordingly, in recent years, there is increasing expertise in integrating green roofs atop modern heritage buildings. An ambitious example is the heritage-designated Toronto City Hall. The Nathan Phillips Square podium green roof garden is the transformation of an existing terrace atop the podium into an active green roof. **(Fig. 4.)** Along with gardens, pathways and benches, the roof garden was designed to "technically improve the building and environment by contributing to energy efficiency, roof membrane longevity, sound insulation, air filtration, storm water management, and habitat creation."¹³ While creating or rehabilitating rooftops and terraces on modern heritage buildings is an emerging phenomenon, there is arguably less experience in conserving the legacy of artificial ground. These designed landscapes from the late modern era present considerable conservation challenges just 40 years after their completion. Many of those challenges are shared with other examples of the built legacy of the modern era. However, there may be specificity to the conservation of these cultural landscapes of the 1960s and 1970s. In many jurisdictions where policies for built heritage have tended to favour individual buildings, landscapes have not been as widely researched, identified and protected. However, the roof landscapes or early green roofs are more likely to benefit from recognition due to their seamless integration with a building. For example, one of the heritage values of the National Arts Centre is its "highly successful integration into its urban setting."¹⁴ The character-defining elements that warrant protection include "the open terraces, and their role as gathering areas and as linking spaces in the larger urban context."¹⁵ One of the principal challenges for the physical conservation of these landscapes is the service life of the waterproofing system designed to keep moisture from entering the building. The long-term performance of the roofing system may comprise paver durability, paver bedding design, waterproofing membranes, expansion joints and differential movement of components within the assembly.¹⁶ Typically it is the service life of the waterproofing membrane, the final layer of defence for keeping moisture from entering the building, which demands the renewal of the entire system. Accessing the roofing membrane usually requires considerable intervention, displacing all of the components above, including trees and water features. **(Fig. 5.)**

While this type of cyclical renewal can put the landscape at risk of insensitive alterations, it should be an opportunity for values-based conservation. The need for membrane replacement is the opportunity to assess or reassess the cultural significance of the landscape, in order that future alterations do not compromise the integrity of the place. With respect to physical performance, all of the components of the landscape should be evaluated and the service life should be reassessed: roofing components, irrigation and drainage systems, water features and associated equipment, plant materials, lighting, and sculpture. There is also an opportunity to address contemporary concerns and new uses. The demands of universal accessibility, security, and sustainability objectives can threaten the integrity of these designed landscapes if not integrated with considerable sensitivity. These renewal projects must be seen as more than merely re-roofing or re-landscaping. The conservation of these places requires the engagement and collaboration amount various disciplines: building conservation, architecture, landscape architecture, structural engineering, mechanical engineering, electrical engineering, and art conservation.

The Canadian projects sit within the global context with examples such as London's Southbank Centre (LCC/GLC Architects Dept., 1963-1968.) With that performing arts centre, they share the sense of an abstract geological formation: "...a kind of tectonic architecture that works within the patterns of daily urban migration..."¹⁷ Recent ambitious plans for the renewal and expansion of Southbank have ignited a debate with respect to the impact on the integrity of the design, but also on the patterns of use and community values. In particular, there has been opposition to the proposal to displace the skaters and street artists from the cave-like under-croft, a space that they have occupied



Fig. 4 V. Revell and J.B. Parkin & Assoc. with Sasaki & Strong, City Hall, Toronto, Canada, 1961-1965. Roof garden by PLANT Architect Inc./STIP, 2010. J. Ashby.



Fig. 5 Arthur Erickson with C.H. Oberlander, Robson Square Law Courts, Vancouver, Canada, 1973-1983. Installation of new roofing membrane at "stramps," part of Robson Square renewal by Omicron, 2009. J. Ashby.

continuously for four decades.¹⁸

The surviving examples of artificial ground from the late modern era, with their terraces, gardens, waterfalls and grottos, will require periodic, physical renewal to ensure their long-term performance. It will be particularly important to understand not only their architectural values and the performance of their materials and assemblies, but also their value as cultural landscapes. As fragments of the urban realm, they have accrued meaning for a variety of communities, even if over the span of a few decades.

Notes

¹ Zhongjie Lin, *Kenzo Tange and the Metabolist Movement: Urban Utopias of Modern Japan*, (New York: Routledge, 2010), 8.

² WAI Architecture Think Tank, "What About the Avant-garde, Megastructures and Shopping Malls?" accessed April 10, 2014, <http://waiarchitecture.blogspot.ca/2011/04/what-about-avant-garde-megastructures.html>

³ James Ashby, "Megastructura Canadensis: Reconsidering the Dinosaurs of the Modern Movement," in *The Journal of the Society for the Study of Architecture in Canada*, Vol. 38, No. 2, 2013, 79-86.

⁴ James Vioria, "Place Bonaventure," accessed Oct. 1, 2013, <http://www.thecanadianencyclopedia.com/index.cfm?PgNm=TCE&Params=A1ARTA0009286>

⁵ Mitchell May, "The National Arts Centre and Canadian Identity," in *The Journal of the Society for the Study of Architecture in Canada*, Vol. 38, No. 2, 2013. 76.

⁶ May, 75.

⁷ Prix du XXe siecle, 2011, accessed April 12, 2014. http://www.raic.org/honours_and_awards/awards_xxe/2011/robson_e.htm

⁸ Frampton introduced Megaform as Urban Landscape as a Raoul Wallenberg Lecture, A. Alfred Taubman College of Architecture and Urban Planning, University of Michigan, Ann Arbor, 1999.

⁹ Crystallized at a 1997 conference, landscape urbanism is an urban planning theory, proposing that landscape rather than architecture should be the generator of urban form.

¹⁰ Stan Allen and Marc McQuade, editors, *Landform Building: Architecture's New Terrain*, Baden, Switzerland; Princeton, N.J.: Lars Müller Publishers; Princeton University School of Architecture, 2011.

¹¹ Susan Ross, "How Green was Canadian Modernism? How sustainable will it be?" in *Docomomo Journal*, No. 38, 2008, 67-71.

¹² In the United States, the Secretary of the Interior Standards for Rehabilitation and Illustrated Guidelines on Sustainability for Rehabilitating Historic Buildings provides guidance on installing both cool roofs and green roofs on heritage buildings, accessed April 20, 2014, <http://www.nps.gov/tps/standards/rehabilitation/guidelines/index.htm>

¹³ Ontario Association of Landscape Architects, accessed April 12, 2014, <http://oala.ca/nathan-phillips-square-podium-green-roof-garden/>

¹⁴ National Arts Centre, Canadian Register of Historic Places, accessed April 13, 2014, <http://www.historicplaces.ca/en/rep-reg/place-lieu.aspx?id=9091&pid=0>

¹⁵ Ibid.

¹⁶ Jeffrey Koerber, Larry R. Meyers, and Lisa M. Puryear, "The Pristine Plane: Plaza Paving Technology in Modern Architecture," in *APT Bulletin*, Vol. 28, No. 4, Mending the Modern (1997), 21-28.

¹⁷ Antony Gormley, "Sculpting a new South Bank," *The Guardian*, Nov. 25, 2013.

¹⁸ "Southbank undercroft: protesters kick on in fight to save skateboarding space," in *The Guardian*, Jan. 1, 2014.



James Ashby

James Ashby is an Ottawa-based architect specializing in the conservation of the built heritage of the modern era. He holds a Master's degree in conservation studies (York, United Kingdom, and ICCROM, Italy). His work has included leading the restoration of Fuller's Dymaxion House, co-chairing Canada's first national conference on modern heritage, developing an introductory training course on the subject, and reviewing several nominations of modern heritage to UNESCO's World Heritage List. Recently, he was a guest scholar at the Getty Conservation Institute researching the built legacy of the megastructure movement and its conservation.

The Urban Identity Recovery in Seoul: The Case of the Outdoor Markets

Djamil BENGHIDA *

Abstract

Seoul has lived up to its reputation as a truly urbanized cosmopolitan Asian city and despite rapid industrialization; the authentic identity of market architecture is still maintained in many regions. However, the form and character of many markets is intrinsically connected with the evolution of trading. With the rapid economic development of Seoul since the 1990s, modern markets were created, the seller-customer relationship changed, and many other factors led to a tangible decline in the consumer use of outdoor markets in Seoul. That is why it is important to revitalize these markets and make them into pedestrianized and inviting neighborhoods where locals can have a shopping experience that is informed by a “non-McDonaldized” architecture. This paper will examine the space vitality and urban identity in Seoul market areas. More specifically this paper will explore the importance of rejuvenation of self-contained developments through the revival of distinctive outdoor markets that have historic significance as a focus for social and communal activities. The paper suggests that a new and improved version of Seoul outdoor markets can be developed combining their rough and unplanned character with architectural adjustments to make them more attractive, beneficial, and resilient, especially in tourism spots. Thereby the focus is to revive the market as a space, improve its physical image, develop the domestic economy, and increase regional revenue.

Keywords : outdoor markets, urban regeneration, urban identity, mcdonaldization, urban vitality

1. Introduction

The rapid industrialization and the economic growth in South Korea (hereafter Korea) has led to an important urbanization of the country because of the strategy that the Korean government has adopted since the 1960s (Lee, 2000). With its extraordinary economic success, cities in Korea have undergone tremendous state-led urban change (Kyung, 2011), with Seoul having undergone the fastest urban development in the world (Kim and Han, 2012).

Massive constructions were imposed and reinforced grey concrete structures across the country without regard to architectural style or architectural heritage; their main focus was on the functional aspect of the built environment. Buildings are rising every three months everywhere through the present day, with concentration being on the building form, neglecting the importance of urban open spaces. This process of mass production shares the same rationalization of fast-food chains where “McDonaldized” strategies are neglecting quality. In Seoul, this strategy of rampant urbanization resulted in the outdoor markets being negatively influenced; reducing their importance and potentiality. However, since 1991 when local governments were created (Hermanns, 2009), Seoul has been slowly renovated into a city with good design. Outdoor markets have also been recently selected as urban spaces to be revived.

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2. Outdoor Markets in Seoul, Potentials for Revitalization

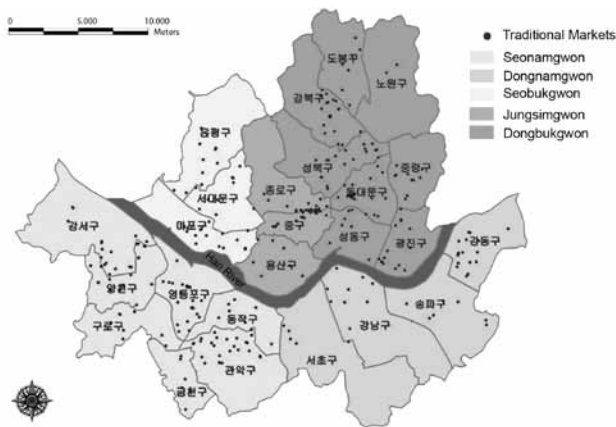


Fig. 1 Outdoor markets in Seoul, South Korea. Seoul Development Institute.

participate in giving the city its touch of cultural uniqueness. For example, in Seoul there is Gwangjang Outdoor Market for Korean foods, Dongdaemun Market for the Korean textile industry, Namdaemun Market, for an overwhelming variety of goods, the fish markets such as Noryangjin Fisheries Wholesale Market and Garak Market, Gyeongdong Market for medicinal herbs, and the 24 hour Garak Market, a wholesale food market. Figure 1 below illustrates the condensation and location of different outdoor markets in the city of Seoul. (Fig. 1) below illustrates the condensation and location of different outdoor markets in the city of Seoul.

More than just places to buy a diverse range of products fitting with local needs and tastes, outdoor marketplaces give evidence of the institutional, social and urban transformation at a micro-level. These markets can be highly effective drivers for economic development and urban regeneration.

Nevertheless, the rapid economic development of Seoul has contributed to the creation of modern markets: hypermarkets, department stores, shopping centers, discount stores, etc. This led to the emergence of conflicts such as the increase of traffic jams and contributed significantly to lessening the value of the outdoor markets and the closure of many shops within the markets. Many internal and external factors are responsible for this decline as shown in table 1.

Table 1. Problems facing outdoor market, 2012. Choi.

Internal problems	External problems
✓ Fail to follow changes in consumption, environmental management capacity ✓ Aging facilities ✓ Lack of customer facilities ✓ Weak management capacity ✓ Logistics systems modernization	✓ The emergence of new business ✓ Diversification of consumer tastes ✓ Changes in consumer buying styles ✓ New city commercial

According to the data in 2012, there were 178 outdoor markets and 632 super markets spread over the city within the 25 districts (5 dong)

¹ The McDonaldization of Society is a concept induced by George Ritzer who expanded on Max Weber's work and produced an analysis of the impact of structural and rapid change on the society. So, it is not about McDonald's itself.

which all drive the country's economic growth (Joe, 2012). However, the data does not indicate if the totalities of these markets are still operational. The data presented by Seoul City Hall in 2011 counted 156 registered markets, out of which only 139 were verified and many markets closed due to financial hardships (Yu, 2013).

Most of Seoul outdoor markets do not have parking spaces because in their construction period cars were uncommon. The Namdaemun Market, for example, was the first established market in Korea 600 years ago. According to a study on Gwangju city outdoor markets, a total of 69.5% of the markets have no parking space (Kim Sung-woo, 2006: 18, cited by Yu, 2013). Many of the internal problems that influence the vitality of markets are related to the old fashioned management style and the inadequate facilities; however these can be renovated and changed. Subsequently, what matters most are the external factors especially the outdoor markets competitiveness with the modern types of markets.

The appearance of online shopping has also changed the selling and buying styles dramatically; it narrowed the social mediated function of the seller-customer relationship and turned the communication into a non-physical electronic activity in a cyber space. The outdoor markets, on the contrary, enhance strong social values and ties social relationships between people in a public space.

Because there is a decline in the consumer use of outdoor markets in Seoul, self-rescue plans should be established for revitalizing these markets at the national and local level. The government should also promote such plans by improving the market environment and modernizing the facilities within the outdoor markets.

3. Outdoor market rejuvenation strategy

In order to make these markets icons of the nation's economy, their urban revitalization is necessary. Not only it will have an impact on the economic pulse of the area, but it will also reinforce the socio-economic identity and the national culture.

Outdoor markets = Unique culture + Local economy

Outdoor markets policies have been

under development since the 1960s until a special law in 2010 was enacted promising their improvement by outlining the following:

1. Placing stores
2. Information Center
3. Public Toilets
4. Shopping Carts
5. Lighting Infrastructure facilities
6. Storage
7. Sewer : heating and cooling
8. Market assistance
9. Accessibility : subystation
10. Designated parking (one market = one parking)

This means to work on the location of the market, an access road within and around the outdoor market, distribution of vendors' shop spaces, waste handling know-how, shops cleanliness, market maintenance and safety and the physical form of the market itself, etc.

4. Urban vitality and viability in Seoul

In the contemporary city of Seoul, the functions of a space depend on the planning choices in the urban project of the city. The functions are of different types as these can be commercial, recreational, cultural, or residential. At the same time, the functions that can be found on a site can be different yet share the same space, correlating and leading to synergies. After all the urban life is combination of many elements that are physical, economic, social, and sustainable. Outdoor markets as public spaces act as 'self-organizing public service', i.e., a shared resource in which experiences and value are created (Mean and Tims, 2005).

The outdoor market is basically a commercial type. It is particularly representative of the urban functions knowing that economy is an essential factor for the vitality of a city. The principal need of sellers is to be visible and accessible to buyers. The market becomes a meeting place between different mobility flows of pedestrians. Successful outdoor markets are successful with the diversity of their activities, services and experiences to active customers. The movement of pedestrians within the site overlaps brings dynamism and thus stimulates the vitality of the market and this in itself stimulates the city's vitality.

The success of a particular public space is in the hands of the architect, urban designer or town planner, but it also relies on people adopting, using and managing the space. An attractive city is the one which is alive and well animated with a high level of pedestrian activity. If this public space lacks vitality, then its revitalization is a priority. Therefore, analyzing this space is an essential element in the revitalization process. Spatial plans, image maps, social data, economic boundaries, urban space features, the sense of the place, are all elements to be taken into consideration.

A recent study conducted by an Italian design company in 2013 (XpecteDesign) came up with a new architectonic affordable design providing façade, structure, colour and utility to the outdoor market in Busan (Benghida, 2013). The idea was to develop removable floral and colourful structures that may be can be assembled, disassembled and changed in less than three hours. These resistant canvas and metal structures help to:

- ✓ Improve the aesthetics of the place of the market.
- ✓ Provide protection against the elements of nature to this specialized market in the sale of fish, particularly perishable goods.
- ✓ Respect the site where no transformation is required with easy to assemble and disassemble structures.
- ✓ Can be placed/displaced in any location.
- ✓ Are not expensive: Low cost design which can be estimated between \$ 20,000 and \$ 35,000 USD.
- ✓ Revitalize the area's economy.
- ✓ Add colours and create a hip, urban and lively atmosphere (in contrast to the imposing grey concrete which oddly symbolizes sadness and pollution)

The interest in these structures is that they offer flexible design parts to cover any type of space. They change the image of the street without the need to make any modifications on the street in itself. The most interesting part is that the total budget for this kind of designs including the construction, assembly, and disassembly is very affordable. They also give the open air street markets a unique architectural identity which respects the micro-climatic conditions. The project won the excellence prize for its revitalization idea.

5. Conclusion

For Seoul to be the source of vitality in the 21st century, it must create the conditions that stimulate activities on a continuous basis. Seoul, the image of the growing Korea, needs to create action plans that regenerate local communities, stimulate interaction among people, develop sustainable living, and create jobs and business in and around outdoor markets. The Action Plan of Seoul that urban professionals need to identify leads, in my opinion, to three major challenges closely relate to each other. The first challenge is to define the potential of the outdoor market to help improve the economic competitiveness and employment in order to improve the human and social capital, and enhance the urban environment and infrastructure. The second challenge is the need to encourage a range of actions in the market, as a well-defined urban area, to accelerate innovative decision-making process between planners and architects. The third challenge is to make outdoor markets more sustainable without imposing high costs for their urban development. Improved outdoor markets in Seoul are a major challenge; architectural adjustments associated with an urban visionary spirit of this city will lead it into a real urban renaissance.

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Djamil Benghida



He is an architect by background (registered architect in Denmark), an academic, and a researcher in Architecture and Urban Composition, Color Design and Passivhaus. He successfully completed a doctorate in Architecture from The University of Naples Fredericco II (Italy) in 2010, with special expertise in sustainable architecture and sustainability assessment models in the Mediterranean countries.

Djamil held several Senior Architect positions in France and Italy. He has also worked in architectural practice and construction industry.

Djamil is also the Founder of the XpecteDesign Architectural Firm in Italy. He has given lectures on the topic of Bioclimatic Design and PassivHaus in Italy, Germany, the UK and Hong Kong. In tandem with his academic and business career, he has won and developed several competitions, workshops and projects, including winning entry for the Most Creative Idea - with the 'highest honor' - in Busan Development Institute- South Korea in 2013 (1st winner).

He is a research active faculty who is interested mainly in investigating and exploring the challenging topics of sustainable architecture, sustainability assessment, adaptability theories, retrofitting buildings, green building, mitigation and complexity in the built environment, traditional architecture, and environmental psychology.

Exhibiting the Ongoing History: A Perspective of Gardens

Keyang TANG *

Abstract

Historic preservation in the field of built environment is not a timeless and placeless phenomenon. Instead it is a newly-formed endeavor in the twentieth century that involves both the present and the past, expanding from the West to the East. Notably, people are often less concerned with the issue “what to preserve” than “why to preserve.” More exactly, few pay enough attention to the physical and cultural construct of the subject as they do to its legitimacy.

In particular, when it comes to the topic of historical landscape, the term “preservation” demands a new interpretation. It makes people reflect on the general definition of both the “time” and “locale” factors in preservation efforts. Unlike architectural environments, a landscape, natural or designed, has been constantly changing since its cultural significance forms. However, paradoxically, landscape configuration is also the most during feature of a site in most situations.

As a “growing” history with altering physical presence, a historical landscape of modern city has made pertinent the “last ten minutes” of Modern movement, creating a typology of its own. In general, one may find three levels of interpretation of “historical landscape”:

First, in a physical sense, “historical landscape” always appears to be a protected environment – as the tourist industry often claims – of time values, even though the landscape might be conceived and designed in the modern age as a theme park that has barely any discernable historical relics on site. In comparison with architectural sites, a historical landscape makes it even more difficult to judge on its historical value since nothing is really “original” here. Instead, it is more a pervasive, incorporating and tangible space than a flattened image or an isolated object.

Second, for whatever significant events that occurred on its ground, the site is indeed “historical.” The literary and graphic records that elaborate the uses of the much-altered site bring this second kind of “landscape,” a cultural construction, to light from historical memory. Visual and literal depiction of the natural site contribute both to the representation of the genius loci and to an intended perception of it. Thus, images of the site, with their immense significance in the spiritual and social lives of the past, connect and add to the physical existence of the landscape.

Further, as one of the most important open spaces in modern society, the improved accessibility imbues the historical landscape, formerly a private site, with a public dimension. Consequently, a vision of “space for living” developed from the old site, changing the trajectory of preservation to a great extent. This is the third concept of “historical landscape,” a usable space instead of a still container of memory. Apparently, the vision of historical landscape transcended the physical confine of the “monument” and rendered something both functional and semantically new¹

Having practiced as both an architectural designer and a curator, I have exhibited on the topic of “Chinese garden” in different cultural contexts, supplying the theoretical discussion of “historical landscape” with a specific perspective of the “gardens.”

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Chinese Gardens for Living is a show of more than forty contemporary Chinese artists at the Chinoiserie Summer Palace of “August the Strong,” the former Selector of Saxony, at the Arts and Crafts Museum (Kunstgewerbemuseum) of the Dresden State Art Collections in the summer of 2008. Supposedly, the show is a truthful account of China’s garden tradition and a modern, artistic intervention into the European history. But it ends up being a “double play,” a multi-layered presentation of the “Chinese garden” idea in a European-reinterpreted “Chinese garden,” projecting a historical image onto the equally “historical” yet constantly changing reality – thus a “historical landscape.” While the Chinoiserie was a distorted and illusory vision of the Chinese landscape, the contemporary “gardens” of the show are reinterpretation of the tradition in different angles.

The theoretical issue raised in my curatorial practice is what kind of “histories” the exhibition wants to introduce into its venue: the history as it is written, or the history as it is represented? Or, in the context of “Chinese gardens,” do the two kinds of histories in fact overlap and merge?

The “garden” discussed in the essay can therefore be understood as both context (i.e. the tradition of Chinese gardening art as well as contemporary Chinese artworks drawing upon such a tradition) and what the context materializes (i.e. modern living environment interpreted in a garden context or being a landscape design itself). The discussion offers a fresh view of one critical direction in contemporary preservation practice, a direction which implies a softer and more context-specific approach to the generic enormity of such a great cause.

The preservation of historical landscape separately addresses the issues of spectatorship (“views” of history), “objecthood”(“materiality” of history), phenomenological quality (“stories” of history as the word literary suggests), and societal issues (social “embodiment” of history).

1. Spectatorship

It is no coincidence that in museums we are determined to “show” the issue of historical landscape. In this respect, exhibition design is more than just the technical prerequisite for gallery tours—it is also essential to understanding the nature of modern culture that has had a historical affinity with certain landscape settings, as well as with picturesque, idyllic imageries (for example, the nineteenth-century manias of conservatory and panorama).

While the mannerist quality of “picture-like” practices has been fiercely criticized since the Modernist age, from a fresh perspective and with updated knowledge of the issue we find that the “picturing” is still one of the most discussed aspects of contemporary culture, continuing to inspire new and evolving discussions that are changing the face of exhibition practice today. A picturesque yet still spatial “garden,” as a natural context for examining arts, revises a series of key notions in Classical Western architecture ranging from Cartesian space to depth of views to focus of vision and transparency (a word favored by both architectural theorists and statesmen). Not surprisingly, some of these topics are equally important in the fields of both architecture and political science.

The subject of historical preservation is believed to be authentic or infallible, first of all, because it *looks* so. But, a meandering old garden path takes you into a history of depth. Itself a classical subject of art, the “landscape” views embodies a pervasive way of seeing the world – just to think about the common printer settings as “landscape” versus “portrait” – that frames our perception of historical dramas. The “metapicture” (to borrow from W.J.T Mitchell) of a “garden,” as revealed in my search, is further distanced from the “landscape” in the sense that it is closely associated with our “internalized” social life in many respects.

¹ For example, “campus (as a) garden” (xiao yuan) is developed since the early twentieth century in China as a common fashion to build an university. Although they inherit the spirit of traditional Chinese garden-making in aesthetic appeals, they are doubtlessly a new type of public spaces that are physically and institutionally enclosed yet socially open. See Keyang Tang, “From ruined gardens to Yan Yuan — A transformed vision of the ‘Chinese Garde’: a discussion of Henry K. Murphy’s Yenching University campus planning,” in *History of Gardens & Designed Landscapes*, Volume 24, Issue 2, 2004, pp. 150-172.

2. “Objecthood”

A particular type of “objecthood,” of “thingness,” is doubtlessly the condition sine qua non of Chinese garden culture. Before typological concerns, they are cornerstones of a variety of space-making experiences. This includes not only works of timber, brick, rock, soil, pebbles and other obvious materials, but also cabinet making, plant growing, weather proving, structure protection, etc. The significance of the craftsmanship tradition for the art of gardening is reflected by the way suitable materials and techniques are employed. A material culture in the first place, the “traditions of things” have influenced garden design as well as its relationship with its projected users.

In the garden-making process, craft workers closely advise the master craftsman and designers in charge through an ad-hoc onsite design process, perfecting itself little by little with layered manipulations and combined perspectives. In this way, small, seemingly trivial details can have an effect on the whole design and it pushes for a more individual and intimate experience of the site. Scholars and politicians are often prone to making generalizations, both of cultural attributes and typical characteristics of a “grand” history. But gardens and landscapes are often unnoticed and unnamed, distancing themselves from the products of “high” culture.

3. Phenomenological Quality

Different from its architectural peers, the historical landscape is a growing and open system instead of a ready-made artistic work. The enclosed spatial context of a “garden” becomes particularly rich and complex. Despite the popular impression that a garden might satisfy only trivial horticultural interests, as both an architectural notion and a private-public realm, the “garden” introduces a phenomenological view of world-making that is especially meaningful in our rapidly urbanized reality.

To create a “garden” necessitates a synthesis of numerous things: not only structure but also infrastructure, not only schemes and ideas but also materials and textures, not only the static composition but also an eidetic memory, not only a top-down conception but also a bottom-up process of implementation and maintenance. To perceive a “garden” requires a flexible and liminal perspective in which solid, triumphal spaces are often collapsed into indefinite and intimate experiences—in such a garden, Wallace Stevens’ “gray and bare” jar would not find itself up against the “slovenly wilderness” but rather in a cultured space densely embedded with meanings. It is not only associated with history but, more importantly, connects to the issue at the heart of preservation: time.

4. Societal Issues

Many historical landscape projects are widely praised as successful in adapting traditional architectural culture to modern life because they have taken both the “new efficiency” of a modern campus and the “old beauty” into consideration.² But is “old beauty” the mere merit of historical landscape? And where exactly does the “new efficiency” occur in the old body?

Landscape comes into human as a term of processing, an epitome of *cultivation*. Rather than an architectural problem which may be discussed in a genealogical sense, a historical landscape allows abrupt jumps from vague historical images, to a tangible physical existence of the built environment, to a collective vision of the new public space. The stylistic continuity of the design, often presented in a singular form, might be subject to a step-by-step social and cultural collective practice that occurs on the site in the long term. One who researches on the contemporary development of historical landscape will need avoid a dualistic narrative line, from which one may interpret a growing garden merely as a functional or stylistic, whether “function-following-style” or “style-following-function,” transformation of the traditional.³ While most historical preservation cases lay their emphasis on the meanings, the cases of historical landscape demands for as open-end practice that will pay much attention to maintenance, uses and reuses.

Along a spectrum from the physical to the symbolic and differentiated from each other as “constant” and “changing,” “visible” and

² See Dwight W. Edwards, “Great Plans for Education in China,” in *Far Eastern Reviews*, vol. XVI, 5, Shanghai, May 1926.

³ See Dixon Hunt, “Approaches (New and Old) to Garden History,” in Michel Conan, ed., *Perspectives on Garden Histories*, Washington, D.C.: Dumbarton Oaks Colloquium on the History of Landscape Architecture, p.77.

“invisible,” we will clearly see three unparallel dimensions that defines the “historical” in a landscape setting: the spatial (and typological) configuration of a historical landscape that is not necessarily visible or measurable but is strongly felt through the *genius loci* of a place; the “aura” of a historical landscape that is not only about static images but also about pervasive experiences; and the representation of a place that is created on the foundation of a series of conventions which is architectural and socio-political alike.

As opposed to a general impression drawn from historical writings in the field of preservation, which elaborate extensively on the progress of a transformation from the “old” to the “new” and from the traditional to the modern, my discussion will reveal that “to be new” or “to be modern” is not the sole reason for the change. Focusing on the catalyst role of the “garden” in my curatorial practice, this essay will help to gain a more comprehensive understanding not only of the traditional Chinese garden culture, but also of the developing character of the garden in modern social life, which is, in John Dixon’s words, still a site of “contested meaning.”⁴

Keyang Tang

Professor Keyang Tang has been the curator of the China Pavilion at the 12th Venice Architectural Biennale. His featured shows include *Chinese Gardens for Living* (at the German State Art Collection), *The Paramount: A Collective Portrait of Contemporary Asian Arts* (at the 2009 Boao Asian forum) and *The Glory of Classical Chinese Writing* (at Palace Museum). As a senior consultant to National Art Museum of China, he has written extensively on Chinese art and architecture for a wide selection of periodicals and catalogues. In addition to his scholastic works, his creative writings have been translated and published in several European languages. Tang receives his doctor of design in architecture from Harvard University.

Expansion And Conflict – Chile, 1939: the Reconstruction of the City, Modern Architecture and its Current Interpretation qs Heritage.

Horacio TORRENT*

Abstract

The historiography of Latin American architecture frequently considers the reproduction of new architectural and urban ideas and forms, without conflicts. But not many cases can be viewed as mere reproductions or appropriations of the European experience. Especially when their occurrence is before European reconstruction, as in the case of the destruction of the city of Chillán, in Chile during 1939. In Chile, urban reconstructions after the earthquakes during the twentieth century tested the ideas and content of urban planning and modern architecture. The destruction of cities was an opportunity to propose, debate and build according to the new ideas of modern urbanism. Expansion of modern ideas was instrumental in the reconstruction of the cities, although the conflict marked the practice of urban design and architectural achievements. The paper will examine the alternatives of reconstruction of the city, after the earthquake of 1939, by: the debates in architectural culture and professional environment on the new urban plan and the possible commissioning of a new plan to Le Corbusier; the proposed reconstruction of the city according to Ville Radieuse's model; and the final reconstruction in which modern architecture faced the traditional layout of the city, and the interpretation of the relationship between ideas and conflict as a key to address the current proposals for conservation the modern heritage of the city.

Keywords : modern architecture, urban planning, earthquakes, chile



Latin America's architecture historiography usually considers the reproduction of ideas and forms new to architecture and the city as without conflict. But only on rare occasions can cases be viewed as mere reproductions or appropriations of European experience. And especially so when their occurrence is prior to European reconstruction, as it is the case of the destruction of the Chilean city of Chillán in 1939. In Chile, urban reconstruction after twentieth century's earthquakes tested ideas and content of both modern architecture and urban planning. The destruction of former cities presented itself as an opportunity to plan, debate and build according to modern urbanism ideas. Although the expansion of these ideas played a key role in rebuilding the cities, urban design practice and architectural achievements were not free from conflicts.

A Chillán earthquake occurred on January 24, 1939 at 11:30 pm, causing what might have been the greatest damage to have ever been recorded and left behind over twenty thousand casualties. Reports back then showed a direct connection between urban condition and destruction¹: it was in the cities where the effect of the earthquake had been catastrophic.

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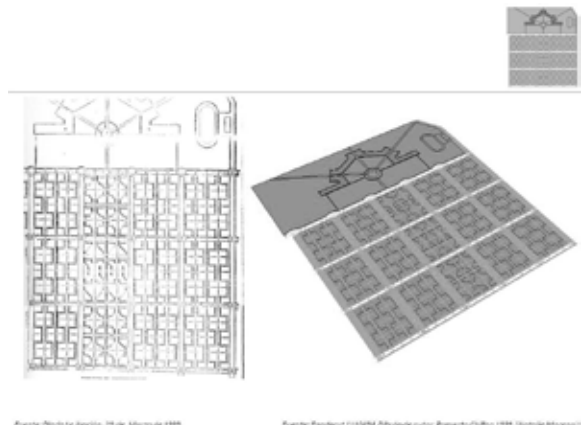
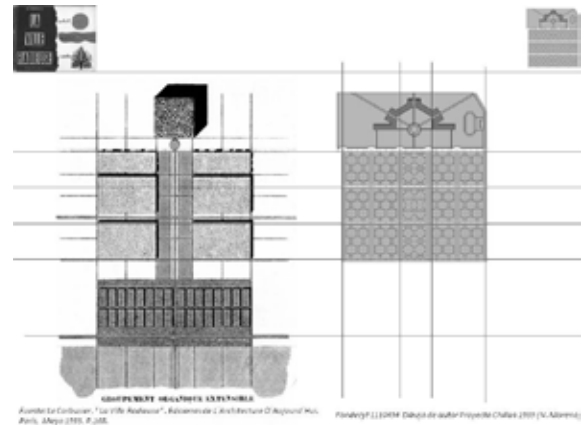
Despair and unhappiness was featured in the urban dimension. The major artefact men built surrendered to the force of nature: the city had become a trap. Appraisal of this phenomenon could not be insensible or speculative: common concerns turned rapidly onto building quality. For architects, the earthquake allowed a new perspective on the need for renewal concerning disciplinary and professional technical culture. On the one hand, a focus directed towards the use of specific technologies and its potentials on seismic resistance -mainly reinforced concrete- was needed. On the other, an opportunity was presented to focus on urban planning both to prevent the effects of disasters in cities as to address the reconstruction of the ones destroyed.

Advances in technical culture in Chile throughout the twentieth century were in direct connection with earthquakes' destructive effects. The first norm on construction and development with national significance resulted from the impact of the 1928 earthquake in Talca; it was issued in 1931 and its importance lay in the imposition of a series of standards to improve the safety of buildings.² With regard to urban development and planning control, the *Ley y Ordenanza General de Construcciones y Urbanización* (General Law and Ordinance for Construction and Development) urged cities or towns with more than eight thousand inhabitants to have an official development plan, establishing the layout of existing and future roads and public spaces, height and appearance of constructions; it also set a criteria that could be now considered similar to urban zoning. Back at the time it was first applied on construction, the Ordinance

resulted in ostensibly effective progress to safety; at least so can be inferred from a series of reports, which particularly emphasized: "the Ordinance for Construction has proved its efficiency towards the earthquake's effects, which is why its enforcement should increase across the country, with improvements regarding buildings in adobe and other specified (...)".³ However, about the figure of planning it introduced its effectiveness was almost null, especially since the development plans that institutionalism claimed for had few attempts to develop. During the 1930s, attention to planning had been more likely rhetorical than practical. Its consideration as a technical instrument able to prevent the consequences of the earthquake's phenomenon had been a systematic position sustained by public institutions and professionals -namely the Association of Architects of Chile and the National Urbanism Institute- and especially so in the proposals that Luis Muñoz Maluschka developed from his position in the Planning Section of the Department of Architecture of the *Dirección General de Obras Públicas* (General Board of Public Works).

But the figure of planning would have a categorically different position after the 1939 Chillán earthquake, first regarding the establishment of a new institutional framework embodied in the *Corporación de Reconstrucción y Auxilio* (Corporation for Reconstruction and Relief), but especially so on the debate around reconstruction. This debate has some better known facts better known such as the unsuccessful attempt made by Le Corbusier to visit Chile or even the possibility of him providing the plans for the devastated cities, but also some aspects fairly more transcendent regarding the reconstruction of the cities or even the creation of new ones.

Interest in the development of planning culture and practice led a group of modern architects to invite Le Corbusier to design a plan for Santiago de Chile. During the exchange of requests the catastrophe occurred, becoming an excellent opportunity for Le Corbusier to offer plans *free of charge* for the cities of Chillán, Concepción and Talcahuano if assigned the commission for the capital city's plan. The mere possibility of this visit prompted a strong opposition by traditionalists formed in the planning principles by Karl Brunner who had already been appointed by the national government to impart a series of lectures at the University of Chile and to develop also a plan for Santiago on two different opportunities -in 1930 and 1934. These ideas gradually defused the chance of Le Corbusier's presence, questioning at the same time the entire possibilities of functionalist urbanism to develop locally.



Instead, the plan for Santiago initiated once by Brunner -deactivated for almost a decade- was rapidly approved, so as to prevent the city from any possibility of facing its current difficulties. But the issue of reconstructing southern cities still remained, and professional ambience got caught in a debate over which approach for intervention should prevail. Once again, the group in favour of adopting the principles of modern urban planning emerged. Behind this ideas stood the question of collective land ownership, as stated by the most radical modern



Plan Welter: Planos Modernos (Chillán, Chile)

architects; an idea with which the new government party -the *Frente Popular*- was in sympathy with and that the earthquake had empowered not only as a possibility, but also to some extent as a need for reconstruction.

Only a few days after the earthquake, Carlos Charlín Ojeda stated in *Zig-Zag* magazine that "there have been opinions about rebuilding cities, reorganising industry and trade: we see this as a mistake. It is necessary to build and organize the disappeared urban centres, but in a complete new direction: to redo housing blocks according to the existing land registry would be profoundly inefficient, and would mean to recreate artificially a situation that would have no real nexus with the pace that a work to retrieve our nation for the loss of life and extensive material damage that [the earthquake] should have had."⁴ It was also Charlín

Ojeda who clearly recommended some of the statements held by modern architecture: "Urbanism -that is, modern science that deals with the study of the city's problems- states four aspects of collective life: HOUSING, CIRCULATION, WORK and LEISURE. Housing programs in devastated regions need to take into consideration the question of population density."⁵ In March 1939, Waldo Parraguez took a series of ideas belonging to the Ville Radieuse to address the reconstruction of Chillán. In an article entitled "Study for the Reconstruction of the City of Chillán" Parraguez stated: "Planning in a modern city to be built in accordance with an ideal plan must incorporate certain key ideas, which are those that have allowed Urbanism to be considered a natural science."¹ The plan recommended changing the location of the city, considering the degree of damage suffered by infrastructure and paved paths that made rebuilding the city in the exact same place inconvenient; he continues: "from the point of view of planning, not stopping to consider this would be a mistake, given the case that it is now possible to erect the city in new plains".⁷ He went on developing with quite specificity ideas about location, zoning, circulation and health services; he recommended a density of 200 people per hectare -reducing pre-existing 250- and foresaw a city of 22 blocks with capacity for 52,800 inhabitants. Likewise, considered the opportunity for the other cities demolished by the quake to be planned in a similar way. "We are now presented with the opportunity to rebuild the devastated area on a scientific and rational basis, taking therefore a



major step towards the progress of Urbanism"⁸, he granted in the final sentence of the text. The structural similarity between the city projected by Parraguez and the Ville Radieuse becomes evident in the plan layout, even when the new city's height is frankly unreasonable considering the dispersive urban fabric it proposed. The reconstruction of the plans shows a quite different approach of the theoretical model in which Le Corbusier trusted, even when the instruments at stake were clearly of modern nature and the formal aspirations of Parraguez's project were even more unrealistic than those proposed by the former.

Nevertheless, the project accounts a key significance among the representations that modern planning instrumental could offer Chile in 1939. Chillán earthquake established a new set of convictions that focused on the city as an economic and territorial organization while instituting the bond between technical reliance and modern architecture. If the city could now be conceived as the place to look for quality of life, rationality in construction ought to take part in its material configuration and its statement versus nature. Art and science, established from the professional field, should be responsible for conducting practical knowledge towards understanding and mastering the effects of the earthquake on the built environment. Common claims for a new technical background on the risks of the earthquake over building addressed both the city and architecture, in its role for establishing living conditions that went beyond mere support and safety ones.

The solution for the dispute over reconstruction would come from the urban planners most pragmatic faction, who took over control and, by imposing its own idea of planning, the city would be rebuilt on the same site and through a series of modern architecture interventions. As a result, Chillán is today one of the major cities in which modern architecture takes crucial part. Its main public buildings - the cathedral, the fire station and city hall- are clearly characterized by modern architecture features. The analysis of this relationship between ideas and conflict is key to address current proposals for preserving the city's modern heritage.

Notes

¹ Zig-Zag N° 1767, february 1939

² Decreto Fuerza de Ley DFL 345, may 1931

³ Report by C. Larraín, p.9

⁴ Charlin Ojeda, Carlos “Debemos construir ciudades nuevas en la región devastada y no reconstruir simplemente los edificios destruidos”
Zig-Zag N° 1767, february 1939

⁵ Ibidem

⁶ Parraguez, Waldo. “Estudio de Reconstrucción de la Ciudad de Chillán”. La Hora, march 26th 1939

⁷ Ibidem.

⁸ Ibidem.



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The Rebuilding of Center of Rio de Janeiro During Vargas Period (1930-1945)

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Abstract

This paper studies the rebuilding of the center of Rio de Janeiro during the Vargas dictatorship (1937-1945). The replacement of the colonial urban fabric by a new pattern was due to the establishment of building codes regulating from building layouts to architectural details. The origins of this process can be found in the plan that the French planner Alfred Agache elaborated for Rio de Janeiro between 1928 and 1930. A milestone in the evolution of Brazilian urbanism, this plan intended to set principles to solve Rio's functional problems and to provide it with a proper image of a capital. The implementation of the plan, however, had a tortuous path. Virtually abandoned after presentation, its major ideas were recovered and adapted by the Mayor Henrique Dodsworth, who stayed in power between 1937 and 1945, the years of Vargas dictatorship.

Due to political and professional disputes, the plan was reduced to the redevelopment of a central district (Castello Esplanade) and a large boulevard (Presidente Vargas Avenue). However, Dodsworth's administration resorted to building codes proposed by Agache determining alignment of facades, volumetric unity of blocks and concordance of heights and architectural motifs. The new urban design communicated an intense image of power and discipline through its architectural mass, monumental scale and vast open spaces. It was clearly intended to form of urban scenery, expressing Vargas Regime corporatism, social control, and state regulatory interventionism. The urban remodeling of Rio de Janeiro established a new pattern for central areas in Brazil, particularly in cities like Porto Alegre, Recife and Niterói.

This paper explores the role of the building codes in the weaving of urban elements, dynamic forces and desires of patrons, bureaucrats, and architects towards the creation of a modern district. The study of the remodeling of Rio provide an unique opportunity to understand the complex making of a modern city, and the negotiations of imposed urban forms in the complex topography of the city.

Keywords : modern urbanism, rio de janeiro, nation-building, city center.

During the Vargas dictatorship (1937-1945), the colonial urban fabric of Rio de Janeiro was replaced by a new pattern dictated by building codes from block layouts to architectural details. The origins of this process can be found in the plan that the French planner Alfred Agache elaborated for Rio de Janeiro between 1928 and 1930. A milestone in the evolution of Brazilian urbanism, this plan intended to set principles to solve Rio's functional problems and to provide it with a proper image of a capital. The implementation of the plan, however, had a tortuous path. Virtually abandoned after presentation, its major ideas were recovered and adapted by the Mayor Henrique Dodsworth (1937- 1945).

Due to political and professional disputes, the plan was reduced to the redevelopment of a central district (Castello Esplanade) and a large boulevard (Presidente Vargas Avenue). However, Dodsworth's administration resorted to building codes proposed by Agache determining alignment of facades, volumetric unity of blocks and concordance of heights and architectural motifs. .

This paper explores the role of the building codes in the weaving of urban elements, dynamic forces and desires of patrons, bureaucrats, and architects towards the creation of a modern district. The first section of the paper will focus on Agache's plan for Rio de Janeiro and the second on the building of the Castello District.

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1. Alfred Agache's Plan for Rio de Janeiro

One of the most meaningful aspects of Agache's plan was the emphasis on the symbolic and aesthetic in the formation of modern urban centers, commonly monumental and uniform. Occupying the void created by the razing of the Castelo Hill in 1922, the Castelo Square was one of his most prominent proposals (**Fig.1**). It was a hexagon-shaped square in which office towers and shops had an important place in the composition, showing their power in the modern city and emphasizing the need for symbols and form:

Instead of dispersing the elements of urban modern life throughout the entire city, loosing their symbolic expression, why not reunite them in an organic ensemble of building and public spaces, achieving great monumental centers in order to express the social and economic ideals of our time? (Agache, 1930, p.218-219).

For an architect like Agache, the solution to the artistic problem of the modern city is in the construction of appropriate architectural ensembles, like a stage:

The buildings, if carefully studied and integrated in the whole, will contribute to the formation of the general 'decorum': their position, appearance, perspective are some of the elements contributing to the urban embellishment ... Hence, the urban planner should work not only in the placement of the buildings in plan, but also, imagines their volume (Agache, 1930, p.211).

Agache mastered classical composition in order to define urban spaces, using the haussmanian-baroque vocabulary (blocks, boulevards, perspectives), and to confer monumentality and majesty to the buildings. Urban design and architecture were unified in a stable and coherent image of city free of contradictions or disorder.

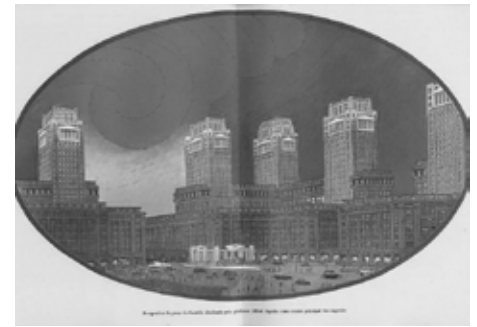


Fig. 1 Alfred Agache, Esplanada do Castelo, view in Alfred Agache, *Cidade do Rio de Janeiro*, 1930, p. 168-169.

2. The Castelo District and The Harmonious Skyscrapers

The political turmoil provoked by the 1930 Revolution, made the future of the plan uncertain. After the some studies to implement the plan, it was officially abandoned in 1934. Its fate only changed in November 1937 when a new mayor, Henrique Dodsworth was designated by Getúlio Vargas. His plan of improvements which followed the guidelines set by Agache, particularly those regarding road system, but adapted to the new reality of the city of the late 1930s, because of the construction of the new airport and the large number of automobiles. The Castelo District, which had been slowly occupied between 1928 and 1938, according to Agache's ideas, became one of the focus of Dodsworth's program.

Agache's legacy can also be seen in the code regulating building construction that was approved in June 1937. The code incorporated great concern about the appearance of tall buildings in the urban context. According to the code, façades had to be rigidly aligned and no space could be left unoccupied within the block frontage.¹ Although maximum heights were established depending on the width of the streets, the code was permissive regarding the height of the buildings. In fact, it established a minimum of six floors for the streets with more than 10 meters of width. The standard building would have 13 floors (around 42 meters): ground and mezzanine (totaling 7,15 meters) and 11 floors (of 3,15 meters) each extending and creating covered sidewalks (galleries). Receding floors over the limit of the building would be allowed if they obeyed a line following an angle of 60°, taken from the opposite sidewalk. On this issue, is it possible to see this preoccupation with the formal aspect of the city:

On the top of the building, above the second receded floor, machinery, water towers and services rooms, will be allowed if they were receded seven meters from the street line and designed in such a way to be integrated in the architectural composition and to compose an adequate *coroamento* (attic or crowning) to the building, aligned with the *coroamento* of the neighbouring buildings.² In its quest for a volumetric unity of the blocks, the code required not only the alignment of façades and the unifying of heights and

¹ Código de Obras do Distrito Federal, Decreto 6000, 1/7/1937"; title II, section I, Art 10.

² Código de Obras., title III, section II, Art 14, III, n 4.

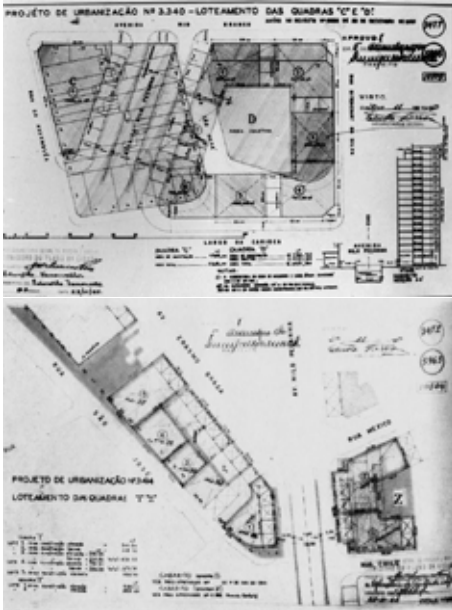


Fig. 2, Fig. 3 CPC, Castelo District urbanization plan, Blocks C and D, I and Z (by Oliveira Reis), General Archive of the City of Rio de Janeiro Projects 3340 and 3414

architectural motifs, but also the rhythm of openings and modulation. Façades were rigidly controlled by the municipality. The code even stipulated that if a building had an unusual programmatic demand, the architects had to make it part of the design and integrate it in the context.³ Regarding the galleries, or arcades, the code established parameters of variation for the heights of the floors, and dimensions of the columns and their intervals. It also determined a unique width, and did not allow projections or recessions. The first building erected in a block would serve as a standard for the others. There was a remarkable preoccupation with forcing skyscrapers to adhere to a coherent image.⁴ Dodsworth's strategy was to develop this area as soon as possible, avoiding piecemeal operations and creating more taxable land. This initiative had the full support of Vargas's regime, which had bought many lots to house the growing bureaucracy. The development of the area consisted of the removal of the remains of Castello Hill, the creation of new blocks.⁵

The new block plans provided exact dimensions for the lots, frontages, internal collective areas, galleries, and sidewalks. The new lots were larger than the old ones and were adapted to the new avenues: the sides and corners of parallelograms were cut in round or diagonal lines in order to correspond to certain urban circumstances (such as the need to face another block or square) creating unusual geometrical shapes, such polygons, pentagons, and hexagons. The dimension of the galleries (7 meter deep and 7 meter wide) was generally used as a module in the definition of the lots, indicating that a compromise with an urban condition was the uttermost motif of the new city design. The plans also dictated specific

heights and sections of the buildings and the new owners were obliged to build in accordance to these dimensions.

The new block plans curiously showed the present conditions of the site highlighting the contrast between urban forms, such as in the case of the plans for the blocks C and D (**Fig.2**)⁶. In blocks I and Z, a long parallelogram (I) had sides cut out diagonally and rounded off in order to create a correspondence with the building (Z) on the other side of the street (**Fig.3**)⁷. In order to implement these reforms the municipality entered into negotiation with owners, exchanging lots and redesigning specific blocks. The new buildings were very similar, presenting the same galleries, recessed floors, and identical rhythm of openings, being differentiated by details. Corners were also an element of design. There are many example of architectural unity, such as the buildings at the corner of Mexico Street and Nilo Peçanha Avenue which were designed as three independent buildings, by the same architect, Robert Prentice (**Fig.4**). However, this was an exception and does not invalidate my assumption of the active role of the building codes in shaping the city. For example, the blocks facing the bay, at the southern border of the Castello, were designed by four different architects, but the alignment of recessed floors, galleries and openings made them look like a single building. The Andorinha building was similarly inserted in the urban fabric (**Fig.5**).

The Castello area was completed rapidly. The emergence of modern boulevards and buildings was widely publicized by the regime and generated euphoria in the city⁸

³ "If an extraordinary event occur, such a special need of a larger entrance or any other architectural 'accident'..., the composition of the façade should be done in such a way that the 'accident' would be conveniently integrated in the façade and would not disturb the harmony of the buildings of the block" Código de Obras, Art 14, III, n.6

⁴ The construction of the airport and the ministries by the federal government provoked the need to reformulate of Agache's plan. The first revision was made in 1938 by Affonso Eduardo Reidy, who attempted to introduce principles of urbanism from the CIAM (Reidy, 1938, p. 604-607; Reis, 1977, p.110-111). A second one, however, made by José Oliveira Reis in the following year, returned to the more traditional and classical principles of Agache's plan. The need of the municipality for more lots, due to the system of financing, provoked these alterations. The implementation of Dodsworth's circulation system demanded the rapid development of the Castello Esplanade. In order to have resources to fuel his program

⁵ These plans were made during the second half of 1940, presented at once and immediately approved in December 1940. Decreto 6898, 1941, p.327-329.

⁶ In the case of the block C, thirty old, narrow lots of varied sizes vanished to make way to the avenue and to a triangular block occupied by a single building. In block D, some twenty-five lots were reduced to seven larger lots. The plans for C and D also defined a building type with galleries, 17 floors high plus 2 recessed floors See PA 3477 from December 12 1940 (Reis, 1977, p.195).

⁷ See PA 3414 for the blocks I and Z, designed by Oliveira Reis and Andrade e Silva in October 1940

3. Conclusions

The modernization of a city is characterized not only by the introduction of new networks of traffic and services, but also by the insertion of new urban elements such as buildings, streets, and squares into the existing urban fabric.

What is interesting in Rio's case is the role of the building codes which attempted to govern this weaving of urban elements, directing these dynamic forces and the desires of patrons, bureaucrats, and architects towards the creation of a modern city. Although buildings were designed by individual architects, the sense of the 'whole' was given by the Municipality. Resorting to Agache's ideas, including the galleries, buildings patterns, and features of his plans, Dodsworth's reforms materialize the Vargas' Estado Novo ideal for the city. It was clearly intended to form of urban scenery, expressing Vargas Regime corporatism, social control, and state regulatory interventionism

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Fig. 4, Fig. 5 Castelo District: Nilomex and Andorinha Buildings, *Revista Municipal de Engenharia*, Jan, 1936, p.16, 26.



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⁸ For example, in the words of a columnist of a semiofficial magazine: "Entering into the Castello Esplanade, a new city rises to our eyes, a city in which all the constructions, almost all of them magnificent and splendorous, following previously established rules and directives" (*Revista*, 1939, p.11). The Castello Esplanade was also a reflect of a great of boom of construction which occurred in Brazil in the early 1940s, in which large amounts of capital where invested into real estate, due to the economic circumstances dictated by World War II

In the Beginning of Glass-walled Skyscrapers: Considerations in the Design of the Lever House

Hyun-Tae JUNG*

Abstract

The Lever House (1952) in New York City by Skidmore, Owings & Merrill is recognized as the first glass-walled skyscraper. The Lever House is located along Park Avenue between Fifty-Third and Fifty-Fourth St. in New York City. The tall, oblong, and slender tower sits on top of the horizontal volume, with its narrower side turned to Park Avenue. Both architects and critics applaud the formal innovations of the building, which revolutionized the design of skyscrapers. Such advances include meticulously designed volumes as well as a glass and steel frame. While the tower itself serves as office space, the lower volume, covering the whole plot, provides a colonnade and enclosure for its open courtyard. This pioneering layout allowed the building to create a new relationship within the urban fabric. During the second half of the twentieth century, this structure became an icon of a new era of glass and steel skyscrapers. However, it is not clear how this building first came into being. Why did the architects propose a glass box? What were the main considerations behind the design of the building? How was the glass and steel tower received by architects and ordinary people? These were some of the key questions this paper explores. Such questions will help us rethink the present and future of the tall buildings. The importance of technical and practical considerations in the design process of the Lever House has not been sufficiently studied. Therefore, this paper focuses on these observations and argues that they do in fact play critical roles in creating what we know as the Lever House.



Fig. 1 Lever House. New York City. Built 1951-52. From Ernst Danz. *Architecture of Skidmore, Owings & Merrill, 1950-1962*. London: The Architectural Press, 1963.

In the 1950s, the firm of Skidmore, Owings and Merrill (SOM) pioneered a new trend for office buildings with glass and metal curtain walls, many of which soon became icons of post-war American architecture. SOM became known to architectural communities around the world for their technical excellence combined with efficient organization of interior and exterior spaces. This paper deals with the design of the Lever House (1950-52) (**Fig.1**) as well as the beginnings of the glass-metal skyscraper, particularly illustrating the importance of the technical and practical considerations in the design process.

1. Owings's Ideal Office Building

Nathaniel Owings, one of the two founders of the firm, had an undeniable influence on the design of the Lever House. This is quite evident in a paper he presented to the Building Managers Association in 1947, published a few months later as "A Radically New Conception of Tomorrow's Office Building" (**Fig.2**).¹ Owings justified his idea of the new office building based mainly on technical and monetary grounds. Convinced that urban centers had reached their maximum capacities, "traffic-wise, parking-wise and merchandise volume-wise," he envisioned new office buildings that would give urban workers a more pleasant environment. This new environment would not require many changes. On the contrary, it would require "merely an assembly and combination of known facts and

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techniques with an eye to the development of a merchandise-wise package that will stand up and hold a market against depressions.”² Instead of a modern aesthetic, economy and physical comfort were his primary concerns. Owings recommended a complete control of the indoor environment through air conditioning behind “fixed, flush continuous windows,” and the “sealed sash and the acoustical treatment of the ceilings” for sound control.³ He argued that sealing all glass walls with inoperable windows was more economical than traditional windows for three main reasons. First, operable windows were more expensive to install. Second, fixed glazing would reduce the frequency of interior cleaning by keeping out dirt and grime. Lastly, he believed that fixed glazing would reduce the costs of heating and air-conditioning. Owings imagined the surface of the building as non-corrosive metal and glass that would not need any painting. The building would require a flush skin surface. By doing so, an automatic window washing system could be installed. Windows would be washed with a vertical automatic squeegee that would run on exterior tracks. Owings thought the cost of washing windows would be significantly reduced with the introduction of this system.⁴

To fabricate such an economically advanced wall system required SOM’s previous knowledge and application of prefabrication. Wall units made of modern materials such as aluminum, stainless steel, other alloys and some plastic should be prefabricated in a factory in order to be built quicker and more economically as well. Owings envisioned that the ideal office floor would be “one great slab – no bases or permanent partitions to be incorporated.” The lightest type of concrete slab construction on a steel frame would reduce dead loads to the minimum. With these efforts, the office building would embody lightness “from its environment to its construction.”⁵

Owings presented the same idea about the ideal office in *Architectural Forum* in August 1949. However, this one was slightly differently organized. Topics such as “set in a private park,” “prefabricated walls,” and “low maintenance cost” were separated from each other in order to add clarity. Additionally, he added a new summary that encompassed all the main issues concerning new office buildings. His first consideration was a relatively large site for sun light, air circulation, view and sufficient parking. Owings also suggested that having grass, trees, and fountains were a “merchantable asset” to win competition in the market. He visualized an office with a “simple, flexible, regular plan” wrapped around by a thin layer of glass. This glass curtain would be an advanced wall, allowing tenants to efficiently control the indoor environment.⁶ Owings emphasized the importance of understanding various human responses to the environment, revealing the influence of the firm’s relations with the Pierce Foundation in the early 1940s. This practical, technical approach to the office building was the key to the firm’s practice.



Fig. 2 Sketch. Nathaniel A. Owings, “A Radically New Conception of Tomorrow’s Office Building.” *National Real Estate and Building Journal* (January 1948).



Fig. 3 Sketch. “Greyhound’s New Chicago Terminal.” *Architectural Record* (April 1954).

2. Lever House as an Urban Icon

Owings’s new office design became a blueprint for the firm’s 1949 Greyhound Bus Terminal Project in Chicago (**Fig.3**), but its principal influence was in New York. The technical and economic aspects of Owings’s article in 1947 and the terminal project would guide the early design development of the Lever House.⁷ There are clear similarities

¹ Nathaniel A. Owings, “A Radically New Conception of Tomorrow’s Office Building,” *National Real Estate and Building*

² *Ibid.*, 28.

³ *Ibid.*

⁴ *Ibid.*, 29.

⁵ *Ibid.*

⁶ Nathaniel A. Owings, “The Ideal Office Building” was included in “Bus Terminal and Office Building,” *Architectural Forum* (August 1949): 168. “We believe that the office space should be a simple, flexible, rectangular plan with the thinnest possible skin and the maximum amount of glass, that all the known scientific devices for control of sound, temperature, humidity, and natural and artificial light are mandatory, not just desirable. We believe that the modern office building must be designed to provide for the human beings, who spend a quarter or more of their lives therein, all of the comforts, conveniences, and amenities that modern science tells us we need and tells us how to provide. This solution is arrived at through studying the behavior patterns, the actual physical, mental and emotional cycle for each of the basic types of occupant. By this research we establish the criteria for the space, means of access to it, and materials and mechanical devices that will be required to serve it.”

between the tower design he published in the article and the Lever House — notably, the treatment of two volumes. A vertical volume sits on top of a lower horizontal volume. Owings stated that the vertical volume should have no setbacks, giving a similar straight surface. He later noted that he contributed two basic ideas to the design of the Lever House: first, not to place stores at the street level and, second, placing the tower perpendicular to Park Avenue instead of parallel, giving all the rest of the credit to Bunshaft. However, it is obvious Owings made other significant contributions to the early development of the design. It is a little surprising that Bunshaft was not able to “explain how he decided upon the parti.”⁹

The Lever House project began in 1949 when the Lever Brothers Company; manufacturer of soap, detergents, cosmetics, toothpaste and oleomargarine; decided to move its center of operations from Boston to New York City. Charles Luckman, president of the company and trained architect, commissioned SOM to design a modern headquarters for its exclusive use.¹⁰ The project was completed in December 1951, and officially opened four months later. This new glass-walled office building received immediate accolade, from architects and critics. *New York Times* architecture critic Aline B. Louchheim called it “the most inventive, handsome and remarkable of the firm’s buildings.”¹¹ The mayor of the city, Vincent R. Impellitteri, welcomed the Lever House, calling it “the new showplace of Manhattan.”¹² Boasting meticulously designed volumes as well as a glass and steel frame, this new building revolutionized the design of skyscrapers. The Lever House is a twenty-one story building consisting of a tall tower and a low, two-story horizontal volume which serves as office space and provides a colonnade and enclosure for the open court. The pedestal included a courtyard open to the streets with no stores along the streets. It is located along Park Avenue between Fifty-Third and Fifty-Fourth St. The tall, oblong, and slender tower sits on top of the podium, with its narrower side turned to Park Avenue.

Built as a sealed building, heat was an important consideration. As a result, air conditioning and fluorescent lighting covered by glass diffusing lenses were employed to reduce heat emission. Furthermore, heat absorbing glass was employed to block much of the heat created by direct sunlight as well as to effectively reduce glare.¹³ There were other important technical considerations as well. For example, SOM architects invented a window washer, which would allow for easy cleaning of the smooth wall. The invention of the window washer drew much attention from mass media.¹⁴ The glass was held in place by thin aluminum mullions and arranged in a pattern based on the varied sizes of the panes. The elegant, green-tinted glass skin covers the walls of the building. Curtain walls help achieve a consistent exterior surface, leaving no manually operated windows.

3. Communication through Curtain Wall

Compared to the United Nations Secretariat building, the Lever House has smoother skin on four sides. While the former had a four inch deep frame around the exterior glass to create shadows and accentuate the pattern, the latter has a one inch projected frame with two and a half inch wide mullions.¹⁵ This flatness was part of the architects’ effort to communicate with the public. In contrast to Mies’s Lakeshore Drive Apartments (1948) with “subtleties of modeling and historical associations” that could immediately appeal to architects but not to the public, the Lever House offered “a direct line of communication.” *The editors of Architectural Review* speculated that “most of the

⁷ “Bus Terminal and Office Building,” *Architectural Forum* (August 1949): 70-75, 164, 168. “Greyhound’s New Chicago Terminal,” *Architectural Record* (April 1954): 167-73. This article lists the similarities and differences between the terminal project and the Lever House.

⁸ Nathaniel A. Owings, *The Spaces In Between: An Architect’s Journey* (Boston: Houghton Mifflin Co., 1973), 108-09.

⁹ Carol Herselle Krinsky, *Gordon Bunshaft of Skidmore, Owings, & Merrill* (New York: Architectural History Foundation; Cambridge, MA: MIT Press, 1988), 22.

¹⁰ “Landmarks Preservation Commission,” November 9, 1982, Designation List 162, Lp-1277, 2.

¹¹ Aline B. Louchheim, “Architecture Of and For Our Day,” *New York Times*, September 24, 1950.

¹² “Doors Swing Open in House of Glass,” *New York Times*, April 30, 1952.

¹³ “Lever House Complete,” *Architectural Forum* (June 1952): 109.

marketed curtain walls strive for an effect of flatness rather than relief in the façade,” and “in so many of them the scale and proportions of the frames and panels seem to relate to the Lever prototype.”¹⁶ However, the flatness also received a level of criticism, when Robert W. McLaughlin indicated that there was the “fetish for flatness.”¹⁷

Creating an institutional identity for the company was an important goal at the Lever House from the beginning. A refined glass box would advertise the “giant soap maker.”¹⁸ Luckman and the other executives at the Lever Brothers understood the project as an advertisement. An architectural journal mentioned that, through various advertisements, the Lever House three months after the opening became better known to the public than “Mies’ Tugendhad house, Eames’ steel-framed oceanside bungalow, Le Corbusier’s Marseilles apartment house, and Wright’s Johnson Wax Factory combined.”¹⁹

The enormous popularity of the Lever House was not merely a result of corporate advertisement; the building provided the city with a new architectural expression. It is not surprising that four years after its opening *Architectural Forum* ranked the building as the third most important office building in the last one-hundred years.²⁰ One of the more detailed analyses of the structure came from Lewis Mumford, who correctly pointed out that the building itself became both a showcase and an advertisement. By getting rid of any recognizable signs on the outside, the unique glass-walled building transformed itself into a sign.²¹ Additionally, Mumford suggested that the Lever House was “the first office building in which modern materials, modern construction and modern functions have been combined with a modern plan.”²² By weaving these various aspects into a seamless entity, the building easily became comprehensible to the public as well as to architects and critics. This consistency of being modern in construction, function and interior organization gave the company a distinctive air of being new and advanced.

4. A-Bomb and the Glass Box

When the model of the Lever House was released to the public at the Museum of Modern Art in 1950 for the show, *Skidmore, Owings & Merrill, Architects*, USA, some felt the fear of working in a glass box. A visitor named L. J. Salter wrote a letter to the museum, pointing out the absurdity of building a flimsy glass building in the era of atomic war.²³ The author of the letter combined the images of a fragile

¹⁴ “Window Washers in Gondola Car Speed Cleaning of Glass Building,” *New York Times*, April 1, 1951, 31. The newspaper reported that “Only two men will be needed to keep the windows of Lever House clean... the entire building exterior can be washed by the two men in only six days.”

¹⁵ “Miniature Skyscraper of Blue Glass and Metal Challenges Postwar Craze for Over-building City Lots,” *Architectural Forum* 92 (June 1950): 86.

¹⁶ “Syntax: The Contribution of the Curtain Wall to the New Vernacular,” Ian McCallum, ed., *Machine Made America*, special issue of *Architecture Review* 121, No. 724 (May 1957): 307. Regarding this issue of “communication” through curtain walls, Reinhold Martin provides a provocative, yet well established argument. Reinhold Martin, *The Organizational Complex: Architecture, Media, and Corporate Space* (Cambridge, MA: MIT Press, 2003). Particularly appropriate are the second and third chapters, “Pattern-Seeing” and “The Physiognomy of the Office.”

¹⁷ Robert W. McLaughlin’s comment appeared in “Syntax,” 308.

¹⁸ “Miniature Skyscraper of Blue Glass and Metal,” 86.

¹⁹ “New York’s Blue Glass Tower: An Insider’s View,” *Contract Interiors* (August 1952): 59.

²⁰ “Office Buildings,” *Architectural Forum* (June 1956): 151. Maurice Lavanoux comments on the building, “After several decades of clouded and misty architecture, I find it refreshing to see the clear glass shaft of Lever House rising in the otherwise drab atmosphere. And I hope the free area at the base of the building is a forerunner of more open spaces which help to reduce the tension of our daily life...all in all, it is a clear and pleasing silhouette in our city of towers.”

²¹ Lewis Mumford, “The Sky Line: House of Glass,” *New Yorker*, August 9, 1952: 48. “This whole structure is chastely free of advertisement; the minuscule glass cases showing life-size packages of Lever products in the glass-enclosed reception chamber on the ground floor would hardly be noticed in the lobby of a good hotel. But, the building itself is a showcase and advertisement; in its very avoidance of vulgar forms of publicity, it has become one of the most valuable pieces of advertising a big commercial enterprise could conceive.”

²² *Ibid*, 53.

²³ L. J. Salter. Letter to the Museum of Modern Art about the 1950 Skidmore, Owings & Merrill Exhibition at the museum. October 31, 1950. MoMA Exh.#459. “This is the reality which most advanced architects are blindly ignoring. In the face of contemporary political and military possibilities, they continue piling humans into glass cells in the cities, exposing them to as serious hazards as the thousands huddled in Hiroshima’s [sic] slums!...So long as economic and political differences between nations remain un-reconciled, the threat of total destruction spells the end of ‘city culture’ as you know it today.”

Mumford, “The Sky Line: House of Glass,” 54.

glass wall and the devastation of Hiroshima after the bomb. Mr. Salter thought it would be absurd to build a glass box in a time of imminent atomic war.

When the Lever House was completed, the world was divided into eastern and western blocks. The Cold War had intensified with the announcement of Soviet Union's first successful detonation of an atomic device in 1949. Furthermore, the United States was deeply engaged in the Korean War (1950-53). This post-war international unrest infiltrated into the country's social and architectural culture. However, Mumford understood the design of the Lever House positively, contending that "fragile, exquisite, undaunted by the threat of being melted into a puddle by an atomic bomb, this building is a laughing refutation of 'imperialist warmongering,' and so it become an implicit symbol of hope for a peaceful world."²⁴ The glass box practically and technically considered now appeared as a sign of courage against the fear of a possibly imminent total destruction and an expression of confidence in a peaceful future.

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Waterfront Revitalization : Redefining the Competition between Port and Central Station

Jae Hee CHUNG *

Abstract

This paper examines the formation and expansion process of a waterfront city through a competition between the port and central station in city center using case study of Hamburg. By doing so, this paper specifically focuses on the two growth anchors of port and central station, and their relationship explained by a set of functional and physical linkage. This study suggests a set of urban design strategies for waterfront revitalization that aims to improve pedestrian connection between the port and the central station while encouraging their programmatic competition.

Keywords : waterfront, competition, port, central station, linkage, revitalization

1. Introduction

This paper examines the formation and expansion of waterfront cities driven by ports and central stations near city centres through case study of Hamburg. By doing so, it suggests a set of urban design strategies for waterfront revitalization to improve pedestrian connection between the port and central station while encouraging their programmatic competition.

In Hamburg, a representative port city of the Baltic Sea, the port and the central railway station are located within a 1.4 km walking range. With an external environment characterized by especially long winters, this city exhibits various urban design challenges such as a large intermodal system to connect the port—the heart of historical symbolism, to the central railway station—the heart of modern city function. This study begins by examining the processes of formation, expansion, and decline of the port city from the perspective of relocation of transportation nodes between the port and central railway station. Here, ‘port city’ is defined to be a city whose historical, symbolic and functional centralities are formed and developed from the port facilities in the waterfront. Competition is defined to be an intended or unintended confrontation - functional conflict state of various public uses and private programs - between the waterfront and city centre within walking distance.

Among cities that have formed and developed based on the port, as confirmed in the case of Hamburg, the connection between the waterfront and city centre, which is the primary subject of analysis in this study, indicates intended or unintended competition between the port and central station, both of which serve as transportation nodes during the growth process. Indeed, this relationship of programmatic confrontation is observed when programmes including markets, offices and shopping, hotels and conventions, museums, and parks compete because the central port is located approximately within a walking distance from the central station.

This study therefore examines the development of the port city according to differentiation of the traffic base, and analyses programmatic confrontation and pedestrian connection of the urban centre and the waterfront. This analysis argues that establishment of physical, functional and symbolic connections between the waterfront’s port and the central railway station is essential for waterfront revitalization. It is not expected to be a zero-sum game citywide, but rather the most effective and practical alternative to vitalizing the declining waterfront.

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2. Issues and Debates

A series of studies on the urban waterfront have focused on various issues in urban geography, environmental science, urban planning, and political science since the mid-1960s. Their impetus appears to stem from the implementation of waterfront redevelopment projects to re-establish a city centre in Baltimore, New York City, Boston and San Francisco (Wood, 1965). Since then, the opportunity to redevelop abandoned waterfronts in Toronto, Sydney, Rotterdam, Hamburg, Yokohama and Singapore have been studied and documented (B. Hoyle, 2000; Kilian and Dodson, 1996).

It is the concept of 'port-city interface' that began to explain changing form of waterfront through the relationship between the port and city (Hayuth, 1982). This port-city model characterized the development and transformation processes observed in the port cities such as Marseille, New York City, Toronto and Montreal (B. Hoyle, 2000; B. S. Hoyle et al., 1988; Wiegman and Louw, 2011). Furthermore, recent studies also pointed out the development conditions and locational advantages for successful waterfront development (B. Hoyle, 2000). Their findings, while having contributed to the enhanced understanding of the port with regard to city centre, do not provide a clear explanation for 'what is the city centre as a responding counterpart to the port in the waterfront' and 'what is the successful waterfront redevelopment within the city at large.

3. Expansion through Transportation

The port city's waterfront and inland development plan was established sensitively responding to the change of transport modes. When water transport was the only transport method, port cities proceeded vigorous reclamation and external development. Meanwhile, after inland railways were constructed, city development started from the central station strategically located in the city centre. Considering the change in transport modes, which were crucial for urban expansion, this study analyzes pedestrian sheds of 400m and 800m in radius for the case city in order to visualize the competitive relationship between waterfront with a focus on ports, city centres, and central railway stations. Especially, this study examined morphological expansion of the urban structure according to transport changes, focusing on the case of Hamburg, a city wherein waterfront development initially began.

3.1. Hamburg's Expansion

To analyze the competitive relationship between Hamburg's waterfront and city centre, this study examined three primary aspects—expansion and relocation of the waterfront anchored by the port, expansion of the city centre anchored by the railway station, and expansion

and relocation of commercial centre (**Fig. 1**).

Hamburg was built by Karl der Große at the confluence of the Alster River and Elbe River in the early ninth century. Since Frederick Barbarossa granted commercial and industrial privileges in 1189, and a mutual defence treaty was signed with Lübeck in 1241, Hamburg established a foundation as a free-trade commercial city through Germany's Hanseatic League (Prange, 1990). Because of the Hanseatic League's influence and its physical and geological advantages, Hamburg emerged as a large trade port in Europe. Hamburg became a Free Imperial City in 1510. In the 15th and 16th centuries, the city's waterway technology was well-enough developed to construct a canal in the Alster River, and the areas along the canal were used as shops and residential areas for merchants (Prange, 1990). During Hamburg's heyday from the 18th

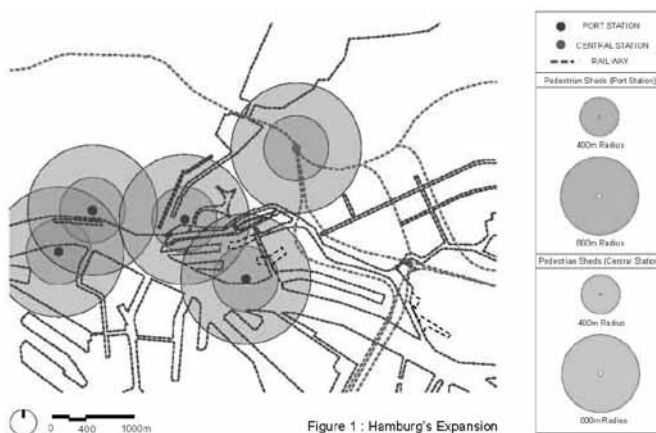


Fig. 1 Hamburg's Expansion

to the 19th century, castle areas in the city were expanded based on the economic growth achieved by trade through maritime routes. Also, Speicherstadt warehouse district was built in the Port of Hamburg. This was during the peak of Hamburg's function as a warehouse and port (Prange, 1990).

The advent of the container port era consequent to the introduction of the freight container since 1960s led to economic depression in the Port of Hamburg. As the existing harbour basins close to the city were too small and shallow for the new, bigger container ships. Consequently, a new port with modern facilities was built in Kleiner Grasbrook, Steinwerder, at the southern bank of the Elbe River. Therefore, the Port of Hamburg was diversified as the passenger terminal, the freight terminal, and the warehouse, and its size was expanded (Sim, 2012). In this process, the original Port of Hamburg lost its function as a freight port, and the St. Pauli Landungsbrücken (St. Pauli Landing Stages), a passenger terminal connecting the surrounding areas, and the Hamburg Cruise Centre, a passenger terminal for regional connection and overseas travel, were constructed in 2010.

The expansion of the city centre anchored by the railway station was due to speedy transport of goods by the construction of a railroad link. Berlin and Hamburg Railway started in 1842 and Hauptbahnhof (central railway station) in 1906, as well as the operation of the U-bahn connecting downtown and the S-bahn connecting the surrounding areas in 1912 (Prange, 1990). With the activation of inland railway travel, goods were transferred via both traditional ports and railways, resulting in the competitive and independent development of ports and railways in Hamburg (Prange, 1990). The relocation of port facilities from the site of HafenCity and Speicherstadt—traditional port areas—to Steinwerder and Kleiner Grasbrook, accelerated the competitive expansion of railways and city centres. Hamburg Verkehrsverbund was established in 1965, and the last tram for the No. 2 line connecting Rathausmarkt and Scheneisen was constructed in 1978. Since the opening of the U4 line in HafenCity in 2012, it is possible to have direct connections to from the waterfront to the city centre (Prange, 1990).

The commercial core of Hamburg was created and relocated according to the growth, decline, and differentiation of the port as well as railway development. The commercial core was formed with accommodations, markets, and churches around the previous port in Speicherstadt; however, the influence of the conflagration in 1842 and the formation of Mönckebergstraße in 1909 led to the creation of a large commercial centre between Rathaus and Hamburg Hauptbahnhof. Department stores, shopping centres, cultural facilities, and offices were built around the street, which still forms the commercial hub of Hamburg's city centre (Lee and Kim, 2009). Also, since the 1960s, the port was functionally differentiated, expanded, and relocated, leading to the HafenCity urban regeneration project since 2001, in the old port area. Small markets, restaurants, and souvenir shops are around St. Pauli Landungsbrücken, which is now a major tourist attraction and a central transportation hub for S1-bahn, S3-bahn, U3-bahn, and boat stations.

4. Linkage: Programmatic Confrontation and Pedestrian Connection

The previous section defined the concept of port city expansion as a bipolar competitive relationship between formation of the waterfront around port and expansion of city centre based on railway station. This section examines the linkage between port and railway, which has been overlooked in waterfront-related studies.

Port cities, which are the origins of city formation and historic symbol, have focused on their functions as historical and cultural tourist destinations rather than on urban growth. This is consequent to being pushed out from the economic centre in favour of a strong magnet of railway station in the preemption of a city centre. Historically the sites of industry, these port cities now attempt to re-centre activities in urban spaces to reposition concentration of activities, and to shift the focus from old to new (Marshall, 2001). However, it is questionable if the current structure of port cities is only the result of the competitive relationship between multiple centres. This study aimed to reveal the urban magnetic structure, which is a symbiotic relationship, as the analytical framework for the historic and physical relationship between ports and city centres.

The programmatic confrontation between waterfront and city centre in port cities is important for understanding the competitive relationship between them. This study intended to analyze nodes, edges, and interchanges, which can be the physical anchors of the urban



Fig. 2 Hamburg's Linkage



Fig. 3a Mönckebergstraße, Hamburg



Fig. 3b Kibbelsteg, Hamburg



Fig. 3c Brandstwierte, Hamburg

structure, and the role of an active linkage created by new programmes from the perspective of pedestrian connection.

4.1. Hamburg's Linkage

The relationship between Hamburg's waterfront and city centre was classified into the physical linkage and the functional linkage. This study examined three primary linkages including the main commercial street between Rathaus (city hall) and Hauptbahnhof (central railway station) and the pedestrian linkage from the Rathaus to the waterfront, and the linkage between Hauptbahnhof and the waterfront (**Fig. 2**). First, Mönckebergstraße, which connects Rathaus and Hauptbahnhof was built in 1909 and was developed as a commercial street (**Fig. 3a**).

As Rathaus and Rathausmarkt, which had served as a cultural hub, became connected to the new commercial street, a large urban commercial area comprising department stores, shopping centres, cultural facilities, and medium-sized offices was formed along Mönckebergstraße. It is still the commercial hub of the city centre in Hamburg, and creates continuous flow of pedestrian population. There are large shopping centres like Saturn and Europa Passage, Levantehau, a department store, Gerhart-Hauptmann-Platz, a public space, and Thalia Theatre in this street. As only public transport buses, taxis, delivery lorries, and pedestrians can use the street, it provides an enhanced quality of physical pedestrian environment and shows aspects of the active programmatic linkage (Lange, 2008).

The linkage from the city hall to the waterfront originates from Großer Burstah and passes through Rödingsmarkt, Holz Brücke, Mattentwiete, Kibbelsteg, and Großer Grasbrook. Small shops are situated in Großer Burstah and Mattentwiete, while small offices line the streets of Holz Brücke and Kibbelsteg (**Fig. 3b**).

Thus, it is difficult to attract a large floating population to this street, and promote a pedestrian environment that stretches to the end of the street as the beginning and end of the street are not clearly identifiable. In the areas surrounding the Cruise Centre and Marco Polo Tower which are anchors for pedestrians, Magellan Terraces and Marco Polo Terraces were developed. Commercial facilities including cafés, restaurants, and neighborhood shops are located on the ground level of mixed-use buildings along Großer Grasbrook. It shows that the waterfront revitalization is independent of the city centre, so the linkage between the city centre and the waterfront is seen as less important.

The linkage between the central railway station and the waterfront consists of streets from Bergstraße to Brandstwierte (**Fig. 3c**), Bei St. Annen, and Osakaallee Streets through Jungfernstieg Street. It is car-oriented, and the pedestrian environment is not well-developed.

Medium- and large-sized shops and offices are primarily located from Brandstwierte Street beyond Bergstraße shopping street adjacent to Mönckebergstraße. Considering that these are trip generators, the passages do not have optimal conditions for the programmatic linkage between the city centre and the waterfront (Hafencity hamburg

GmbH, 2013).

In addition, the linkage from the city hall, the anchor of the city centre, to St. Pauli Landungsbrücken, a passenger terminal, shows that the pedestrian connection is not clearly established while being connected to S1-bahn, S3-bahn, and U3-bahn, so people mainly use the subway. Also, Elbphilharmonie Concert Hall, a landmark at the waterfront is usually approached through a bridge from the underground station or by a detour because a clear pedestrian linkage is not established.

As analyzed above, the linkage between the central railway station and the city hall, is the most actively established as physical and functional connection. On the other hand, the pedestrian connection between the waterfront and the city centre is divided into many sections, which are not clearly established. Considering the development of pedestrian linkage between St. Pauli Landungsbrücken and Elbe Philharmonic Hall, which will be the main anchor in the future, it is most important to enhance the pedestrian linkage from the city hall to the waterfront. For sustainable waterfront regeneration and development in Hamburg, the insertion of programs of middle nodes such as public spaces and commercial facilities to attract pedestrian population, and the physical linkage based on public transport and pedestrian-oriented environment should be implemented in the direction of enhancing the relatively weak linkage from the city hall to the waterfront.

5. Conclusions and Implications

This study analyzed the urban development process of the port and waterfront—historical and symbolic starting points of a city—and inland central areas based on modern railway stations in terms of expansion and linkage. It was found that a competitive relationship between the port and railway served as a catalyst for urban formation and expansion, and that the establishment of physical, functional, and symbolic connections between the port and the central railway station is a crucial factor in vitalizing a port city's waterfront.

This paper examined the urban design issues of Hamburg, whose development path, first anchored by waterfront growth, has been significantly superseded by the railway infrastructure. Given the swift and transformative growth pattern of rail transportation, this study specifically focused on two growth anchors, namely the port and central station, and explained their relationship as a functional linkage - programmatic confrontation, and physical linkage -pedestrian connection. In Hamburg's case, the linkage between the waterfront and the city centre was dispersed in several branches, and the pedestrian connection and the programmatic linkage are not clearly defined.

This case study reveals that a port in the waterfront is located close enough to the central station in the city centre within pedestrian walking distance. Thus, development in a port city is likely to be a zero-sum game in which development gains for the central station has been losses to the port in the waterfront.

This 'strictly competitive' confrontation between the port and the station would be translated into mutually supportive forces whose influences are physically consolidated by a citywide pedestrian connection and civic uses. This result proposes an interesting conclusion, namely that waterfront revitalization based on the port can be more successful and effective when it is functionally connected to the central railway station of the city centre and pedestrian passages.

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Mies, Hilberseimer & Caldwell: The Metropolis as a Garden City. Metamorphosis of the Large Cities

Xavi LLOBET * Eva JIMENEZ **

Abstract

This paper talks about the Metropolis as a Garden City [or Garden Metropolis], which is the city pattern developed interdisciplinarily by Mies van der Rohe as an architect, Ludwig Hilberseimer as a city planner, and Alfred Caldwell as a landscaper. Because of the extension of this subject, we are going to talk about the process they made to transform the existing cities in Garden Metropolis.

In many ways, the Garden Metropolis is a pattern completely opposed to the Ville Radieuse of Le Corbusier and the CIAM. The Garden Metropolis is de-centralized, the Ville Radieuse is centralized; the first one is organized according the neighbourhoods, the second one is organized according the functions; the first one is organic, the second one is mechanical; and so on.

Mies and Hilberseimer had developed their city pattern in Europe, at the Bauhaus, during the twenties and thirties. And later, they developed the way to transform the existing cities in Garden Metropolis in America, at the IIT (Illinois Institute of Chicago), during the forties and fifties. When they came to America they were absolutely determined to implement their pattern to the whole continent, and they knew how to do it. They had developed the whole process to conduct the metamorphosis of the existing cities, most of which were large extensions of suburbs and slums of low density

Keywords : mies, hilberseimer, caldwell, metropolis, garden, city

Mies, Hilberseimer and Caldwell considered the urban transformation of the United States to convert the existing cities into garden metropolis. They divided their job interdisciplinarily to work in a team: Mies as an architect, Hilberseimer as a city planner, and Caldwell as a landscape architect.

Their model was completely opposite to that of Le Corbusier¹ and the CIAM, which divided the city into four functions: work, home, leisure and transport. Mies, Hilberseimer and Caldwell conceived the city from the principle of the Settlement Unit or neighbourhood, which is an organic unit, reduced in dimensions, where all the necessary activities for human life are located in walking distances. They were also against the tabula rasa².

1. Background

The garden metropolis is inserted into a planning tradition, which has its origin in the theory of Arturo Soria linear cities³ (1882), and the theory of Ebenezer Howard garden cities⁴ (1889). Mies and Hilberseimer integrated these two theories, and added the large city architecture to conceive the garden metropolis.

Mies and Hilberseimer designed their pattern while they were planning the Weissenhof colony (1925-1927) on the outskirts of Stuttgart⁵, and developed it with the students of the



Fig. 1 Mies and Hilberseimer at work in the Mies's Office, 230 East Ohio Street, Chicago, 1953. Source: The Art Institute of Chicago.

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Bauhaus in Berlin. When they arrived to Chicago, they joined Caldwell to the team, planned the necessary methodology to transform the existing cities, and developed this method with the students of the IIT.

Another crucial project to understand the regional scale of the garden metropolis is the Robert Smith Ruhrsiedlungsverband⁶ (1920-1934), which is considered the first European regional plan. Also, we should mention Radburn, New Jersey (1928-29), called "a town for the motor age". This project is equivalent and almost contemporary to the Metropolis as a Garden City, but of smaller scale.

2. Metamorphosis of The Existing Cities

On a continental scale, Hilberseimer imagined the transformation of the U.S. as a network of linear cities, relocating the industry along the integrated railway and highway infrastructures. Thus, most of the population could get to work on foot, without having to take the car necessarily. Linear industrialized cities would be more efficient and healthier. It would be easier to compensate the poor areas where the industry does not reach, providing jobs to the whole population.



Fig. 2 Ludwig Hilberseimer. The city in the Landscape and the Landscape in the City, photomontage of a small city made up by four settlement units. Source: The Art Institute of Chicago.



Fig. 3 Ludwig Hilberseimer. A possible end stage of the de-urbanization of the West Side of Chicago. Source: The Art Institute of Chicago.

3. De-Urbanizing Chicago

Mies and Hilberseimer began to implement their ideas in the city of Chicago, where they had arrived with Walter Peterhans to take charge of the IIT.

Hilberseimer started with the concept of the settlement unit to integrate the city in the landscape and the landscape in the city.⁷

However, cities already existed and they had to find a way to transform them. One of the most important features of this method was not to transform the city at once, as the tabula rasa, but gradually, step by step. It was necessary to take advantage of all the existing urban elements not to interrupt the city's life or the lives of the people. Although the process was interrupted, every step taken should have brought some social and urban benefit to the community.

First step: cutting some streets and eliminating other ones to define the unit of settlement and to prevent the through traffic.

Second step: extending the green wedges and give continuity to the parks, where the school and sport areas will be located to be accessible without crossing any traffic street.

Third step: introducing an integrated network of railway and highways with industrial areas, hospitals, universities, airports, etc.

Hilberseimer always considered the schools as one of the most significant elements of the settlement unit, which gives us a very clear idea of the social, cultural and productive base of the garden metropolis: the decentralized industry should fund the schools so that the whole population could have access to education and employment, thus closing the productive cycle.

Caldwell used the metaphor of the plant to explain the garden metropolis: the infrastructures are like the stems and the settlement units like the leaves, in direct contact with nature and the landscape⁸.

4. De-Urbanizing The South Side of Chicago

In the thirties, when everyone was going toward the North of Chicago to escape racial riots, the new president of the IIT, Henry Heald, decided to stay in the South and to expand the campus⁹. In the forties he founded and directed the South Side Planning Board to re-plan and re-develop the South of Chicago. In the early fifties he propelled the Community Appraisal Study, a city planning consultation in which he involved the Michael Reese Hospital (with medical school) and the University of Chicago, two university institutions that had also decided to remain in the area. The lack of understanding and the particular interests made that each institution ended up following their own way and developed their own projects.

The proposal of Hilberseimer transformed the South Side of Chicago in a small city surrounded by firewall parks, where the existing campus of the IIT, the campus of the Michael Reese Hospital and the campus of the University of Chicago were located. These campuses acted as large scale facilities that would form three small specialized communities.



Fig 4 Ludwig Hilberseimer. Four different stages of the de-urbanization of the South Side of Chicago, Community Appraisal Study, 1952. We've marked in red the three universities and the schools. Source: The Art Institute of Chicago.

5. Hyde Park Urban Renewal Project

After the Second World War, the Federal Government felt strong enough to carry out some Urban Renewal Projects in the United States, following the example of the Marshall Plan in Europe. The first project was going to be done close to the University of Chicago in gratitude for having built the first nuclear reactor, which was crucial to win the war. The two areas to renew had been delimited by the University of Chicago during the Community Appraisal Study: Hyde Park A and Hyde Park B.

In 1954, the South East Chicago Commission (responsible for managing the renewal process) announced that it would hold a contest and would auction the land of Hyde Park among developers. Herbert Greenwald asked Mies to make the project, but Mies told him he knew nothing about city planning, the city planner was Hilberseimer (who had the project done in fifteen days). Greenwald participated with Mies and Hilberseimer in 1956, but they lost the competition.

Hilberseimer made the master plan as an intermediate phase of the Community Appraisal Study, where you can see the boundaries of Hyde Park A and Hyde Park B drawn. This master plan would give the outlines of the proposal, where you can clearly identify the work made in four hands by Hilberseimer and Mies:

(1) Hilberseimer cut some streets and eliminated other ones to define the settlement units, to prevent through traffic and to promote pedestrian circulation. An interesting detail is to check how he took advantage from the cut streets to make parking outdoors.

(2) Mies incorporated a number of commercial, office and housing buildings that would serve to relocate the population and to increase the density of this area. Apparently there were no rules, only visual intuitions, but we should talk about artistic considerations into the city planning of Mies. We could talk about neoplastic city and compare the urban scale of this proposal with

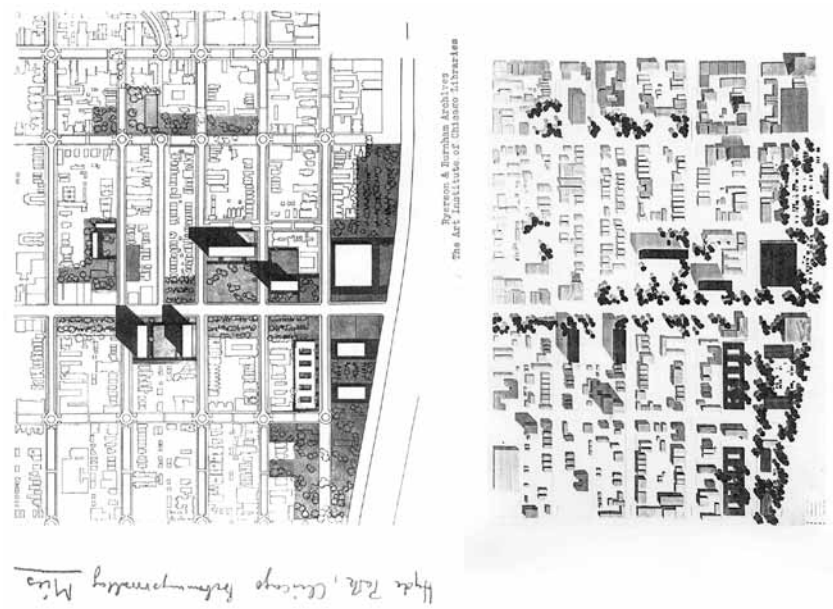


Fig. 5 Mies van der Rohe and Ludwig Hilberseimer. Hyde Park Urban Renewal Project, Chicago, 1956. Source: The Art Institute of Chicago.

the domestic scale of the Barcelona Pavilion. Rotations, displacements and mixed heights are neoplastic mechanisms that give fluidity to a space that can be filled by nature.

6. IIT Campus

When Mies was planning the campus he asked Hilberseimer to plan the residential area and Caldwell to take care of the landscape. Among the three transformed the campus into a specialized settlement unit, although it was not fully implemented: (1) the educational campus area is placed in a strip parallel to the existing railway as a linear city; (2) the residential area is developed in a second strip parallel to the railway line, reinforcing the concept of linear city; (3) the housing reflect the concept of mixed heights; (4) two perpendicular green wedges pointing toward the lake have been introduced, limiting the width of the campus and defining the settlement unit; (5) the green spaces are conceived as some clearings surrounded by forest, following the design criteria of the Prairie School; (6) a school, a sports pavilion and an athletics track have been located in one of the green wedges, reinforcing the idea of the settlement unit; (7) the axis of symmetry of the campus becomes the axis of the fish spine. The process of cutting some streets and remove other ones is very evident on the campus of IIT. Caldwell covered the roadway directly with the landscape of the prairie, unifying the entire surface of the green campus and connecting it with the exterior landscape. But he didn't hide the de-urbanizing process as he kept the original American sidewalks within the park.

7. Lafayette Park as A Prototype

Detroit was developing the same process than Chicago. The City Hall had prepared a study for the urban redevelopment of Lafayette Park. In 1954, it announced that the land would be auctioned among construction companies, and this same year Mies and Hilberseimer began to work on a project for Greenwald to be presented in 1956, at the same time as Hyde Park. However, in this case they won the contest. It was logical they presented it as a pilot experience to be extended throughout Detroit and exported to other cities, as it would have happened with Hyde Park.

In this case we don't have a master plan of Hilberseimer in the area where Lafayette Park is inscribed, but we can deduce its situation right in an intersection between two linear cities thanks to the sketches of the regional plan. If this pilot test had been spread throughout Detroit, it would have become a great bunch of small garden towns and neighbourhoods connected to a network of integrated infrastructures.

In 1959, Greenwald had a plane crash when the plane was landing in the airport of Newark, New Jersey. His death ended definitively with the urban adventure of Mies, Hilberseimer and Caldwell. That same year the Team X closed the CIAM.

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Streets in The Air: Anatomy of an Architectural Idea.

Cláudia Costa CABRAL *

Abstract

Balzac described the first Parisian arcade at the *Palais Royal* as an architectural and urban space where the respectable bourgeois could be found alongside the unfortunate prostitute. However, in the history of architecture, the role of street of ill reputation has not been assigned to the nineteenth century Parisian passages, but to the well-intentioned modern decks in the air of the Smithson couple in Robin Hood Gardens (1968-72) and similar initiatives now threatened with demolition. Why should we look back to those experiences, whose failure probably can't be explained solely in the field of architectural reasoning? This paper focuses on the Latin American contribution to the theme. Collective housing constituted a privileged field of experimentation in the process of expansion and consolidation of modern architecture in Latin America. This paper argues that the so-called streets in the air were devices employed by architects throughout this process. Although some of those cases are separately well known, they have seldom been studied from the perspective of their correlated distributive spatial structures. Besides, if the 1940s and 1950s contributions have been more or less acquainted by means of their stylistic relevance to modern architecture, the 1960s and 1970s proposals remained less known. Moreover, they have been the subject of a hard criticism not far from the rejection of the modern city idea in the seventies. This paper argues that Latin American streets in the air were conflicted spaces, but also spaces of disciplinary expansion. They represent the last great effort to update the sense inaugurated by the modern avant-garde of rethinking the city out of the housing problem. They have been contested, but maybe not overcome.

Keywords : streets in the air, massive housing, latin america.

1. Introduction

Balzac described the first Parisian arcade at the *Palais Royal* as an architectural and urban space where the respectable bourgeois could be found alongside the unfortunate prostitute. However, in the history of architecture, the role of street of ill reputation has not been assigned to the nineteenth century Parisian passages, but to the well-intentioned modern decks in the air of the Smithson couple in Robin Hood Gardens (1968-72) and similar initiatives now threatened with demolition. In their famous entry to the Golden Lane competition (1952), not by



Fig. 1 Le Corbusier, photograph of the Aquitania's deck published in *Vers une architecture*, 1923. Alison and Peter Smithson, Golden Lane Competition, London, 1952. Assemblage by the author

chance influential on the sixties megastructures, the Smithsons converted the Corbusian *rue intérieure* into *streets in the air*, turning the closed circulation of the *unité* into a system of open pedestrian spaces, postulating an alternative in height to the uses of the corridor street on the ground. Why should we look back to those experiences, whose failure probably can't be explained solely in the field of architectural reasoning? What contemporary relevance can we possibly find there, beyond the historiographical reconstruction of a heroic past, when modernism was not, like John Gold had stated, “*just a matter of learning to paint, sculpt or design buildings in new ways*” (Gold, 1997, p. 14)?

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This paper focuses on the Latin American contribution to the theme. Collective housing constituted a privileged field of experimentation in the process of expansion and consolidation of modern architecture in Latin America. This paper argues that the so-called streets in the air were devices employed by architects throughout this process, in built and un-built designs, from the late 1940s to the early 1970s, in a parallel conversation with similar international achievements. It aims to discuss a group of architectural alternatives, within Latin American modern tradition, which constituted attempts of reviewing the street as the sole definition for the pedestrian system of movement, through the creation of common spaces developed in height. Those alternatives were part of the wide process of typological and programmatic renovation of massive housing. Within this search, postulating large scale schemes for collective housing also meant to rethink the sequence of transitional spaces, from the cells' private domain to the public exterior, in a way to claim the architectural constitution of a new mediatory scale between individual habitat and the city.



Fig. 2 Affonso Eduardo Reidy, Pedregulho Housing, Rio de Janeiro, Brazil, 1948. Photo by the author, 2009.

2. The Transatlantic-like Block: Corridors and Decks

Le Corbusier did not only publish exterior images of the Aquitania or the Empress of France in *Vers une Architecture* (1923), but he also included three distinct pictures of the ship's deck. The purpose was to convince architects about the architectural meaning of those spaces: the spatial generosity of large and wide corridors, the successful volume and the fine management of constructive elements, wholesomely exposed (Le Corbusier, 1994, p. 63). The deck's theme returned in *Précisions* (1930): 'those streets that are not placed on the ground', said Le Corbusier, reminded him of his own 'streets in the air' designed for the *Inmeuble-villa* (Le Corbusier, 2004, p. 96). Le Corbusier explained the *Inmeuble-villa* as a structure of overlapped houses, regulated by a collective system of external corridor spaces that replicated the street's conventional role in the ground at the upper levels of the building. At the *Unité d'Habitation* (Marseilles, France, 1945-1952) Le Corbusier converted the 'streets in the air' into '*rues intérieures*' (interiors streets), which could be residential or commercial. In Le Corbusier's work, the refinement of the street in the air idea led to the replacement of the ship's deck programmatically inclusive paradigm of an open corridor space by the more complex and functionally specialized system of the *unité*. Latin America's contribution did not just follow this process, but productively inserted different approaches during its development, which somehow opposed Le Corbusier's shift from the exterior deck to the internalized corridor. Antonio Bonet early schemes for Casa Amarilla Housing (Buenos Aires, Argentina, 1943), a never realized 500 meters long slab, showed an elaborate system of streets in the air, in which exterior roofless longitudinal decks gave access to single and duplex units. Reidy designed Pedregulho Housing's major block (Rio de Janeiro, Brazil, 1948) before the *unité* was complete, as well as did Mario Pani with Miguel Alemán Housing (México D.F., 1947). Both were huge modern housing estates where the building's circulatory system was architecturally emphasised in order to constitute collective and public spaces at an urban scale. Nevertheless, both Reidy and Pani's interpretation of the street in the air idea postulated the multifunctional open deck. Uninterrupted paths about 350 meters long, disposed every three stories and combined with eight open staircases, constituted the system of decks that interconnected the duplex apartments at Pani's on redant block at Miguel Alemán with the street quarter. A continuous *pilotis* space at the entrance level characterized Reidy's 260 meter long serpentine block, situated at a hillside facing Guanabara Bay. It was actually a terrace space at the building's third floor, connected to the urban sidewalk by two bridges, with three main staircases to provide access to the two stories below (single-room apartments) and to the four upper stories (duplex apartments). Reidy's winding terrace was like a sidewalk space inside the building, planned to incorporate some of traditional street's programmatic possibilities. According to Mindlin's description, the open platform should form a covered playground and provide space for

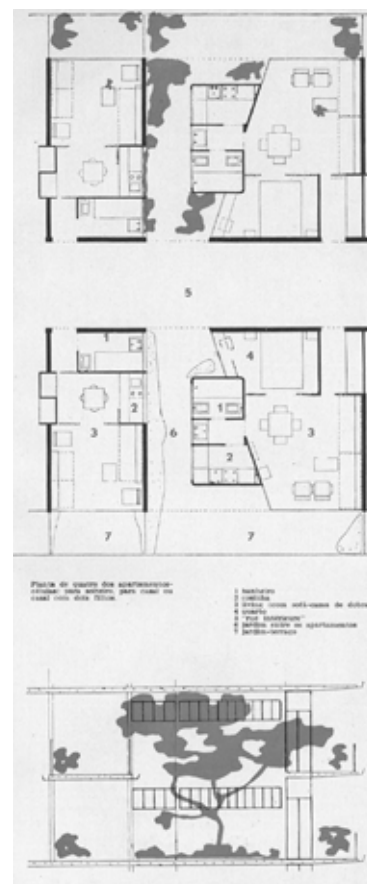


Fig. 3 Lina Bo Bardi, Taba Guaianases, São Paulo, Brazil, 1951. Habitat 14, São Paulo, 1954.



Fig. 4 . Flora Manteola, Javier Sánchez Gómez, Josefina Santos, Justo Solsona, Ignacio Petchersky and Rafael Viñoly, Rioja Housing, Buenos Aires, 1968. Photo by the author, 2007.

collective services, which even included an acoustic shell for a children's theatre. The street in the air as an open deck at the building's intermediary level reappeared at the Vecinal Portales Housing (Santiago, Chile, 1954), by Bresciani, Valdés, Castillo and Huidobro. Two major slabs, each one 242 meters long, faced the main road of access preserving the urban block inner space as a vegetated area, occupied by houses and lower slabs. As in Pedregulho, the deck led to two stories below and four stories above, providing the building with collective spaces connected to the gardens and even to the lower slabs' roofs. Lina Bo Bardi combined the interior street to the open deck at her unbuilt design for Taba Guaianases (São Paulo, Brazil, 1951), a multifunctional building with 1500 apartments. The scheme superimposed identical floors where small apartments were settled in relation to a grid of collective spaces (internal corridors and exterior decks), as if they were detached little houses in a suburban block. Realized or not, those proposals shared a common position before the large scale housing building, which was therefore understood more as

an urban piece than as the expression of a domestic scale.

3. The Fabric-like Block: Passageways and Bridges

At the end of the 1960s, streets in the air were converted into spatial networks in the last generation of modern massive housing estates in Latin America. The development of this concept can be traced through the work of the studio headed by Solsona, Manteola, Sánchez Gómez, Santos and Viñoly, beginning with the Rioja Housing (Buenos Aires, Argentina, 1968). Typologically, the tower was combined to the redent. Seven dwelling towers 18 stories high, rising from a public platform, were joined by twelve bridge-structures in prestressed concrete. The bridges, filled out by housing units in a single strip, hold horizontal circulation footbridges on the fourth and tenth stories. Terraces of common use were located over the bridges. As Solsona observed, the link that was established between the towers through the bridges produced a weave that 'shaped a fabric-like form', and that was simultaneously opposed to the 'concept of traditional housing estate', identified with the idea of 'buildings as loose pieces set at regular intervals' (Solsona, 2007, p. 182).

The shaping of a system of pedestrian walkways at the building's upper levels was liable to continuous expansion, as the Smithsons had suggested in Golden Lane. The Argentinian studio's next step was to try out the street in the air as a strategic component for structuring large housing estates placed on peripheral urban areas. The Aluar estate (Puerto Madryn, Chubut, Argentina, 1972) was designed to house the workers, technicians, and scientists from the homonymous aluminium processing plant in Chubut. It was to provide 400 new dwelling units for a city with a population of no more than 5000 people. Developers expected the conventional



Fig. 5 Alison and Peter Smithson, Golden Lane Competition, London, 1952. Flora Manteola, Javier Sánchez Gómez, Josefina Santos, Justo Solsona e Rafael Viñoly, Conjunto Piedrabuena, Mataderos, Buenos Aires, Argentina, 1974. Assemblage by the author.

subdivision in lots for detached individual homes. The studio presented a different approach, where a complete neighbourhood unit was conformed by a compact structure formed by strips of apartment blocks flanking both sides of an elevated pedestrian street, placed above the ground's level and an infrastructural shaft. A similar strategy was used at Piedrabuena (Buenos Aires, Argentina, 1974), a larger estate reaching 2,000 dwellings, to be constructed with severe budgets constraints in a poorly urbanised area. Ordinary rectangular blocks were arranged in order to conform a pattern of hemicycle structures, using the staircases as rotating points and terraces and passageways as the linkage system. Further developments can be found in Brazil within public social housing programs. Joaquim and Liliana Guedes designed the Padre Manoel da Nóbrega estate (Campinas, Brazil, 1973), distributing 672 dwelling units on a series of inflected slabs,

which could be articulated in pairs by bridges that extended an exterior circulatory system. Sérgio Magalhães designed the Cafundá state (Rio de Janeiro, Brasil, 1977) allotting 1453 dwelling units on a sequence of slabs disposed side-by-side, defining two confronted rows along a park space. Though not entirely executed, a system of bridges connecting the blocks was planned.

4. Conclusion

Although some of those buildings are separately well known, they have been seldom studied from the perspective of their correlated distributive spatial structures. Besides, if the contributions in the 1940s and 1950s have been more or less acquainted by means of their stylistic relevance to modern architecture, the proposals from the 1960s and 1970s remained less known. Moreover, they have been the subject of a hard criticism not far from the rejection of the modern city idea in the seventies.

The word anatomy was deliberately used in the context of this paper, for sociological data, which could be otherwise pondered, but was excluded here. The main reason for that is the fact that the material conditions and usages of those spaces are now too heterogeneous as to support a deterministic relationship between form and functionality. If the fabric-like block led to its ultimate consequences the streets in the air idea, as the architectural definition of a neighbourhood scale, it also represented the contested territory where the greatest difficulties for conservation resided, considering its huge dimensions. In the course of the 1970s, as the city of the modern movement was condemned, the street in the air idea was considered a failure, and identified as an example of totalitarianism and dehumanization. But the implicit thesis on the 1970s' "small is beautiful" (Schumacher, 1978), the back to the small-scale argument and the corresponding individuation of the problems, was also the thesis of the privatization of their solutions. Debunking large scale also meant to free society of its commitment. Perhaps we should consider the revision of those alternatives, not as prescriptive models, but as part of the long and tentative process of clarifying the components of the modern city, which is still an open task. This paper argues that Latin American streets in the air were conflicted spaces, but also spaces of disciplinary expansion. They represent the last great effort to update the sense inaugurated by the modern avant-garde of rethinking the city out of the housing problem. They have been contested, but maybe not overcome.

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The City in a Building, Hong Kong c.1956-1966

Eunice SENG *

Within Hong Kong's building regulations, the definition of a "composite building" refers to a building that contains domestic and other functions. From the enactment of the 1956 Building Ordinance based on volumetric control to the 1962 amendment on plot ratio control through the 1970s, over 1,500 composite buildings above fifteen stories were built in Hong Kong.¹ They are located in the densest parts of the city such as in North Point, along major thoroughfares in Tsim Sha Tsui, Tai Kok Tsui and To Kwa Wan and on reclaimed land in Kowloon. Of these, at least twenty contain populations the size of a town. Each occupies an entire urban block. The largest and most populous of these contains almost 10,000 inhabitants excluding unregistered tenants and illegal squatters. Emerging amidst the economic, social and political exigencies of post-war Hong Kong, the high-rise composite building exemplifies the paradox of collective sociability within an individual privatized space. Intended as a co-operative building in which every tenant would own his shop or apartment, it was an agglomeration of shops, factories, temples, clinics, crèches, dormitories, hostels and flats, etc. The architecture and organization manifest the way its developers, architects and builders projected the notions of a consumerist society: each square foot of habitation is rationalized and quantified. Yet the varieties of programs, spatial adaptations and contestations within testify to the combination of pragmatist logic and human caprice that drives and defines the city.

The emergence and continuing existence of the composite building narrates the post-war urban and social history of Hong Kong. It hypostatizes an era where Hong Kong was and could have been a laboratory for experimentation on urban habitation when dwelling and the city was consummated in integrated ways – where the city dwells in the block. Four intersecting trajectories of events and discursive discourses in and around 1956 had profound implications on the construction of the "composite building" type in Hong Kong: 1. "a problem of people" as the thesis of density; 2. the introduction of multiple ownership of a building and the mortgage system; 3. the amendment of the Building Ordinance for the increased height of buildings and the introduction of the set-back law; 4. the predominance of the brutalist aesthetic as the direct expression of the introduction of reinforced concrete construction for high-rise collective dwelling.



Fig. 1 "Compact Flats in Big Demand By Middle Class," article in *The Far East Builder* (1964): 108.

1. "A Problem of People" as The Thesis Of Density

When the British retook Hong Kong in 1945, the population of the colony had been depleted to around 600,000. In 1956, it increased more than fourfold to over 2.5 million. Amongst these, about one million new arrivals were from Mainland China, of which 700,000 were identified as refugees.² The rapid population increase put immense pressure on the provision of housing and public facilities. The first chapter of the Hong Kong Annual Report in 1956 titled "A Problem of People," highlighted the government's sense of urgency. It identified the problem of a vast immigrant

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population as a paramount challenge that had an influence on all areas of public policies. Amongst the policies, the large-scale resettlement program and public housing program represented major steps undertaken to cope with the changes brought by the post-war influx of Mainland immigrants. It pointed out that because of the scarcity of land in Hong Kong, the actual population was twice the normal capacity of Hong Kong, which was 1.2 million.³ This was the moment when the thesis that Hong Kong, with its shortage of land, was threatened by immigration from Mainland China, became one of the prominent features of public discourses.⁴ Resettlement was already a “serious” priority upon the British return from 1947.⁵ Of particular interest in the Annual Departmental Reports of the Commissioner for Resettlement were the sections that dealt with the economics of multi-story resettlement and the method of calculating the rent per unit.⁶ Concurrently, in the early 1950s, the problem of housing the middle class was highlighted in the trade journal *The Hong Kong and Far East Builder*. The question of who, what and where to build were the focus of a 1955 issue centered on the need for building societies to build middle class co-operative housing.⁷ The editors identified the difficulty of obtaining financial assistance on a reasonable interest basis, the limited level ground and impossibility of suburban growth, as well as the need for improvement of road and transport facilities. It recommended three ways in which the government could promote cooperative building of middle-class housing: by town planning suitable areas and improving road access to them; by selling land by private treaty to bona fide and approved cooperative societies at a reasonable value; and by extending financial assistance for this class of building.⁸

2. Multiple Ownerships and The Mortgage System

During this time, a decisive shift occurred when the notion of multiple ownerships was introduced to Hong Kong’s real estate market. Prior to 1953, real estate transactions involved entire buildings. Whereas land sales by public auction continued, developers could now resell parcels and units to other small-time developers and individual buyers. Immediately following this, in 1954, the mortgage system was introduced by a developer named Henry Fok Ying Tung.⁹ In 1956, Fok’s National Investment Company Limited built Empire Court in Causeway Bay, a seventeen-story apartment block designed by C.T. Wong. It was the tallest building in Hong Kong at its completion. The first three floors were given to shops and offices, the upper floors contained apartments ranging from studios to three-bedroom apartment and the seventeenth floor was a penthouse for Fok himself.¹⁰ By then, there were more than 500 newly-registered developers who had secured financial support from banks and government policy was in support of the demolition of old buildings. 1800 buildings were completed in 1960 alone totaling an investment of 11.5 billion, which was almost twice of that in 1958.¹¹

3. Volumetric, Vertical and Setback

In 1955, the Building (Planning) Regulations in Hong Kong were revised and the height limit of building was increased to one and a half times the width of the adjacent road.¹² The setback law was introduced to regulate the degree of projections over street from obstructing natural light available to footpaths and the streets. The impact on private apartment blocks was visible. In the main thoroughfares of Kowloon where the transaction of land blocks was high and much building activity was to take place in the following few decades, apartment complexes the size of an urban block with the top few floors set-backed began to appear. The developers hired established foreign émigré and local architects including Eric Cumine, Szeto Wai, Lamb Ping Yin, John Sousa Moraes, and Su Gin-Djih to design these composite buildings. Some builder-developers like Tai Cheong Construction Company hired realtor companies that provided architectural design services. Harriman Realty Company Limited was the architect for the sixteen-story Mirador Mansion on Nathan Road in Tsim Sha Tsui in 1959. Comprising three lower floors of shops it occupied an entire block. Its eighteen-story neighbor Chungking Mansions designed by American-trained Lamb of P.Y. Lamb, Hazeland & Co., was completed in 1961. Moraes designed Ocean View Court (1957) for Kiu Fung Investment Co. Ltd., a consortium of a developer firm, a construction firm and managers of the whole

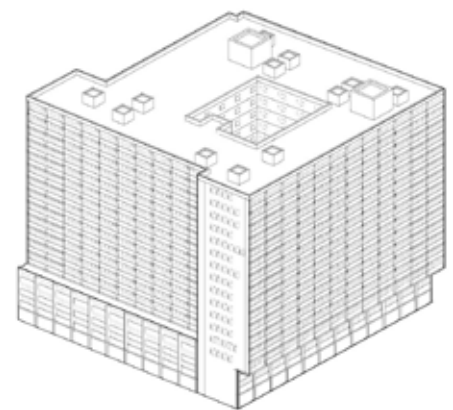


Fig. 2 Mirador mansion designed by Harriman Realty on Nathan Road, Tsim Sha Tsui, Kowloon, 1959. Drawing by author.

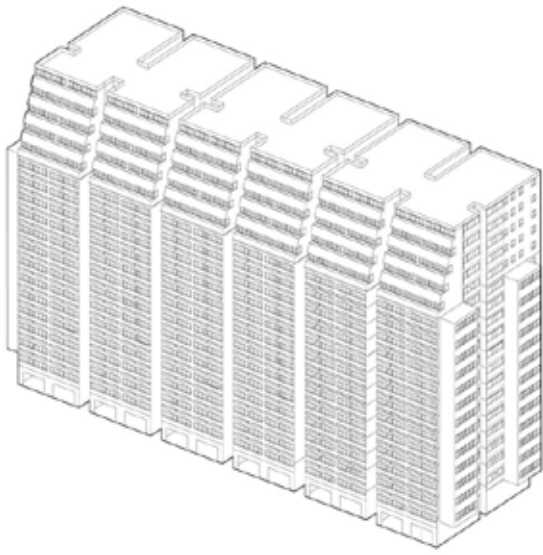


Fig. 3 Manking Building, one of eight eighteen-story blocks in Man Wah Sun Chuen, designed by Eric Cumine in Jordan, Kowloon, 1967. Drawing by author.

project. All contain elevators.

A new regulatory measure for controlling building density based on plot ratio and site coverage was introduced in 1962 and enacted in 1966.¹³ Prior to this date, many developers tried to gain planning permission. In the ten-year period between the two ordinance amendments, thousands of composite buildings were approved and many were built in the late 1960s and 1970s. One of the most spectacular of these is Man Wah Sun Chuen, a development of eight 18-story apartment blocks in Jordan, Kowloon (1964-1967). Each block contains about 419 units and houses more than 1,300 people. This is comparable to the Unite d'Habitation block in Marseilles (1947-52), which contains 337 apartments, a hotel and shops. Then newly established Ka Lin Real Estate hired AA-trained Cumine who had taught at St. John's University in Shanghai together with other proponents of Bauhaus ideology, and ran the most prolific architectural office in post-war Hong Kong.¹⁴ Cumine's massive block with its tapered profile reveals the economic imperative behind the literal and formal translation of the 1956 Development Control regulation of buildings by volume. The estate towers fortress-like over the streets that fronts them, forming an urban wall that stood

defiantly against a shoreline continually reconfigured by reclamation.

4. Reinforced Concrete Construction and The Predominance Of The Brutalist Aesthetic

The 1953 Korean War had a significant impact on the development of the construction industry in Hong Kong with investment from many Shanghaiese entrepreneurs and builders who chose to remain in Hong Kong. Having fled the Mainland during the political upheavals of the 1940s, they brought in building technology like fine plastering and piling machinery, and advanced the use of reinforced concrete, which was introduced to the colony in 1947.¹⁵ The Shek Kip Mei resettlement estate constructed by Fok Lei Company within a year of the big fire in 1953 that rendered 58,000 people homeless was the first housing project to use concrete structural walls.¹⁶ By the mid-1950s, reinforced concrete had become the most common building material for housing construction in Hong Kong. From 1960, when it was obvious that they would no longer return to the Mainland, Shanghaiese contractors ramped up their investments in Hong Kong and introduced larger and more advanced machinery like cranes and large concrete piling. As the construction industry was the main sponsor of *The Hong Kong and Far East Builder*, the buildings that were reported in the journal were main features in the advertisements of the industry products.¹⁸ There was no denying who were the powers at play behind building form and aesthetics.

Over in Britain, in December 1955, architectural theorist Reyner Banham had just published an article titled "The New Brutalism" in the *Architectural Review*. He identified the term to have begun as a polemic of anti-Communist abuse and was formalized by architects like Louis Kahn, Alison and Peter Smithsons as a "ruthless adherence to one of the basic moral imperatives of the Modern Movement - honesty in structure and material." He defined the "New Brutalist building" as "memorability as an image," "clear exhibition of structure," and "valuation of materials 'as found'." In terms of the scale and intensity of building, Hong Kong easily rivalled Britain in the 1950s. In particular, the construction of new brutalist buildings – all those that satisfied Banham's three criteria – far surpassed the few examples he discussed in his essay. The defining difference was that while he saw the ones in Britain to be ideologically driven, the composite buildings in Hong Kong was circumstantially anti-Communist. In other words, although their designers did not mean for them to embody anti-communist ideas (anti-symbolic or -heroic), the intersecting political, economic and social factors produced these large concrete housing blocks that contained spaces in which livelihoods took place.

5. From City in A Building To Building in The City, C.1966 And Beyond

The composite building development in Hong Kong presented itself as a particular insert in the global narrative of modern architecture. It offered a glimpse of the possibility of the actual coexistence of numerous individuals dwelling collectively in a continual contested relationship with each other, the developer and the government. Modern architecture in its most recognizable postwar brutalist guise was densely inhabited and vernacularized. The emergence of the shopping podium and residential high-rise in the late 1960s as the predominant

composite building form up to the present, signified a decisive shift from *a city of people* to *a city of surveillance*. The sharp delineation of the communal circulatory space and individual private space allowed for easy physical and visual control. In that regard, Wong Kar Wai's oneiric depiction of Chungking Mansions' interior captured the apex of colonial transition that has come to pass. Post-1997, the composite building continued to be occupied by diverse groups and individuals ranging from owners and managers, traders and middlemen, temporary workers, asylum seekers, domestic helpers, sex workers, addicts and tourists.²¹ Everyone is captured in the surveillance system installed by the Incorporated Owners of Chungking Mansions.²² A block north, Mirador Mansions, home to a large community of tailors, fabric makers and in recent decades, guesthouses, appeared to be its more introverted counterpart. The first three floors of podium contain more than 200 shops while a third of the upper floors consist of a mix of studio apartments, guest houses, tailors and textile traders.²³

The mid-century composite building appears to have momentarily side-stepped urban renewal, as the numerous ownerships and tenant subdivisions pose a daunting challenge for developers and the government to claim the site as a single legal entity for redevelopment. Far from being a "dinosaur of a future past" – Reyner Banham's description of the megastructural visions of the period – the composite building is a potential site for continuing speculations on contemporary development, not only in the configurations of dwelling units but in the reinvigoration of actual lived communal spaces. This is especially crucial for the city in which space is closing in on itself; public space is increasingly experienced and defined within air-conditioned consumerist environments and urban ethnic enclaves are produced with little remedial measures or alternatives. Take for example, Kiu Kwan Mansion (1963) and the Metropole Building (1972) designed by Tam Heung Sing, Szeto Wai and Steven Yue in North Point. Both were communist hideouts during the 1967 riots. The latter, then still unfinished, was a triage center. Now Kiu Kwan is home to various Fujianese clans in the region and Metropole contains a large community of medical practitioners. The traffic in and out of these apartment blocks and the ever-changing use of the private and communal spaces worried the building management. Yet it is the volumetric, spatial and social complexity of this historical "byelaw building" that offers a glimpse of a way out to the present city of building code. As a building at a scale that encompasses the complexities and densities of the city, it presents a crucial point of entry for the rethinking of the current state of urban habitation and preservation.

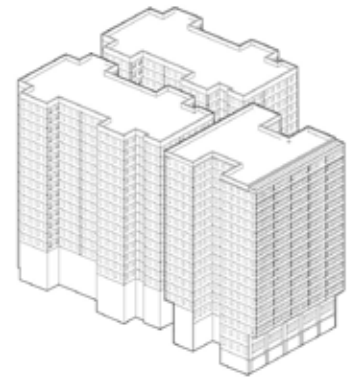


Fig. 4 Chungking Mansions designed by P.Y. Lamb, Hazeland & Co. on Nathan Road, Tsim Sha Tsui, Kowloon, 1961. Drawing by author.

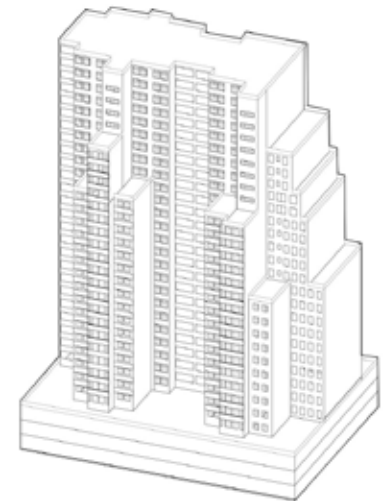


Fig. 5 Kiu Kwun Mansion designed by Tam Heung Sing, Szeto Wai and Steven Yue in North Point, Hong Kong, 1963. Drawing by author.

Notes

¹ Within Hong Kong's building regulations, "composite" refers to multiple functional uses – always inclusive of the domestic – within a single building complex.

² Leung, Hon-Chu, "Immigration and citizenship," in *Remaking Citizenship in Hong Kong: Community, nation and the global city*. Edited by Agnes S. Ku and Ngai Pun. London; New York: Routledge, 101.

³ Abercrombie, Patrick. *Hong Kong: Preliminary Planning Report*. Hong Kong: Government Printer, 1949. See, Bristow, R. *Land-use Planning in Hong Kong: history, policies and procedures*. Hong Kong: Oxford University Press, 1987, 2-5, 108. This notion of capacity and understanding of density took into account Patrick Abercrombie's 1948 plan for Hong Kong that recommended an even development of new Towns and the city center. The Report recognized, however, that Abercrombie's scheme was no longer valid because it was based on a significantly lower projection of population growth.

⁴ On October 10, 1956, the National Day of the Republic of China, violent riots broke out, which started with looting and attacks by pro-Nationalist civilians on pro-Communist civilians and their property in Hong Kong. Known as the Double Ten riots, they were the culmination of tensions since 1949 by the majority of the population who were outraged at the possibility of Hong Kong being handed back to China if the entrepôt trade could not be maintained. The famine in China triggered by Mao's Great Leap Forward that began in 1958, and the 1962 Great Proletarian Cultural Revolution, brought an additional 100,000 immigrants who crossed the border into Hong Kong. The colonial institutions inherited from the pre-war era when Hong Kong was largely a temporary stopover for transient businessmen and workers were severely challenged by the disenfranchised majority of residents who were little more than colonial subjects allowed the "privilege" of living in a "foreign" territory. This political set-up was increasingly untenable as the immigrants settled down. The May 1967 street riots were a tipping point that saw the government shaken from its complacency. In the following decades, it began introducing extensive public reforms to avoid political alienation.⁴ Housing was at the frontline.

⁵ "Government Resettlement Work," *The Hong Kong & Far East Builder*, vol. 12, no. 5 (1956): 71-72.

⁶ The Public Works Department built the early resettlement estates such as Shek Kip Mei, So Uk and Li Cheng Uk and the first low-cost housing estate at North Point was built by the former housing authority (founded in 1954). The Government Low-cost Housing Program was formally implemented in 1961 to provide higher quality rental accommodation. From 1965, high-rise resettlement blocks with improved facilities such as a private lavatory and balcony in each flat were built. At this time, the population in public housing estates reached one million, which accounted for almost a third of the entire population. The deterioration of the political, social and economic conditions in China and the Western trade embargo against the country due to the Korean War ended Hong Kong's role as its premier entrepôt; and spearheaded industrial development of the 1950s. The economic transformation during the decade was spurred by the provision of the conditions for industries to develop and grow – from the improvement of local infrastructure and water supplies, making land available for large factories to be built particularly in new towns and constructing low-cost multi-story industrial buildings in resettlement estates for light industries. The development of the first industrial town in Kwun Tong coincided with the establishment of the Housing Authority in 1954.

⁷ The Lady Grantham Villas in Taikoktsui Kowloon built by the non-profit Hong Kong Economic Society opened in July 1955. The seven five-story blocks of flats following a "strictly practical, utilitarian and serviceable" design were the first subsidized low-cost housing sold to the public.⁷ On the one hand, it revealed the inadequacy of one-off housing projects to accommodate the lower class, which was evidenced by the Shek Kip Mei Resettlement Estate and anticipated the implementation of the low-cost housing program starting with North Point Estate in 1957. At the same time, it was the beginning of private interests in affordable housing that saw the spate of composite building activity after 1956. "Lady Grantham Villas," *The Hong Kong & Far East Builder*, vol. 11, no. 4 (1955): 57-58.

⁸ "Editorial: And Now, Middle Class Co-operative Housing?" *The Hong Kong & Far East Builder*, vol. 11, no. 5 (1955): 5. C.f. "What To Build," *The Hong Kong & Far East Builder*, vol. 15, no. 6 (1961): 42.

⁹ Feng, Bangyan. *Xianggang di chan ye bai nian. (100 years of Real Estate Development in Hong Kong)*. Shanghai: Dong fan chu ban zhong xin, 2007, 85-87.

¹⁰ "Empire Court," *The Hong Kong & Far East Builder*, vol. 12, no. 3 (1956): 19-20.

¹¹ Feng, Bangyan. *Xianggang di chan ye bai nian* 香港地產業百年 (Shanghai: Dong fan chu ban zhong xin, 2007), 73

¹² In Britain, the Clean Air Act was introduced to reduce air pollution in 1956 after years of debates. This was followed by the amendment of the Rights of Light Act in 1959 for the purpose of preventing the access and use of light to be enjoyed from being taken without interruption.

¹³ Density zoning was adopted in 1966. "Density Zoning Adopted," *Far East Architect & Builder* (May 1966): 27-28. Zones 1, 2 and 3 referred to urban, suburban and rural respectively. The building demolition regulation was enacted in 1964.

¹⁴ Cumine designed North Point Estate (1958) and was master planner for So Uk Estate (1961).

¹⁵ The Engineering society of Hong Kong was established that year.

¹⁶ "Resettlements," *The Hong Kong & Far East Builders*, no. 5, vol. 11 (1955): 62-64.

¹⁷ Wong, Luke S.K. (ed.). *Housing in Hong Kong*. Hong Kong: Heinemann Educational Books, 1978. 95-100. See also, "Tower Court," *The Hong Kong & Far East Builders*, no. 6, vol. 10 (1953): 9. In 1955, the use of reinforced concrete was regulated and architects needed to co-sign the drawings with a registered structural engineer. The PWD established a laboratory in North Point to conduct tests on the control of building materials across Hong Kong. In 1957, local factories began to manufacture high strength steel re-bar. Escalators were introduced to shopping malls and podium retail began to emerge.

¹⁸ For example, Mirador Mansion's two escalators and eight elevators was supplied by Otis, and used Vibro Piling for the foundations. "Mirador Mansion," *The Hong Kong & Far East Builder*, vol. 13, no. 6 (1957-58): 19-20.

¹⁹ Banham, Reyner, "The New Brutalism," *The Architectural Review* (Dec., 1955): 357. He published a book of the same title in 1966. Banham, *The New Brutalism: Ethic or Aesthetic?* London: The Architectural Press, 1966.

²⁰ Ibid., 361.

²¹ Matthews, Gordon. *Ghetto at the Center of the World: Chungking Mansions, Hong Kong*. Hong Kong: Hong Kong University Press, 2011. Rather than focusing on the ethnic representations of the inhabitants, Matthews discussed these groups as specific social categories within the Mansions.

²² In 2011, the building celebrated its 50th anniversary and the news headline read "From eyesore to icon."

²³ The original plan consisted of mainly studio apartments of 500-600 square feet while the corner ones are larger at 1,300 square feet; but these very quickly



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THEME

Technology

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Bridges to Our Heritage 19th and 20th Century Bridges over Singapore River

Yuk Hong Ian TAN *

Abstract

The paper will highlight the process of technology transfer, specifically bridge technology transfer from Britain to Singapore. Working on three scales of analysis, global, macro and micro, the speaker will attempt to draw a relationship between the structural design of these five bridges with tangible factors, such as topology and urban development as well as intangible factors, such as political and economic influences in Colonial Singapore.

On a global scale, the speaker will show how engineering technology from Britain was exported to colonies during the 19th and 20th century while the macro scale will involve a deeper understanding of Singapore River's urban morphology. These parts will focus on the significance of the historical bridges to urban development in Singapore colonial town and show how 19th and 20th century bridges fulfilled Singapore's development needs.

At the micro scale, we will look back in history at the structural systems of these five historical bridges in relation to other contemporary bridges. Looking forward to the future, the speaker will highlight how these bridge structures are still continually evolving to cope with increasing loads from motorised vehicles and activities after the 20th century.

Beyond the bridges' functional qualities, the paper will show how the bridges could be appreciated beyond its historical and aesthetical qualities.

Keywords : singapore,colonial,iron,steel,bridges,conservation



1. The Process of Technology Transfer

Historical structures are commonly revered heritage and not for technological importance. The significance of the five historical bridges on Singapore River could be better appreciated with a deeper understanding of technology transfer from Britain to Singapore in the 19th and 20th century. This process is not just a utilitarian act of importing technology for development. Instead, the motivation to commission the five historic bridges should be seen as an intrinsic part of the economy of the colonial city and its importance to Britain. (Fig 1)

Fig. 1 Macro to Micro understanding of Singapore as a British colony

According to Headrick (1988), the transfer of technology involves two actions oc-

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curing consecutively. It involved the export of the bridges and also the transfer of expertise required to assemble and maintain them. Headricks differentiated the two actions as “*Geographic Relocation*” and “*Cultural Diffusion*” respectively. Utilising this framework, the paper will look at factors impacting the geographical relocation of the bridges and the subsequent transmission of engineering and manufacturing skills from Britain to Singapore.

2. From Trading Port to Crown Colony

In parts of Middle East, Africa and the Far East, British colonialism was driven by trade and security of India. Beginning in the 19th century, India occupied the strategic centre of the British Empire’s trade in Asia. India provided most of the raw materials needed for the Industrial Revolution in Britain. By 1860, India’s trade with Britain was the sum of British trade with China, South Africa and Australia combined (Benians 1959). Due to its significance, the East India Company established colonies and trading ports along the Britain-India trading route. These colonies included South Africa, Egypt, Malaya and Burma. The colonisation of Singapore was likewise driven by its subordinate relationship to India and the need to provide opportunities for British enterprises. (Fig 2)

Singapore was founded as a trading port in February 1819 by Sir Stamford Raffles with the aim of breaking Dutch’s control of the Europe-India-China shipping route in Malaya. The 1824 Anglo-Dutch Treaty allowed Britain to exchange trading ports in Sumatra for Dutch ones in the Malay Peninsula. (Ricklefs 1982) The East India Company then united Singapore, Penang and Malacca to form the Presidency of the Straits Settlements in 1826 to promote trade along the route. In 1833, the East India Company lost its trade monopoly with China. The Straits Settlements, which was established to protect and serve this sea trading route, was affected badly. With the loss of a major trading partner and a source of revenue, the India Office tried to avoid financial deficit by reducing monetary support to Singapore. This persisted from 1830 to 1867 until a group of Straits businessmen successfully petitioned the Colonial Office in Britain to establish Singapore as a Crown colony.

Three events accelerated the development of the Crown Colony on a global scale. Firstly, the opening of Suez Canal in 1869 established Singapore as a key stop for ships en-route to China. Secondly, by 1860s cargo steamships had become more efficient due to advancements which allowed ships to carry more goods, operate with less coal and sail faster (Headrick, 1988) (Fig 3). As a result of higher shipping and trading volume in Singapore, commercial infrastructure was built up rapidly.

The construction of key infrastructure such as roads and rail were essential for trade along Singapore River (Buchanan 1986). The five historical bridges over Singapore River, constructed between 1868 and 1929, signified the importance of overland infrastructure for transporting goods and people. Collectively, the bridges also represented Singapore’s infrastructural development during the 19th and 20th century.



Fig. 2 Major shipping routes in British colonies worldwide



Fig. 3 Steamship at Keppel Harbour, Singapore



Fig. 4 Aerial photography of Singapore harbour from Singapore River to Keppel Harbour

3. Bridges as Urban Landmarks

The lucrative entreport trade in Singapore was made possible with an efficient overland transport of goods from Singapore River to Keppel Harbour. (Dobbs 2003) The construction of the road system created a progressive sprawling of the city from Singapore River towards Keppel Harbour. (Fig 4)

Bridges and roads were essential in connecting communities on the two banks of Singapore River. Small roads expanded to form thoroughfares across the two banks. South Bridge Road and New Bridge Road are parallel thoroughfares which connected communities on the two banks. Presentment Bridge and Coleman Bridge were important landmarks in the urban development of the city which gave North/South Bridge Road and New Bridge Road their namesakes respectively.

Commercial firms, retail stores and shipping houses congregated along the two roads on the South Bank whereas European firms and civic buildings flanked roads on the North Bank. This gave rise to colloquial names for the two areas—*Twa Poh* (Big District), referring to the densely-populated ethnic enclaves on South Bank, and *Seoh Poh* (Small District), referring to the Civic District on North Bank (Powell 2004). The historic bridges were regarded as landmarks dividing the two districts and their successive reconstruction from timber to iron and reinforced concrete signified the increased loads bridges had to handle in the 20th century.

4. Iron and Steel Bridges in 19th and 20th Century

Wrought iron was first introduced during the construction of Elgin Bridge in 1862. Subsequently, the material was used to construct Cavenagh Bridge (1868), the third Coleman Bridge (1886), Ord Bridge (1886) and the first Read Bridge (1889) (Cheong 1992).

Cavenagh Bridge is the oldest of the five existing historic bridges. It is also the first bridge in Singapore designed by a London consulting engineer. Rowland Mason Ordish had based the design of the bridge on his earlier design for Štefánik Bridge over the Vltava in Prague (1868) (Moss and Hume 2001). The “*Ordish*” rigid suspension system was designed to withstand the high tensile forces in cables. Cavenagh Bridge is 200 feet (60m) long and has a 25 feet (8m) wide roadway. A loading test was conducted by manufacturer P&W MacLellan after completion whereby components were bolted together and tested at Clutha Works in Glasgow “*with a double load equivalent to four times its own weight.*” Thereafter, components were shipped to Singapore and riveted on site by local labourers. Live load testing was further conducted by “*a party of 120 Sepoys soldiers marching over the completed Cavenagh Bridge.*”

The second oldest bridge, Ord Bridge is a truss girder bridge originally designed for the railways. Trusses are arranged in a Double Warren system that gave the girders a distinctive X shape. Each pair of girder is made of two inclined tension members held between horizontal bars. The bridge had a single span of 135 feet (40.5m) and a width of 24 feet (7.3m).

By early 20th century, steel had replaced wrought iron as the preferred material for bridge construction. It offered greater compressive strength and was not susceptible to brittle failure like cast iron (Beckman and Bowles 2004). However it took a while for steel to supersede iron usage due to high manufacturing cost. By 1880, steel price had dropped 75%, making it a viable alternative to iron. Of the five historic bridges, Anderson Bridge was the first to be built with steel (1910). This was followed by the second Elgin Bridge (1929) and the second Read Bridge (1931). Three structural systems – steel truss arch, bowstring arch and the steel box girder, were used respectively. The structural systems reflected engineering trends in Britain in early 20th century. Stronger steel was developed and as a result, steel arch bridges were gradually replaced by steel plate girder bridges and reinforced concrete bridges (Benett 1999).

Anderson Bridge has a span of 204 feet (61.2m) with 2 roadways of 31 feet 6 inches (24.5m) wide. The roadways are flanked by three large steel girder arches, each reaching a top height of 20 feet (6m). Four classical arch portals, constructed with granite and plastered over, form the entrances to the two pedestrian walkways. The bridge is constructed using the “*Linville*” bowstring truss, whereby the girders in each arch were arranged “*in a curve rising to 26 feet high in the centre*”. While structural steelwork was manufactured in Britain, non-structural

components such as iron railings and gas lamps were manufactured in local workshops. This signified the colonial government's wish to reduce dependency on pricey British technology.

The second Elgin Bridge constructed in 1929, marked another step in achieving engineering self-sufficiency. The Colonial Government employed a bridge engineer T.C. Hood in 1925. He was remembered for his design of Crawford Bridge (1926) and Elgin Bridge (1930) which was based on earlier designs for Crawford Bridge. The span of Elgin Bridge is twice as long as Crawford Bridge. The bridge deck is 86 feet (25.8m) wide to accommodate two roadways of 27 feet (8.1m). As Hood was based in Singapore, he was aware of the need to raise the new Elgin Bridge higher to allow boats to pass during high tide. Earlier bridges designed by foreign engineers, such as Cavenagh Bridge and the first Read Bridge had insufficient height clearance which prevented heavily laden boats from passing.

The second Read Bridge, built in 1931, was the last of the five extant historic bridges over Singapore River. Hood initially designed it as a single span reinforced concrete bowstring bridge. However it was eventually built as a steel box girder bridge to reduce cost, as the reconstruction occurred during the Great Depression. Two economic reasons supported the design change. Firstly, the old Elgin Bridge had two spans with a concrete pier as support. The new Elgin Bridge integrated the pier into its design to avoid the demolition cost. Secondly, as the new Elgin Bridge was redesigned with relatively short spans, it was suitable for implementing the steel box girder system which used less steel.

5. Holistic Approach to Appreciating the Bridges' Heritage

This paper had adopted a holistic approach to show how the process of technology transfer from Britain to Singapore is not simply a response to modernisation. Instead, the development of bridges in colonial Singapore was driven by global and macro factors such as politics and trade. We also saw how the structural designs of the bridges were determined by tangible considerations such as the river's ebb and flow, and intangible factors such as the popularity of different structural designs then. **(Fig 5)**

This approach had shown how a comprehensive technology study must be read in its social context. Beyond mere understanding, this knowledge could enable policy-makers to enhance conservation strategies for "functional heritage" by balancing current functional requirements of the bridges and the need to conserve their structural and aesthetic heritage.

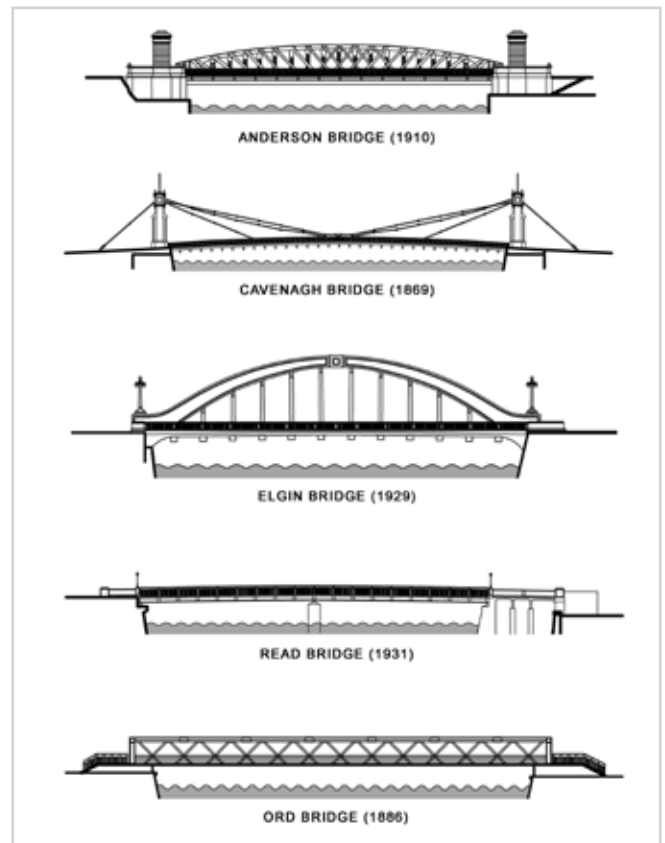


Fig. 5 Drawings of five historic bridges over Singapore River

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From a Traditional Brick Architecture to a "De-Materialization" The Work of Belgian Architect Gaston Eysselinck (1907-1953)

Marc DUBOIS *

Abstract

The transformation from a classic architecture towards a new building type for the modern time has a very radical evolution in the twenties. For some architects this process was a very slow evolution, like for Le Corbusier. For other architects the process of transformation was a very quick evolution.

The best example in Belgium of this transformation is the work of architect Gaston Eysselinck (1907-1953). As a student, he made a trip in 1927 & 1929 through Holland. Eysselinck's first project House *Eeckhout* (1928) is a good example of the way the architecture of the *Amsterdam School* influenced. After visiting the Schröder house of Rietveld in 1929 Eysselinck started with House *Serbruyns* (1930) with a clear reference to the *De Stijl* movement. The year 1930 is a turning point in his life. He starts designing his own house in Ghent, one of the finest examples of modern architecture in Belgium. In a very short period, Eysselinck was able to absorb the modernist aspects of the international modern movement. In only 3 years, his architecture changed completely and so did the technology of construction. This results in an evolution from a brick architecture with traditional good details to a very fragile construction with a plastered and painted façade, an aspect of "de-materialization".

In his short career, his second masterpiece was the Post office in Ostend (1945-1952). Eysselinck was able to integrate the then very at hand discussion in the avant-garde movement concerning the themes of New Monumentality and the integration of art and natural materials in architecture.

He chooses to work again with traditional materials, starting in 1935, and without returning to the traditional architecture. For Eysselinck, this choice of materials is an important element of sustainability. A modern building for Eysselinck is the idea and the ambition to make a building for the community, which can be perfectly built using traditional materials.

Keywords : brick, "de stijl", le corbusier, de-materialisation, natural stone, granite

The general theme of the 14th Biennale of Architecture in Venice (2014), organised by curator Rem Koolhaas, is "Absorbing Modernity: 1914-2014". The question if modern architecture has been accepted or rejected by different generations, keeps arousing the interest of many. How did people react, both in a substantive and formal way, to the heritage of the avant-garde in the twenties? The questions asked by Koolhaas will probably result in new insights after the opening of the biennale in June.

The transformation from a classic architecture towards a new building for the modern time has a very radical evolution in the twenties. For some architects this process was a very slow evolution, like for Le Corbusier and Mies van der Rohe. For other architects who finished their studies at the end of the twenties, the process of transformation was a very quick evolution. The best example in Belgium of this transformation is the work of architect Gaston Eysselinck (1907-1953).

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As a student, he made a trip in August 1927 through the Netherlands, destination Rotterdam, Amsterdam, Hilversum, Utrecht and Breda. Why did he choose to travel to this particular country? It was especially the influence of the creations of the *Amsterdam School* and the extension of the city of Hilversum, coordinated by architect W.M. Dudok in the twenties. The oeuvre and the writings of H.P. Berlage were an inspiration for Eysselinck, considering the Netherlands as a pioneer in architecture.

After his first trip in 1927, Eysselinck received his first project *House Eeckhout* (1927-1928). This building is a good example of the way the architecture of the *Amsterdam School* influenced him and also shows his “adoration” for brick architecture. He completed the entirely symmetric façade of the building with wooden boards, a solution that wasn’t in use in the architecture in Flanders.

In September 1929 he made a second trip to the Netherlands and visited the new modern buildings in The Hague, Amsterdam, Hilversum and Utrecht. One of the highlights during his trip was visiting the cooperation building *De Volharding* in The Hague by architect J.W.E. Buijs. In this new “cathedral of labor”, glass bricks were profusely used to build the construction. Eysselinck made a sketch of this building in his notebook, to remember the colors and the composition of the façade. He also visited the Schröderhouse of Gerrit Rietveld (1924), a masterpiece of the *De Stijl* movement. After the trip through the Netherlands, he started with *House Serbruyens* (1929-1930), a project with a clear reference to the architecture of *De Stijl*. This small terraced house is characterized by a highly dynamic composition of the façade. The use of colours in the façade is a clear interpretation of the ideas of neo-plastic architecture. The introduction of an exterior stair case to reach the front door on the first floor is a typical Dutch solution not frequently used in Flanders. On the second level, he also introduced a small roof garden, orientated to the south.

The year 1930 is a turning point in his life. He gets married in the summer and visits the Weissenhofsiedlung in Stuttgart, Germany. In November 1930, Eysselinck participated at the CIAM meeting in Brussels. On the legendary group picture, Eysselinck is standing only one metre away from Mies van der Rohe! Also on 1930 Eysselinck starts designing his own house with a studio in Ghent, at the age of 23! This is one of the finest examples of modern architecture in Belgium and selected by Alberto Sartoris for his book *Gli Elementi dell’Architettura Funzionale* (1935 & 1941). Many publications mention this building in Ghent¹. This building, a house with studio, can definitely be seen as one of the international examples of plastered architecture.

In a very short period, from 1927 to 1930, Eysselinck was able to absorb the modernist aspects of the international modern movement. Especially his acquaintance to the work of Le Corbusier changed his work drastically. In only 3 years, his architecture changed completely and also the use of materials and construction. This results in an evolution from a brick architecture with traditional good details to a very fragile construction with a plastered and painted façade, an aspect of “de-materialization”.

1. Four Buildings in “International Style”

In 1932, Eysselinck designs the *House Peeters* in Deurne-Antwerp². For this design, he obtains a second mention during the most important architectural prize in Belgium at that moment, the “Prijs Van de Ven”. In comparison to his own house, Eysselinck decides to build a volume with three façades. At first glance, the project seems to be a copy of one of the buildings of LC in Stuttgart, although there are differences, like the separation between a rooftop garden and a solarium. Even more than in his own house, Eysselinck is able to integrate the five essential characteristics of the new architecture, formulated by LC: “pilotis, plan libre, toit (jardin) terrasses, fenêtres en longueur, façade libre”. In Mechelen, Eysselinck builds the double house *Hoogenbemt - Contryn* (1933-1934)..

2. The End of the “De-Materialization”

Around 1935, his view on architecture changes, and Eysselinck starts to appreciate more and more the oeuvre of Adolf Loos. The large technical problems with the cement layer in his own house are only part of the explanation. In 1935, the second part of the *Oeuvre Complète* of Le Corbusier & Pierre Jeanneret is published, covering the period 1929-1934. This oversight starts with Villa Savoye, but also mentions a house in Chile (1930) characterized by the use of quarry-run rock. This choice is also made for the house for Madam De Mon-

drot (1930-1931): LC doesn't chose plaster, but he decides to go with natural stone. The book also contains a picture of the *Pavillon Suisse* (1930-1932), where it is clear to see that he uses panels of natural stone to cover the façade. In the lowest volume with a bent wall, LC uses untreated quarry-run rock. These are without a doubt the projects that convinced Eysselinck that a return to natural materials isn't a denial of the principals of modern architecture; it is much more a revival of architecture. Eysselincks oeuvre between 1935 and 1940 is the proof that the materials should and can be used in their natural texture.

3. The Post & Telephony Office in Ostend (1945-1952)

In his short career, his second masterpiece was the Post office in Ostend (1945-1952) in cooperation with engineer Mallebrancke. Ostend suffered a lot during the Second World War. The most important public buildings were destroyed, including the post office. The division of the building in two parts is a clear sign of the organization of the building inside: the lower building in the front is accessible for the public. The first and second floors contain the space for central telephony. On the top floor, there is a restaurant for the employees, including a terrace on the south side of the building. The division had an extra advantage: in this way, natural light could enter the building above the counter. The large hall of the post office contains a curved ceiling, made out of aluminum. The zenithal daylight above the counter influences strongly the whole space: it works as a propelling, orientating power from the dark entrance towards the counter. A lot has been published about the interesting history of this building³. Many of those works focus on his sources of inspiration: the Russian architecture from the twenties and the *Organic* Architecture from the United States, also present in Europe after 1945. Recent studies show that Eysselinck also found some inspiration for his curved ceiling in the *Palazzo delle Poste* in Naples, built by architects Giuseppe Vaccaro and Gino Franci (1933-1936)⁴.

For Eysselinck, as a convinced functionalist, the ground plan is *le générateur*, the generator or motor of the project. Since the public part of the post office had to be much larger than the part for telephony and telegraphy, the entrance with stairs is placed asymmetrically. Eysselinck was able to integrate the then very at hand discussion in the avant-garde movement, led by Sigfried Giedion, the secretary of the C.I.A.M., concerning the themes of New Monumentality and the integration of art and natural materials in architecture⁵. The PTT/RTT building - otherwise devoid of all classical elements - is completely and harmoniously organized according to the golden section principle, what speaks for Eysselincks conviction that architecture builds on the attempt to realize harmony and control of nature.

4. Back to Natural Stone, a Gift of Nature

Since the theme of this conference is technology, I would like to emphasize on the use of materials in this building. His choice to work again with traditional materials without returning to the traditional architecture is very clear. For Eysselinck, this choice of materials is an important element of sustainability. Ostend at the Belgian sea side has a quite aggressive climate. That is why Eysselinck demanded that the windows were put in a bronze frame instead of a frame in steal or aluminium. This raised the price significantly, but in function of the future, he made the right choice. During the recent renovation, the windows were not replaced, but merely brushed up. It was even possible to replace the single glazing by double glazing.

Eysselinck developed new details for this building is Ostend to be able to use very thin plates of natural stone. In order to convince the master builder, the architect took the decision in 1948 to apply these details to his own house. He developed techniques to install self-supporting plates, a method that he thoroughly designed⁶. On a picture representing the old façade, Eysselinck draws the new composition with the plates in natural stone, limestone from Belgium also called *Pierre Bleu*. This document is a unique proof of his techniques. He doesn't consider the renovation of his own house as a mutilation rather than a laboratory for new possibilities. In one of his texts, he emphasizes the many advantages of using the nature stone in this way. He also publishes a drawing, explaining all the details of this new technique.

The use of rough, unprocessed bluestone in certain parts of the façades in Ostend was heavily criticized. The application of a band of rough blue limestone wasn't only done for compositional motifs, but also to break with the monotony of the façade. With this form of New Brutalism, Eysselinck occupies a special position within the Belgian architecture. In his striving for a diverse use of natural stone, we can see his big admiration for the work of Adolf Loos.

For the base of the building and covering of the three revolving doors, he uses granite. In the interior, for the floor he used Exerod granite of Sweden and for the columns the Balmoral granite from Finland. For the big wall in the interior, he chooses to use travertine.

With this building, Eysselinck reaches the highlight of his oeuvre, both on a compositional as on a technical level. A modern building for Eysselinck is the idea and the ambition to make a building for the community, which can be perfectly built using traditional materials! Simultaneously with the discussions on the relationship between functionalism and aesthetics, Eysselinck realized his monumental building, superseding the rigid functionalism that would reach its summit from the sixties on. But at the same time, the building also became a tragedy for Eysselinck. The major resistance against the project, and the loss of his loved one resulted into his suicide in December of 1953. The Post office building is already listed as a monument in 1981⁷. The City of Ostend bought the building and transformed it recently into a cultural centre *De Post*.

(photo copyrighted by Design museum Gent, Belgium.)

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A Review of Influences of Modern Movement Architecture on today's Façade Design in tropical Climate of India

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Abstract

Façade plays an important role in modern movement architecture and a critical role in the conception of energy and climate-optimized buildings: it is the building's skin and functions as an interface between interior and exterior space. It provides thermal and sound insulation and ventilation, and controls and guides the entrance of daylight into the building. Tropical climates have unique challenges to reduce solar heat gain through building envelope to make buildings energy efficient. India has a rich tradition of different forms of architecture and design principles - most of them are perfectly adapted to the climatic requirements and constructed with local building materials and technology. In the twentieth century, Modern Movement Architecture shows a global trend towards transparent, light-filled buildings with great expanses of windows and façades with advanced building technology. However, the twentieth century modern movement architecture in India evolved in response to the climate and culture. In India, remarkably diverse constellations of façade design can be traced in modern architecture often taking into consideration traditional Indian principles combining them with new materials and constructions. Most of them marked by overhanging balconies and horizontal *brise-soleils* and as an example of a human scaled urban infrastructure offering private and public green spaces in transition. After independence in 1947 more public, administrative and governmental buildings followed in the tradition of the modern movement and with emblematic character. This paper presents a review of the influences of modern movement architecture on today's facade design in tropical climate of India. The purpose of this review is to reappraise works of the masters of the modern movement, in the context of today's energy and environmental value system; a value system which justifies a greater capital cost in money terms with a view to minimize recurrent costs in energy terms and environmental degradation.

Keywords : indian, facade, tropical, modern, architecture

1. Introduction

The sun control device has to be on the outside of the building, an element of the façade, an element of architecture. And because this device is so important a part of our open architecture, it may develop into as characteristic a form as the Doric column. Marcel Breuer

Historically, different forms of architecture and design principles can be found - most of them are perfectly adapted to the climatic requirements and constructed with local building materials and technology. Many designers in India have been aware of rich tradition of climate-adapted buildings and explored these principles to become part of future-oriented design strategy in architecture.

The modern architecture emerged from cultural, territorial and technical transformations of the nineteenth century in the western world and expanded to Asia by the twentieth century (Frampton 2007). As per the western philosophy, architecture movements and architects can be classified as Empiricist and Rationalist (Lang 2002). Empiricists argue that knowledge should be based on evidence. Rationalists argue that

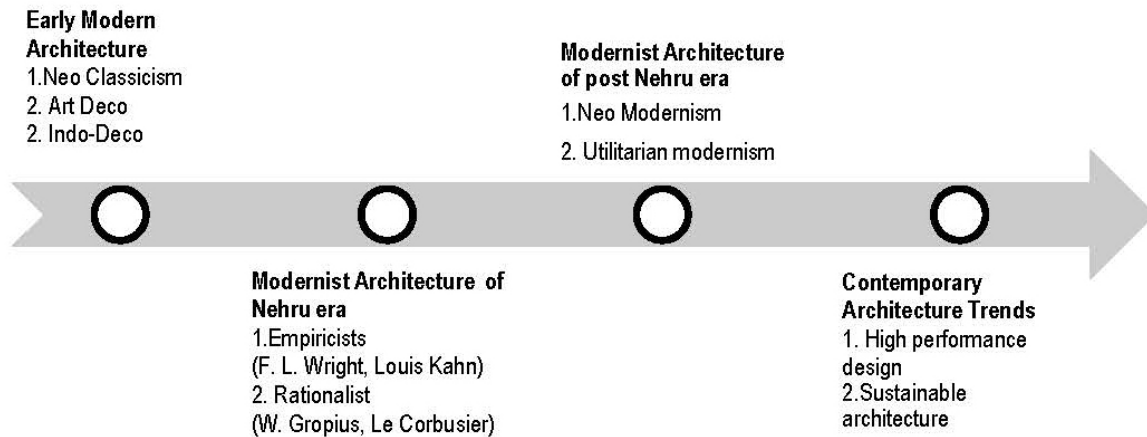
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truth and beauty can be divined by pure reasoning.

Internationally, the twentieth century Modern Movement Architecture shows a clear trend towards transparent, light-filled buildings with great expanses of glass façades. In India, the twentieth century saw an extraordinary array of architectural explorations, remarkably diverse constellations of façade design often integrating the international modernism with the traditional design principles and local materials and construction techniques. This paper presents a review of influences of modern movement architecture on façade design in tropical climate of India and argues that age old solutions of external shading devices have been reinterpreted in modern architecture movement.

Time line of modern architecture in India



2. Early Modern Architecture in India

The Indian Institute of Architects, established in 1920s, was dominated by British trained architects. Mumbai was the epicentre of architectural thinking in India and the Sir J. J. School was the only significant place for architectural education in the country at the time. Most major Indian architects of the period were either educated under Claude Batley (1879-1956) there or worked with him in Gregson, Batley and King (GBK). A great concern of the school and firm was to produce architecture that was modern, with symbolic referents to India, and suitable for existing ways of life as well as the climate of the country.

The early architectural work was either Neo-Classical or some modified version of it, Art Deco or Indo Deco. The New India Assurance Building (1935), Mumbai designed by Master, Sathé and Bhuta, with N. G. Pansare as the artist, is a reinforced concrete structure with Art Deco façade, divided into tripartite symmetries, with the central plane emphasized. The horizontal projecting surfaces protect the building from the eastern and western sun.

An increased awareness of indigenous cultures led to evolution of Indo-Deco, an integration of diversified local elements and Art Deco motifs. American architect Walter Burley Griffin (1876-1937) designed office building for the *Pioneer* newspaper (1935), Lucknow in Indo-Deco. Griffin believed that the universalism of the International Modernism that was emerging in Europe was not appropriate for India on both climatic and cultural grounds.

The Galconde (1936-48), Pondicherry by foreign architect Antonin Raymond and George Nakashima (Gupta et al 2010) is the first truly modernist building in the reinforced concrete building of strikingly simple form, its use of cross ventilation, pre-cast operable horizontal louvers and precast thin-shell vaulting that forms a double roof for insulation deals well with the warm humid climate (**Fig. 1**).

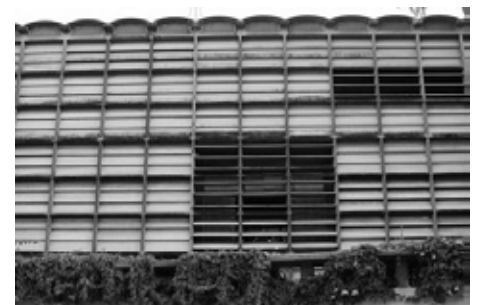


Fig. 1 Antonin Raymond and George Nakashima, Galconde, Pondicherry, India, 1936-48, operable horizontal louvers. en.wikipedia.org

3. The Modernist Architecture of Nehru Era

During the 1940s and 1950s the major firms, both British- and Indian-headed developed commercial modification of the Internationalist Modernist genre of 1930s. After independence in 1947, the first generation of Indian architects went to USA for higher education and were inspired by the renowned Modernist architects. The second generation found their inspiration from the international masters, who were commissioned for designing a number of major buildings and cities during the immediate post-Independence days in India. The dichotomy of empiricist and rationalist approaches to design continued in this era.

3.1. The Empiricists

British architects, Walter George in New Delhi and Claude Batley in Mumbai continued to their contribution to the design profession in India after Independence. Walter George's design for the Tuberculosis Association building (1950-2), New Delhi with its light weight louvers, reflects the adaptation of norms of International modernism to the climatic natures and construction process. Alternatively, many buildings were adorned with traditional elements to locate a predominantly modern building in its context; for example the Ashok hotel (1955) in New Delhi designed by E. B. Doctor (1900-84). Its façade has *jaali* (lattice) work and huge *jharokhas* (balcony) that are cantilevered out and supported by brackets. Against the skyline are a series of *chhatris* (parasol).

The influence of Frank Lloyd Wright's empiricist philosophy can be seen in a diverse range of buildings: Chidambaram (1954), Ahmedabad by Gira Sarabhai; India International Centre (1959-62), and the American International School (1962-8), Ford Foundation (1969) and the UNICEF building (1981) in New Delhi and the Indian Express building, Mumbai by Joseph Allen Stein; National Institute of Design (1961) by Gautam Sarabhai, and Jawaharlal Nehru Memorial library (1968), New Delhi by Mansinh M. Rana. The Indian Express building, addresses the basic requirements of orientation and façades are designed with the intensity of Indian light intensity as much as with expression of modernity.

Kothari building (1961-3) and Life Insurance Corporation (1956-9), Chennai by S. L. Chitale owes debt to Marcel Breuer in terms of effective solar control strategies with light louvers systems.

The geometry of the Indian Institute of Forest Management, Bhopal shows Anant Raje's high regards for the works of Louis Kahn in its use of arched forms and concomitant patterns of solid and void and light and darkness.



Fig. 2 Le Corbusier, the Millowners' association headquarters, Ahmedabad, India, 1951-54, west façade fins, courtesy Mr T. K. Ghoshal.



Fig. 3 Maxwell Fry, Jeevan Deep, Kolkata, India, 1957, precast panels for external shading devices, Wikimedia open source

3.2. The Rationalists

The Rationalist architecture gave India aesthetically simple designs, large buildings, point skyscrapers and slab blocks all harnessing modern technology. The Bauhaus influences ran through works of Habib Rahman in West Bengal's New Secretariat (1949-54) in Kolkata with pigeon hole shades to keep the sun off the southern facade. As Senior and later Chief Architect of the Central Public Works Department, New Delhi, Rahman considerably influenced architecture of the city.

Kanvinde's works reflects influences of Gropius. His design for the Ahmedabad Textile Industry's Research Association (ATIRA) building (1950-2), the sunshades on the southern facade run the full course of the building in continuous lines while on the northern faced the fenestration is flush with the wall.

In 1950, Le Corbusier was hired along with his cousin Pierre Jeanneret (1896-1967) and the British husband-wife team of Maxwell Fry (1899-1987) and Jane Drew (1911-96) to design Chandigarh. Concrete was the major building material used. Indeed, the application of a *brise soleil* and similar concrete grids has become a hallmark of 'modern' façade design. Le Corbusier designed the Millowners' association headquarters (1954-56), Ahmedabad; its western façade (**fig. 2**) is dominated by a *brise-soleil* to control the sun.

Maxwell Fry took over the project to design the Life Insurance Corporation building (1957) in Kolkatta; the façade comprises of precast panels used as shading device to intercept the solar radiation in warm humid climate (**fig.3**).

Le Corbusier's ideas are reflected in Charles Correa's design for the Cama hotel and Doshi's design the Central bank (1967) and Prembhai hall (1975) in Ahmedabad.

Le Corbusier's influences are reminiscent in Shiv Nath Prasad's design for the Akbar hotel (1965-9) and Shri Ram Centre (1966-9), Rajinder Kumar's design for the Inter-State bus terminus (1969-71) in New Delhi.

4. Post-Nehru Modernist Architecture: 1965-1990

A number of streams of Modernist work continued to be built in the post-Nehru era, Lang (2002); this includes Rationalists, Utilitarian Modernists, and Neo-Modernist.

Utilitarian modernist buildings as represented by much of the work of the Public Works Departments, Central and State level and predominantly reinforced concrete structures with flat roofs. Their facades have shading devices similar to a *brise-soleil*, simple projecting concrete slabs or more traditional *chhajjas* (canopies). Yogakshema, Life Insurance Corporation Headquarters, Mumbai designed by Gregson, Batley and King (GBK), is a well crafted utilitarian modernist building.

Neo Modernists architecture includes works of Indian architects who were educated in the United States in the 1940s and 1950s and their work evolved over the years and adapted to local culture and climate. Doshi's work in Indian Institute of Management, Bangalore (1977+) has neo-vernacular overtones, (**Fig. 4**)



Fig. 4 B. V. Doshi, the Indian Institute of anagement, Bangalore, India, 1977+, Modern tropical architecture integrating traditional principles with new materials creating another formal languages, Wikimedia open source.

6. Contemporary Architectural Trends

The Government of India launched Energy Conservation Building Code and Green Rating for Integrated Habitat Assessment in early twenty-first century to promote energy efficient sustainable buildings. The Indian Green Building Council adapted the Leadership in Energy and Environmental Design certification for India in 2001. The new building regulations support the principles of traditional façade design, reanimated in the modern façades – and expect for a new translation into contemporary façades. The works of present genre of architects Ashok B. Lall, Karan Grover, Rahul Mehrotra, Bimal Jain, Sanjay Prakash, Sanjay Mohe, Vinod Gupta and others have shown tectonic sensitivity to environmental concerns and adapted the climate responsive design of yesteryears (Mehrotra 2011), (**Fig.5**).



Fig. 5 Ashok B. Lall, The Institute of Rural Research and Development, Gurgaon, India, 2010, ecologically sustainable LEED Platinum rated, architect.

7. Conclusions

Architectural education and profession has come a long way from Claude Batley tutelage in early twentieth century. As a result of globalization, academic and professional exchanges initiated with Europe and USA today. The authors are collaborating to improve the knowledge and technology of solar shading for new and existing buildings (Kabre 2012).

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Renovating Soccer Stadiums: the Recent Brazilian Cases

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Abstract

Buildings for sports activities, one of the most remarkable architectural types of the modern era, are currently at serious risk of being de-characterized or utterly destroyed, such as in the recent case of Brazil. Their conservation problems can be caused by their material dimension itself– new materials, flaws in construction and in detailing and the replacing of mass produced materials - but their obsolescence is above all caused by external reasons, particularly the new requirements demanded by sports federations and public bodies, which include new dimensions for courts, new legislation on accessibility, safety and the number of parking spaces.

Most of the Brazilian football stadiums and sports arenas were built between 1950 and the early 1970s. They were all made of concrete and their varied shapes were result of the intention of designers to explore the plasticity offered by the concrete, which was usually left in plain view without any coating. When Brazil was chosen to host the 2014 World cup and the 2016 Olympics, the obsolescence of the local stadiums and arenas was evident. Therefore, urgent reforms were required or, in some cases, the total replacement of old building in order to attend the condition imposed by the *FIFA pattern*, which included many determinations ranging from field dimensions to spatial arrangements schemes for the rooms (athletes, referees, examination, mixed zone) and their dimensions. As a result, the country needed to build an entire set of new stadiums or, to adapt the existing ones. Many Brazilian stadiums or arena were destroyed, such as the cases of the stadiums of Natal and Brasília, or utterly “modernized”, such as the case of Salvador, Rio de Janeiro or Bello Horizonte. This paper provides an overview of the recent Brazilian cases of reconstruction and rehabilitation of soccer stadiums, analysing the demands imposed by the FIFA, the managing and the design process. By doing that, it also to provide examples for countries expected to host future competitions and to register the loss of an important heritage.

Keywords : conservation of modern architecture, sports arenas, materials, project, rehabilitation, significance.

1. Introduction

Buildings for sports activities, one of the most remarkable architectural types of the modern era. The playing of sports and the attention paid to the body and health have been inextricably linked to modern architecture. Architects were aware that playing sports was not only one of the elements necessary for a healthy life, but also one of the great strengths of 20th century collective identity, and proposed spaces for these purposes in their projects.

These buildings are currently at serious risk of being de-characterized or utterly destroyed. Their conservation problems can be caused by their material dimension itself, but it is above all caused by external reasons, particularly the new requirements demanded by sports federations and public bodies, which include new dimensions for courts, new legislation on accessibility, safety and the number of parking spaces. This is particularly clear in the recent case of Brazil, which assisted a complete loss of this heritage in a span of only a few years. Most of

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the Brazilian football stadiums and sports arenas were built between 1950 and the early 1970s, fully exploring the plasticity and the expression offered by the concrete. When Brazil was chosen to host the 2014 World Cup, the obsolescence of the local stadiums and arenas was evident. Therefore, urgent reforms were required or, in some cases, the total replacement of old building in order to attend the condition imposed by the *FIFA Standard*, which included many determinations ranging from field dimensions to spatial arrangements schemes for the rooms (athletes, referees, examination, mixed zone) and their dimensions. As a result, the country needed to build an entire new set of stadiums or, to adapt the existing ones. Many Brazilian stadiums or arena were destroyed, such as the cases of stadiums of Natal, and Brasília or utterly “modernized”, such as the case of Salvador, Rio de Janeiro or Fortaleza.

This paper provides an overview of the recent Brazilian cases of reconstruction and rehabilitation of soccer stadiums. The first section provides an overview of the Brazilian soccer stadiums built during the third quarter of the 20th century. The second one discusses the major conservation problems which affected Brazilian soccer stadiums. After analysing the demands imposed by the soccer federations and the managing and the design process, the third provides a balance of what happened with the soccer stadiums after Brazil got the nomination to host the recent 2014 World Cup. We will briefly show one case of demolition, the Machadão in Natal, and two cases, Fortaleza and Belo Horizonte, which went under severe modernizing process. By doing that, the paper questions the treat imposed by these big sportive events or fairs, which take place in existing sites produced during the modern and registers the loss of an heritage, yet not fully recognized.

1. Brazilian Stadiums (1950-1975)



Fig. 1 Brazilian Stadiums: Mineirão (Belo Horizonte, by Eduardo Guimarães Jr and Gaspar Garreto), Mané Garrincha (Brasília, by Icaro Castro Mello), Castelão (Fortaleza, by José Liberal de Castro) and Almeidão (João Pessoa, by Raul do Lago Cime). Photo by the authors

Most of the Brazilian football stadiums and sports arenas were built between 1950 and the early 1970s in the major Brazilian cities, in a period of industrialization and general optimism in the country.

These major stadiums were an excellent opportunity to put into practice the new expressive possibilities offered by advances in modern techniques and building materials, particularly concrete. Brazilian stadiums were all made of concrete and their varied shapes were result of their designers' intention to explore the plasticity offered by the concrete, which was usually left in plain view without any coating.

A variety of forms were developed based on the association between porticos, and concrete pillars or gables. Most of the stadiums were defined by reinforced concrete porticos that shape, at one and the same time, the roof supports, the tiered seating,

circulation and the support facilities. They were fairly homogeneous, and without seating definition or lateral closing and only partially covered (**fig.1.**)

The Brazilian stadiums were exclusive for soccer practice and had little specialization: they were basically identified the seating area for the audience, the playing field, locker rooms and press cabins. Radio broadcasting did not demand complexities such as those required by TV. There was no concern for visibility and no separation by groups. There was a rather liberality between public, press and players.

2. Conservation Problems

In the 1980s, the conservation problems of these buildings started to appear. They were caused by their pure material dimension – which includes mainly concrete corrosion and carbonation, and sometimes flaws in construction and in detailing.

The collapse of the canopy of the Fonte Nova Stadium in Salvador prompted a series of reports regarding the conditions of other stadiums, which attested that these problems were common in most of them.

In fact, it is above all in the reasons external to the fabric of the building which the main causes of these problems can be found. These can include: the poor maintenance, particularly in the public management; the difficulty in understanding the patina on a modern building as a sign of the passage of time and its natural aging, which enriches its meaning, but rather as dirt or a sign of degradation; their lack of recognition as cultural assets; and, finally the new requirements imposed by municipal and state institutions and by the sports federations.

3. The Effects of the FIFA Standard

When Brazil was chosen to host the 2014 World Cup and the 2016 Olympics, the obsolescence of the local stadiums and arenas was evident. In addition to the conservation problems, clashes between hooligans, discomfort and the lack, accessibility and lack of visibility from certain points.

First of all, the obsolescence of these buildings has not arisen because of changes in their use but rather due to new ways of putting the original uses into effect. The requirements imposed by municipal and state authorities - that did not exist when these buildings were built - new legislation on accessibility, safety and the number of parking spaces, all of which have affected the continuity of activities in such buildings.

However, the so-called *FIFA Standard* is the main responsible for the obsolescence of these buildings.¹ Since soccer became a world attraction, a special attention was devoted to the television broadcasting of the games.

Therefore, urgent reforms were required or, in some cases, the total replacement of old building in order to attend the conditions imposed by the *FIFA Standard*, which included many determinations ranging from field dimensions to spatial arrangements of rooms (athletes, referees, examination, mixed zone) and their dimensions. As a result, the country needed to build an entire set of stadiums or, to adapt the existing ones. Many Brazilian stadiums or arena were destroyed, or utterly “modernized”.



Fig. 2 New stadiums built for the 2014 World Cup

4. Heritage Lost

Twelve cities hosted games in the 2014 World Cup: Rio de Janeiro, Porto Alegre, Curitiba, Belo Horizonte, Fortaleza, Natal, Brasília, Salvador, Recife, Manaus e Cuiabá and São Paulo. Only these four latter cities built new stadiums and preserved the old ones. The first five cities conducted significant reforms to adapt the building to the new requirements: Maracanã, Beira Rio, Arena da Baixada, Mineirão and Castelão. The three other cities (Natal, Brasília and Salvador) simply demolished their stadiums and built new ones in the same place: Arena das Dunas replacing the Machadão, National Stadium replacing the Mané Garrincha and the Arena Fonte Nova which kept the name of the old stadium destroyed.



Fig. 3 Machadão's demolition, 26.11.11

Source: http://antonio-historiaviva.blogspot.com.br/2011_11_01_archive.html



Fig. 4 Demolition of the Mané Garrincha Stadium.

Source: <http://memoria.ebc.com.br/agenciabrasil/galeria/2011-05-15>



Fig. 5 Figure. 5: Implosion of part of the seating of the Castelão. Source: <http://www.parceriaengenharia.com/2012/destaque/sem-reciclagem-lixo-da-copa-de-2014-ira-parar-em-aterros-sanitarios-nas-12-cidades-sede-2/>.

The Mineirão's facade, formed by the rhythmic structure in exposed concrete, is listed. Since only the external parts of the building were protected, drastic changes took place in the interior. The architects proposed a new roof, which is attached to the original structure, and a platform built around the stadium creating a large elevated esplanade.²

The Plácido Castelo Stadium, unlike the previous example, had any kind of protection. The motivation for keeping much of the original structure (only one fifth of it was demolished) was mainly for economic and environmental reasons.. Similar to the solution adopted in the Mineirão the playing field was lowered 1.40 m to adjust the visibility problems and expand the capacity of the stadium.³

5. Conclusions

In the modern era, many buildings were designed for specific uses, such as airports, cinemas, sports arenas and stadiums. They were the fruit of increasing specialization that made them particularly vulnerable to the transformations required by new forms of putting this same use into effect.

In the case of the stadiums, certain requirements imposed by legislation (accessibility, parking spaces) or by sports federations (new dimensions for the court, separation of flows and groups, visibility and accessibility) made the continuity of activities difficult in these buildings and have disastrous effects on them. The expectations of public officials and the general public always point to brand new arenas.

As a result, Brazil lost three of its best stadiums. Although there were some resistance from intellectuals and architect,, the general public remained at large. There were few opportunities for participation. Federal and State governments conceded little attention to the few discontents demonstrations. Most of the debates were only related to financial and infrastructural issues disregarding heritage issues

Notes

¹ The main recommendations and technical requirements imposed are related to the promotion of comfort and safety to spectators of events. The stadiums to be selected to participate in the World Cup 2014 must meet basic requirements: proximity to large urban centers with good access to public transport, wide streets and parking. They must be designed in a sustainable manner, with a conscious use of water, energy efficiency and water disposal. They must also accommodate various uses, not necessarily connected to sports activities, in order to be profitable. All seats must be individual and with full visibility of the playing field, allowing viewers to watch the events sit without any obstruction. The stadiums must also comply with strict safety rules, with total separation of flows, accident prevention, easy evacuation and electronically monitored (FIFA, 2011).

² The basic design was made by the local architect Gustavo Penna, in partnership with German GMP Architekten, but the executive project was developed by a local team, the BCMF Architects

³ The architect responsible for the design was the Uruguayan based in São Paulo Hector Viglecca.

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Approaching the Ordinary – Everyday Building Materials Deserve a Closer Look

Maris MANDEL *

Abstract

With the exception of unique modern masterpieces, standardized buildings and common mass-produced building materials of the postwar period are increasingly gaining conservators' interests. Conservation issues and conflicts associated with everyday materials are perhaps most distinctive in former Soviet states where a limited number of construction materials were available at the time and therefore became overused. Today these materials are often viewed negatively because they are too ordinary and are rarely considered to be subjects for conservation, which makes them especially vulnerable in terms of preservation. In many cases, common building materials are not significant enough and replacing them is an acceptable practice. However, there are still many exceptions. Current paper aims to define the most typical situations in which everyday construction materials should be valued but will more likely be ignored. The analysis is based on Estonian construction history, but the results could be universalized and applied in other contexts as well. The following cases are explained:

- A building has great architectural value, and the building material, although ordinary, is a significant part of its aesthetics.
- A material's poor reputation based on its overexploitation in the Soviet era unconsciously affects the conservation decisions on buildings of other periods.
- Typical Soviet construction material turns out to be much older and thus acquires a completely new meaning.
- An unusual, technologically experimental building material looks misleadingly similar to common materials.

Dealing with common mass-produced materials is a new challenge for conservators, requiring not only comprehensive studies of everyday architecture but also an expanded understanding of conservation.

Keywords : everydayness, common building materials, construction history, value assessment, soviet architecture

Everydayness is an essential characteristic of the 20th-century building environment. Unique masterpieces still hold a central position in discussions about the modern conservation movement, but the more ordinary side of 20th-century architecture is increasingly gaining conservators' interest. Quite a lot of attention has been paid to mass housing recently, primarily from ideological and urbanistic points of view (e.g Bratislava: Atlas of mass housing). The goal of this paper is to bring preservation issues of everyday building materials into focus. Currently, the most common construction materials and structures are often overlooked; they are considered to be too ordinary and therefore valueless. Conservation studies of everyday building materials tend to be limited to very technical questions and largely ignore important conservation issues such as authenticity, aesthetics, and meaning.

Heritage values of common materials of the 20th century are difficult to assess. Being mass-produced, they have no value in terms of uniqueness and do not have the desired "touch of a craftsman"; therefore, an additional meaning is needed for them to be worthy of preservation. Of course, a brick in a wall does not have a meaning on its own. Meaning is a social construct and depends on a subject's background and an assessor's knowledge. The more that is known about the context, the more it is possible to interpret every single object. Construction materials are traditionally approached using the framework of architectural history, where they play only a minor role. Archi-

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tectural history and the knowledge of a specific building provide one key to understanding the meaning of construction materials. Focusing on the history of materials and their technology and application provides an alternative viewpoint from which to construct meanings in modern architecture.

Conservation issues and the conflicts associated with everyday materials are perhaps most distinctive in the former USSR, where only a limited number of construction materials were available in the postwar era and were therefore overused. Today these materials are often regarded negatively and are hardly seen as subjects for conservation, which makes them especially vulnerable in terms of preservation. In many cases, common building materials are not considered significant enough and replacing them has become an acceptable practice. However, there are still many exceptions. This paper aims to define the most typical situations in which everyday construction materials should be valued but will more likely be ignored. The analysis is carried out based on Estonian construction history, but the results could be universalized and applied in other contexts as well.

1. Valuable buildings and everyday materials

The authenticity of modern architecture is often said to lie more in design intent and aesthetic appearance than in materials (e.g. Prudon 2008, 35-36; Henket and Tummers 1994, 328). Such a shift in the conservation paradigm is directly tied to an extensive use of mass-produced materials, which are perceived as relatively meaningless. Although almost no conservation theorists interpret the new understanding of authenticity as a right to freely replace the original material, the worthlessness of everyday materials is frequently used as an argument for choosing a cheaper and simpler solution in conservation practice. Even on listed monuments it is common to make extensive changes to materials by upgrading supposedly valueless common materials to “better” ones.

The recent renovation of Tallinn’s New Radio Building illustrates the tendency described above. Completed in 1972, the radio building was among the first high-rise buildings in Tallinn. The vertical character of the building was fashionably stressed by thin ribs, taking an example from Western postwar office buildings. Western buildings typically used aluminium for the light ribs dividing glass curtain walls, but architects in the USSR had to find a different solution. The use of aluminium in building construction was limited as it was a valuable material for other industries. Instead, the USSR implemented an official construction policy of using prefabricated concrete elements as much as possible. The radio building’s architect skilfully achieved the modern look by making the ribs out of prefabricated concrete. During the building’s recent renovation, the facade was dismantled and the reinforced concrete ribs were replaced with aluminium ones. As a result, the visual appearance of the renovated building is similar to the original, especially looking at it from a sufficient distance, but its story has changed. The new material does not communicate the local history or the special economic and political conditions of its time, making the building anonymous instead.



Fig. 1 Ado Eigi and Jüri Jaama, New Radio Building, Tallinn, Estonia, 1972. Original concrete ribs are still visible in the lower back wing while the highrise part has been completely renewed. Maris Mändel, 2014

2. Same material, different context

Negative associations are often projected onto common building materials due to their overexploitation during the Soviet era. These associations are unconsciously transferred from the material’s previous applications, and the fact that they might have held completely different meanings in a previous period is largely ignored. The conventional approach to common Soviet materials affects conservation decisions, as was the case with Pärnu Beach Café (built in 1939), an important masterpiece of Estonian functionalism from architect Olev Siinmaa. The design intent of the building was closely related to modern ideas about truth in materials. The application of reinforced concrete—the aesthetics of structure and exposed surfaces—was first and foremost praised in this building, and other materials were treated in the same manner (Kesa 1940, 24-26). Varnished timber elements in the interior and unplastered calcium silicate brick exterior walls contributed equally to the same design principles. The building was considerably altered by constructed extensions during the Soviet era (Ojari 2005, 4).

In the 1990s, after Estonia’s return to independence, Pärnu Beach Café was restored as closely as possible to its original state. Calcium silicate bricks in the seaward facade had decayed due to dampness and salts. Despite the importance of the building, the proper conservation methods for calcium silicate bricks were not discussed at the time of conservation, and a lower part of the wall was replaced with concrete while



Fig. 2 Olev Siinmaa, Pärnu Beach Café, Pärnu, Estonia, 1939. The original brick walls are clearly visible. Estonian History Museum



Fig. 3 House in Vase Street 4, Tallinn, Estonia, 1950s-1960s. Use of elaborate decorative brick bond was unusual in a Soviet context. Maris Mändel, 2014

brick bonds of the Soviet era have gained very little attention, exemplifying a notable danger of failing to recognize the cases of special bonds and evaluating walls only on the basis of material.

the upper part was covered with plaster. The exterior walls on the other sides were painted white, more or less hiding the original character of the brickwork. At a glance, such a disrespectful approach to the original material might seem surprising and incomprehensible. The history of the application of calcium silicate bricks during the Soviet era helps to throw light upon the conservation decisions of the 1990s. Calcium silicate brick was the most widely used wall construction material in the 1950s and 1960s. In fact, calcium silicate bricks were practically the only materials available to the majority of builders. Overexploitation of the material lasted until the end of the Soviet regime. In Estonian architecture, these bricks are associated with featureless standard housing and utilitarian buildings of poor quality. Therefore, the unconscious aim to give Soviet-style calcium silicate brick walls a whitewashed and seemingly more proper functionalist appearance becomes almost understandable, but still unjustifiable.

The issue of materials expressing different meanings in different contexts does not come to the fore in terms of time alone. Great distinctions between applications of the same material during the Soviet era are observable. For instance, calcium silicate bricks were typically laid in simple bonds of aesthetically inexpressive patterns like the American bond. The featureless bond patterns contributed to the monotony of building environments and were criticised even at the time (Kanits 1961, 11). A catalogue with more expressive bond patterns was issued as a result (Kanits, 1967). A house in Tallinn, Vase Street 4, is one of the few attempts to enliven a standard design building with a decorative bond. So far, the decorative

3. Misidentification of materials



Fig. 4 Administrative building of Ilmarine Plant, 1975-76. Specially designed decorative oil shale ash concrete panels with gravel coating. Maris Mändel, 2014

Insufficient knowledge of everyday building materials potentially means that some unusual materials are left out of proper notice due to their misleadingly similar appearances to very common materials. The application of gravel-coated panels in Estonia is a good example. Prefabricated reinforced concrete wall panels with limestone gravel coating were extensively used in Tallinn from the 1960s through the Soviet era. Only one plant produced the panels and the technology did not change for nearly 40 years. The gravel coating was by far the most common finishing style used in Tallinn's mass housing areas.

Another typical wall construction material in Soviet Estonia was oil shale ash concrete panels. In agricultural and industrial buildings these panels were painted, but the quality of the surface was unsatisfactory for use in more prominent places, so the lightweight panels were plastered. Such a facade treatment significantly reduced the efficiency gained from the indu-

-strialized construction system (Matve 1988, 15). Therefore, a gravel coating system was elaborated for the lightweight panels used in public buildings in city centres. Although these specially designed lightweight panels look very similar to the gravel-coated concrete panels of the mass housing areas, their meaning and role in local construction history is completely different, and they deserve much more careful conservation treatment.

4. Conclusion

From cases presented in current paper it becomes clear that a slight change in application context might give new meaning to even the most ordinary material. Deeper knowledge of local construction history is essential before judging the value of an everyday building material

in order to avoid false judgment stemming from a shallow understanding. It would be reasonable elaborate guidelines on the basis of local context for the most common building materials in order to identify situations in which an everyday material should be approached with special care.

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Functionalism in Mexican Educational Architecture 1930-1950

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Abstract

Modern Architecture played an important role in the first half of the twentieth century in Mexico's Architecture. Through the analysis of Juan O'Gorman 1933 functionalist elementary schools in Mexico city and the 1960 rural classroom-house prototype by Ramírez Vázquez, there will be an analysis on how governmental ideology added to the functional, structural and architectural ideas of the modern movement evolved in Mexican architecture in order to develop these different school building types, which help to resolve, at the time, the lack of educational infrastructure in the country.

Keywords : mexico, architecture, modern, elementary, school, prototype.

1. Introduction

For the Revolutionary Mexican government, solving the lack of infrastructure in the country was one of their main goals, as they should keep promises made to people of giving them a better quality of life, and they saw the "New Architecture" as a means to bring this social benefit to the people.

New materials and building techniques such as reinforced concrete and standardization, were seen as the elements with which new schools, hospitals and housing could be made at a low cost in an expedited way.

As result of these considerations, Functionalism or Modern Architecture became an architectural style promoted by the state, spreading it through all the country in different ways according to the evolution of the economic and technical conditions in which Mexico evolved, two of these ways being the schools designed in the functionalist-rationalists style by O'Gorman in the 1930's, and the standardized buildings in "international style" developed by CAPFCE in the 1960's.

2. Modern Architecture in Mexico

Although being a peripheral country, modern architecture ideas arrived in an expedited way, finding, as it has been said, fertile soil in which to develop. Architects in Mexico such as José Villagrán or Juan O'Gorman started designing buildings in modern style as early as 1925 when Villagrán built the Popotla Sanitary Farm, which is considered the first modern building in the Mexico. In the case of Juan O'Gorman, having read since 1925 "*Vers un Architecture*", in 1929 he designed his father's house following the structural principles proposed by Le Corbusier in the "*Maison Domino*", the use of slabs and columns made of reinforced concrete creating in this way an open space floor, and in order to enhance the feeling of free space, he used retractile glass curtain panels, which allowed that the interior and exterior space to flow into each other.

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Looking at the year in which the to be mentioned oeuvres were built, modern architecture arrived and spread in Mexico really early as result of the concordance of the initial ideas of the Modern Architecture with the socialist ideology of the Mexican government in the 1930's. Being the aim to provide a lifestyle improvement to the people through hygienic houses, hospitals, and schools, the standardization and new techniques proposed by the modern movement and it's relatively low cost would help the government to fulfill this task.

3. Standardization in 1930's Elementary School Buildings.

These hygienic spaces would be achieved using new building materials such as reinforced concrete, which allowed creating floor surfaces that could be easily cleaned. Another benefit of using this material would be that it made possible the development of an incipient standardization through the conceptualization of a design and building module, that in the O'Gorman case would be 3 by 3 meters and which was used in the design of elementary public school building in 1933. **(Fig. 1)**

This module was mainly viewed from a constructive and a functional point of view, as it allows a classroom for 50 students to fit in comfortable way in a space of 9 by 6 with a height of 3 m and giving the classroom a proportion of illumination and ventilation of 25% of the area, a ratio bigger that the one established by the building code of the time. All the other areas that composed the school building were designed under multiples of this 3 by 3 m module, which allowed developing the structural concept of columns and flat slabs made of reinforced concrete with dividing walls of masonry that allowed an economical and quick building pace. **(Fig. 2)**

Also this small constructive module developed by O'Gorman allowed a standardized building process that did not required high tech building machinery for its construction, though being cheap and easily buildable by un-trained workers, which is the case through the present day until nowadays in Mexico.

As part of this idea of economy in buildings or building engineering, O'Gorman decided to cluster all the services areas being part of it the toilets facilities, for which the architect created a "humid wall" in which all the hydraulic and sanitary installations were placed. This service area was at the middle axis of school creating a T shape prototype, in which the upper part of the T were the classrooms, allowing that if the school required to add more classrooms they could be placed each of the sides, for example as in 1942 when the Pedro María Anaya elementary school in Mexico city got two more new classrooms.

Using the module of 3 by 3 m and the concrete frame structure the Building Department of Mexico City built between 1932 and 1934, 27 new elementary school buildings with a budget of one million pesos (278,000 dollars at the time), allowing a population of 15,000 children the opportunity to receive an education. The prototype designed by O'Gorman was very successful at the time and the Building Department of Mexico City government decided to use it again in 1942 in order to build a new school in the city, being the case of the Melchor Ocampo Elementary School in Coyoacan.

4. CAPFCE'S Elementary School Buildings Prototypes

These ideas of standardization and prototypes were taken as the first step toward a national plan in order to fulfill the lack of school buildings at a federal level. Mexican Government through the Education Ministry, decided to create in 1942 a federal bureau called *Comite Administrador del Programa Federal de Construcción de Escuelas CAPFCE* (Federal Committee for the Construction of School Buildings). This bureau would take under its control the design and construction of school buildings nationwide.

Through different administrations the committee established the architectural program under which all the federal elementary school build



Fig. 1 Juan O'Gorman. Elementary School "Melchor Ocampo". Mexico City. Mexico. 1932. Architectural Record. May 1934;75.

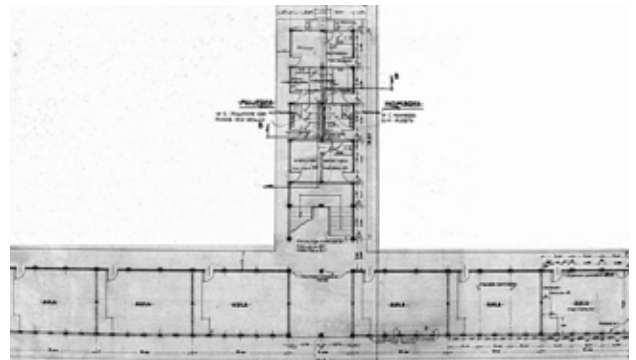


Fig. 2 Juan O'Gorman. Elementary School "Melchor Ocampo". Mexico City, Mexico. 1932. Floor Plan. Archivo Histórico del D.F.



Fig. 3 CAPFCE. Elementary School in Baja California Sur. Baja California. Mexico, 1960. Memoria del CAPFCE. 1952-58

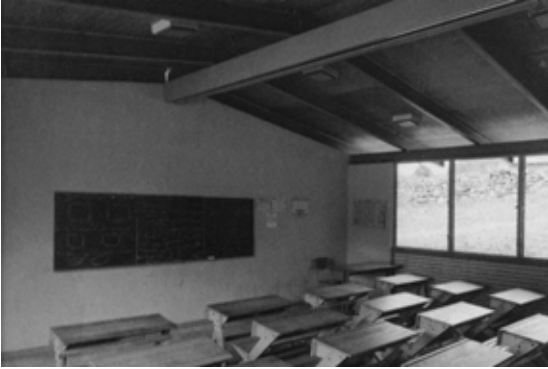


Fig. 4 CAPFCE, Classroom prototype, Mexico, 1960. Memoria del CAPFCE. 1952-58

-ings should be built throughout the country. CAPFCE's Directors were aware that many of the ideas proposed by the modern movement would solve the country's lack of infrastructure, including school buildings.

Architect Luis Rivadeneyra, second director of CAPFCE stated in 1952 that it should not be forgotten that the new mechanization should be part of peoples every days live, being considered part of this mechanization the use of frame structures of new materials such as reinforced concrete and steel.

Following these ideas the next director architect Pedro Ramírez Vázquez took the idea of standardization to every part of the school building, such as the structure, the electrical, sanitary and hydraulic installations and the furniture. He decided to use this standardized elements to create a prototype that would solve the problem to build a classroom for 50 students and a house for the teacher, who at the time lived in precarious conditions. **(Fig. 3.)**

The prototype would be built with steel frame structure and all the standardized installations; and in order that it could be built nationwide, each one of the structural elements should weigh less than 50 kg and also be designed in order that it was easily recognizable how they should be assembled, so the unskilled workforce could build it in places where there were no roads and should be carried by mule. In order that the population of the town developed the sense of appropriation, they collaborate with the handwork and local materials for the roof and the walls of the school building, which was named *casa-aula rural* (rural classroom-house). **(Fig. 4)**

This prototype was presented in the 1960 XII *Triennale di Milano*, which was dedicated to the house and the school, and in which the grand prize was given to it. Although being a good idea what was adopted in the country was the standardized steel frame structure classroom with which 30,000 school buildings were constructed throughout the country during Ramírez Vaquez term as director of the bureau (1958-1964).

5. Conclusions

Mexican architects along the first half of the twentieth century with the support and vision of some members of the ruling governments, used Modern Architecture in order to fulfill the social needs that the country have, the amount of buildings built in this style along this period allow to considered it as the official architectural style of Mexican Government, which gave to the movement the advantage of being more easily accepted by the people, although part of Mexican society denounced this kind of architecture as shoe boxes with holes.

In the case of the first elementary school buildings analyzed, it is interesting to notice that although 81 years have already passed most of O'Gorman's schools continue to be in use in Mexico City. These school buildings have not escaped been modified in order to fulfill some deficiencies that were detected as the school was used by students, authorities realized that light was insufficient in the classrooms, so new windows were opened, floors have been replaced from the original asphalt into ceramic tiles. Also in order to comply with the new building codes for Mexico City, staircase blocks were added on each side of the classrooms, modifying the aesthetic of the building as this block lacked a good design.

Another condition that contributes to the modification of school buildings is the lack of a preservation manual giving guidelines for the maintenance of them. Instead each principal decides what work needs to be done in order to "improve" the school physical conditions.

In the second example analyzed, the aula-casa rural prototype, sadly it was built during a brief period as social conditions forced its abandonment. Teachers preferred to live elsewhere rather than feel the hostility of the population of the town that felt it was their right to intervene in the school affairs as they have built it. Instead the prototype classroom was built all around the country; without having considered the climatic zone in which it should be placed and not considering other elements such as landscape to make them climatically comfortable.

Along the time, school complexes made in the northern part of the country had made adaptations to the general plan or to the classrooms in order to give them some kind of habitability, as for example in Mexicali an area for the condensers of the cooling systems had to be built, or the patio areas had to be covered as temperatures can reach 45°C making impossible for the children to play under the sun.

Along the first half of the Twentieth Century, Modern Architecture played an important role in Mexico's Architectural panorama, as through the use of modern materials, building techniques, but mostly ideas on standardization of a design of prototypes helped the government to build, if not all but a great amount of the social buildings that the country needed at the time, allowing the people to have a better quality of life, which is what in the end architecture seeks to provide.

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Beyond the Glass Room: Re – Restoring of Villatugendhat in Brno

Iveta CERNA *

Abstract

Villa Tugendhat in Brno was built over the years 1929-30 for Grete and Fritz Tugendhat from a design by the world-famous architect Ludwig Mies van der Rohe. The free-standing villa is a unique work of art representing an innovative concept in terms of its construction system, spatial arrangement, interior furnishings, technical equipment. A steel supporting structure, rare and exotic materials such as, for example, Italian travertine, onyx from the Atlas Mountains in northern Morocco, palisander wood, zebrawood and Makassar ebony from south-east Asia were placed into the interiors.

Villa Tugendhat was included onto the UNESCO list in 2001 and has been open to the public as an installed monument to Modern architecture as of 1994.

The monument restoration of the building, that is the overall rehabilitation of the structure and material, was begun in January 2010.

In light of the remarkable importance of the materiality of the surfaces in the artistic concept of the architecture of Ludwig Mies van der Rohe, interdisciplinary material research had to be performed. The restoration campaign was carried out over the years 2003-2006 and 2010 by five universities from European countries. The results were presented at the international conference “Materiality” in Brno in April 2006.

Conference “International Experiences and the current Restoration of the Tugendhat House in Brno (June 2011)” gave an opportunity to the public to be informed about the process of restoration. At the same time it took advantage of the presence of specialists in Modern Movement architecture on the occasion of the DOCOMOMO International Specialist Committee on Technology (ISC/T) in 5th meeting in Brno.

Lecture will take attention to The History, Development and Use of Villa Tugendhat. In the contribution will be mentioned THICOM International Expert Committee.

On February 2012, Tugendhat House was ceremonially reopened after the two-year monument restoration.

Keywords : Ludwig Mies van der Rohe, Villa Tugendhat, Brno, UNESCO monument, conservation

In March of 2012, after two years of restoration, the renowned Villa Tugendhat was opened once again to visitors. After over eight decades, it is now possible to see the house in the condition that it enjoyed shortly after its construction in 1930. Thanks to recent research findings regarding the wider context of its urban situation, architecture and equally cultural-historical significance, it would appear that the “living

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space” of Villa Tugendhat had been brought back to life. Its realisation has, essentially, formed the symbolic conclusion to that trajectory in this historically significant locality on the hill above the park of Luzánky, where the members of the Löw-Beer family (the lineage of Greta) and the Tugendhat family itself owned and inhabited a number of houses and flats.

Brno achieved particular renown for its architecture from the Functionalist era between the two world wars. However, its emergence as a modern city began a full century earlier, and over time acquired a specific appearance similar to the nearby metropolis of Vienna. In addition to the construction of a circular avenue analogous to the Vienna Ringstrasse, there emerged new industrial suburbs and residential districts. One new phenomenon among the more prosperous social strata was the appearance of villa colonies.

In September 1928, at the invitation of the newlywed couple Greta and Fritz Tugendhat, Ludwig Mies van der Rohe arrived in Brno. Enchanted by the position of the site, with its imposing view of the city below, he accepted the commission. The Tugendhat family, like the Löw-Beer family, ranked among the leading German-Jewish families of textile manufacturers and merchants, settled in Moravia for several generations. On New Year’s Eve of 1928, the Tugendhats received from Mies van der Rohe the completed design of their house. In March 1929, Alfred Löw-Beer officially handed the land over to his daughter, and by April she had requested the construction permit, which she received in October. Construction, however, only started in the summer of 1929, with permission to inhabit the new building issued in December 1930. Officially, the house was the exclusive property of Greta Tugendhat.

For the first time in the entire history of architecture, a steel structural frame was used in a private residence, in the form of columns along a cruciform plan. In the interiors, much use was made of rare and expensive materials – onyx from northern Morocco, Italian travertine, or veneers of palisandra, zebrano and Macassar ebony, rare hardwoods from southeast Asia. Assistance on the interior plans was supplied by Sergius Ruegenberg, with several of the pieces of furniture designed by Lilly Reich, who also designed all of the textile patterns used. The landscaping of the garden was planned, under Mies’s supervision, by the Brno architect Marketa Roder-Müller. Additionally, the built-in furniture was locally made, by the famed Brno company *Standard bytova spolecnost* of Jan Vanek. No less exceptional were the technical facilities of the house – forced-air heating and cooling, electric window-lifts, a photovoltaic “eye” at the entrance. The construction work was completed in 1929 – 1930 by the Brno construction firm of the brothers Artur and Mořic Eisler. The sole artwork was the sculpture *Torso of a Walking Girl* (1913 – 1914) by the German expressionist Wilhelm Lehmbruck.

Hardly a year after the completion of the house, a debate emerged in the German architectural journal *Die Form*: questioning “*whether it is really possible to live in the Villa Tugendhat*”. Among the contributors were the clients themselves. When Greta Tugendhat stated that “*large spaces are liberating*” and have a rhythm within themselves that bears “*an entirely special calm that can never be provided by a closed space*”, she touched upon the ideas of philosopher Roman Guardini, for whom a well-created internal space has “*stages that lead into the depths*”. Precisely such a motion is found in entering the main living area of Villa Tugendhat. The Brno-based art historians Vaclav Richter and Zdenek Kudelka, the first Czech scholars to turn their attention to modernist architecture, view this aspect as analogous to the architecture of the Medieval and Baroque eras. In Richter’s words, the “open” architectonic space was realised only in the Gothic, the “radical” Baroque, and in the skeleton-frame architecture of the 20th century. Mies’s pupil Philip Johnson and architectural historian Sigfried Giedion, in turn, interpret the main living area of the villa as “fluid”, in which the “flow” is only gently directed by the line of the onyx wall and the curve of the Macassar-wood partition, in accordance with the regular rhythm of the supporting columns and the carefully positioned furniture. However, the Czech contemporary architectural press ostentatiously ignored Mies’s Brno realisation.

Among the social events held by the Tugendhats in their house were bridge tournaments, the profits of which were devoted to the Human Rights League, which after the Nazi seizure of power aided political refugees from Germany. They themselves fled the Nazi threat in May 1938 for Switzerland, and then in January 1941 to Venezuela. By October 1939, the house had been confiscated by the Gestapo, and in January 1942 became the property of the Reich. According to the testimony of Louis Schoborther, a German architecture student whose military service brought him to the house in the autumn of 1940, by this time the curved wall of Macassar ebony had been removed; a Brno-based art historian, Miroslav Ambroz, managed to discover it several years ago in the building of the Mas



-aryk University law faculty, which had served as Gestapo headquarters during the occupation. From June 1943 to April 1945, the villa served as the residence of Walter Messerschmidt of aircraft fame; during the liberation of Brno in April 1945, the house was seriously damaged by a Red Army cavalry detachment.

From August 1945 to June 1950, a private dance school was housed in the villa; in October 1950, the house became the property of the Czechoslovak state and served until 1979 as a medical facility (curative exercises for children with spinal problems). Since 1963, the villa has been a registered landmark. The first efforts towards its rescue and restoration were made by the Brno architect František Kalivoda. At his invitation, Greta Tugendhat revisited Brno nearly 30 years after her departure, in November 1967. An exhibit on the life and work of Ludwig Mies van der Rohe was held in the Brno House of Art from December 1968 to January 1969, during which a lecture was held, on 17 January, about the work of Mies – including an appearance by Greta Tugendhat, who spoke in Czech about the circumstances and construction of the villa, its interior furnishings, materials and technical facilities, and the communication between client and architect. Also visiting Brno at this time was architect Dirk Lohan, a grandson of Mies van der Rohe, whose studio in Chicago was prepared to cooperate with the villa's restoration. Unfortunately, the hard-line Communist regime of Czechoslovakia in the early 1970s put an end to all these activities.

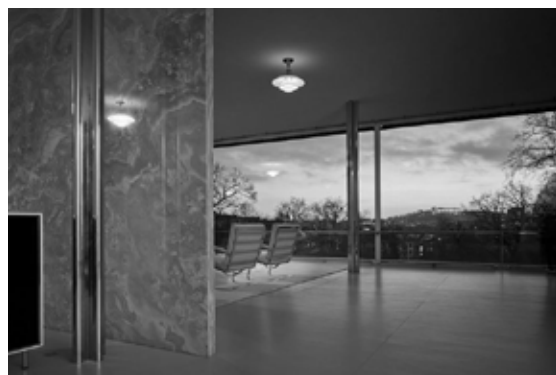
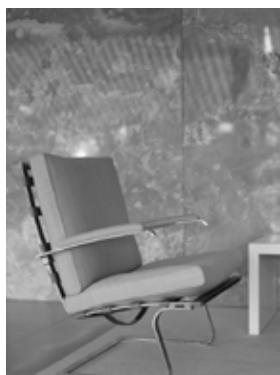
In 1980, ownership of the Villa Tugendhat was transferred to the city of Brno, which in 1981 – 1985 realised the first restoration of the building. The project was prepared by the Brno office of the state institute for reconstruction of historic towns and buildings, under the guidance of Kamil Fuchs, the son of the renowned inter-war architect Bohuslav Fuchs. According to the assignment, the house was to be used for city events and occasional guest accommodations. In 1992, Villa Tugendhat played host to the political negotiations on the division of the Czechoslovak federation, leading to the emergence of separate Czech and Slovak states in 1993. Since 1994, the building has been administered by the Museum of the City of Brno, and is operated as an installed monument of modern architecture.

In August 1995, the villa was awarded the title of 'national cultural monument' and in December 2001, registered as a UNESCO world heritage site.

In 2001, a structural and historical investigation was prepared, followed by restoration investigations in 2003 – 2005, led by Prof. Ivo Hammer, the husband of the youngest daughter of the Tugendhats, Prof. Daniela Hammer-Tugendhat. The results of the investigations were verified and confirmed during the final CIC (Conservation Investigation Campaign) procedure in March 2010. On the basis of this evidence, Ivo Hammer declared the Brno villa to be the most authentic architectural work by Mies in Europe. In 2005, the Study and Documentation Centre (SDC) was opened in the Villa Tugendhat, to collect information and documents about the building, its architect, and its owners.

The most recent years, 2010 – 2012, witnessed the second historic restoration and renewal of the Villa Tugendhat. The project was prepared by an association of three architectural ateliers: Omnia projekt, Archteam and RAW. For expert oversight on the restoration proceedings in accordance with current preservation standards, the Tugendhat House International Committee (THICOM) was established. The Committee's purpose was to express opinions on the basic questions of the concept, theory and method of the villa's restoration, as well as on procedures for the conservation and restoration of the actual built fabric, the interior furnishings, and the revitalisation of the garden. The chair of the committee was held by Prof. Ivo Hammer, while its honorary head was Prof. Daniela Hammer Tugendhat.

Work for the building's restoration was assigned to the firm UNISTAV, a. s., which also employed many subcontractors, including some of the finest restoration experts. First addressed was the replacement of the elements in the house that were most physically decrepit – insula



-tion, the exterior and interior plumbing, toilet facilities, electrical wiring, transformation station. Complete repair and structural reinforcement were applied to the garden terraces and staircase, including the transfer and re-application of the original surfaces.

The roof covering was replaced. Special care was devoted to material surfaces: wherever possible, the original substances of each material were retained (exterior and interior plaster, metals, wood etc.), while historic layerings that often hid the original surfaces were left presented in certain points as “archaeological windows. Thorough restoration was devoted to the original technical innovations (the electric window lifts, the ventilation system). Likewise, the garden underwent an overall revitalisation, including the reconstruction of the potted greenery on the terraces and the original composition of plants in the winter garden. During construction work, several structural forms were uncovered that revealed intriguing technical and material finds; these elements and materials were all recorded.

The course of the restoration was made public at regular monthly intervals on the Villa Tugendhat website, in a separate chapter under the heading SDC. As such, the wider international public had the chance to follow this important episode in the building’s history, and the total information is permanently saved on the website.

The historic renewal and restoration of the Villa Tugendhat was financed from the Integrated Operational Program under the heading of “National Support for the Use of Cultural Heritage Potential”, administered by the Czech Ministry of Culture.



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Color at Midcentury

Jon BUONO *

Abstract

This paper provides a context for trends influencing paint selection in mid-century architectural interiors of the modern movement. Attitudes towards the use of color were debated among the early European authors of the modern movement. By the post World War II era, industrial improvements in paints, textiles, synthetics, etc. - grew parallel to a profession of color “experts” that included designers, journalists, and industrial councils. The author posits that color principles of the avant garde such as those by Le Corbusier and Amédée Ozenfant should be evaluated in comparison to the commercial influence of analysts such as Faber Birren. The historical research of the paper followed from a study of the original paint schemes at the United Nations Headquarters (1947-52) in New York.

Keywords : amédée ozenfant, faber birren, functional color, modern movement, polychromy, UN headquarters

1. Introduction

On the topic of color, research from the last decade includes the compiled case studies of Docomomo Dossier 5, followed notably by analyses for the restoration of the Bauhaus buildings in Dessau and the Purist Villas of Le Corbusier. Such research has demonstrated the under-recognized polychromy inherent to the early modern design of the *avant-garde*. The factors influencing color usage in the post-World War II era, however, suggests wider acknowledgement of the then-emerging fields of industrial and environmental design.

2. Color in Theory and Practice: 1937

2.1. Legacy of Purism

Color and its application were significant and at times polemical aspects of architectural design during the early modern movement. However, as Jan de Heer has noted in *The Architectonic of Colour*, the complexity of this history has often been simplified or overshadowed by narratives exploring architectural form and function. For example, Hitchcock and Johnson’s text for the Museum of Modern Art’s 1931 International Style exhibit minimized the significance of color among the selected projects, summarizing the condition as:

In Holland and Germany small areas of bright elementary colors were used; in France large areas of more neutral color. The two practices were in large part due to the influence of two different schools of abstract painting, as represented on the one hand by Mondrian and the other by Ozenfant. In both cases colors were artificially applied and the majority of wall surfaces remained white.¹

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The artists Piet Mondrian and Amédée Ozenfant defined for Neo-plasticism and Purism respectively, the synthesis of painting with architecture. Mondrian rejected the associative properties of colors and demanded the exclusive use of primary colors in order to create a “universal harmony.”² Ozenfant, in collaboration with Le Corbusier (*né* C.E. Jeanneret) advocated a less abstract approach whereby colors were employed similar to their appearance in nature. Purism asserted that careful distinction of color planes – similar to Michel Eugène Chevreul’s concept of “simultaneous contrast” – could enhance spatial clarity.

Ozenfant’s theoretical partnership with Le Corbusier lasted for approximately 8 years until 1925. During that period, they established the journal *L’Esprit Nouveau* and through their writing, the theoretical basis for Purism.

Prior to the break, Le Corbusier’s projects evidence the practice of their theories, as referenced above in the MoMA exhibit text. The most notable of these being the Villa La Roche/Jeanneret (**Fig. 1**) which commenced the period of Purist Villas (1923-29). Here the project presents a use of color whereby wall planes, uniformly painted, are the principle bearers of polychromy. The assignment of warm hues in areas receiving natural light and cool hues in shadow reinforced the polarity between light and dark. The associative qualities of these oppositions further defined circulation throughout the space, and supported Le Corbusier’s principle of the *promenade architecturale*.



Figure 1. Le Corbusier, Villa Roche, Paris, France, 1923. Interior photograph of gallery by author in 2014.

In 1931, and following his break with Ozenfant, Le Corbusier had three major demonstrations of the Purist color principles: a commercial color system for the Swiss Salubra company, completion of the Villa Savoye, and his manuscript on color usage - *Polychromie architecturale*. However this would effectively end his application of the theories developed with Ozenfant. In his 1931 interior design for the Pavillon Suisse he pursued a new systematic use of color, detached from its associative qualities, and that would define his work into the 1950s.³

Meanwhile Ozenfant continued to experiment with the use of color in spatial definition- primarily in his own home in London. In a 1937 series of articles for the *Architectural Review*, he criticized the haphazard application of color in contemporary buildings and explained his concept of “colour solidity” whereby hues could be made more “vital” and appealing by the effect of adjacent hues.⁴ The experiential qualities of these experiments were recorded in a scientific manner, however by most accounts they did not produce a definitive color psychology of space.

2.2. A Principle for Functional Color

In the same year as Ozenfant’s writing for the *Review*, another text represented a parallel though divergent path in the pursuit of spatial color guidelines. In the 1940s, Faber Birren arose as the leading author and color consultant in the fields of industry and decoration. His 1937 text *Functional Color* united the research of color specialists, illuminating engineers, and ophthalmologists to prescribe a “purposeful use of color in office buildings and industrial plants to aid work production and safety, and to safeguard the welfare of employees.” In this and books to follow, Birren provided color samples as references for his readers (**Fig. 2**).

Leading up to Birren’s studies, research in the 1920s by ophthalmologists and medical authorities led to the development of specially colored tiles and paints in tones of green and blue green. By these, good vision was served in reduced glare and in complementing the red tint of human blood and tissue. But prior to World War II, comparatively little work was undertaken in color and lighting for other occupational settings. The wartime necessity for increased output and productivity



Figure 2. Faber Birren, color samples from the text *New Horizons in Color*, 1955.

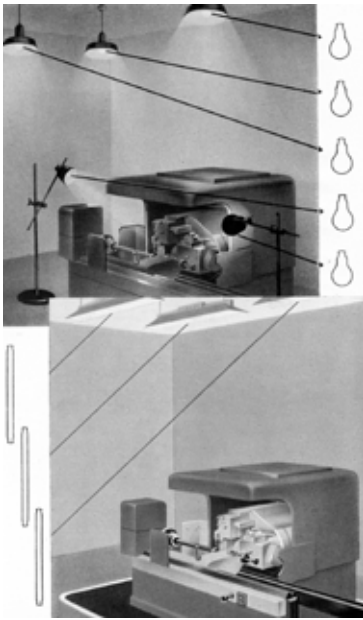


Figure 3. Diagram from Robert Wilson's text, *Colour and Light at Work*, 1953.

prompted environmental experiments and psychological analysis of workers in factories and offices (**Fig. 3**).

Despite the differing aims of Ozenfant and Birren, their concurrent research shared common principles. Namely, that no colour is ever seen alone but is affected by other colours in juxtaposition with it and which come within the field of vision. For both authors, objects and their application of color were analysed in relation to background, light source, and observer. In the context of Birren's work, this concept was alternatively defined as "three-dimensional seeing."⁵

3. Mid-Century Confluence: 1947-52

In the late 1930s both Ozenfant and Birren moved to New York City. Ozenfant relocated his Academy of Art from London, and Birren sought the city's corporate presence to expand his consulting practice. The year 1947 - ten years following the publication of their defining texts – offers an interesting context for the examination of paint use in modern architectural interiors.

By this time, the emigration of Bauhaus and other European Modernists such as Ozenfant had helped promulgate their concepts in Great Britain, U.S. and beyond. In the commercial sector, industrial advances in paint prompted by military needs for World War II⁶, were adapted for wider use.

These included the standardization of ready-mix paint and the synthesis of a broader and more durable spectrum of paint colors. Birren notably, who had been a consultant to both the Army and Navy during the war, expanded his portfolio of texts to promote color science in everyday interior design.

3.1. United Nations HQ: Color & Interior Design

One of the most widely publicized architectural projects of the immediate post-war era, and one of the first to be initiated after the U.S. construction moratorium, was the United Nations Headquarters complex. The overall Headquarters design represents the collaborative effort of an eminent group of international architects, chiefly among them Le Corbusier, Oscar Niemeyer, and Wallace Harrison. This group, known as the Board of Design Consultants, convened between February and June of 1947 and concluded on a plan that began construction the following year.

Under the auspices of the Headquarters Planning Office (HPO), the final design was executed by the firm of Harrison and partner Max Abramovitz (who had also been involved in the initial planning process). Construction documents were produced over a period of more than two years and determined the character defining aspects of the UN interiors. The first assembly halls to be designed and constructed were those for the Conference Building located along the East River, and which are the focus of this review.

There were multiple factors that contributed to the use of polychromy at the UN, not least among them an economy sought through functional design. As Harrison stated at the time of opening, "When we started U.N. we were not trying to make a monument. We were building a workshop — a workshop for world peace."⁷

The original Conference Building interiors represent the design of four entities: the HPO for the overall building, Danish architect Finn Juhl for the Trusteeship Council Chamber, Norwegian architect Arnstein Arneberg for the Security Council Chamber, and Swedish architect Sven Markelius for the Economic & Social Council Chamber. The selection of the Scandinavian designers reflected the gifts of their three nations, on behest of Secretary General Trygve Lie, to enhance the interiors (**Fig. 4**).

The interior designs and finish specifications were finalized between 1951 and 1952, including both the foreign-led design of the Chambers and the contingent spaces designed by the HPO. Danish architect Abel Sorenson served as the Director of Interiors for the HPO, beginning

in 1948. Previously, Sorenson had established himself in New York as a furniture designer with the Knoll Planning Unit. This and other prior experience had introduced him to many of the international figures involved in the Headquarters design and therefore he routinely served as a liaison during project development and execution.⁸

Whereas each of the Scandinavian designers created highly individualized interiors, the HPO finish schemes maintained an aesthetic continuity across the entire UN complex of conference rooms, lounges, and functionary areas. The first references to interior paint colors appear in construction records from the summer of 1951. By this time, the HPO's overall color scheme was clearly established in paint schedules and annotated interior plans.

The interiors of the Conference Building (approximately 280,000 SF excluding the three Chambers) were predominantly rendered in a palette of 4 paint colors. The colors were identified in specifications by hues and number codes as follows: warm gray (Gray #10), warm brown (Brown #20), warm yellow (Yellow #10), and cream (White #10). Interior polychromy was specified in paint schedules for walls, doors, and frames, in addition to annotated building plans. The specification of pure white surfaces was extremely limited outside of ceiling coves for artificial illumination.⁹

Similar to the principles of Ozenfant and Birren, color was juxtaposed to compress the expansive nature of the conference hall complex. In the four levels of grand corridors accessing the conference rooms and chambers, warmer hues were applied to projecting curved walls, each over 60' in length. Contrasting cooler hues were used in the receding branch corridors which accessed the chambers. And principle doors, such as those for the fire escapes, were distinguished with accent colors (Fig. 5).

In advance of the complex's public opening in October 1952, *House and Garden* magazine's August issue surveyed the interiors and concluded "we were most impressed by the use of color; in many cases to help achieve serenity, in others to relieve the monotony of long or high walls. All in all, we felt that we were seeing a kind of architecture that was neither American nor European, but in its soaring spirit quite above the boundaries of individual nations."¹⁰

4. Conclusion

Although direct relationships between the UN designers and Birren, Ozenfant, or their contemporaries in color theory are not currently known, the principles are evident in the realized interiors. Arguably the use of color as an element of spatial definition is under-recognized within the broad history of the modern movement. Future research of color – particularly in the service of restoration – should assess the influence of color science and practice outside the field of architectural design.

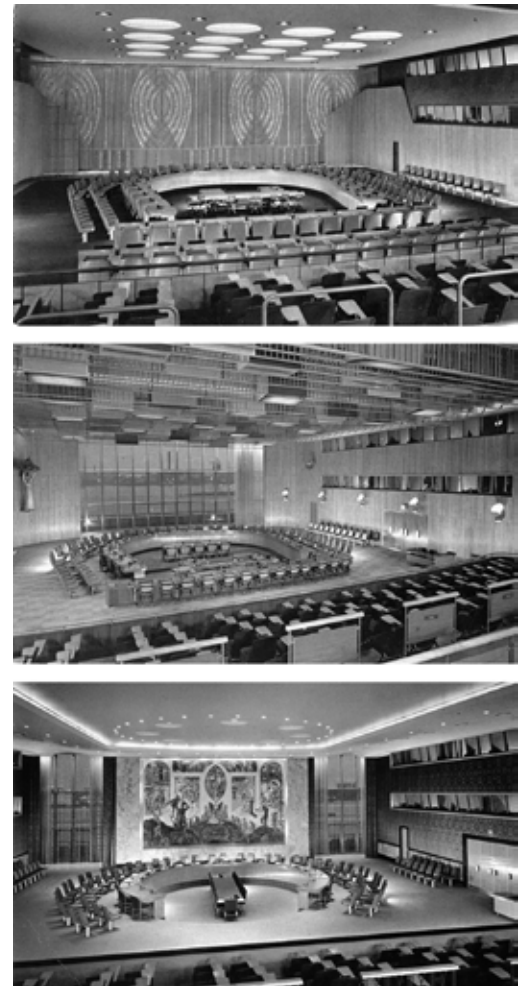


Figure 4. Circa 1950s "chrome" postcards of UN Chamber interiors, top to bottom: Economic and Social Council, Trusteeship Council, and Security Council. Collection of author.

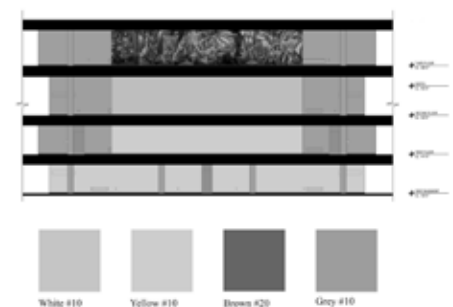


Figure 5. Headquarters Planning Office, United Nations Conference Building, New York, USA, 1949-52. Partial elevation of primary corridors indicating wall paint scheme. Note wall mural by Vela Zanetti, installed 1953. Reconstruction by author.

Notes

- ¹ Henry-Russell Hitchcock and Philip Johnson, *The International Style*, New York, W.W. Norton & Company, 1966, p.75.
- ² Barbara Klinkhammer, "After Purism: Le Corbusier and Color", *Preservation Education & Research Volume Four*, 2011, p.22.
- ³ Klinkhammer, p. 26.
- ⁴ William Braham, *Modern Color / Modern Architecture: Amedee Ozenfant and the Genealogy of Color in Modern Architecture*, Great Britain, Ashgate, 2002, p. 17.
- ⁵ See references to Birren's work in Robert Wilson, *Color and Light at Work*, Architectural Book Publishing Co. New York, NY: 1953. p. 35
- ⁶ See Stuart Croll, "History of Paint Science & Technology", North Dakota State University, 2009.
- ⁷ "Cheops' Architect" *Time*, Vol. LX No. 12, September 1952.
- ⁸ George A. Dudley, *A Workshop for Peace: Designing the United Nations Headquarters*, Architectural History Foundation and MIT Press, 1994, p.37.
- ⁹ Construction records indicating paint schemes were corroborated by analysis of physical samples performed by Building Conservation Associates (New York, NY) in 2011.
- ¹⁰ "Inside the U.N.", *House and Garden*, vol. 102, August 1952, pp. 58-61.

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The author wishes to acknowledge the collaborative research and analysis of the UN paint schemes by Michelle Boyd, Dorothy Krotzer, and Erica Morasset of Building Conservation Associates, New York.



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Conservation of Precast Concrete Facades

Peter MCKENZIE *, Peter HARTOG **

Abstract

This paper considers aspects of the construction of the facades of two prominent reinforced concrete high-rise office towers in Sydney, Australia, namely Australia Square and the MLC Centre tower. Both were designed by Australia's preeminent Modernist architect, the Viennese born and American trained Harry Seidler, AC OBE.

The 50 storey high circular tower of Australia Square, completed in 1967, is now a landmark heritage-listed building. The 68 storey octagonal tower of the MLC Centre was completed in 1978.

Both developments were architectural prize winners.

At the times of their completion both were the tallest reinforced concrete buildings in Asia. Both adopted novel design and construction techniques, partly influenced by the prominent structural engineers, including Pier Luigi Nervi, engaged by Seidler to advise him. These novel techniques were employed for both the structure and the facades.

The paper addresses the most visible, distinctive and at-risk portions of the buildings – their facades. Both utilise exposed white quartz aggregate finished precast concrete panels as permanent formwork for the structural concrete. Both buildings adopt tapering external structural columns, 20 at Australia Square and 8 at MLC Centre. The similarities and differences between the construction methods for the facades are assessed, as are the differing modes of concrete deterioration arising therefrom. The findings of our investigations of the causes of the differing types of concrete deterioration evident, and the inter-relationship with the differing fabrication methods used for the geometrically complex precast panel shapes are discussed. Development of our proposals for options for remediation and the powerful influences of the size of the buildings and the differing scales of deterioration are outlined.

The nature and scale of recent and current concrete remediation works programs is discussed.

Australia Square and the MLC Centre in Sydney are outcomes of the complementary talents of two of Australia's most important and visionary construction industry figures – Dick Dusseldorp, the founder of Civil and Civic [now Lend Lease], and architect Harry Seidler. The projects display marked similarities in conception, design and construction and, more recently, deterioration of precast concrete facades.

1. Gerardus Jozef [Dick] Dusseldorp¹, AO, (1918-2000)

Dusseldorp was an engineer born in the Netherlands. He arrived in Australia in 1950 to represent the Bredero's Building Company in seeking new business opportunities. He soon established the construction company Civil and Civic.

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The company's rapid success was underpinned by Dusseldorp's fostering of innovation in architectural design, construction techniques, and advanced materials technology; it negotiated productivity agreements; extended superannuation and employment benefits for workers, introduced employee profit-sharing via share ownership and promoted skills formation for younger people.

2. Harry Seidler², AC OBE, (1923-2006)



Fig. 1 View of part of the Sydney skyline showing tower buildings designed by Harry Seidler:

1. Capita Centre[1988-90]
 2. MLC Centre [1972-78]; under repair in 2014.
 3. Australia Square [1962-67]
 4. Grosvenor Place [1982-88]
 5. Cove Apartments [2003-04]
- Source: Peter McKenzie, May 2014.

Viennese-born architect Harry Seidler is considered the pre-eminent Movement architect in Australia.

Soon after Nazi Germany occupied Austria in 1938 Seidler fled to England, where he studied building and construction. In 1940 he was interned as an enemy alien and later shipped to Canada where, in 1941, he was released to study architecture at the University of Manitoba.

After graduation in 1944 and practice in Canada, he attended Harvard Graduate School of Design under Walter Gropius and Marcel Breuer, during which time IM Pei was also a student. Seidler worked with Alvar Aalto in Boston preparing drawings for the Baker dormitory at MIT. He attended Black Mountain College under the painter Josef Albers, and worked as an assistant to Marcel Breuer in New York in 1946-48.

In 1948 Seidler worked for 3 months with Oscar Niemeyer in Rio de Janeiro while travelling to Sydney, to where he had been lured by his mother Rose to design a family house. He arrived in September 1948.

The Rose Seidler House, completed in 1950, is the first domestic residence to fully express the philosophy of Modern Movement architecture in Australia

3. Australia Square

The 5500m² site for Australia Square was acquired by Dusseldorp by progressive amalgamation of about 30 smaller sites spread over an entire city block.

Seidler's design comprised two separate buildings within a large open space on two levels.

The Tower building is a 48 level 170m high cylinder, a shape favoured by Civil + Civic's constructors as the ideal structural form. External columns and a central services core with no internal columns, suggested repetition of construction for speed and economy; mass production would be possible because effectively there was only one beam and one column form.

In 1963 Seidler travelled to Rome to collaborate with architect/engineer Pier Luigi Nervi who advised on the structural system and use of lightweight concrete. Nervi assisted the design of the entrance lobby's high strength radial-ribbed ceiling, the tapered external columns and thin precast concrete column and spandrel facing panels that provided permanent formwork. On completion in 1967, the Tower was the world's tallest lightweight concrete building.

Australia Square is now listed on Sydney City Council's Heritage Register.

Structural System

The diameter of the tower is about 41 metres. It is constructed with a central poured reinforced concrete core.

Exposed white quartz aggregate-faced precast concrete panels provide permanent formwork for insitu-cast structural concrete.

Panels nominally 75mm thick comprise a 25mm thick outer white cement/aggregate facing bonded to a steel reinforced Ordinary Portland cement inner layer.

At each floor, the columns are formed by a pair of panels. The full storey panels are 3.3m high.

Because the columns taper from Plaza level to rooftop, their plan geometry differs at every floor. The complex and varying geometry of these panels generated difficulties in reinforcement placement and concrete pouring and compaction. Aggregate segregation [honeycombing] is evident at corners of panels with congested reinforcement and poor compaction access.

Pairs of faceted non-loadbearing precast spandrel panels are fixed between column panels at each floor level. Lower exposed white quartz aggregate-faced panels act as permanent formwork for poured insitu perimeter floor beams; upper exposed dark green-grey aggregate-faced panels act as window spandrels.

Current Condition of Precast Facing Panels

Generally, the concrete in both layers of the panels is strong, dense and rich in cement. Carbonation depths in white concrete are typically 2-3mm.

None of the spandrel panels exhibit significant fabrication defects or later deterioration.

Column panels exhibit two principal forms of deterioration, largely attributable to casting defects:

- Drumminess and delamination of the white concrete facing layer, likely caused by failure to achieve effective wet-on-wet bond during casting, caused in turn by premature set of the OPC layer before placement of the outer layer.
- Cracking and spalling caused by steel reinforcement corrosion. Moisture penetration through honeycombed concrete and low concrete cover accelerated chloride-induced corrosion of reinforcement embedded in the OPC layer.

Repairs in 2008-09

Deteriorated concrete evident on all facades was remediated using conventional concrete repair techniques. Repair mortar used white quartz aggregate sourced from Anhui Province in China for use on the MLC Centre.

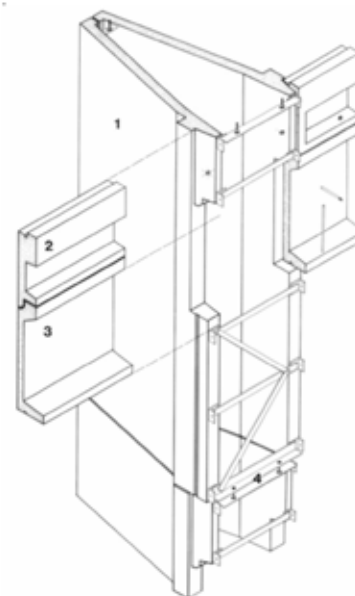


Fig. 2 Australia Square Tower
Drawing by Seidler showing the assembly method for the precast column and spandrel panels at each floor level.



Fig. 3 Australia Square Tower
View of the outboard edge of a column panel after removal of a spall of white concrete caused by corrosion of the steel reinforcement in the panel.
Source: Preservation Technologies, January 2012

Maintenance

Inspections in 2012 revealed the presence of cracked and spalled areas which had arisen since the repair program in 2008-09.

Precast panels require regular inspection to mitigate the risk to public safety from concrete spalling. NDT surveys of all column panels, to identify areas of potential risk, are likely to be excessively costly and technically challenging with unreliable outcomes.

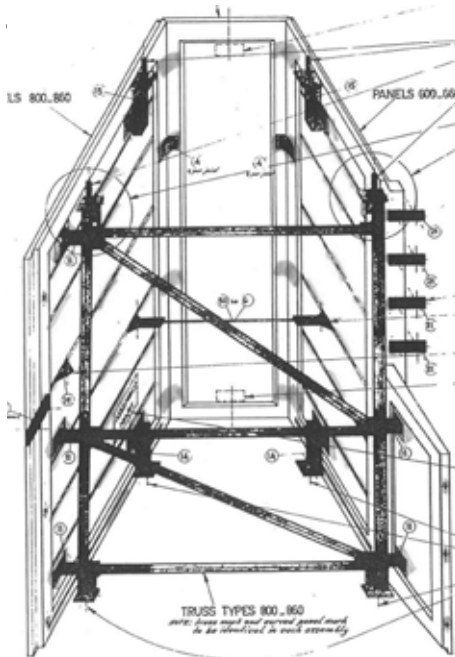


Fig. 4 MLC Centre Tower

The precasters shop drawing showing how precast column panels are tied together and braced prior to insitu pouring of structural concrete. The coloured marks highlight areas of mild steel attachments and reinforcing embedded in the precast concrete.

Source: EPM, September 1975.



Fig. 5 MLC Centre Tower

Close-up view of the bottom edge of a scallop in a spandrel panel after hydrodemolition. The yellow arrows indicate the channels formed in the plastic concrete by movement of the steel reinforcement during the casting operation.

Source: Peter McKenzie June 2003

Similar to Australia Square, the 7800m² site for the MLC Centre development was acquired by Civil + Civic's progressive amalgamation of 23 smaller sites spread over an entire city block.

The Tower building is a 68-level 240m high irregular octagon. Seidler again collaborated with Nervi who assisted the design of ribbed ceilings of the Tower lobby, the scalloped shape of the spandrel beams and the site's other structures.

The MLC Centre was constructed in 1972-78. On completion, the Tower was the world's tallest reinforced concrete structure.

Structural System

The Tower comprises a central reinforced concrete core linked by a web of floor trusses to 8 massive heavily loaded external columns. Massive reinforced concrete spandrel beams connect the columns at each floor level; the beams are 2m. deep and span 12m and 19m.

External columns employ complex arrangements of six white quartz aggregate-faced precast concrete panels as permanent formwork for the cast insitu structural concrete. Panels nominally 95mm thick comprise a 40mm thick outer white cement/aggregate facing bonded to a steel reinforced Ordinary Portland cement inner layer.

As columns taper and change in plan shape from podium to rooftop, their geometry differs at every floor level. This complex varying geometry entailed difficulties in reinforcement placement, concrete pouring and compaction. Honeycombing often occurs at complex corners and around congested reinforcement.

The spandrel beams are constructed using exposed white quartz aggregate-faced precast concrete panels as permanent formwork for the cast insitu structural concrete. These panels are fabricated identically to the column panels.

Condition of Precast Facing Panels

Investigation of early instances of cracking and spalling in panels in 1983 was inconclusive. A study by British-based concrete durability specialists, commencing in 1991, led to specification of conventional patch repairs predicated on assumptions that (1) the carbonation of cement paste propagated inwards from the surfaces to embedded reinforcement

bars, through pores or fine cracks in concrete, (2) that such rapid carbonation, expansive corrosion of reinforcement and more severe cracking and spalling of concrete occurred at rare anomalies in construction, and therefore (3) that annual topical repairs would, by a process of attrition, eventually reduce the incidence of distress.

Another assumption was that regularly-spaced vertical and horizontal cracks in spandrel beams preceded, rather than were caused by, corrosion of underlying bars. In other words, rainwater and atmospheric carbon dioxide were assumed to infiltrate cracks caused by concrete shrinkage or beam deflection, to penetrate to embedded steel, and to instigate corrosion such that bursting forces from, expansive rust, widened cracks.

In 2000, the cycle of annual inspection and maintenance was suspended. The owners commissioned an independent assessment of all previous investigations and repairs. The authors of this paper concluded that the nature and distribution of distress in precast concrete, and the occasional recurrence of cracks within and around recent repairs, were not consistent with the assumptions underlying the previous decade's remedial work. Site investigations confirmed typical carbonation depths of less than 6 mm, much smaller than expected for concrete exposed for more than 20 years and insufficient to account for recorded distress.

Phenolphthalein dye testing demonstrated high residual alkalinity close to surfaces disrupted by deep rust-soiled cracks. Analysis of the patterns, alignment and direction of taper of spandrel beam cracks indicated that their cause was not shrinkage, deflection or creep. Finally, infrared thermography confirmed that gently sloping upward-facing catchment surfaces at bases of scalloped spandrel beams often remained anomalously cool and damp. Temperature anomalies occurred where rainwater, shed from deep sill reveals and upper flanges of spandrel beams, dripped onto catchment surfaces of lower flanges. Drips eroded the precast concrete's white cement paste but left a seemingly intact layer of interlocking fine quartz aggregate that concealed deep voids below catchment surfaces. This layer provided a sponge-like reservoir for rainwater.

Increasingly detailed and intrusive investigations 2002-04 included cutting deep slots, by hydro-demolition into precast spandrel panels, which revealed reinforcement bars incompletely embedded in concrete; most were accompanied by continuous narrow crescent-shaped voids capable of conducting water alongside bars throughout reinforcement cages. The ultimate demonstration of the occurrence and effect of networks of interconnected voids involved sealing a plastic tube into a channel atop a spandrel beam and injecting water under low pressure. Within seconds, damp patches and small fountains erupted at regular intervals along the panel.

The 95 mm thick panels were cast face-downward in fully-enclosing hinged steel moulds. Before the concrete fully hardened, moulds were rotated and opened to allow water-spraying and abrasion to expose the white quartz aggregate. Rotation caused tied steel bars to shift sideways, leaving shallow parallel channels within still plastic concrete. The resulting lack of full embedment was not discovered during fabrication and, in service, had no immediate adverse effect on non-loadbearing panels.

Upward-facing top edges of spandrel panels are covered by deep outward-sloping window sills of 20mm thick marble but were not sealed against rainwater flowing under sills. Water that penetrated cracks or voids along these concealed surfaces was shown to flow downwards and laterally along the crescent-shaped channels and to saturate bars, initiate rust and to cause cement paste carbonation from within initially sound concrete, commonly with conservative design cover depths of 30 to 40 mm. In short, the sequence and direction of deterioration were the opposite of those conventionally found in reinforced concrete. Corrosion of reinforcement preceded or occurred simultaneously with carbonation of cement paste.

Notes

¹ Clark, Lindie. Finding a Common Interest: The Story of Dick Dusseldorp and Lend Lease (2002).

² O'Neill, Helen. A Singular Vision Harry Seidler (2013).



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Peter McKenzie is the Director specialising in heritage conservation and building diagnostics at Jackson Teece Architecture in Sydney. Peter has more than 30 years experience in the conservation of significant buildings, with a particular interest in 20th century buildings.



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Oh Brutus! The Tectonic Culture of Reinforced Concrete in Brazil

Maria Luiza DE FREITAS *

Abstract

The sixties is the decade of consolidation of the building systems of the reinforced concrete. This enables the productions of works of great impact in Brazilian cities. Two building companies stand out in this process, the Companhia Construtora Nacional (CCN), which has its origins in the German builder named Wayss & Freytag, and the Danish builder Christiani & Nielsen (CN) as highly specialized in reinforced concrete. These firms specializing in building system were truly experimental and, consequently, contributed with the formation of professionals capable of creating a new aesthetic arising from the technique. Just the two of them were qualified to build the Brazilian Congress, masterpiece of the interaction between the creativity of the architect Oscar Niemeyer and ingenuity of the structural engineer Joaquim Cardozo. However, the foundations on which the tectonic culture of reinforced concrete in Brazil are drawn from early twentieth century, when these two building companies introduced the reinforced concrete by constructing architectural buildings and urban infrastructure, enabling architectural and urban modernization. We know that three current themes were part of the tectonic cultural repertoire: rationality, the differential use of modern construction system and the creation of new forms. Other works have already treated the performance of some of these professionals, but a gap remains: the role of building companies in the modernization of Brazilian architecture. Based on studies of collections, such as the Danish builder Christiani & Nielsen and builders companies originated from Germany and operating in Brazil, this paper, as well the target already revealed, the identification of professionals builders barely recognized and their actions towards the Brazilian modernizing attitudes in the 20th century.

Keywords : wayss & freytag, christiani & nielsen, reinforced concrete aesthetic, modern architecture, technical innovation.

1. The Palace of National Congress, Aesthetic Design and Constructive Process

In March 1957, about a year after the election and announced the Master Plan design by Lucio Costa to the new capital, Brasília, the architectural and structural design of the Palace of National Congress, was ready for its construction. In front of the steps for hiring a building company, the design was divided into two parts for its implementation, the main and the two towers (**Fig. 1**). The complexities of the design - nature and shape of the work on reinforced concrete - were such that it represented a technical difficulty in contracting building company. Only two companies, *Companhia Construtora Nacional* (CCN) and *Christiani & Nielsen* (CN) were able to prove experience to the venture¹. These two construction companies were authorized to construct the main building consisting of a large platform connecting the monumental axis on which rests two forms of domes, one in the normal position and the other inverted, each representing the houses that make up the National Congress the



Figure 1. Lucio Costa and Oscar Niemeyer, Brasília, Brazil, *Três Poderes* Square. The National Congress under construction and the two other main Palace of Brasília. Arquivo Público do Distrito Federal.

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Chamber of Deputies and the Senate.

Technical challenge of construction was huge. The main building was the result of the relationship between aesthetics and ideals of urban form, in direct dialogue with the square of the three powers, and the monumental representation of the two houses, together with a more accurate static form, since this time, the construction technology of reinforced concrete was already consolidated. The consolidation of the tectonic culture of reinforced concrete in Brazil had its foundations in the various works undertaken by these two construction companies since the mid-1910s. These met the diverse demands of Brazilian cities in modernization and popular expectations for progress and the modern. These actions occur concurrently with the first movements and actions of intellectuals seeking first a distanced artistic, architectural and urban modernity of the shares of construction companies, but that has to its merger in Brasilia. No building of the new capital would be possible without all the technical capacity of these companies

2. Modern Architecture, Structural Design and Reinforced Concrete: Static Form and Aesthetic Form, an Experience in Process

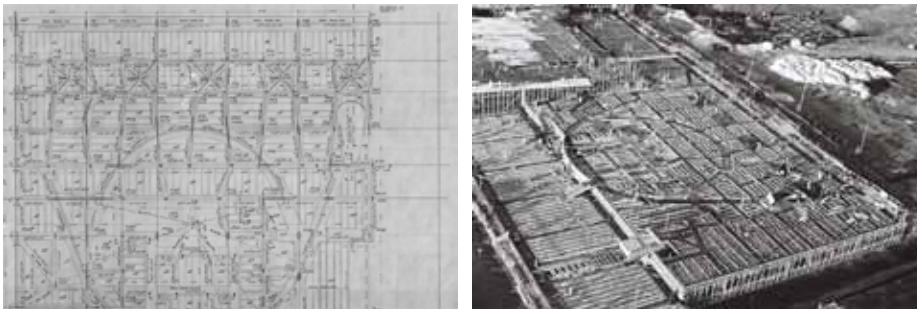


Figure 2.3. Oscar Niemeyer and Joaquim Cardozo, National Congress construction site by CCN. The structural design of the National Congress, 1956-1957. Credits: Élcio Silva. Arquivo Público do Distrito Federal.

As gross as it may seem, the reinforced concrete structure depends not only on the result of physical science and especially chemistry, but also on the graphic research, seated in the design of spatial geometry and structure of three-dimensional thinking, sensing the ways of the efforts. This required the general understanding of the parts of a building as elements capable of different designs, so the creativity and imagination of the professional responsible for the structural design.

The reinforced concrete structure could not be thought of more as a brick and a metal frame. New technical and aesthetic reasoning to observe the advantages of the structural system would be necessary: resistance to compression and tension, possibility of different types of articulation joints, adaptability and ease various forms in different shape parts as aesthetic aspects and forms². This projectional thought was named structural design.

Indeed, this structural design is nothing new, as it was outlined by the ideas of distinction between the architect and the engineer (who imagines or projects) builder designed by Brunelleschi during the Renaissance. But his method had not been formulated in modern conditions of engineering that unified the scientific and artistic knowledge, giving rise to structural design and implementation of a pragmatic knowledge to a programmatic and aesthetic design. In this sense, during the 19th century, the engineer took the place of the architect as an agent of modernization of the construction based on the development of modern construction techniques and the creation of a new thought: "...When designing spans of unusual lengths and thicknesses, it was not enough simply to estimate the dimensions to eye, but it was necessary to perform calculations based on the principles of mechanics and strength of materials"³.

The known structural forms such as arches, the supporting walls and vaults, were appropriated by design engineers, seeking its improvement and adaptation to new demands, reflected in urban development and society (**Fig. 2 and 3**). In the nineteenth century, the design of the built object is no longer centered only on their own disciplines study to become a mechanical apparatus that depends on its insertion site in the city. The modern building is not just mere shelter, but should be provided with new equipment such as elevators, air conditioners, heaters, toilets, kitchen etc. that are given renewed uses. New constraints involving processing project consider the demand for larger spaces with higher ceiling heights and great extension.

And as with every experience of modernity, there is dialectic in this definition of structural design:

"The "modern architecture" was characterized by the ratio between the new architecture as art and architecture practice while providing shelter. Historically, these two aspects were never completely separated. The symbol was a transfiguration of the real architecture (such as

intellectual processing and representation of the structure)” .

Argan recorded these transformations in ideas of engineers and architects and distinguished two motivations: romantic, based on enthusiasm for speed and the dynamic, builders, architects and engineers of the 19th century and its overcoming, by artist-engineers such as Robert Maillart and Pier Luigi Nervi whose work has been called by one as a “technical architecture”:

“So it can be said that the process of this technique, which continually tends to outperform themselves and to launch arches and vaults widening coincides with the artistic development of an architecture aimed at understanding the structural coherence own dimensions each bigger”⁵ .

Thus, the structural design of a building should dispense with the current aesthetic paradigms and accept the end result as artwork. The constructions carried out by engineers called it coldly, such as infrastructure, known today as heavy construction, whose functional aspect was more evident than a whole set of religious symbols or even power. Over time, these qualify as “works of art”: bridges, sewage pipes and water supply, sanitation and drainage channels, water tanks, chimneys, mills producing electric power systems (term - or hydroelectric) and buildings for factories, warehouses and industries were also considered as a “work of art” dwelling for urban workers and factory towns. However, this is an analogy brought up to understand the network of invigorating concepts from the mid 19th century and the 1920s, and many times the “modern” adjective did not have the same definition:

“... We see that what we mean by modern architecture was not always considered a work of art because it is devoid of an official affiliation with the aesthetic and artistic intention that performed by civil engineers and even by laymen understood intuitively perceive all the possibilities offered by the new technology, especially in regard to metallic structures and the newly discovered concrete”⁶ .

The architect engineer Robert Maillart advocated constructive experience in the construction site as the primary method for structural design, being the primary choice for fashion made intuitively and independently of regulations that limited the inventiveness with the imposition of theories, calculations and forms. However, the rational formulation derived from this paradigm assumed greater complexity than it appeared since Maillart treated each case as a single object, contrasting with the discovery of a formal type natural.

This unity of nature, art and science was the basis of the structural thinking of Maillart, whose work helped break the existing concepts, such as the beautiful architecture linked to the stone, the weight and tectonic. The spatial innovations enabled Maillart introduce the concepts of indivisible space, new spatial relationships, and interrelationships that replaced the separations. The reinforced concrete allowed the opening and the movement entered the building “in the general process of life”, only possible when there was dialogue between the work of the architect engineer. The trajectory of Maillart revealed that the engineer can invent new ways guided by visual reasons (observation) and rational, which derived their analyzes and calculations and not the opposite.

3. The Two Great Building Companies

During the 1930s and 1940s, reinforced concrete replaced metal structures as a structural material, mostly due to the consolidation of the production of Portland cement in Brazil, and to the hegemony of two major construction companies—one from Germany, and one from Denmark—in the country. The State has undoubtedly played a major role in creating the tools and specific demands for the new construction technologies since the beginning of the 20th century, by promoting construction works to modernize the traditional infrastructure in cities and in the countryside—first by implementing railway networks and, later, roadway networks. It has also driven a constructive rationalization movement, by supporting the acceptance of reinforced concrete in the country, which has become the most widely used construction technique in Brazil. It was, however, through the so-called ephemeral architecture—built to serve certain short-lived events—that two major construction companies deepened their roots in Brazil: *Christiani & Nielsen* and *Wayss & Freytag*.

Companhia Construtora em Cimento Armado played a crucial role at the 1922 Brazilian Independence Centennial International Exhibition. Architect and civil engineer Hyppolito Gustavo Pujol Junior did not contain his technical boldness and designed one of the most important pavilions of the event in terms of architectural value: the States Pavilion (**Fig. 4**). The reinforced concrete structure of the States Pavilion is breathtaking, and was built over the course of just five months by *Companhia Construtora em Cimento Armado*, a corporation founded



Figure 4. Hyppolito Pujol Junior, States Pavillon, Construction site and the process of building the pavillon with reinforced concrete. Credits Revista Brasileira de Engenharia.

on January 16, 1920 by Lambert Riedlinger, its director and president, graduated in Germany from a technical high school. The design of the elements was so narrow that its technical capacity still amazes us today, along with the speed of its construction. That is confirmed both from the perspective of Pujol Junior and of the construction company, which, in spite of being founded in 1920, had already been operating in civil construction since 1910.

Construtora em Cimento Armado developed not only architectural and industrial projects, but also major hydroelectric structures and bridges, having its works featured in the *Revista Brasileira de Engenharia* magazine due to the “variety of its projects”.

In view of the success of *Construtora de Cimento Armado*’s project, a substantial increase in the number of partners was observed in the minutes of the meeting held on April 8, 1922, including, among the new partners, names that would soon stand out in the development of the reinforced concrete technical culture in Brazil: “L. Riedlinger, José Pereira da Graça Couto, Frederico Bockel, José de Barros Ramalho Ortigão, J. M. Magalhães, J. Friese, E. H. Baumgart, Franz Kaindl, Gustavo Lyra da Silva” (DOU 1922 [Apr 8]: 7000).

By the end of 1924, *Companhia Construtora em Cimento Armado* was taken over by *Wayss & Freytag A. G.*, which then founded *Companhia Construtora Nacional S.A. (Wayss & Freytag – L. Riedlinger)*. As of 1925, Riedlinger was legally prevented, for reasons we were unable to determine, from remaining as president of the company (DOU 1925 [Jan 18]), and died in late October that year.

In 1925, the company began to build mixed buildings - such as the one that included offices and a cinema at the Floriano Peixoto square (currently Cinelândia) - some of which had their structural project attributed to Emilio Baumgart, in Rio de Janeiro and the Port of Niterói. In São Paulo, they built the new Sorocabana Initial Train Station (project by architect Christiano Stockler das Neves), and the water reservoir in the Moóca district; both works were stopped in 1928. At the meeting held that year, directors complained about the increased competition in the civil construction business (DOU 1928 [March 27]). In fact, there were other companies operating in the industry, particularly after 1927. At that time, *Philip Holzmann A. G.* opened a branch in Rio de Janeiro, under the name *Companhia Geral de Obras e Construções* (GEOBRA), *E. Kemnitz & Cia.*, whose chief engineer was Arnold Brune (1884 – 1964). After 1930, *Companhia Construtora Nacional* replaced its director, bringing engineer Jakob Baumann from Germany to the position, and in 1943, the company’s German stock was nationalized by the federal government.

The 1922 exhibition featured not only the German construction company, but also *Christiani & Nielsen Engenheiros Construtores Limitada*, a branch of the Danish construction company that specialized in reinforced concrete. The latter built three international pavilions, one for its country of origin, according to the project by architect Helwig Möller, another for Sweden, and the Holland Pavilion. On February 8, 1904, engineer F. Rudolf Christiani (1877 – 1960) and Royal Navy captain Aage Nielsen (1873 – 1945) established Christiani & Nielsen, a company that specialized in building projects using reinforced concrete. In Paris, Rudolf Christiani was an enthusiast not only of the system proposed by Hennebique, but also of the possibilities enabled by the reinforced concrete, which could be a solution for any structural problem: “Concrete beams, slabs and columns reinforced with steel bars possessing almost unlimited potentialities. This presented a vast field for the imagination of the creative engineer” (Ostenfeld 1976: 242).



Figure 5. C&N. The Pernambuco Paper Mills Ltd. Plant. Credits: C&N files.

However, not even Christiani could foresee the company’s size after 75 years of operations. The arrival of the Danish engineers in Brazil in 1917 coincided with the end of World War I (1914-1918) and was determined by a contract with *The Pernambuco Paper Mills Ltd.* to build its plant facilities in Jaboatão dos Guararapes, state of Pernambuco (**Fig. 5**). The South American project opened new horizons for Christiani & Nielsen, which, until then, had not expanded beyond European borders: “The English branch was set up in 1913 and during World War I, offices in Oslo (1916) and Stockholm (1917) was set up. Then the company took the plunge with the office in Rio de Janeiro (1917) and Buenos Aires (1918)” (Ostenfeld 1976: 30).

The *Paper Mills Ltd.* construction works presented new challenges for Christiani & Nielsen, both because it was a new country, in a distant continent, and because they had no knowledge of the technical, cultural and social local conditions. The engineers faced a number of issues: delay in receiving imported material, such as steel beams and “barrels of cement”; the absence of qualified labor, and therefore the engineers had to train the workers at the sites to “make them understand technical drawings, prepare beam structures, make wooden boxes, dose and pour the concrete” (Amaral 1973: 3) in order to be able to build the plant facility for Paper Mills, whose project comprised three

buildings covered by reinforced-concrete domes. Other materials, such as crushed stone, were precariously industrialized at the time. The buildings were built on the top of a hill, in an “L” shape. All buildings were pretty simple and had no decoration, as industrial buildings usually are, with long, rectangular ground-floors plan, which allowed for Zenith lighting through windows placed on the domes or through skylights. In fact, they represented an impact in production at the time, when industrial buildings were usually built of bricks and covered by wooden truss roofs.

The great construction companies *Wayss & Freytag* and *Christiani & Nielsen*, in fact, established themselves in Brazil in the 1920s, differently from *Hennebique*. *Bétons Armé Hennebique* started to develop bonds in Brazil in 1894, when it designed a fabric factory through its concessionaire in Brussels. Hennebique’s expansion project in South America has supposedly not worked out well, since no other record of the company or any other project request was found at the technical office in Paris after 1914.

The same reason is believed to have made *Wayss & Freytag* change its strategy, identifying the need to establish itself in Brazil, hire local professionals and start creating connections in the country. As noted by Augusto Carlos de Vasconcelos, in *História do Concreto Armado no Brasil* (1986): “The formation of Brazilian specialists, enabled by German firm Wayss & Freytag, would soon put an end to the participation of foreign technicians in the project sector” (Vasconcelos 1986: 48-49). That is what Lambert Riedlinger did, when he associated with Brazilians from German families, such as Emílio H. Baumgart, and what Christiani & Nielsen would later do in its early years of operation by training workers for the construction of the plant in Jabotão dos Guararapes.

4. Post-1960: From Theory to Practice.

The Spread of Reinforced Concrete Construction in Brazil

“Another likely reason is that, Brazil had begun to employ reinforced concrete structures of large works very early, in contrast to the prevailing trend in the United States, where the architecture of large scale was based on the use of metal structures”⁷.

The process of creation of this culture technique was long and complex - more than a century formulation, experiments and, finally, the theory of reinforced concrete, which allowed its rapid spread not only in Brazil but also throughout Latin America. Not only science and theory was conceived knowledge construction also endowed with artistic aspects of imagery and a sense subsumed by emotions.

The condition of constructive centrality of technology in contemporary society, in times of economic boom, can be perceived by the development of the field of construction, real estate projects and works of urban and regional infrastructures. You could say that this also occurred in the first decades of the 20th century. Fact that also affects the state of the workforce, from the simplest, such as auxiliary Mason, more specialized engineer. A recent phenomenon, arising from this, is the division before general specializations, such as an architect and civil engineer, expertise in small scale.

The historical process of development of steel and cement, resulting from transformation by chemical and industrial processes, raw materials such as crude iron, lime and aggregates, tried to unravel its various aspects. This includes their chemical, physical and mechanical, its manufacture and its equipment, as well as all construction technology involved. Understanding the potential of each construction technique and the junction of both creating new constructive system of different propositions fruit was standardized by regulations which set clear rules for the production, dosage and construction. This represented greater security and control in the works of reinforced concrete, allowing its diffusion and transformation in construction technology of the 20th century. Moreover, restriction of formal creativity was focused on building and spatial solution resulting from research that lacked no ties, no limit.

With the construction of new buildings in the capital, Brasília, inaugurated on April 21, 1960, where these conditions are still imposed, there was the gradual transformation of the construction of a reinforced concrete intellectualized practice to common practice because its disclosure in simplified terms. The sheds industry, whose construction had a formal solution resulting from construction technique and search in surprising the user visually lost in the routine. A marquee no longer causes astonishment it was reproduced throughout new construction in cities like *Rio de Janeiro*, *São Paulo*, *Porto Alegre* etc. The buildings no longer in height they configured their more urban surroundings through cantilevered balconies designed to gently curves.

The building has a prominent role in the economy of a nation. The sector employs skilled labor and to generate demand for the secondary sector of production of steel and cement, plus some rudimentary as quarries (from which we extract the gravel) extraction of sand and not, directly or indirectly. The real estate businesses represent a direct relationship, the increased purchasing power of the population. In Brazil,

there was an option for the technical culture of reinforced concrete. But will it resonate in the formal solution and final aesthetics of the current buildings?

The link between a technical culture, coming of construction technology, and imagination of society connects to the aesthetic concepts of each season, which in turn continues exchange of ideas that intensifies these days use digital technologies and experiences among space professionals: architects, engineers and builders.

Notes

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Maria Luiza de Freitas

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Something Concrete! The 1956 First Technical School in Amsterdam Restored

Wessel DE JONGE *

Abstract

The architecture of the First Technical School in Amsterdam represents the socio-political, technological and aesthetic values that marked the early post-War period, when Modernism spread over Asia and the Americas. On a European scale this building reflects the dissemination of Modernity from one cultural region to another, combining the Mediterranean Modernism of Le Corbusier with local interpretations and building technologies from our NW-European climate. The architect designed the building to make use of pre-cast concrete elements on top of a 'chassis' supported by *pilotis* cast in-situ. A local technology for producing high-density precast concrete, developed by a Dutch company under the name *Schokbeton* ('shocked' concrete) was used. By repeatedly lifting and dropping the filled moulds some centimetres, excess air and water is driven out, giving the material much higher density and strength, which allowed very slender detailing and lightweight, easily transportable components. After local successes, factories were set up abroad, including the Americas and Asia, where a branch was founded in the Netherlands' Indies, the present Republic of Indonesia. *Schokbeton* was used in the school building's façade panels and *brise soleil*, stairs and indoor partitions, choosing a different texture, colour and finish for panels, ribs and the lattice work of the sun screens. In 2010, our office was invited for an integrated refurbishment, involving architecturally respectful repair of the concrete work, including the high-density concrete components; removal of paints that had deeply invaded the concrete surfaces, using peel-away chemical strippers and snow blasting; installing energy-efficient double glazing units straight into the subtle concrete rebates; and the upgrading of the climate control systems. The project was awarded as the most outstanding restoration in Amsterdam of 2013, as it set an example for the proper stewardship of Amsterdam's great post-War school buildings.

Keywords : concrete, exposed, precast, cleaning, repair, glass-in-concrete

The architecture of the First Technical School in Amsterdam represents the optimistic and collective revolution in socio-political, technological and aesthetic values that marked the early post-War period, when Modernism spread over Asia and the Americas. On a European scale this building reflects the dissemination of Modernity from one cultural region to another, combining the Mediterranean Modernism of Le Corbusier with local interpretations, sensibilities and building technologies from our NW-European climate. Like his example, the architect J.B. (Ben) Ingwersen (1921-1996) designed the building to make use of precast concrete elements on top of a 'chassis' supported by *pilotis* cast in-situ. Yet he decided to rely on an even more innovative technology: a local system for producing high-density precast concrete, developed by a Dutch company under the name *Schokbeton* ('shocked' concrete, 'shockcrete').



Fig. 1 C. De Geus & J.B. Ingwersen, Eerste Technische School, Amsterdam (NL), 2013, after restoration, showing the repaired *Schokbeton* façade panels and sunscreen elements. Photo: Raoul Suermondt

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1. High-Density Concrete

An important scope of use of high-density concrete was the prefabrication of building components that would be lighter and hence more easily transportable, like precast beams, lintels and later entire window frames. In the 1930s the concrete industry developed methods to process concrete slurry with a low water-cement ratio, increasing the fluidity by mechanical means. By ‘vibrating’ the slurry or by ‘shocking’ the concrete mass by repeatedly shaking the mould, the excess water and air that is locked into the slurry is driven out. Also the aggregate particles themselves regroup producing a more compact consistency. ‘Shocking’ the concrete mass is essentially making use of gravity to compact the slurry. By lifting and dropping the filled-up mould at high-speed the impact of gravity is evenly distributed and a highly consistent concrete mass is achieved, which is even more dense than vibrated concrete. Recent archival research by Lucas van Zuijlen confirmed that as early as 1934, the Dutch company *Schokbeton* patented a production-method for precast concrete that was based on this system of mechanical compaction.¹ The mould is fixed to a table that features a series of camshafts, that lift and drop the filled moulds at high speeds. The drop height was between 8-25 mm at a rate of 180-250 strokes/minute. By calibrated shocking a consolidated and high-density concrete mass with a uniform consistency was produced.² *Schokbeton* elements could therefore be designed much more slender as compared to ‘traditional’ precast concrete. Another advantage was the greater detail of the elements that allowed glazing rebates to be provided by the concrete members themselves.

2. Rise and Fall

After the initial successes in Holland, the company set up a network of factories abroad, including the Americas and Asia, where the company was founded in what today is Indonesia. We know that *Schokbeton* exported its technology as well to Japan, Iraq and Saudi-Arabia in Asia and Ghana in Africa. In 2004 Jack Pyburn explained how the *Schokbeton* company settled in the US and how their high-standard building components were welcomed by several members of the architectural avant-garde in North America like Philip Johnson, SOM and Marcel Breuer.³ By the 1980s admixtures such as plasticizers were introduced, achieving a higher strength and quality while maintaining workability, which rendered the shock-table technology obsolete.

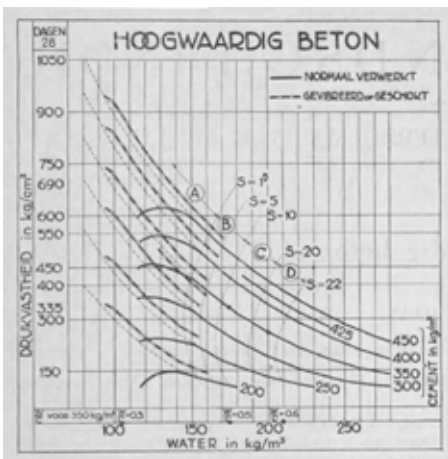


Fig. 2 A.M. Haas, 1938, graph showing the ratio between compression strength (vertical) and water content (horizontal) for various cement contents (4 curves from the right) for standard concrete (continuous lines) versus high-density concrete (dotted lines). De Haas, 1938, II.106.

3. The First Technical School in Amsterdam

When designing this remarkable building between 1953-56, the architect Ben Ingwersen was a young partner in the practice of C. de Geus. Evidently the building is strongly inspired by Le Corbusier's *Unité d'habitation* in Marseille that had just been completed in 1952. Ingwersen choose various textures, colours and finishes for panels, ribs, beams and the lattice work of the brise soleil (fixed sunscreen). The school building is strewn with unique bas-reliefs, created by the artist Harry op de Laak (1925-2012).

In 1999, in an effort to restyle the atmosphere and image of the building altogether, all the exposed concrete work in the interior was painted mint green with peach-coloured walls. The main technical problems of the building however, remained unaddressed. Therefore, in 2010, when a grammar school was to be accommodated in the building, our office was invited as the architect for an integrated restoration and adaptive re-use project. As we had to go to tender within a few months after we started, preparatory research was limited and many decisions had to be made only during the works. This appeared not preferable when working with listed buildings that need our care.

4. Peeling Paint

While removing the paints around the art works required extreme caution, an economic cleaning method was needed for the extensive areas of painted concrete surfaces. Steam and hot water blasting under various pressures, low-pressure grit and sand blasting appeared either unsuitable to work around the art works, ineffective to remove the paint from the deeper holes, causing too much rubble or water damage elsewhere, or seemed too expensive.

Restoration expert Annefloor Schlotter⁴ had various peel-away chemical strippers tested around the reliefs. The surfaces are covered with a paste or gel. A few hours later the paint film can be scraped off after which the surface needs to be washed a few times using sponges. Some of these agents worked really well and we decided to use a bio-degradable product for the structural elements.⁵ What we didn't realise was that, for large scale applications, the supplier suggested high-pressure steam jets for rinsing afterwards, instead of sponging by hand. Given the tight budget we could not prevent the contractor from steam blasting most of the inside of the building, causing damage to some remaining parquet floorings.

5. Cleaning Reliefs

As the blasting would have spread the chemicals all over the relief wall, most of the main staircase was excluded from this contract. We made new tests with ice and snow blasting, methods that were recently developed. Indeed the fine nozzles allowed to work around the reliefs by millimetres. By filling the grooves with rubber strings during the works, the colouring could effectively be protected from the impact of the snow crystals. The CO₂-crystals instantly evaporate leaving a dry deposit. Disadvantages are the slow pace of cleaning centimetre by centimetre, hence the high cost, and the excessive noise during the works. A first conclusion may be that painting exposed concrete, for instance to conceal later repairs, is an almost irreversible intervention and should be avoided if possible. All in all, we spent almost Euro 200,000.- just for cleaning the interior.

6. Concrete Repair

'Classical' concrete repair on the cast-in-situ concrete outside had already been done in the 1990s, involving standard epoxy agents and modified mortars. Although the patches were not very well matched, they didn't appear so prominent due to the daylight contrasts of the expressive façade. What worried us more was that some of the repairs showed damage again already after 10 years and had to be redone. This also applied to some repairs at the *Schokbeton* sunscreens which made us realise that there is actually no specific repair method for such high-density concrete. Although repair mortars can be selected so as to be physically sympathetic to the original material, this still means that the repair patches may actually be much less dense and more susceptible to carbonation, than the original parts. Inquiries with some concrete repair experts confirmed that there is actually no specific repair method for *Schokbeton* and similar materials available, and that the admixtures in the present resin-modified repair mortars are supposed to render them sufficiently suitable to match the properties of the original material.

The advanced damage to the earlier repairs of the sunscreens raised questions whether this assumption can be sustained. Core samples taken from the original façade panels showed that the carbonation fronts had typically advanced just some millimetres if at all, as compared to the 10-20 mm we often find in cast-in-situ concrete.

Why then does *Schokbeton* develop such defects at all? The slenderness of the members means that the covering on the steel reinforcement is sometimes very limited. Although the high density of the material is expected to counter this risk, any flaw like fissures, thermal cracks or manufacturing faults almost immediately exposes the steel to a corrosive environment. Of course the actual chance of corrosion in the past was marginal as the airborne CO₂ levels were much lower. At the school building the invasive way that pigeon-pins had been fixed to the sun screens had caused much of the damage.

It is hard to believe that present repair mortars have the same density and would match the durability and longevity of *Schokbeton*.



Fig. 3 C. De Geus & J.B. Ingwersen, Eerste Technische School, Amsterdam (NL), 1955, during construction, showing how large *Schokbeton* elements of the sun screen are hoisted in place. Photo: Jan Versnel, collection NAI Rotterdam.



Fig. 4 C. De Geus & J.B. Ingwersen, Eerste Technische School, Amsterdam (NL), 2013, after restoration, showing the repaired *Schokbeton* elements of the cylindrical emergency staircase (left) and façade panels (top), and the 'chassis' on pilotis of cast-in-situ concrete. Photo: Raoul Suermondt.



Fig. 5 De Geus & J.B. Ingwersen, Eerste Technische School, Amsterdam (NL), 2013, after restoration, showing detail with a half-moon shaped patch repair above the colour reference grid. Photo: Wessel de Jonge architecten.



Fig. 6 De Geus & J.B. Ingwersen, Eerste Technische School, Amsterdam (NL), 2013, main staircase with Schokbeton stairs and the principle bas relief by the artist Harry op de Laak, after removing the peach-coloured paint from the concrete wall by snow blasting. Photo: Raoul Suermondt.

The slenderness of the members is alien to the specifications for present day repair mortars, which require a covering of 20-25 mm in order to achieve a guaranteed result. We should therefore call upon the experts to develop appropriate repair techniques and materials.

7. Fair Faced Concrete

Prefabrication allows for the manufacturing of a relatively uniform series of products, also regarding the colour and texture of the surface appearance. Although less so as compared to cast-in-situ concrete, also *Schokbeton* shows varieties in colour and texture that need to be taken into account during repair. Similar to the treatment of exposed cast-in-situ concrete, mostly the repair of *Schokbeton* components requires artisan restoration by hand.

At the school building we worked together with the craftsmen composing a palette of repair mortars in various shades to match each repair location, using different colours and types of cement: the blueish tone of portland cement, white, beige or buff-coloured cement, which may even be mixed with carbon black or pigments. A challenge remains to select the right colour while the repair mortar is still wet, matching the colour of the cured original concrete.

For the façade panels of the school building we decided to work with plain resin-modified cement mortars in a few colours, and a carefully chosen mix of aggregates that were selected by their size, shape and colour. For half a day, we sat on the scaffold next to the repair man to set a few examples for the rest of the works. As *Schokbeton* elements are often very thin, some pebbles and grit were pushed into the wet substance only afterwards to match the retained part of the element. Close by the differences can be seen but from a distance the repairs are quite unobtrusive.

The original detail of the (single) glazing set straight into the subtle concrete rebates seemed impossible to maintain when installing energy-efficient double glazing units. We didn't expect any glass supplier to guarantee a system while any irregularity of the rebate would present a hazard to the glazing units. We developed a detail with an aluminium profile that would smoothly receive the glazing. After contracting the works the supplier unexpectedly came up with a solution to glue the glazing straight into the concrete rebates with a sealant.

9. Epilogue

The project was awarded as the most outstanding restoration in Amsterdam of 2013, as it set an example for the proper stewardship of Amsterdam's great post-War school buildings.

Notes

- ¹ Van Zuijlen's recent archival research includes the Schokbeton company archives and remains to be published; used by his kind permission.
² Haas 1938, pp. II.106-II.109
³ Pyburn 2004, p. 117.
⁴ Supported by Dr. Mariël Polman of the Netherlands National Department for Conservation RCE.
⁵ Fluxaf Green is a pH-neutral and bio-degradable paint remover supplied in The Netherlands by the company Vliegenthart.

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Wessel De Jonge

Arch. Wessel de Jonge (1957) graduated at TU Delft in 1985. Since then, he has been engaged in research of Modern Movement architecture. Combining an academic career at TU Eindhoven and Delft with architectural practice for over 20 years, he developed a profound understanding of the original concepts and applied technologies, as well as the actual restoration of Modern Movement buildings. From 1988-2002, he was the Founding Secretary of DOCOMOMO International. His most remarkable projects are the restoration of the 1928 Sanatorium 'Zonnestraal' in Hilversum (1993-2003), and the adaptive re-use of the 1928 Van Nelle Design Factory in Rotterdam (1999-2004)

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Japanese Architectural Experience in Brazil: Publication, Repercussions and Reviews, 1950-1970

José Carlos Huapaya ESPINOZA *, MÁRCIA REIS **

Abstract

The references to the production of oriental modern architecture are generally restricted to those developed in Japan and the ideas of the Metabolist group. That is evident when we review the main specialized literature on the history of Modern Architecture. Another underdeveloped source that can represent a counter point to opinions already established and at the same time enlightening other aspects of unnoted exchanges and influences between oriental and Latin America architecture are some specialized magazines which served as a means of dissemination of these experiences. In Brazil, the construction of Brasília represents “the end” of the chapter in Modern Architecture in Brazil and the beginning of a new phase named “critical regionalism”; that phase defines the beginning of a second generation of Brazilian architects production. Meanwhile, the Japanese architecture gain local prominence in the 1960s through a group of works characterized by the “formal force” used and the Brutalist influences. That was very evident and marked during the national competition for the Brazilian Pavilion at the Osaka World’s Fair in 1969. In this context, we may ask the following questions: which were in fact the Japanese projects that had greater publicity in the country? What kind of influence this production had on the process of researching a “new” Brazilian architecture? How were the Brazilian architects positioned when facing that production? What kind of impact was created on the competition for Expo ‘70? To answer these questions, we analyzed: *Acrópole*, created in 1938 and *Módulo*, created in 1958. With that in mind we try to understand the thinking universe of Brazilian Architects as well as the circulation of ideas mechanism in Brazil, on a route that emerging thoughts could help us to rethink the history of modern architecture on the continent.

Keywords : japanese modern architecture, brazilian modern architecture, latin american modern architecture

1. Introduction

References to the production of modern oriental architecture are restricted generally to Japanese. These ideas are evident in the main specialized literature on the history of modern architecture, including Zevi, Frampton, Curtis and Montaner. However, specialized magazines are another underdeveloped source that can serve as a counterpoint to opinions already established. These magazines shed light on unknown aspects of trade and the influences of oriental architecture in Latin America while providing a means of disseminating this information.

In Brazil, the period between 1950 and 1970 is pivotal in the course of our history and architecture. It is characterized by the search for new and local points of view in architecture.

The construction of Brasília is situated at the end of the modern chapter in Brazilian architecture and at the inception of “critical regionalism”. This moment is characterized by the production of so-called “second generation” of Brazilian architects. Parallel to these developments in Brazil, Japan began to gain regional prominence in the middle of the 1950s. These works were characterized by “formal strength” as well as “brutalist architecture.” The culmination of these influences is marked by the national contest for the Brazilian Pavilion at the

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World Fair in Osaka in 1969.

Thus, we can ask the following questions: what were the best known Japanese architectural projects in Brazil? Had these production any influence in the process of defining the “new” Brazilian architecture? What was the stance of Brazilian architects facing this influence? What was the impact of this competition for the Expo ‘70? To answer these questions, we analyzed two popular main Brazilian trade magazines of the period: São Paulo’s *Acrópole*, founded in May 1938 by Roberto A. Corrêa de Brito and in circulation until 1971. The second is Rio’s *Módulo*, which had architect Oscar Niemeyer’s all-architecture publication that remained in circulation 1955-1965 and through 1989 after a ten-year hiatus in starting in 1965.

The methodical review of the entire content of both magazines during the studied period revealed two moments of influence of Japanese architecture in Brazil that, in some cases, happened in parallel. The first moment occurred almost simultaneously and deals with the work of Brazilians architects of Japanese descent, especially in São Paulo (the Brazilian city with the highest concentration of Japanese immigrants). Finally, the second instance is the public competition for the Brazilian pavilion at Expo ‘70 in Osaka. The competition displayed the Japanese approach and, at the same time, brought both national and international visibility to the new generation of Brazilian architects.

2. Japanese Architecture Seen Through Japanese Descendants’ Eyes in Brazil

Japanese architecture began to gain local exposure in the mid-1950’s thanks to articles published in the magazine *Acrópole*¹. From this set we can identify two distinct periods. The first began in the mid 1950s and extended to 1965, while the other follows in sequence and extended until the early 1970s. The first period is characterized by the publication of more magazine articles by architects of Japanese descent, the vast majority of these acting as co-authors. Examples include: “Projeto para uma igreja” (Design for a church) and “Anexo de uma residência” (Attachment of a residence) by Architects Edoardo Rosso and Yoshimasa Kimachi; the “Escola de Engenharia de São Carlos” (School of Engineering of São Carlos) by the architects Helio de Queiroz Duarte, Ariaki Kato and Leo Quanji Nishikawa; the “Residência no Jardim Rosini” (Residence in Rosani Garden) by the architect Roberto F. de Mello Martins and Toshio and Tone; the “Hotel de Turismo” (Tourism Hotel) by the architects Fabio M. Hairstyle and Ringo Kubota.

The second period stretched from 1965 until the early 1970’s and is characterized by the publication of a significant amount of the architect Ruy Ohtake’s projects (upon study of all the articles published in the magazine *Acrópole*) and ends with the competition for the Brazilian pavilion at Expo ‘70. Analysis of all publications from this period reveals two groups of projects. The first group includes those that were the result of public tenders, for example, arranged for “Praça Municipal de São Bernardo do Campo” (n.320 ago.1965) for the “Building Mechanics” (n.327 April 1966) for the “Biblioteca de Salvador” (n.354 September 1968), for “Secretária de Agricultura de São Paulo” (n.357 December 1968), etc. In several of these, the architects of Japanese heritage appear as co-authors. The second group of projects are primarily residential, designed by architect Ruy Ohtake (as primary author or as a co-author).

It is worth mentioning that the architectural features of this set of architectural projects concerned the “debates and trends in world architectural environment in that time,” as stated by Bastos and Zein (2011, p. 75), outlining an “approximation (but not necessarily identification) between this architecture and Brutalism”. In fact, there are some commonalities in the formal clarity of the project; a clear exposition of the structure; the use of raw concrete and; the recovery of materials used “as they are” (HUAPAYA; REIS, 2013). This scenario also coincides with the tenants of the “Escola paulista” (São Paulo School) and, more specifically, with the work of architect João Batista Vilanova Artigas. This influence is evident in the popular entries in the Brazilian pavilion at Expo ‘70.

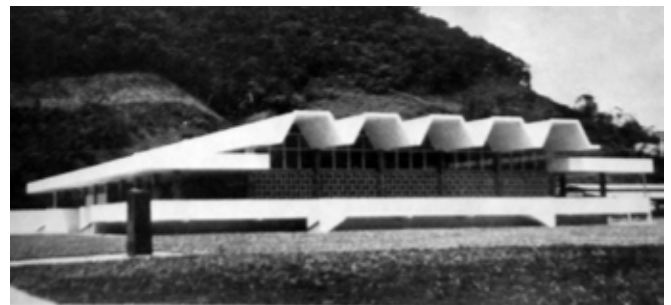


Fig. 1 Centro de distribuição de refeições (Meals Distribution Center), architects Ariaki Kato, Fernando Veiga and Norio Sakai. Source: *Acrópole*, n.307, jun. 1964.

¹ In *Módulo* revised the only Japan-related articles that have been associated architect Wilson Reis Netto’s work.

² The committee was formed by Fabio Yassuda (Agricultural Cooperative), Jose Eugenio Macedo Soares (Industrial and Comercial Ministry) and Alfredo Grieco.

3. The Competition for The Brazilian Pavilion at Expo '70 in Osaka

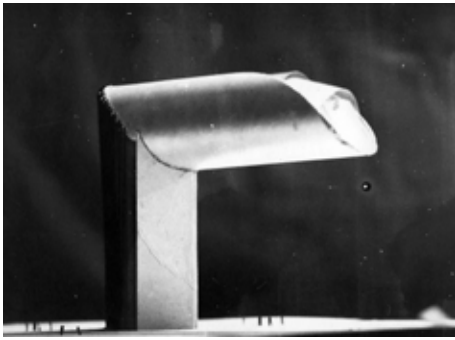


Fig. 2 *Pavilhão Brasileiro* na Expo '70, special mention, architects Assis Reis, Yoshiakira Katsuki, Jorge Maldonado and Chango Cordiviola. Source: <http://www.acervoassisreis.com.br>.

The competition in Osaka could have been the “greatest possible” representation (BRAZIL EM OSAKA 1969, p.12) of Brazilian design, but for the fact that Brazil had not participated in architectural competitions since the Universal Exhibition of Brussels in 1958. Therefore, Japanese Prime Minister Eisaku Sato, the President of Brazil and the Ministry of Foreign Affairs together formed a commissary² responsible for ensuring Brazilian participation. The group urged the Itamaraty (Foreign Ministry) and the President of the Institute of Architects of Brazil (IAB), architect Eduardo Kneese de Mello, to provide the names of five architects to develop the architectural design. Since the IAB has positioned a statement that all members have the same capacity and it would be impossible this indication (PAVILHÃO DO BRAZIL, 1969, p.13).

As a result, in early 1969, IAB organized a “rushed” national contest (MAURICIO 1969, p.21) The competition had, as members of the jury, architects Henrique Mindlin (RJ), Gian Carlo Gasperini, Peter Paulo Saraiva de Mello (SP), Miguel Alves Pereira (SP), engineer José Eu-

genio Macedo Soares (RJ) and architect Maurice Tuck Schneider. In total 83 projects were registered from all around Brazil and the first four places were awarded, plus a special mention (the first two places were teams of São Paulo, Paraná and the third special mention of Bahia).

Although most of these projects presented had high level of detail, judging by the results of the jury, the most important results were legible, clear and intelligent, with sensitive and poetic ideas, as had happened with the preliminary project for Brasília of Lucio Costa (MAURITIUS 1969, p.21). It is significant that the first and second place entries were from São Paulo, and that both teams included architects of Japanese descent (Ruy Ohtake in first place and Koiti Yamagushi in second). Even more significantly, the team from Bahia, coordinated by the architect Assis Reis, whose work was prominent in Salvador, included Japanese architect Yoshiakira Katsuki. This team’s proposal received a special mention as contained breakthrough architectural innovation.

Another important feature is that the project that won first place, from architect Paulo Mendes da Rocha, a disciple of João Vilanova Artigas, was linked with the Brutalist movement. Something similar can be said of the project that ranked second in which it is possible to identify a clear influence of Japanese Metabolistas. Both projects featured simple and clean design achieved by the use of raw concrete, a spacious and open ground floor. These structural solutions were even more important than the “humanization” of architecture.

The Brazilian pavilion architect Paulo Mendes da Rocha and colleagues held great significance and gained national acceptance. They were regarded as an “addition to the historical development of Brazilian architecture” (Motta, 1970, p.25) comparable with the Brazilian pavilion at the New York Fair (1938) designed by Lucio Costa and Paul Lester Wiener.

4. Final Considerations

The review of all articles published in *Acrópole* and *Módulo* reveals two key moments that mark the beginning and the culmination of influence and connections of Japanese architecture in Brazil. The first was the construction and the consequent impact of the project for the Japanese Pavilion in Parque Ibirapuera (Ibirapuera Park) in the mid-1950s. The second, and more compelling, was the national competition for the Brazilian Pavilion at Expo '70 in Osaka in the late 1960s.

Although in this period there were limited articles relating to Japanese architects, we note a growing number of publications on the professional performance of São Paulo architects of Japanese descent in the mid-1950s. Among them, one who gained the most prominence was the architect Ruy Ohtake.

The professional environment, politics and ideology that developed the competition for the Brazilian Pavilion for the Expo '70 reveal direct connections with the Japanese architectural and urban experience, especially those linked to the ideas of Brutalist and Metabolist. This connection was evident not only in the winning project but in several others presented.

Finally, the development of this research brings to light the importance of a group of Brazilian architects’ (especially locals) direct contact with the East. These Brazilian architects had a pivotal role in disseminating the Brazilian experience in Japan, as indicated by the cases of John Carlos Rodolfo Stroeter, Kosciusko Manoel Pereira da Silva Corrêa Netto and Wilson Reis.

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Marcia Reis

Marcia Reis was born on 1961 in Salvador, in the state of Bahia, in Brazil. She graduated as an architect from the *Faculdade de Arquitetura* in the *Universidade Federal da Bahia* (UFBA) in 1985.

In 2010 participated in the 1st Curso Latino Americano de Conservação da Arquitetura Moderna (Latin American Course on Conservation of Modern Architecture) taught by Centro de Estudos Avançados da Conservação Integrada (CECI).

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Geddes' Plans for the Asian Cities of Tel Aviv and Indore as Disruptions of the European Dichotomy Between Top-Down Planners-Ideologues and Bottom-Up Urban Citizens

Yael ALLWEIL *

Abstract

As a founding member of the city planning movement, Sir Patrick Geddes was greatly influential to the movement for his anarchistic challenge of the very idea that new cities form 'of thin air' due to the powerful actions of statesmen, capitalists, and planners (Hall, 2002; Rubin, 2009). Geddes self-distinguished conceptions of modern planning, insisting that "urban planning cannot be made from above using general principles...studied in one place and imitated elsewhere. City planning is the development of a local way of life, regional character, civic spirit, unique personality... based on its own foundations" (Geddes, 1915, p.205). Geddes' urban vision was crafted by issues of housing in the industrial city, yet compared with other theories of urban planning, Geddes' 'city of sweat equity' approach to urban housing "contributed to planning theory the idea that men and women could make their own cities" (Hall, 2002, p. 263).

While conceived in Europe - Geddes' ideas of modern planning were not materialized in Europe, but rather in Asia: in Palestine and India. Moreover, while Palestine and India were under British colonial rule when Geddes planned Tel Aviv (1925) and Indore (1918), his plans for the two cities were not commissioned by the British colonial authorities but rather by and for local urban and regional populations (Khan, 2011; Weill-Rochant, 2008).

Geddes' 1925 Tel Aviv plan and 1918 Indore plan pose alternatives to accepted models of modern planning: technocratic-capitalist Haussmanism, aesthetic City Beautiful, Corbusian 'radiant cities', or utopian Garden City. At the same time, contrary to the phenomenon of makeshift housing predating formal settlement and creating the city de-facto, as in the auto-constructed peripheries of Cairo, Brasilia, or Calcutta (Holston, 2008)- the formation of Tel Aviv and Indore via housing was the result of a conscious, anarchist planning process where Geddes fully realized his ideas: not merely challenging top-down mechanisms, but disrupting the very dichotomous perspective of modern urbanism as a clash between top-down planners-ideologues and bottom-up urban citizens.

This paper asks why was it possible for Geddes' ideas to materialize in an Asian (rather than European) setting, and can we understand this modern urbanism as 'Asian Modernism'?

1. Geddes' Planning Ideas

Geddes' urbanism involved anarchist ideas, deeply influenced by Kropotkin's idea of "communism without government, the communism of the free" (Kropotkin, 1906, p. 28). His planning theory involved regional planning, based on detailed specific surveys of regional traditional settings, for forming free confederations of autonomous regions as opposed to planning giant metropolises, nations and empires (Hall, 2002; Meller, 1990; Mumford, 1995). In the context of the British Empire, Geddes' ideas of regional identity and civics were related to the Scottish National Revival movement, occupying a group of Scottish scientists and public figures in the 1900s - reconceived using the contribution of geography to modern citizenship.

Geddes' traveling Cities and Town Planning Exhibition was initially mounted in London, the Heart of Empire, in 1910. "The exhibition interested only small sections of the community, but neither Corporation nor citizens, governing or working classes as a whole" recounted Geddes (Geddes, 1911). Geddes then took his exhibition to Ireland, the British Empire's nearest colony. In Dublin, at invitation of Lady

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Aberdeen, president of the Royal Institute of Public Health and wife of the viceroy of Ireland, the exhibition raised not only interest but also practical results: "A neighborhood Brightening Association arose, largely among the slum people themselves, transforming the eleven surrounding streets in a few weeks...the people of the neighborhood produced the essential transformations themselves, and set about the cleansing and brightening of their homes, inside and out... All [including] the Viceroy...agreed that the most encouraging result of the Exhibition was the renewal of citizenship and domestic uplift together, and this in a class and a neighborhood at the lowest level of this poorest of Western cities" (Geddes, 1917. Pp. 7-8). Geddes' urban vision was deeply affected by issues of housing in the industrial city, having himself lived in a tenement in Edinburgh in the 1880s. While social reform activists and planners proposed housing solutions for and on behalf of the poor via top-down schemes, Geddes' approach to urban housing was termed by Peter Hall 'city of sweat equity'. Namely, 'contributing to planning theory the idea that men and women could make their own cities' and the idea of the role of planning in leading a civic reconstitution of society and cities.¹ His planning strategy disrupts the dichotomy modern urban planning of the City Beautiful or Radiant City took for granted: The professionally-planned city, produced by experts and governing institutions - versus the unplanned-city produced by dwellers, primarily due to industrialization and urban migration. This dichotomy still dominates much of the scholarship on modern urbanization and particularly the creation of new cities 'from thin air'. Influenced by Michael Foucault and Henri Lefebvre, geographer David Harvey and anthropologist Paul Rabinow studied French modern planning in both metropol and colonies as top-down overarching schemes enforced in the service of capital accumulation and governance of subjects.² At the same time, Lefebvre's and Foucault's theoretical frameworks also shape the study of un-planned urban peripheries, produced by mass urban migration. Urban scholars Ananya Roy and Nezar AlSayyad, and anthropologist James Holston have studied urban peripheries produced by the agglomeration of makeshift housing as significant sites of vibrant economies and urban citizenship, in resistance to urban mechanisms of planning which exclude them from formal economy and citizenship.³ These works, nonetheless, do not escape the dichotomist perspective of modern urbanism as a clash between top-down planners-ideologues and bottom-up urban citizens.

2. Geddes in Indore

In 1914, Geddes was invited to present his exhibition in Madras by Governor Sinclair, a Scott and the son-in-law of Lord and Lady Aberdeen. The Exhibition, presented in Madras, Bombay and Calcutta, including a lecture series on the history of cities and problems of Indian cities, attended by British government officials and administrators. In his exhibition and lectures, Geddes discussed Indian and European cities as one problem, not distinguishing between the European and colonial/oriental settings, an approach quite revolutionary even in today's terms (Rubin, 2011, Tyrwhitt, 1947).

The British, on the other hand, found conditions in Indian cities extremely removed from European standards. They settled in independent colonies outside the cities, in military 'cantonments' or 'civil lines' and attempted to 'fix' the unhealthy city by cutting straight roads through the more congested areas, putting up functional buildings instead of traditional ones, and commissioning sanitary facilities "with the cost of the toilets more than double the cost of the house" as Geddes observed (Hall, 1988). British colonial governors largely rejected Geddes' analysis, responding with impatience and anger: "a certain Professor Geddes came out here to lecture in town planning... He seemed to have talked rot in an insulting way... a crank who don't [sic] know his subject" (Lutyens, quoted in Hall, 1988, 270).

In 1918, Geddes was invited by the Maharaja of Indore to plan an extension of the city, a textile production city facing a sharp increase in population followed by plague epidemics. Geddes spent six months in Indore and produced a two-volume town planning report (Meller, 1990). Rather than new roads and sewage canals, Geddes recruited local tradition of the annual Diwali procession for urban cleansing: announcing the Diwali procession would take the path along which most houses had been cleaned and repaired, Geddes generated "a wave of housecleaning, painting, and repairing swept through every quarter in Indore." Geddes added new figures to the traditional procession: the rat of plague, and the giant mosquito, and a new goddess – Indore City. Her banner included the city-plan in large outline, with red lined showing proposed changes. Following the goddess were models of the public library, museum, theatre, and models of private homes to replace slum dwellings (Rubin, 2011). The plague has stopped (Khan, 2011). However as Geddes' report included no specific economic or statistical data, Indore locals found it too vague, eventually restricting the city's development until finally discarding of them (Ponte, 1982). In addition to Indore, Geddes made plans for nine more cities, as well as to neighborhoods in five more (Ali, 1972). Many scholars identify his period in India as significant for development of Geddes' surgical intervention approach and development of his ideas of a city built by its own residents rather than planned from above.

3. Geddes in Tel Aviv

Zionist ideas of 'auto-emancipation' (Pinsker, 1916 [1887]) fascinated Geddes and appealed to his greater politics of self-help by the disenfranchised (Boardman, 1978). Upon British conquest of Palestine in 1918, and having been disappointed by British officials' rejection of his work in India, Geddes contacted his Edinburgh friend, writer and Zionist activist Israel Zangvil, proposing his services to the movement (Marom, 2009). Geddes first visited Palestine in 1919 by invitation to plan the Hebrew University in Jerusalem, and eventually also submitted a critique of the British plan for the city; or, a detailed report and general plan for Haifa, and several plans for garden suburbs in Jerusalem, Haifa and Tiberius. None of them were executed. In 1925, Geddes was invited to attend the opening ceremony for the Hebrew University. Tel Aviv's mayor Dizengoff took the opportunity and approached Geddes for designing a master plan for the city's development (Marom, 2009).

Tel Aviv was in 1925 at a major crossroad: its population quadrupled in 4 years following the transition from Ottoman to British rule and the beginning of ethnic-national clashes in Palestine in the 1920s, which generated mass urban migration to Tel Aviv and the formation of tenements and substandard housing (Druyanov, 1936; Marom, 2009). The town transformed from a homeowner community into a crowded agglomeration of neighborhoods with no clear structure, full of shacks and tents, bearing consequences for municipal politics which Dizengoff attempted to solve with urban planning. Geddes spent two months surveying the city and region and produced a 64 page town planning report and a plan for Tel Aviv as a city for 100,000 inhabitants which he defined as his most ambitious plan (Kallus, 1997; Weill-Rochant, 2008; Hysler-Rubin, 2013). Geddes' planning report was developed into detailed plan by the city's technical department; the plan was adopted by city council in 1925, and approved by the British authorities in 1927.⁴

In his survey report, Geddes analyzed Tel Aviv's 1925 condition as a city at a crossroads of two different paths dictated by housing development: One, continuing the process transforming Tel Aviv into a city of tenements – and the other, returning to its original principles of garden village. These two housing types, writes Geddes, 'represent the essential contradiction between the two types of planning' (Geddes, 1925; pp. 13). Founded in 1909 as a homebuilders' association, the town developed in a "housing before street" process, by which the houses formed the city around them. After laying a grid layout and distributing house plots, historical images show, the city's infrastructure and urban life formed around the houses. The idea that a city could be produced from the agglomeration of individual housing involved collective purchase of land, subdivision to plots, self-construction of houses, and the formation of streets, parks, and public institutions – the 'city' – around them (Shavit and Bigger, 2001).

Geddes found this urban tradition remarkable and defined his plan's primary aim as 'continuing the Garden Village Tel Aviv began with, and bettering this as far as may be' (Geddes, 1925, p. 15). Geddes' plan for Tel Aviv is based on 'home block' urban units: urban blocks composed of two rings of detached houses, at the inner circumference and outer circumference of the block. Each block included a small public park with communal facilities such as playgrounds and tennis courts. The home block was surrounded with 'mainways' for through traffic, and serviced by narrow 'homeways' and pedestrian ways leading to the inner block yet not traversing it (Geddes, 1925; Kallus, 1997; Weill-Rochant, 2008). The house plot suggested in Geddes's report was 560 square meters, same as Tel Aviv's original plot, with construction area limited to one-third and building height to 9 meters, to contain a single, semi-detached house with no more than two residential units, leaving much of the plot for subsistence farm. Tel Aviv's building block, the house, was thus embedded within Geddes' home block within large-scale urban scheme (Geddes, 1925; Kallus, 1997; Weill-Rochant, 2008).

The plan's design and approval occurred at a period of great conflict between workers and capitalists in Tel Aviv, at the backdrop of grave housing conditions. Rental costs ranged 40 to 50 percent of a worker's average wage in the early 1930's.⁵ Workers' response was unionization into cooperatives in order to obtain loans for land purchase and construction, cooperatives similar to Ahuzat Bayit's homebuilders' association model. Geddes' home-block was a perfect match for urban workers: Restrictions on housing size and height made auto-construction a realistic possibility, and construction limit to 1/3 of the plot met workers' need to maintain small subsistence farms and support them.⁶ The socialist party took power of Tel-Aviv's municipal government between 1925 and 1928, at the crucial moment of British Mandate approval of Geddes' plan. Worker leadership realized the immense consequences of the plan for their struggle over the 'production of the city' in terms of access to housing. Urban workers could only afford cheap land at the edge of the Geddes plan area, far from the city center. Approving leapfrog development, worker-led urban government permitted development of small self-built home-blocks at the edge of plan area before the infrastructure development of the Geddes plan layout: roads, electricity, water and sewage. Following construction of worker housing, the working class government used public funds to service these remote worker neighborhoods

with roads and public services, thereby creating the Geddes plan layout in a 'housing before street' framework.⁷ Housing construction at the edges of the plan was therefore the decisive act in forming the infrastructure and layout of the Geddes plan. By 1937, there were sixteen worker neighborhoods in the Geddes plan area, marking the entire area a 'worker's quarter'.⁸ Some of the original buildings still exist, standing as testament to the existence of a workers' neighborhood with subsistence farms in what is now at the heart of the city. While meager, the houses enabled dwellers of the city's shack neighborhoods to gain access to proper permanent housing and subsistence farms, and transformed workers into homeowners and therefore proper citizens of the city.

4. Conclusion

Examining Geddes' attempts to challenge the conventions of city planning and its service by central colonial governance, we can see that his ideas gained purchase with local residents and governors, while colonial governors in the colonies and in the metropol were not willing to accept them. Was the Asian setting, while colonial/colonized, more perceptible to non-dichotomous planning?

The colonial setting, which included two levels of governance (imperial and local), and two systematic traditions of urbanism, enabled Geddes to recruit local traditions for employing his anarchist ideas by incorporating local worker, refusing a total-control planning that 'knew best' and incorporating what residents of this specific city viewed as their self-defined goal, enabled dwellers to form Tel Aviv as a 'city of sweat equity'.

Notes

¹ Hall, *Cities of Tomorrow*. Pp. 263.

² Michael Foucault, *Discipline & Punish* (Toronto: Random House of Canada, 1977).

Henri Lefebvre, *The Production of Space* (Oxford: Wiley-Blackwell, 1991).

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³ Nezar AlSayyad and Ananya Roy, *Urban Informality: Transnational Perspectives from the Middle East, Latin America, and South Asia* (Lexington Books, 2004).

James Holston, *Insurgent Citizenship: Disjunctions of Democracy and Modernity in Brazil* (Princeton University Press, 2008).

⁴ Geddes's plan for Tel Aviv included a written report, sketches, photographs and a plan. The Tel Aviv Engineering Archive holds the written report alone, *Town Planning Report – Jaffa and Tel Aviv 1925*, and an illustration of the plan on its cover (see above). The map and drawings, mentioned in the report text, have disappeared, allegedly burned by Arab insurgents in 1936. See Arindam Dutta, "Organicism: Inter-Disciplinarity and Para-Architectures," *Journal of the Society of Architectural Historians* 64, no. 4 (2005). The available map we have today is a plan prepared by the city engineering département circa 1931, according to the report and master plan suggested by Patrick Geddes in 1925. (Tel Aviv Engineering Archives).

⁵ Zelig Lavon, *Shelter* (Tel Aviv: Am Oved, 1974).

⁶ Tel Aviv Municipal Archive: *Workers' Neighborhood A* file; *Camel Leaders' Neighborhood* file; *Neighbors' Neighborhood B* file.

⁷ Tel Aviv yearbook, 1926, 1927, 1928, Tel Aviv Municipal Archive.

Alter Druyanov, *The Book of Tel Aviv* (Tel Aviv: Tel Aviv Book Committee, 1936).

⁸ Ibid.



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Asian Modernity At Expo 67: The Case of the Korean Pavilion

Nader MEDDEB *, France VANLAETHEM **

Abstract

On the islands built in the middle of St. Lawrence River in front of Montreal for the 1967 universal and international exhibition, there are still some remaining pavilions; one of them belongs to the Republic of Korea. Our study considers it in the context of postcolonial studies and precisely in the continuity of the works on the decolonization process carried out by the former colonies. The World Fairs remain a rich source of information on this subject. Its architecture reflects the aspirations of the various participating nations. This architecture is regarded as a hybrid object being utilized to demonstrate the changing political situation of the represented nation. In 1967, Asia is marked by a number of pavilions with architectures fluctuating between the folk and modern. The Korean case is representative of a conscious blend between tradition and modernity, East and West, the useful and the pleasant. Being currently in a fragile state, this text raises awareness to its heritage value and encourages its conservation.

Keywords : asian, hybrid, architecture, expo67, montreal, korea

1. General Framework

On April 28th 1967, the world's fair of Montreal, Expo 67, was ready to host its 50 million visitors to celebrate the tradition born 1851 at the Crystal Palace in London. It is the third of its kind after those of Brussels (1958) and Seattle (1962) to announce the end of a long period of conflict in the West and its colonies. By adopting as theme "Man and His World", it was a step towards a new humanism of reconciliation and the opportunity for the new nations to demonstrate their independence with pavilions free of the stereotypes inherited from the 19th century. According to Pierre Dupuy, Commissioner General of the Expo, the principal goal was to "make [men] discover the common denominators between them, and understand what united them was far more important than what divided them" (Dupuy, 1972, p. 36).

Similar to the preceding exhibitions, the Montreal fair has made architecture and the related activities the main vector of its theme. Relying on unusual architectural works, each participating nation in its own fashion tried to translate its vision of a better world in the shape and the materials of its pavilion. While the former colonizing forces continued to demonstrate their technical superiority through a futuristic architecture, some pavilions of the former colonies fell unfortunately "in a folklore quite strange to the spirit of the expo" (Fulford, 1968, p. 44), notes Robert Fulford in his *Portrait de l'Expo* (1968). Asian pavilions ranged between the latter category and a hybrid modernity¹ seeking to make a conscious blend of the old and the new. This is particularly the case of the Korean Pavilion, the only trace remaining from the Asian participation and one of the few pavilions still standing on the island *St-Hélène of parc Jean-Drapeau*.

therefore positively viewed. It is often made by local architects who search through their traditional architecture and tend to make it evolve. For more details on this transition, we propose: (Laplantine & Nouss, 1997).

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2. Asian Presence at Expo 67 and The Resistance of The Cliché

At Expo 67, Asia was represented by Burma, Ceylon, China, Korea, India, Iran, Israel, Japan, Kuwait, United Arab Republic and Thailand. Some had already the experience of World Fairs since the 19th century as European colonies. They were represented partly through a hybrid architecture, kind of collection of *arabesques*, *turqueries* or *chinoiserie*, pulled out of their context, losing their cultural depth and reduced solely to the ornamental purpose. The result was the “mini-villes”, true heterotopias referring to far territories and ethnic museums materializing *Le tour du monde en un Jour* (1931) of Maurice Truchant. In *The location of culture* (1994), Homi Bhabha called the space created by this hybrid architecture a “third space”; an in-between space where the boundaries of the imaginary and the real fade and consequently amplify the ambivalence felt by the visitors. Its hybrid character became the spot where opposites meet on an ambiguous folding: ephemeral/permanent, near/far, heterogeneous/homogeneous, modern/archaic, ..., and slide delicately in the hybridity of an ephemeral architecture, having become permanent due to the eternal return of these “places of pilgrimage to the commodity fetish”, formulated justly by Walter Benjamin.

Such a conception seems to persist at Expo 67 due to the mimicry affecting on one hand the event organizers and on the other hand some of the participating Asian countries. Indeed, the Commissioner General P. Dupuy justified putting some Asian countries in one group² (Fig. 1) while excluding some other ones, namely: Japan, Korea, China and Iran which had pavilions with a certain modern architecture, by saying that “the true countries of Asia, i.e. India, Ceylon, Burma and Thailand were grouped to give the visitor the impression of expatriation, discovery of a world, as if he had made a long journey” (Dupuy, 1972, p. 60). In Dupuy’s eyes, being considered as Asian country seems to be depending on using the folkloric architecture. He adds when speaking of the symbolic Passport offered to the “citoyen moyen” instead of the ordinary ticket that “offering him a passport, we handed

him the key to the dream. Dream of Asia, dream of Africa”. It should be reminded that one of the objectives of world expositions since the beginning, explained by Walter Benjamin, is “to entertain the working classes, and it becomes for them a festival of emancipation” (Benjamin, 1999, p. 9). While some Asian countries have voluntarily accepted to play the game by utilizing some elements of their traditional architecture, like Thailand and Burma (Fig. 2), others had to oppose the indirect invitations from the organizing committee to pursue the same clichés. It was the case of India and the “turban of the Sikhs” as told by Yves Jasmin, author of *La petite histoire d'Expo 67* (1997): Sikhs wear turbans. Someone suggested to the Commissioner General of the Indian participation to offer demonstrations to the ladies visiting the pavilion, how to roll the turban.



Fig. 1



Fig. 2

¹ It should be noted that this hybridity, studied in the context of the nineteenth and the beginning of the 20th century exhibitions, is often tinged with a negative connotation. In fact, the architectural works supposed to be identical to traditional monuments, but their European architects gave themselves a great deal of freedom in mixing several different registers. From the second half of the 20th century, this hybridity is becoming more assumed and the dissatisfaction of the public about the Japanese Pavilion trying to detach itself from this archetype and representing the reality of Japan in 1967, it is justified to join Penelope Harvey in considering this stereotypical practice a persisting phenomenon which could not be terminated easily (Harvey, 2003).

“The turban is a headdress for men”, replied with an icy tone Mr Raghbir Dyal, Assistant Commissioner General of India. There was no demonstration of rolling turbans at the India Pavilion (Jasmin, 1997, p. 372). Finally, facing

3. The Korean Pavilion

Although the Korean presence in fairs before Expo 67 has been relatively rare, it contributed to some of the oldest and most important occasions in the history of this event. The first contribution can be traced back to the universal exhibition of 1878 at the *Palais du Trocadéro* ² About the significance of putting foreign pavilions in one group, sort of an exotic village where the change of scenery is maximized, see: (Morton, 2000). in Paris. There was no official participation of the Kingdom of Korea in this event, but an introduction to this « *terra incognita* » through the collection of traditional objects brought by the explorer, Mr. Varat. We read in one of the weeklies of the 19th century that: “Mr. Varat is the first European who has dared to cross Korea through Taikou and Fousan, he is the one who also carefully studied ethnography and brought elements of an absolutely new museum, original and informative. These are the main parts of this museum that we saw shortly during the universal exhibition [...]” (Le monde illustré, 15 février 1890, p. 103). The same collection was then exhibited in the *Pavillon des arts libéraux* at the universal exhibition of 1889 in Paris. It took until the year 1893 during



Fig. 3



Fig. 4

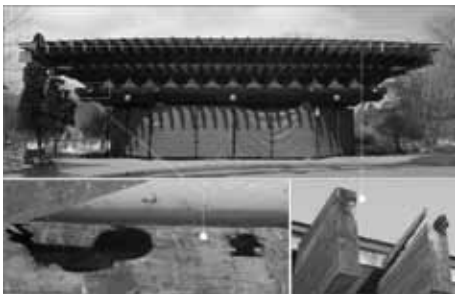


Fig. 5

The World’s Columbian Exposition in Chicago, to see Korea officially occupy a corner at Jackson Park on the shores of Lake Michigan. Yet once again, participation was limited to a collection of various typical objects provided by Governor ChulaLong-Kom. Following the experience of 1893, at the millennial exhibition in Paris in 1900, Korea occupied a much larger place thanks to an independent pavilion; a smaller replica of Geunjeongjeon Hall in Seoul (1395, 1867, 2009) built by the Joseon Dynasty (1392). By becoming a protectorate since 1905, Korea belonged to the Japanese participation in the exhibitions. It was represented by an independent pavilion again in 1962 at the *Century 21 Exposition* in Seattle, then the Expo 67.

“The hand of man” is the title of the pavilion proposed by Korea as a contribution to the theme of Expo 67. It was entirely built manually under the direction of Canadian architects Blais and Bélanger (Fig. 3). Made of wood, except for its supporting structure composed of 8 metal columns coated with plywood (now concrete), it represented for the local press “a note of romanticism” brought to a site where the industrialized construction was evidently dominant. Designed like the Korean mansions, it combined tradition and modernity thanks to its flat roof (*hanok*), kind of *paljak roof* without its upper part and the slenderness of its corners. The external sobriety of this roof traditionally reserved to the “highest class of the Joseon society” (Jackson & Koehler, 2012, p. 47), extends to the Interior via a ceiling recalling the rich interior of the royal palaces. Such a result was not an unexpected point from the architect Kim Swoo-geun (1931-1986), prominent figure of modern Korean architecture. Strongly influenced by Le Corbusier and Kenzo Tange, his architecture could be considered as a symbiosis of the schools represented by those two references from Europe and Asia. Such an influence is visible in his hilltop Bar Walkerhill (1961) and the Freedom Center (1963) on Mt Namsan. The Pavilion of Expo 67 was another proof of his talent to wed traditional philosophy and modern principles of the art of building.

Undoubtedly, the Korean Pavilion offers more than a lesson on an authentic architecture able to escape the pastiche and reconcile with its function and site. Because the architect was able to apply one of the basic rules of ancient Korean architecture, namely, “the impression of harmony and discretion, or better said the subtle distinction for discovery” (Macouin, 1998, p. 9), this building belongs to the rare ones in the exhibition capable of breaking away from the Expo’s architectural pathology called “*l’architecture d’exposition*”. Indeed, compared to Fuller’s geodesic dome located close to it, the Korean Pavilion is much more discreet due to its horizontal appearance that fits perfectly with the lines of

the surrounding terrain. Only a 12 m high tower, placed at the entrance of the Pavilion, served as a landmark and symbol to the progress achieved by the country. Observing the exterior as well as the interior of the pavilion, the theory of Kenneth Frampton about tectonics; “poetry of construction”, can be perceived (Frampton, 1995). Basically, this aspect makes the Korean Pavilion a genuine “concession to modernism”, considering modernity as a reasonable equation between the cultural heritage and the requirements of the present. By limiting the ornamentation of the building to the “art of junctions” extending from the exterior to the interior, and by making the exhibited objects the main elements of a well-studied scenography (**Fig. 4**), simultaneously avoiding the desire to minimize the individual through a structural hypertrophy, has the architect succeeded in answering the question what a modern building should reflect.

There is much to mention about this pavilion that has survived the demolition after the exposition. Lack of maintenance, decay of the wood (**Fig. 5**), displacement of the tower and continuous disfigurements due to transitional events held on the site, have put this rare window of Korea-Canada friendly relationship in danger of disappearance forever. There is an urgent need to be engaged in its conservation project.

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Modernity vs. Modernism in Istanbul: the Culture of Rupture and the State of Exception

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Abstract

The modernity concept originated in western theoretical/philosophical thought. Characterised by secular, scientific, social and economic developments, it significantly affected arts and architecture. Modernism, its 20th-century cultural outcome, was heterogeneous in nature and commonly related to local progress and technique.

The 'Modern Project' came in many forms and with multi-layered meanings. We unfold insights on possible Asian identifications through the inquiry of the self-imposed modernisation strategy of Turkey. The recent history of Turkey, for centuries a geographical and intellectual bridge between East and West, sheds new light on the interpretation and incorporation of modern principles and their cultural outcomes in Asian countries.

We select Gezi Park and the protests as the main case to look into modernity in Turkey. The protests were a reaction to the rapid urban transformation of recent times in Istanbul. This transformation, mainly led by individual interventions by the Prime Minister (PM), is not the first in history. Istanbul of the 1950s has witnessed similar ways of operation, which changed the city and the public spaces. Tracing from the most recent to the farther, two contemporary intellectuals are proposed, at the one hand Frederic Jameson to question modernity and modernism and at the other hand Giorgio Agamben to look into the idea of the state of exception. With 'paradigmatic issues' as capitalism, criticism, freedom, the period and the break, modern(ist) characteristics in the society of Turkey today are brought to the surface.

Particularities of regional discourses on modernity and their modernist productions must be examined within the broader scope of Western thought on these issues in order to unravel cultural specificities and universalities on the subject. Here we avoid a categorical look at the history of modernity, which separates modernity as a completely western thought and its implementations in other contexts as the followers of this thought.

Keywords : modernity, modernism, 'culture-of-rupture', 'state-of-exception', criticism, espace-libre, Istanbul

1. Modernity in Turkey: a Status Questionis

İlhan Tekeli characterises modernity in Turkey as follows:

Modernisation in the Republican Period is responding to people's needs in guidance of science and technical knowledge, and in a planned manner. Modernism meant building the nation identity, industrialisation of the country, creating modern cities all around Turkey. Cities are the places of modernity.¹

Istanbul is a city 'on the break' of Europe and Asia, thus, literally the geographical and intellectual bridge between East and West. We approach Istanbul as a touchstone of modernity in Turkey.

The self-imposed modernisation strategy of Turkey over time, which culminates today in an array of unpredictable elements, can tell us about the interpretation of and adaptation to modern/modernist principles and their outcomes in a non-western context. The 'situatedness' of the modernity paradigm in Turkey's recent history is questioned by examining some of its spatial 'modernist manifestations'. Two

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decisive political events are brought to the surface: individual interventions between 2004 and 2012 under Prime Minister (PM) Erdogan, which lead to the Law on Transformation of Areas under Disaster Risk (2012). Protests on Gezi Park and Taksim square emerged: a reaction to rapid urban transformations and loss of public spaces. Secondly, PM Menderes' term and his interventions (1950-1958), which made Istanbul 'explode', was followed by the establishment of the Building Department of the Istanbul Municipality (1958). Two contemporary intellectuals are proposed for a combined reading and re-framing of both periods. For contemporary insights on modernity and modernism we take into account Frederic Jameson.² Furthermore, we project Giorgio Agamben with his 'State of Exception' (2005) on the political mechanisms and their urban spatial consequences.³

2. Politics and People on the Break: Periods of States of Exception

Both 'political events' and their public/spatial exemplifications are examined. Starting from Occupy Gezi (Taksim protests) we go backwards in time, ending in the second period of interest, the fifties.⁴ The narrative of Turkey is being told from the present to the past. Throughout this backward narrative, gradually a plot on modernity/modernism is elaborated. The protests are an inspiration to develop a different perspective for tracing back 'modern history' starting from 'the now'.⁵

Jameson suggests the trope of modernity is always a rewriting and displacement of previous narrative paradigms.⁶ In his book 'A Singular Modernity', he elaborates on the issue of periodization using four maxims of modernity; 'We cannot not periodize' and 'Modernity is not a concept but rather a narrative category' are maxim one and two.⁷ To mark and analyse both political events in our narrative, we propose the ideas of 'break' and 'period'. Principal forms and figures of Jameson's critical narratology include: continuity, discontinuity, break and transition.⁸

We acknowledge dialectics of breaks and periods, where break can become period. This results in a dialectics of continuity and rupture.⁹ We recognise individual political interventions that are materialised in bureaucratic instruments, laws, departments, etc. Thus, they become legitimised, although they are exceptional. Individual and public oppositions rise as counteracts.

The essential paradox of modernity is that it advances both freedom and criticality.¹⁰ These characteristics are to be seen in the claiming of existential rights by the people. The notion of critical reason is modern: 'it does not believe in any principle except the principle that all principles should be submitted to critical investigation'.¹¹ Hilde Heynen erects a quote from writer Octavio Paz:

Critical reason [...] accentuates temporality. Nothing is permanent; reason becomes identified with change and otherness. We are ruled not by identity [...] but by otherness and contradiction [...] In the past the goal of criticism was truth; in the modern age truth is criticism. Not an eternal truth, but the truth of change.¹²

For Heynen, this tension between criticism and commitment remains essential in order to relate in a meaningful way to the modern; the discrepancy between the outward conditions of life and one's inner sensibility as an element of modernity infuses public reaction.¹³ Today in Turkey, discontinuity is in play and some sort of break is tangible. Elements of transition are apparent in the criticism and resistance that arose on Taksim Square and in Gezi Park.

Gezi Park, built by pulling down the Ottoman army barracks, was a result of modernist action (1920s) and characterised by modern architecture principles. More than its design, the underlying ideas of public space represented the Republic's ideology. In June 2013, 'capitalist modern' thinking was displayed radically by the proposal for a 'barracks-style' shopping mall on Gezi Park. This type of thinking has been apparent since the 1980s. Today, the continuity of the modernity project is in question. Part of the uprising was a reaction to this new kind of state imposed modernity. Gezi Park has befallen into 'a situation of exception', where existing laws are suspended and ambiguous grounds are produced by the State. This ambiguity let the State make the interventions it needed, the citizens/civil society cannot act since the law stopped functioning regularly (it is suspended), and there's no clarity on its new functioning. Similar implementations have been at stake since 2005. Several neighbourhoods, public spaces and buildings of historical heritage have been transformed by opportunistic economic agendas.

Carl Schmitt introduced the concept ‘state of exception’. He claimed there could be no functioning legal order without sovereign authority.¹⁴ The sovereign (who is outside the law) is whoever able to decide on the state of exception, guaranteeing its validity.¹⁵ Schmitt’s understanding of the exception is related to a state of emergency, which requires a law suspension. If there is a continuous state of emergency, the law is continuously suspended, and the law, hence the sovereignty, is sustained. For Schmitt, the basic principle of politics is ‘the distinction between us and them’. The spatial order of the world is conceptualised on this division: us=inside/them=outside; the state of exception considers the outsider.¹⁶ Agamben constructs his argument on Schmitt’s theory. Contrary to Schmitt, he suggests that the state of exception is about the us/them border, where life and law and the position of insider/outsider get blurry and become indistinguishable.¹⁷ Emergencies and exceptions have been in Turkey’s state agendas since WWII. Mass migration to cities, especially to Istanbul (1960s), and emerging squatter areas (gecekondu) result in amnesty laws as exceptions before every election (another ‘state of exception’ example). Tekeli comments on the general amnesty to gecekondu inhabitants as the continuity of the modernity project and calls it populist modernity; the modernity project is not open to self-criticism, infusing duality between the urbanised city vs. the informal settlements (gecekondu).^{18 19} Modernity between WWII and the 1960s meant that ‘the old’ should be demolished. PM Menderes was the main actor leading ‘exceptional’ interventions in the public realm. He himself was ordering urban planning decisions.²⁰ The Karaköy, Eminönü, Beyazıt and Aksaray squares were refurbished in a radical way.²¹ Tafuri described architecture at that time as being so bonded to the sovereign, that it cannot produce solutions that will protect the rights of those exploited by the system.²² The new legacy in Turkey was established in 1958 with the founding of the Istanbul Public Works and Settlement Department.

3. Modernity and Modernism: from Project to Space (or from Space to Project?)

The paradigms of modernity/modernism/modernization are ever evolving strains of western thought. Exhaustive definitions on these concepts are not entirely agreed upon. In a 2011 publication on the subject, Detlef Mertins links them together:

Modernity designates what is distinct about a specific moment in time whose duration [...] may vary from a sunset to a century. *Modernisation* [...] refers to transformations of materialist civilisation [...] In contrast to both, *modernism* may be thought of as the cultural response to modernity and modernisation [...]²³

Modernity is bound to time and place: both are distinct parameters to measure society.²⁴ Therefore, ‘the period’ and ‘the urban space’ are exemplary ideas of the modern. Through imperialism, colonialism, globalisation or ‘democratic adaptation’, diasporic identities of modernity were carried out.

Habermas observed that modernity cannot follow models from another epoch, concludes Mertins, ‘it has to create its normativity out of itself’.²⁵ Marshall Berman famously writes:

To be modern, I said, is to experience personal and social life as a maelstrom, to find one’s world and oneself in perpetual disintegration and renewal, trouble and anguish, ambiguity and contradiction: to be part of a universe in which all that is solid melts into air. To be a modernist is to make oneself somehow at home in the maelstrom [...] in search of the forms of reality, of beauty, of freedom, of justice [...]²⁶

Here, the individual experiences are related to the autocratic and the violent. Tekeli considers modernity a bottom-up transformation process in Europe, whereas in Turkey, modernity started as a top-down project. This caused many problems, including modernist ideology being perceived as western.²⁷

In the 1930s, the State perceived the urbanisation process as a societal transformation mechanism. Tafuri and Frampton described how urban space generally became the representation of ideology in the West. Cities rose as scenes of the modern Republic.²⁸ Secularism and positivism were the main elements of modernization in Turkey. Kirdar, Istanbul’s governor in the late 1930s-1940s, defined urban planning as transforming the pearl of nature (Istanbul) to the clean, civilised and aesthetical.²⁹ Almost simultaneously to that period, Henri Prost introduced the concept of *espace libre* in Istanbul’s planning.³⁰

L’espace libre was one of the main elements of *Musée social*’s approach on cities. Prost’s plans for Istanbul are parallel to the principles of *Musée social* for Paris, with ideas on zoning and hygiene, and to those of contemporaries in CIAM.³¹ Parks, squares, open spaces and

boulevards were included in this concept; two parks in Bayrampaşa and Gezi and the Archaeology Park were the backbone elements.³² Prost's 'beautification' of Istanbul shows itself in these *espaces libres*, where aesthetics is combined with modern state ideology. He was criticised for not being 'ideologically modern', but more aesthetically driven and hygiene oriented instead. *Les espaces libres*, of which Gezi Park is one of the 18 parks, are closely connected to the secular reforms of the modern state of Turkey.³³

4. Concluding Words^{34, 35}

Gezi Park and the protests deliver a history of modernity in Istanbul. The *espace libre*, hosting the conflict of the intended shopping mall and citizens' demands for open/free spaces, has raised several questions on modernity and modernism, the culture of rupture, the state of exception and capitalism. We selected Jameson and Agamben as our main theoretical references for this paper.

Jameson sees modernity discourses as essential ways of talking about capitalism.³⁶ He regards modernism a symptomatic response to the historical conditions of middle-stage capitalism; it's manifested prior to the full globalization of capital. For this reason, in the West, we can no longer be modernist because we are now fully modernised.³⁷ What is today the current 'modern stage' of Turkey in terms of capitalism? Would a culture of consumption here equally leave unfulfilled the promise of modernism? The people act on different sides of 'one narrative' of modernity in one place in one period of time. Therefore, in a peculiar way, both the government of Turkey's interventions and its people's actions appear to be modern; the former in a fashionable way since their decisions subscribe to capitalism, the latter in the authentic sense because they ask for free/public/common spaces.³⁸

In Istanbul, modernity has been mainly enforced top-down and self-criticism seemed not possible. Drawing on Agamben, we read exceptional situations in the State's decisions and suggest that these were the causes for the state of exception. In times of rupture, where the sense of failure in the modern promise is more than ever apparent, people stand up self-conscious and claim the notion of freedom, or denounce the lack thereof. It started off with a subversive claim for their authentic public space, a free space even in Prost's sense; for them a place to be saved from the shopping mall, the pseudo-public non-place. Fighting off this metaphor of the capitalist society, a reactive modernity project still seems at large.

While the period of exceptional processes and public reactions are still continuing, it seems, for now, hard to talk about the end of modernity or the culture of rupture. Rather, Habermas' position of modernity as an incomplete project, where modernity creates its normativity out of itself, seems to be the more consistent line of thinking

Notes

¹ İlhan Tekeli, *Modernizm, Modernite ve Türkiye'nin Kent Planlama Tarihi* (Modernism, Modernity and Turkey's Urban Planning History), Tarih Vakfı Publishing, 2011

² American literary critic and Marxist theorist

³ Italian philosopher and political theorist

⁴ We can relate this to Detlef Mertins, who refers to Tafuri's critique on instrumentalism in modernist architectural history, in his book *Modernity Unbound: 'breaking up the master narrative by looking for contradictions and contestations'*.

⁵ We don't claim that other approaches, which have been developed until now, are incomplete or incorrect. However, we do try to show that an economical approach to divide this history to certain periods (WWII-1960s-1980s), or an evolutionary approach to reason every coming phenomenon with the other (mono-modernism, plural-modernism, populist-modernism) is questionable.

See Tekeli: 'modernity is a project that started in West Europe, but found different identities in the localities', 'plural modernity', etc.

⁶ Dora Apel, "Review: A Singular Modernity: Essay on the Ontology of the Present by Fredric Jameson", *Contemporary Sociology*, American Sociological Association, Vol. 33, No. 2 (March, 2004), 201-202.

⁷ The four maxims are found in Part 1 of: Frederic Jameson, *A Singular Modernity*, London, Verso Books, 2002, 250.

⁸ Christopher Prendergast, "Codeword Modernity", *New Left Review*, London, 2003, 95-111.

⁹ Dora Apel.

¹⁰ Mark Jarzombek, "A Prolegomena to Critical Historiography", *Journal of Architectural Education*, Washington, ACSA, 1999, 197-206.

¹¹ Hilde Heynen, *Architecture and Modernity. A Critique*, Cambridge, MIT Press, 1999.

¹² Octavio Paz, *Children of the Mire*, Cambridge, Harvard University Press, 1974.

¹³ Hilde Heynen.

¹⁴ David Dyzenhaus, *Legality and Legitimacy: Carl Schmitt, Hans Kelsen and Hermann Heller in Weimar*, Oxford, Oxford University Press, 1997, 283.

¹⁵ Carl Schmitt, *Political Theology: Four Chapters on the Concept of Sovereignty* (trans. George D. Schwab), Cambridge, MIT Press, 1985, 70

¹⁶ Derek Gregory, *The Colonial Present: Afghanistan, Palestine, Iraq*, Oxford, Wiley-Blackwell Publishing, 2004, 367.

¹⁷ Nasser Hussain and Melissa Ptacek, "Homo Sacer and Sovereign Power and Bare Life by Giorgio Agamben", *Law and Society Review*, Wiley Online Library, 2000, 495-515

¹⁸ İlhan Tekeli.

¹⁹ The problem of the state of exception presents clear analogies to the right to resistance.

(see: Giorgio Agamben, *The State of Exception* (trans. Kevin Attell), The University of Chicago Press, Chicago, 2005, 104.)

The law is the site of struggle not only in its suspension, but also in its formulation, interpretation and application. This implies that the space of exception is a potential space of political modernity rather than paradigmatic, and that resistance is possible.

(see: Derek Gregory, *The Colonial Present: Afghanistan, Palestine, Iraq*, Oxford, Wiley-Blackwell Publishing, 2004)

²⁰ Menderes once said: "That building across the Spice market, I decided that we should pull that down. Start with the appropriation procedure immediately." (see: Burak Boysan)

²¹ For instance, Aksaray square in the historical peninsula was refurbished by pulling down 29 examples of significant muslim heritage, the non-muslim heritage was not even counted for.

(see: Burak Boysan)

²² Burak Boysan, "İstanbul'un Sıçrama Noktası", *Osmanlı Başkentinden Küreselleşen İstanbul'a: Mimarlık ve Kent, 1910-2010*, Osmanlı Bank Archive and Research Center, 2010, 81-96

²³ Detlef Mertins, *Modernity Unbound: Other Histories of Architectural Modernity*, London, Architectural Association, 2011, 187.

²⁴ For Perry Anderson modernity is as a mediating term, that links modernisation and modernism, and therefore is defined as the 'experience' undergone within modernisation that gives rise to modernism

(see: Perry Anderson, "Modernity and revolution", *New Left Review*, London, 1984, 96-113.)

²⁵ Detlef Mertins.

Jürgen Habermas, *The Philosophical Discourse of Modernity: Twelve Lectures* (trans. Frederick Lawrence), Cambridge, MIT Press, 1990, 430 (7).

²⁶ Marshall Berman, *All That Is Solid Melts Into Air. The Experience of Modernity*, New York, Penguin Books, 1988, (345-346)

²⁷ İlhan Tekeli.

²⁸ İpek Yada Akpınar, "Modern İmgelerin Günlük Yaşamda Mekanlaşması: Prost'un Yeni Kamusalıkları", *Osmanlı Başkentinden Küreselleşen İstanbul'a: Mimarlık ve Kent, 1910-2010*, Osmanlı Bank Archive and Research Center, 2010, 68-81

²⁹ İpek Yada Akpınar.

³⁰ French architect and urban planner

³¹ İpek Yada Akpınar.

³² F. Cana Bilsel (see: both references in bibliography)

³³ İpek Yada Akpınar.

³⁴ In 1992, Peter Osborne refers to three approaches to the modernity problem (all touched in this paper): the ideas of modernity as a category of historical periodization, a quality of social experience, and an (incomplete) project.

(see: Peter Osborne, "Modernity is a Qualitative, Not a Chronological, Category", *New Left Review*, London, 1992, 65-84.)

³⁵ The existence and completion of the modernity project has been broadly questioned and discussed, ranging from Habermas' *Modernity – An Incomplete Project* (1980) to Jameson's recent position on being fully modernised (*A Singular Modernity*, 2002). Or does it all culminate in Latour, who states exactly halfway that period of time that *We have never been modern* (1991)?

³⁶ Christopher Prendergast, "Codeword Modernity", *New Left Review*, London, 2003, 95-111.

³⁷ Matt Wilkens, Book review: *A Singular Modernity*, 2008

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Monsoon Modernism: The Work of Edwards Reid & Begg in Sri Lanka, 1957 – 1967

Rajiv WANASUNDERA *

Abstract

This paper will focus on the work produced by a single architectural practice in Sri Lanka in the two decades following the country's independence from Great Britain. Through the evaluation of several case study buildings designed by three young partners in the firm of Edwards Reid & Begg, this paper will document the emergence of a modern Sri Lankan architectural identity.

Edwards Reid & Begg was established in Colombo in 1924, headed by three expatriate English architects. Over the years the firm completed a variety of commercial and residential projects, often built in a neo-classical style, which at the time was deemed as the appropriate architectural idiom for an imperial colony. With the country gaining independence from Britain in 1948 and the retirement of the English partners, the ownership of the firm passed on to a younger generation of architects. Chief among them was Geoffrey Bawa, a recent graduate of the Architectural Association School. He was joined by a young Danish architect, Ulrik Plesner. Another partner who practiced independently within the firm was Valentine Gunasekara, also a graduate of the AA.

Over the course of ten years, these three architects produced a remarkable oeuvre of modern buildings, each adapting the principles of modernism to what they considered a culturally and climatologically appropriate way of building in a tropical country. For Bawa and Plesner, who collaborated closely, this meant working with local materials and craftsmen while being true to modernist principles and ideals. Gunasekara was more interested in exploiting the possibilities inherent in new materials such as reinforced concrete and in designing more explicitly modernist forms.

This paper will examine four buildings – two houses and two public projects - designed by these architects, and evaluate their individual contributions to a way of building that was at once modern as well as appropriate for a tropical Asian context. This paper will also contrast the differing approach to design between Bawa/Plesner and Gunasekara. The tension between the regionalist approach of Bawa and the more explicit modernism championed by Gunasekara is still debated in Sri Lanka today.

Keywords : geoffrey bawa, valentine gunasekara, ulrik plesner, sri lanka, monsoon modernism, edwards reid & begg

The firm of Edwards Reid & Begg (E R & B) is virtually unknown outside Sri Lanka today. Yet it was the country's most influential architecture practice in the twentieth century and played a pivotal role in the establishment of a modern Sri Lankan architectural identity. This paper will trace the evolution of modernism in Sri Lanka through the work produced by three young partners of the firm between 1957 and 1967.

The founding partner of E R & B was Singapore based S. J. Edwards who along with Ralph Booty entered the 1923 competition to design

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a new town hall in Colombo (Alwis, 64). Having won the competition, they established an office in Colombo, under the name of Edwards & Booty. Within a few years Edwards dissolved his partnership with Booty and invited two Colombo-based British architects, H.H. Reid and R.G. Booth to join the firm (Robson, 43). The firm, now named Edwards Reid & Booth, prospered over the next ten years, even establishing a satellite office in South India in 1936. This office in Madras (now Chennai) came under the direction of K.A. Begg who replaced Booth as a partner in the firm.

In its first fifteen years of existence, E R & B became the favoured private architectural practice in Ceylon (as Sri Lanka was then known) and was responsible for a wide variety of projects, ranging from multi-story commercial buildings in Colombo, to schools, private houses and hill-country tea estate bungalows. E R & B did not hew to a particular style of architecture, and their designs were varied, ranging from the classical to Art Deco and Art Moderne, with many of the country bungalows being in an Arts and Crafts style. Their best known work remained their first commission, the Town Hall, an imposing white stucco neo-classical structure with a double-height Doric colonnade capped with a tall dome. Despite the eclectic range of styles, E R & B gained a reputation for “good planning, competent detailing and solid professionalism” (Robson, 43).

It is noteworthy that Herbert Reid was knowledgeable about the ancient architecture of Sri Lanka having been involved in a number of archaeological surveys. The work E R & B did at two of the most significant Buddhist shrines in Sri Lanka under Reid’s guidance referenced elements from 14th Century classical Sri Lankan architecture in a sensitive and contextual manner.

Edwards retired in 1936. With the onset of the Second World War, the firm came to a near standstill with Begg leaving to join the British army. Reid rebuilt the firm after the war, taking on an Englishman, Morris Russell, and a local partner, Jimmy Nilgiriya before dying unexpectedly in 1952 (Robson, 45). For the next five years Nilgiriya and Russell ran the firm but were not able to prevent its slow decline. In 1957 Russell returned to England and Nilgiriya invited two recent graduates of the Architectural Association (AA) to join the firm as junior partners. They were Geoffrey Bawa and Valentine Gunasekara.

Bawa had originally qualified as a lawyer after studying English at Cambridge, but realized that a life of law practice was not for him, and returned to England while in his mid-thirties and enrolled at the AA. Having completed his studies at the age of thirty-eight, he returned to Sri Lanka from London, and began his second career at E R & B.

Valentine Gunasekara came from a large family of eight children. Having lost their father at an early age, his family did not have the resources to send him abroad for his education. At the age of 19 Gunasekara joined E R & B as an apprentice and worked for a year under Nilgiriya learning the basics of architectural detailing (Pieris, 18). Eventually he enrolled at the AA and spent six years in London, including six months at the Department of Tropical Architecture headed by Maxwell Fry. Despite being contemporaries at the AA, Bawa and Gunasekara avoided each other while in London. According to David Robson, “Gunasekera disliked Bawa’s flamboyant lifestyle while Bawa was irritated by Gunasekera’s zeal” (Robson, 50).

In 1958 Ulrik Plesner, a young Danish architect, joined E R & B. A graduate of the Royal Danish Academy, twenty-eight year old Plesner had arrived in Sri Lanka earlier that year to work with Minnette de Silva, Sri Lanka’s first female architect. De Silva, also a graduate of the AA, had established a studio in Kandy in the central hills of Sri Lanka. Having worked with her for almost a year, and having grown tired of her lack of business acumen, Plesner accepted Bawa’s offer to join him in Colombo. Bawa and Plesner were inseparable for the



Fig. 1 Rendering of Grand Oriental Hotel, Colombo by Edwards Reid & Begg. Image courtesy of David Robson.



Fig. 2 Interior of Ulrik Plesner’s house for Maurice and Malkanthie Perera, Colombo. Image courtesy of David Robson



Fig. 3 Courtyard of No. 2 Alfred House Road, Colombo

next ten years. Plesner's solid grounding in the technical aspects of building and Bawa's design sensibility were talents that perfectly complemented each other. Plesner writes in his memoir that "what one lacked, the other had, as if we had emptied the contents of our pockets on the table and found that together we had a complete set of tools" (Plesner, 344).

The decade spanning from 1957 to 1967 was a period of intense experimentation and productivity at E R & B. Bawa, Plesner and Gunasekara produced a variety of ground breaking projects, ranging from private houses, schools, hotels, offices, institutional and industrial buildings, adapting the principles of modernism to what they considered a culturally and climatologically appropriate way of building in a tropical country. For Bawa and Plesner, who collaborated closely, this meant working with local materials and craftsmen while being true to modernist principles and ideals. Gunasekara who worked independently with his own team of young designers and draftsmen was more interested in exploiting the possibilities inherent in new materials such as reinforced concrete and in designing more explicitly modernist forms. Jimmy Nilgiriya was eased out of the firm by Bawa and became an inactive partner in 1961. Plesner describes this period as a "...state of grace. The office grew, the old partners faded away and we were alone in a new enchanting building that we built ourselves" (Plesner, 349).

The house that Plesner designed in 1964 for Maurice and Malkanthie Perera is representative of the Scandinavian Modernist aesthetic that Plesner introduced to Bawa. It is tempered by Plesner's interest in, and understanding of, the vernacular building traditions of Sri Lanka. The structure is simple and functionalist with the straight forward use of natural materials. It is built to the edges of the site to maximize utilization of the small urban plot. A sophisticated collection of spaces – some open, others enclosed, a double- height living room – are contained within a simple gable roof clad with terracotta tiles. A similar approach and palette of materials is seen at No. 2 Alfred House Road, which Bawa originally designed as a house for a doctor, but ended up purchasing for use as the E R & B office. However, in this design there are more explicit references to traditional courtyard houses, and a more tightly controlled choreographed procession through the building, (which became a hallmark of Bawa's mature work). One of the high points of Bawa and Plesner's collaboration is the Chapel for the Good Shepherd Covent in Bandarawela, completed in 1962. The space for worship is contained within a simple rectangular volume capped by a gable roof. The street façade is a long blank wall of local granite, while the opposing wall, visible only when inside the chapel, is entirely glazed, affording views of the hills beyond. The altar is contained in a granite tower which is lit from above. The overall effect is of a building that "seems to grow out of the ground, a building that has been 'unearthed' rather than designed" (Robson, 88).



Fig. 4 Exterior, Bandarawela Chapel. Image courtesy of David Robson

Around the same time, Gunasekara designed a chapel in the Colombo suburb of Bambalapitiya for the Jesuit order. The space is enclosed by a series of six reinforced concrete barrel vaults supported on thick masonry walls. The pristine white forms were somewhat alien to their surroundings but Gunasekara insisted that he was referencing "the wonderful rhythm of life, the oceans, the tides, the waves, which I very much enjoyed in my youth in the coast" (Pieris, 100). While Gunasekara set out to explicitly avoid references to colonial or vernacular architectural vocabulary, the suitability of these pristine white forms in a tropical marine climate is the subject of debate.

However this period of prolific building and experimentation came to an end in 1967; the Vietnam war was in full swing, Sri Lanka's economy was faltering and projects were becoming hard to come by. Plesner and Bawa's friendship was also crumbling and Plesner decided to leave Sri Lanka and join Arup Associates in London. Gunasekara soon broke away to start his own practice, and Bawa and the structural engineer Dr. K. Poologasundaram took on the leadership of E R & B in 1968 as equal partners.

Bawa's success continued to grow and in 1987 a monograph on his work was published, along with an exhibition of his work at the Royal Institute of British Architects. Although the work shown had all been produced within the office of E R & B, it was presented under the name of Geoffrey Bawa (Robson, 143). Similarly, Ulrik Plesner's contribution to the work produced in the 1960s was glossed over. David Robson in his comprehensive book on Bawa's work published in 2002 (*Geoffrey Bawa: the complete works*) attempted to correct the record and provide proper attribution to the projects Plesner had worked on. Anoma Pieris published a monograph on Gunasekara titled *Imagining Modernity* in 2007. It sought



Fig. 5 Exterior, Jesuit Chapel, Bambalapitiya by Valentine Gunasekara. Image courtesy of David Robson.

to cast Gunasekara's work "as the struggle of a lone Sri Lankan architect whose attempt at introducing new technologies and social agendas into a hierarchical society was resisted at many levels" (Pieris, 1). The tensions inherent in Sri Lankan modernism – the struggle between a regionalist, vernacularist modernism represented by Bawa and a socially conscious, forward-looking, expressionist modernism espoused by Gunasekara were brought to the forefront. The intent of this paper is to reinforce the often overlooked fact that these competing strands of Sri Lankan modernism were actually propagated within the walls of single architecture firm.

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Modernity as an Attitude

Arief SETIAWAN *

Abstract

Modern movement in architecture obviously emerged from Western Europe and North America. In its historical development, it assumed a way of design that relied on abstraction and technology. These paved the way for modernism to become a universal architecture. In turn, it transformed it into a style that spread to the rest of the world, including Asia and Africa. The universality of the modern movement then turned to problematic as it encountered varieties of social, cultural, and historical contexts in these places. These phenomena hinted at a deeper issue of the meaning of modern movement and thoughts inseparable to it, that is, the notions of modernity and modernization. In short, the former referred to a particular way of thinking that emerged from the Enlightenment, while the latter pointed to the historical development that was based on capital, bureaucracy, positivism, and the notion of progress. In this line of thought, this paper seeks to establish a theoretical framework for an understanding of modernity in architecture that problematize the universal and particular. It intends to inquire this issue by exploring the work of one of Asian masters, Geoffrey Bawa of Sri Lanka. It will analyse examples of major work of Bawa and review literatures on modernity. The findings of the review will serve as a filter to interpret the design intents in Bawa's work as a way to articulate Asian modernity in architecture

Keywords : modernity, identity, design intent

1. Introduction

Modern movement in architecture obviously originates from the Western World. Formally, it is architecture that is characterized by the tendency to use the elemental shapes, combined with the fascinations with the machine. In its rejection of nostalgia and eclecticism of the nineteenth century, it embraces pure geometry as its formal generative principles. In its fascination with the modern world, it takes full advantages of latest advances in building technology. In a way, architecture of the modern movement that spread to the rest of the world, especially in Asia and Africa, in the 1950s and 1960s, is more of an architectural style based on abstraction and technology. In this line of thought, the designs have very little to do with factors outside formal, spatial, programmatic, and structural aspects, such as local culture and contexts. In this mode of design, local contexts are reduced to mere abstractions, such as climatic parameters and views to the site. How can we understand the practice of modernity in Asia in architecture beyond simply as a replication of architecture of the modern movement as a style?

2. Modernism

2.1. Modernism in Architecture

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The history of modern movement in architecture relates to the emergence of the industrialized world in the late nineteenth in the ideas of functionalism and the attraction to the machine. The former points to the importance of programs while the latter informs the aesthetic ideas as well as the production of architecture. In this vein, architecture is broken down to its minimum elements that could be assembled indefinitely following certain rules. This thought coincides with the ideas of Cubism that approached a work of art as an organization of elements on a regulated plane. Indeed, Reyner Banham has argued that a particular way of abstraction informed the development of modernism, that is, the notion of elementarism, which links modernism to the academic tradition (Banham, 1960). In essence, it searches for most basic elements of architecture and a set of rules to behind them. Elementarism fits perfectly with the age of industrialization, in its desires for standardization, rationalization and regulations. Antony Vidler argues that this line of thought helps shaping the thoughts from Hermann Muthesius to Le Corbusier, as exemplified in the notion of objet-type (Vidler, 1977 [1999]). This drive towards standardization also matches with the array of novel materials and methods of construction, such as steel, glass, and reinforced concrete.

However, the impact of technology on design also has a symbolic dimension. William Jordy (Jordy, 1965 [2005]) argues that machine provided the source for symbolic ground for modern architecture, in which the use of elemental shapes, contemporary materials and technology acted as a foil for the clarity and order of the contemporary time. Manfredo Tafuri's deeper analysis on the relationship between modern architecture and the age of technology paints the modern movement as an attempt to use the design of the built-environment as a way to realize the project of the Enlightenment to achieve utopia (Tafuri, 1976, 1978).

These backgrounds render modern architecture as a universal design that relies on abstract forms, contemporary technology and the values of mass-reproduction in pursuant of the progress of time. The International Style Exhibition at the Museum of Modern Art in 1933 helps in cementing this approach as the new way of designing buildings that can be applied in any place in the world. In this vein, considerations of places become very limited, as socio-cultural and historical factors were often overlooked while physical aspects, including climatic factors, were abstracted into the process. In reality, later developments show that many architects, such as Alvar Aalto, Kunio Maekawa, and Berthold Lubetkind, started to problematize the aspects of nature, history, and monumentality. However, the spread of modern architecture to the new independent nations in Asia and Africa after World War II still betrays the strong presence of abstractionism, elementarism, and the faith in contemporary technology. Approaches such as those of Maxwell Fry and Jane Drew illustrate the way in which local factors were reduced to abstract matrix that were dealt with through the application of pure geometry.

2.2. The Work of Geoffrey Bawa

In the context of the spread of modernism in architecture, local architects emerged in Asia and Africa. Geoffrey Bawa was one of the most prominent architects in Asia, whose work has inspired younger generations of Asian architects (Robson, 2002). This section will discuss two examples of his work. In the Ena de Silva house in Colombo, Sri Lanka (1960-62), Bawa designed the house around a large courtyard and a series of smaller ones, with walls that partition spaces, creating a fluid and open plan. The house turned into a large garden with verandahs, with fragments of past architecture inserted into it. Layers of pitched roof covered this courtyard garden. In the Yahapath Endera School (1965), Bawa and his partner Ulrik Plesner broke up the programmatic components of the farming school and organized them around a series of courtyards lined up with verandahs. Further, the architects integrated the school to the landscape, incorporating the vegetation into the design. Steep, gable roofs covered the main structures.

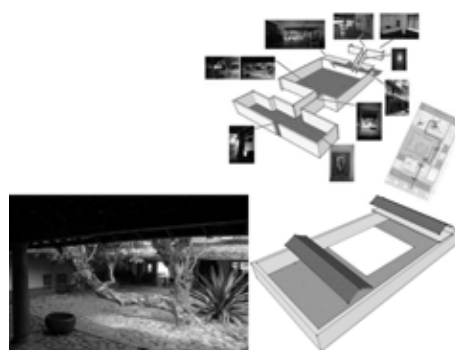


Fig. 1 Geoffrey Bawa, Ena da Silva House, Colombo, Sri Lanka, 1960-62. Diagram of the basic elements of the house. Diagrams and photos by the author.

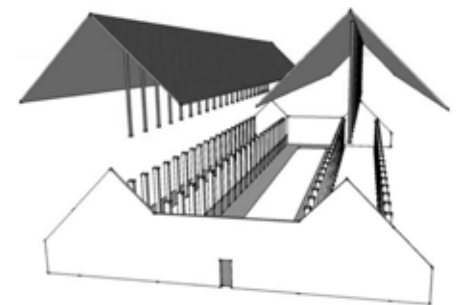


Fig. 2 Geoffrey Bawa, Yahapath Endera School, Hanwella, Sri Lanka, 1965. Diagram of the basic elements of the house. Diagram by the author.

Several themes appear in the work of Bawa, the first of which is the sensitivity to the site. Obviously, his designs perform well as the courtyards, large openings, screens, high ceilings, and pitched roofs provided a comfortable micro-climate. However, they also capture the spirit of the place through the use of the ideas of architectural promenade and the picturesque. In each of his project, Bawa choreographs paths that guide the passage of visitors, unfolding a series of vistas that blend fragments of architectural history of the island. This relates to the spatial organization of his projects. The *parti* of his design is always based on the courtyard type, a common theme in local and colonial architecture in the island. However, he organizes his plans along the notion of a sequential courtyard of different scales. These courtyards then serve as an organizing device, both globally—the whole building, and locally—at the level of rooms. Furthermore, he creates a sense of intimate relationship between each space in his buildings and these courtyards, in which there is always a glimpse of these courtyards from every point. The spatial ordering also informs the use of the walls, which act more of partitioning rather than fully enclosing parts of the designs. Visually, the primary feature of Bawa's building is the dominant presence of the steep roofs, clad in of clay, round tiles or Portuguese tile. These materials give the buildings their distinctive colours and textures. The roofs also inform the design of spaces, as Bawa opts to use columns supporting the ridge instead of using traditional trusses. Hence, the interior volumes followed the shape of the roof. In constructing his buildings, Bawa relies solely on local techniques, materials, and resources. His buildings employ concrete frame, a cheap and commonly-use method in the island. Along with the concrete frame, Bawa uses local materials, including bricks for walls, woods for panels, frames, and roof structure, and clay tiles.

2.3. Modernism and Modernity

In this line of thought, this paper intends to understand the very meaning of modernity itself. Jurgen Habermas points to the fundamental difference between “modernity” and “modernization” (Habermas, 1987). Modernity, according to Habermas, is the essence of the project of the Enlightenment that aims to develop rationality as the basis of life, including the way to organize socio-cultural relationship. Further, it is about the development of consciousness, in which one is able to judge based on reasons. On the other hand, modernization is a drive toward progress in which the technical and bureaucratic aspects govern the development of the economic, social, and political realm. In other word, it is a technical approach to contemporary life that emphasizes the role of capital. Based on Habermas's framework, Dilip Gaonkar (Gaonkar, 1999) makes a further distinction between societal modernity and cultural modernity. Societal modernity is in line with modernization, in which the notion progress informs the cognitive transformation of societies, manifested in the stress on scientific exploration, market-driven economy and the nation states. Eventually, this phenomenon leads to standardization and mechanical approach to life. Rationality, in this sense, turn into instrumental, as a means to certain ends.

Cultural modernity, on the other hand, is a manifestation of what Habermas called as modernity. It is about the development of one's cognitive capacity that relies on the cultivation of self. In this vein, Gaonkar points to argument developed by Michel Foucault on Emanuel Kant's contemplation on modernity (Foucault, 1984). Using Charles Baudelaire as his case, Foucault points out that modernity means the search for the constant elements in the passage of time. However, it also emphasizes the ruptures in time, which modernity seeks to re-imagine the present condition. These double binds of the rupture and the constant depend on the ability of a person to recognize those phenomena. In essence, it is about the cultivation of the self in dealing with the contemporary world. The fundamental point in Foucault's argument is that modernity is not a period in history. Far from that, modernity is an attitude that offered a mode of thinking and addressing contemporary reality. Further, it is a conscious choice of thinking, acting and behaving to problematize the present. In essence, modernity is the formation of a conscious subject, an author that is able to re-imagine the present. The present includes the whole range of temporal and spatial condition.

3. Conclusions

Bawa essentially produced a diagram of architecture based on two components: the wall-enclosure and the roof-umbrella. This diagram was an abstraction of the architectural history of the island. This approach exemplifies the rupture in time, as it signals the break from the immediate past, that is, the International style, traditionalism, and colonial architecture. This allowed Bawa to refer to the distant past. Just as Le Corbusier developed his diagram of architecture on the basis of Mediterranean architecture of solid white volumes, Bawa developed his own diagram of architecture based on constant elements in the island. Within this diagram, Bawa then was able to integrate his wide-

ranging interests, including the Italian Renaissance gardens and the vernacular architecture of Portuguese countryside. It also allowed him to use everyday techniques and materials instead of imported industrialized ones. In essence, Bawa formulated his own generative scheme, instead of following prescriptive methods of design.

This study argues that modernity, as appeared in the Asian context, is not a style, but an attitude in the design process, following the spirit of the Enlightenment. It is basically an ethical stands rather than simply an aesthetic choice in formal term. In this line of thought, this position is a way of thinking and formulation design intents and methods that problematizes every aspect of design, including the social, cultural, and technological contexts. Further, it is critical to the accepted conventions and traditions. In the case of Bawa, it was the conventions on modern architecture as well as on traditions in Sri Lanka.

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Arief Setiawan

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Muslim Nationalism and the Western Architects in Pre-Secession Pakistan, 1947-71

Farhan S. KARIM *

Abstract

In the two decades following the creation of Pakistan, a group of leading Western architects were hired by the Pakistani Government to construct quintessential democratic institutions for the new nation-state. The group included Michel Ecochard, Constantinos Doxiadis, Gio Ponti, Edward Durell Stone, Paul Rudolph, Louis Kahn, Richard Nuetra, Louis Berger Group, and Stanely Tigerman. Spearheaded and aided by U.S. universities, architects, and the Technical Assistance Program, the group embarked on a grand project: forging a quixotic hybrid of postwar reformation spirit, modernization theory and postcolonial Muslim nationalism. However, while the U.S. cold war interest in Pakistan and its military rulers were well showcased in the new institutional buildings local architects were critical of this hybrid modernism. They favoured expansion of architectural meaning to an array of new possibilities - an alternative to modernism, based on regional tradition. These ideological frictions were expressed in myriad ways through the complex rhetoric of architecture and spatial innovations of the era. This article argues that although the works of this impressive group of western architects laid the foundation of modern architecture in Pakistan, their works were challenged and contested by Pakistan's aspiration of creating its own version of postcolonial modernism by blending Muslim nationalism and technical optimism

Keywords : postcolonial modernism, pakistan, muslim nationalism, constantine doxiades, louis i kahn, edward durell stone.

1. Introduction

In 1933 in a small pamphlet called "Now or Never" Choudhary Rahmat Ali, an aspiring graduate student at Cambridge, convincingly spelled out the idea of Pakistan for the first time; he proposed an archipelagic map of federation of would-be Muslim-dominated areas in South Asia called Dinia.¹ Choudhary Rahmat Ali's proposed Dinia was an imaginative attempt to craft a novel form of political geography. He also proposed a combination of five Muslim provinces located at the western end of British India as an independent nation-state and proposed a new name for it: Pakistan—an acronym of four constituent states Punjab, Afghani, Kashmir, and Baluchistan. However, after a complex political row over the issue of post-independence, the concept of Dinia was trumpeted as the single idea of "Pakistan," which emerged as two geographically separated pieces of Muslim-dominated land separated by more than a thousand miles of India, or "moth-eaten" Pakistan as first president Quaid e Azam Jinnah famously put it.

The first decade of Pakistan's independence was largely unstable and large-scale architectural projects were not possible to initiate. After the death of Jinnah seven prime ministers and three presidents held power in less than ten years. The absence of a well coordinated development plan made US observers anxious that Soviet Russia might capitalize on the unstable domestic situation to dispatch its Red Army in Pakistan. Because Pakistan had a crucial geographic position in the context of the Cold War, the country attracted special attention from the US. Anxiety in the United States grew deeper as Pakistan became friendly with Soviet Russia, all still without direction from

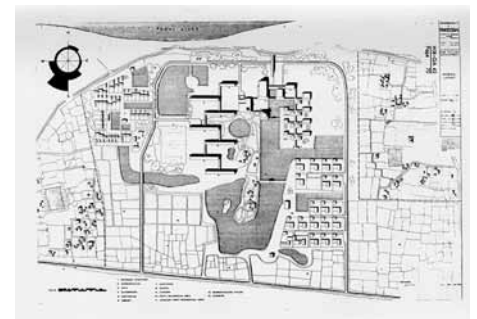
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Pakistani leaders. It was in such a context that when, in 1958, Ayub Khan, an ambitious military general, seized the country's power with a bloodless coup, both his countrymen, frustrated with the nation's political deadlock, and the US foreign policy analysts welcomed it as a very timely and positive event. It is no wonder, then that when Ayub's military government exerted the most brutal draconian suppression of emerging left politics and imposed its notorious press censorship a few years later, the US champions of modernization theory such as Edward Shill and Daniel Lerner maintained a close relationship with the CIA-backed Congress for Cultural Freedom (CCF).² US Cold War warriors succeeded to establish an international reputation for Ayub's government, defending it as an intellectually progressive, civilizationaly positive, and morally legitimate leadership in the third world

2. Ayub's Developmentalism And Pakistan's Modern Architecture

It was during the Ayub phase, which historical scholarship generally terms as the developmentalist phase, that Pakistan became the largest grant recipient of non-European countries. The US extended its dollar aid through the Ford Foundation and UN-Technical Assistance Program and the United Kingdom, Canada, and Australia through the Colombo Plan.³ However it was the US who was the major player in deploying soft power in a charm-offensive: the Technical Education and Expertise Enhance Programs. While the World Bank and the US government supplied the necessary structure for International Development (USAID), the Ford Foundation was the emissary of USAID that, by supplying technical experts such as architects and town planners, managed the fiscal infusions in Pakistan.⁴ Under this managerial mechanism controlled by the Ford Foundation a cohort of Euro American architects were sent to sow the seeds of postcolonial modernism in Pakistan.

The first Ford Foundation grant in Pakistan was made in 1951 to establish three polytechnic colleges and three home economic colleges in both West and East Pakistan.⁵ Oklahoma State University prepared the policy guidelines for the academic syllabus and administrative structure. Under the leadership of Paul Hoffman, the first Ford



Foundation president, the Foundation took a strategic and intellectual position that argued that only a free exchange of ideas in the cultural, aesthetics, and economic sectors would reduce global hostility. Drawing on the Marshall Plan experience, the Ford Foundation identified the spheres of culture and aesthetics as a new battleground, a win that would effectively alter the mass acceptance of communism. Hoffman's Ford Foundation realigned its role from a regional grant agency to a transnational player that extended its cultural diplomacy both to postwar Europe and to postcolonial Asia, though it adopted different manoeuvres for different regions.⁶

Ayub's martial government and its allied US Technical Assistance Program adopted a strategy to create models of ideal conditions—be they schools, institutions, villages, or agricultural systems—in order to give the “directionless” third world a goal to achieve and the moral motivation necessary to embark on a self-mobilized development program. Under this theme Western architects were invited to create a conceptual topography of idealization—ideal school, ideal teachers training institutes, ideal researchers. A major focus of the idealization project was to build quintessential democratic institutions: parliament buildings, universities, education training centers, and polytechnic institutes. However, Pakistan's shortage of architects, in tandem with the country's Cold War leaning towards the US, eventually compelled the government to seek technical assistance from USAID and the Ford Foundation. Through these partnerships Pakistan secured consultancy services from the leading European and American architects, including Michel Ecochard, Constantine Doxiades, Stanely Tigerman, Edward Durell Stone, Daniel Dunham, Paul Rudolph, and Louis I. Kahn. A complete discussion of the works of all these architects are beyond the scope of this paper, but I would like to focus on one issue that all of these architects had to face: the challenge of giving postcolonial Muslim nationalism a modern expression through architecture. The expression was of course not always very graphic, or metaphorical, but rather in many cases abstract spatial.



The spatial abstraction of Muslim nationalism was most distinctly expressed in Doxiades Associates (DA) design for the Korangi Rehabilitation Project close to Karachi and later in DAs most ambitious project of the master plan of Islamabad, the new capital of Pakistan close to old city of Rawalpindi (started 1960). In both cases DA formulated a spatial armature⁷ that was supposed to accommodate the complex social behaviour pattern of traditional Muslim society.⁸ However, the Capital Development Authority of Islamabad (CDA) eventually accused DAs interpretation of Pakistan's Muslim culture as being artificial if not fabricated.⁹ For instance, CDA dismissed DAs proposition of the tea stall as the heart of Muslim neighbourhood; CDA explained that tea stalls were not an essential part of Muslim culture, but rather share roots in Mediterranean culture specifically practiced

in Greece and neighbouring regions.¹⁰ However, after a long complex row between DA and CDA, the government eventually removed Doxiades from the project and DA received none of the major government building commissions. The most prestigious group of buildings, known as the President's Complex and located on the east side of Islamabad's major axis, was first given to Louis Kahn in 1963 who was then already designing the Sher-E-Bangla Nagar—the second capital complex in East Pakistan. Kahn produced three different schemes for Islamabad and the government rejected all of them on the grounds that they were not Muslim or Pakistani enough to embody the spirit of the new nation. It is interesting to note here that Kahn's other design in East Pakistan, the parliament building in Dacca (now Dhaka), was well received if not the most globally famous modern architecture of Pakistan to date. Although the building was officially opened long after East Pakistan gained its independence as Bangladesh, from the very outset the building's appeal went beyond its functionality and established itself as a successful symbol of democracy and Muslim nationalism—a harmonious blend of abstracted mosque and abstracted meeting place.

In Islamabad Edward Durell Stone finally designed the President's Complex in 1965; Stone was the famous American architect sarcastically termed the "Modernist Populist Architect"¹¹ for his "free" or contextless use of regional motif and symbolic elements in the guise of international modernism, what I call elsewhere "International Regionalism." Stone's final design evoked a sense of a tiered Mughal pavilion, especially the Panchshilla Pavilion at Fatehpur Sikri—the citadel established by Akbar the third and most successful Mughal Empire. Ayub's fascination for making an historical bond with the Mughal past became an official strategy to fend off an ahistorical Muslim nation; the intention was anachronistic and more political than architectural.¹⁰ Similarly in East Pakistan's situation, where remains of Mughal architecture were scarcer than in the country's Western half, use of Mughal rhetoric in architecture was thought to be the most effective way to connect its Eastern and Western halves. The project that brought Stone fame in Pakistan was the new atomic power reactor (1961) commissioned by the Eisenhower administration as part of the global Atoms for Peace program. That building was strongly analogous to a traditional mosque prototype—having a central courtyard, surrounded by building blocks recreates the image of colonnade cloister or Riwaq (قاور) and the central power turbine in the form of a mosque's dome and a tower in the form of Minaret. This uncanny resemblance between an atomic power plant and Muslim mosque eventually proved to be a very successful strategy to manifest Ayub Khan's desire for blending modernity with tradition.

3. A Symbolic Appropriation In East Pakistan

Tension between Pakistan's East and West regions over the just distribution of wealth was glossed over with cultural and religious issues. Ayub's Government vehemently accused the East Pakistan's Muslim culture of being lesser, if not derogatory, as the language, dress, food, and culture shared a major connection with the Hindu West Bengal—which in Ayub's standard was incapable of accommodating the abstract and universal notion Muslim spirit.¹² Scholarship and general convention considered EastPakistan's Muslim culture, an inclusive practice that fused local customs with foreign Muslim culture: resultating in a unique blend of regionalism with universal modernism. Against this context in East Pakistan DAs idea of Muslim symbolism took a more direct graphic interpretation, especially in the series of educational buildings in East Pakistan.

DAs work in East Pakistan, that includes the Woman University, Village Development Center, Teachers Training Center, and a Center For Teachers and Students, attempted to capture that sense of fusion of regionalism with universal ideological symbol. A common strategy was to appropriate vernacular hut and residential architecture known as Dochala to design the central community spaces such as auditoriums or mosques.¹³



The same theme was repeated in many instances by the western consultants in many of the East Pakistan projects. For example, Daniel Dunham, the chief architect of the Louis Berger Group in East Pakistan, choose a pavilion-like form having an overarching roof for the new central railway station at Dacca. The authorities rejected the initial proposition as not having the symbolic appeal to be the gateway of Dacca, the second capital of an Islamic state. In the final proposal Daniel Dunham and, later, Robert Buigh came up with a unique modular surface generated from the silhouette of the Mughal arch. The final form nonetheless oscillates between the discourse of Muslim nationalism and the site's unique geo-climatic context.¹⁴



The free use of invented regional motifs complicates the notion of critical regionalism in modernism, as it suggests that specific elements, whether addressing climate or culture, that were seen as appropriate to a particular place were in fact incorporated on a global scale but just explained in local terms or according to local history/culture in each instance. For example, it complicates much recent scholarship that looks at the localization of modernism by suggesting that many of the elements that were seen as regional were in fact deployed on an international scale, thereby undermining arguments of the localization of modernism as a demonstration of local agency, especially relevant when dealing with postcolonial or First World/Third World relations. It also suggests there may have been a disconnect between government ideology or the way these buildings were discussed at a popular level and the ideology or practice of the architect. This in turn, I think, calls us to look more at the global scale and networks within which many architects worked during the postwar period.

4. Conclusion

The case studies of this research show that Euro-American consultants used the mechanism of appropriation in two ways. First through formal gestures—creating visual resemblance with established Islamic icons such as arches and gardens and with regional metaphors such as the form of a vernacular hut. The appropriation apparatus also established a synergistic partnership of local-foreign architects, for instance Paul Rudolph commissioned the East Pakistan-based architectural practice Vastukalabid as a consultant to help Rudolph's office with determining the use of local construction technology and visual imagery in his only work in East Pakistan, Maymensingh Agricultural University (1961). In the process of resolving the irreconcilable cultural differences between Pakistan's East and West regions, and to gather those two very different regional and geopolitical entities under a single theme, Euro-American architects devised an armature of Islamic aesthetics and ideology, flexible enough to appropriate a nuanced system of traditional symbols and national metaphors. The brief discussion of this article argues that in the newly established Islamic nation-state, the consultants in conjunction with the local architects envisioned an inclusive model of modernism. Through formal articulations and schematic gestures, their proposed modernism would appropriate local symbols, regional metaphors, and postcolonial nationalism. The appropriation was a strategy to revise Pakistan's overarching Muslim nationalism into a quixotic hybrid of postcolonial selfhood, newly anointed citizenship, the region's geo-climatic condition, and the US's postwar reformation spirit. There were three objectives to such appropriation. First, to destigmatize the nation-state's colonial past through a technological modernism. Second, to give Muslim nationalism an architectural expression by re-establishing an historical bond with the Mughal past, which was considered to be the paragon of appropriated Islamic aesthetic in the subcontinent. And finally, the proposed appropriation would forge a discourse of regional and ahistorical perpetuity by adopting various vernacular icons and forms.

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The Curtain Wall and International Style in Pre and Post-Independence Malaya

Mark HINCHMAN *

Abstract

In the two decades following the creation of Pakistan, a group of leading Western architects were hired by the Pakistani Government to construct quintessential democratic institutions for the new nation-state. The group included Michel Ecochard, Constantinos Doxiadis, Gio Ponti, Edward Durell Stone, Paul Rudolph, Louis Kahn, Richard Nuetra, Louis Berger Group, and Stanely Tigerman. Spearheaded and aided by U.S. universities, architects, and the Technical Assistance Program, the group embarked on a grand project: forging a quixotic hybrid of postwar reformation spirit, modernization theory and postcolonial Muslim nationalism. However, while the U.S. cold war interest in Pakistan and its military rulers were well showcased in the new institutional buildings local architects were critical of this hybrid modernism. They favoured expansion of architectural meaning to an array of new possibilities - an alternative to modernism, based on regional tradition. These ideological frictions were expressed in myriad ways through the complex rhetoric of architecture and spatial innovations of the era. This article argues that although the works of this impressive group of western architects laid the foundation of modern architecture in Pakistan, their works were challenged and contested by Pakistan's aspiration of creating its own version of postcolonial modernism by blending Muslim nationalism and technical optimism.

Keywords : modernism, tropical architecture, critical regionalism, postcolonialism, malaysian architecture, independence

Yoon Thim Lee and Berthel Iversen were two members of a group of architects operating in Malaya, before and after independence. When the phrase 'the international style' arises, it is usually to criticize it, as when Anthony King equates it with "Western hubris".¹ The recent studies on modernism outside of the West have re-shaped our understanding of modernism as a global and pluralistic phenomenon.² I add to that multiplicity the topic of this paper – international style architecture in Southeast Asia as done by local architects. As Mark Crinson points out, now may be the time to recuperate the phrase 'the International Style'. An examination of five buildings by two architects who shared a modern architectural sensibility is followed by a brief look at the coverage of modernism in the contemporary Malaysian press.

It scarcely needs arguing that the newly independent state of Malaysia used modern architecture as an element of statecraft. As Chee-Kien Lai argues in *Building Merdeka*, an ambitious building program helped define the evolving nation.³ The obvious example is the Parliament Building, but also the national mosque, the two stadiums, and the airport.⁴ Architects in the Public Works Department (PWD) were responsible for these buildings. An alternate sphere of architectural activity is represented by the commercial realm, a group that included E. S. Cooke, Berthel Iversen, Kingdon Loo, T.Y. Lee, and Y.T. Lee. Their output can be described as 'modernism at work'.⁵

Their buildings make clear that some clients felt that modernism met their aspirational goals. The body of work represented by Lee and Iversen, to look at just two, differs considerably from architects such as Juan O'Gorman in Mexico, or Vann Molyvann in Cambodia. Iversen and Lee were more interested in swimming along with the tide of modernism than in changing its direction.

They pursued a similar architectural vision, one of the reasons why their buildings are often misidentified. Maxwell Fry described the architects in Malaysia in the 1960s as "a band of brother architects alert and responsive".⁶ They operated with a set of elements that were

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recognized world-wide as modern: flat roofs, ribbon-windows, roof gardens, and portholes. I take up Crinson's challenge that given "the hard-won understanding of modernism's complexity" one can critically address architects whose works are described as International Style.⁷ Lee and Iversen were not alone in working with a shared kit of parts that suggests a shared attitude that crossed national borders.⁸ Stucco is a form of wall construction that gives the impression of solidity, but it is actually a layer of plaster spread on top of lathe. The construction looks solid and is associated with thick ponderous walls. The subterfuge stems from the fact that plaster on horsehair looks the same as plaster on bricks.

The wall construction that Iversen and Lee initially employed in Malaya was a reason why many of their buildings sit solidly on the ground. Many of their buildings are concrete frames with plaster infill. It is notable that they shared this interest in boxy constructions with the early projects of Walter Gropius and Adolf Loos.⁹

For Iversen and Lee, a square cube was a conceptual starting point for a cubist composition. Using openings, additions, planes, and a limited roster of decorations, they organized the parts so as to play horizontals off verticals, and contrast symmetry with asymmetry. Overtime, a design element they increasingly manipulated was a giant field or curtain wall. In some projects the curtain wall dominated the composition. It was large, covering multiple stories, but always solid bearing walls bracketed the field. It was not an all-encompassing skin, but one element of a tectonic design.

Theirs was a wall architecture. An early building by Lee was for the principal political party, United Malays National Organization (UMNO), 1955 (fig. 1). In a contemporary photograph of the building on Jalan Tuanku Abdul Rahman, it bears more than a passing resemblance to Le Corbusier's Villa Savoye. It has a useable roof landscape, horizontal strips of windows, and is open at the ground.¹⁰ To this group of features, Lee adds two glazed vertical elements that are subdivided into smaller units. The scaleless vertical strips have no discernable relationship to the building's stories.



Fig. 1 Yoon Thim Lee. *UMNO Building*, Kuala Lumpur. 1955 (Photo: The New Straits Times Press Berhad).

The building addresses the lot's corner with a chamfer features a glazed semi-circle, an urbanistic move that Lee and Iversen employed multiple times. Both men used flag poles used as accents, a feature that carried over from their earlier projects.

An earlier building by Iversen in Kuala Lumpur's historic center has multiple similarities to Lee's building. The Loke Yew Building, 1951, inhabits a prominent site south of the confluence of the Gombak and Klang Rivers (fig. 2).¹¹ The building fills out the lot lines; its corner is chamfered and accented with a semi-circular element; it also sports horizontal windows, flag poles, and porthole windows.¹² From the Renaissance onwards, a frequent strategy was to place the entry on the corner and to have the building be bilaterally symmetrical around that corner. At first glance, the Yoke Lew Building looks as though identical facades, left and right, flank the corner. But the two facades are not same.



Fig. 2 Berthel Iversen. *Loke Yew Building*, Kuala Lumpur. 1951 (Photo: author).

The Loke Yew Building is a walled cube set back from the eastern perimeter. A large rectangle, added to the principle cube, fills the gap, faces East, and features the ubiquitous modern ribbon windows. The elevation to the left has a different compositional strategy. It features a large multi-storied framed field of horizontal shades, vertical fins, and windows, a checkerboard that reads as a curtain wall.¹³

Iversen's home office was in Ipoh, Malaysia, where he lived and raised his children. He opened a field office in the Loke Yew Building, and he ran offices in Penang and Singapore.¹⁴ Back in Ipoh, a building employs the same elements (fig. 3). The building for the Malaysian Chinese Association, 1958, graces the corner of the Jalan Sultan Idris Shah and Jalan Jaafar. The principal mass is a rectangle, with protruding rectangles on the southern and eastern elevations. Horizontal windows look east, while the southern-facing elevation features a field or curtain wall with prominent vertical fins. Because the spandrels of the field are a colored ceramic tile, the field reads as lighter. The corner is not circular, but a lively form that results from the corners of the building and the protruding rectangles.

Lee's field/curtain wall similarly became lighter over the course of his career. Whereas the elevations of the Federal Hotel (1957) were made of concrete and plaster, his later projects incorporate metal.

The curtain wall for the office block of the Dewan Bahasa dan Pustaka (1962) has painted spandrels that give the façades a lighter look (fig. 4). I further discuss this building below.

The fifth of the buildings under consideration here is a commercial office building. Lee's East Asia Building (1963) rose on Jalan Mountbatten (fig. 5)¹⁵ and is the most dominant use of a curtain wall in Lee's work. It covers most of the building, but it is still a part of a composition of planes and volumes¹⁶. Lee combines the rounded corner with the main façade, thus addressing the corner in the way similar to the UMNO building. The tinted spandrels contrast with the white vertical fins. The scaleless element of the East Asia Building is the rectangular volume of the stairwell, only instead of being divided into smaller parts, it reads as a larger scale three-story element (fig. 5, extreme right).

The East Asia Building rose across from E.S. Cooke's Lee Yan Lian Building, at one time Kuala Lumpur's tallest building.¹⁷ It housed clients from the Italian trade commission to Lufthansa Airlines.¹⁸ Its success in attracting international tenants underscores the appeal of a modern building. Architectural historian Duanfang Lu neatly sees third world modernism in terms of four interconnected perspectives, as globalism, developmentalism, nationalism, and postcolonialism, and I rely on her insights here to understand how one speculative office building was a part of international design issues.¹⁹ To the point of modernism's world-wide reach, I add Jiat-Hwee Chang's point that modernism was also a site for knowledge exchange.²⁰ To push Chang's point, modernism was part of a professional dialogue in which Lee was an expert in hotel design.²¹ His hotel played host to the delegates of an international travel organization, as did T.Y. Lee's theme park, Mimaland.²²

The developmentalist side of Malaysian modernism was equally clear. Local architecture journals and newspapers focused on new technologies, and the country's need for roads, port facilities, office space, affordable housing, and quality hotels. The modern governmental and commercial buildings provided a technological contrast to colonial buildings and the indigenous architectural vocabularies. The buildings under examination here used metal and glass in their facades, and steel partitions and Knoll furniture in their interiors.

Architecture in Malaysia was an instrument of statecraft in an obvious way. The house of parliament is a tall building. The status of a governmental building as a symbol of the nation is affirmed with its presence on printed and coined money. A neat example of how the government's architecture and that of the commercial sector worked in tandem symbolically is that both existed as high-contrast emblems. That the modern high-rise represented the nation is clear. What is less clear was the make-up of the nation being represented. In Malaysia there was no *a-priori* sentiment of nationhood. The goal of conjoining the colonial Federated Malay states was uncertain, and the process contentious. Initially the big questions included the inclusion (or not) of Sabah, Sarawak, and Singapore.²³ Furthermore, as endlessly intoned, the Malayan peninsula is an exceeding diverse place. Further undercutting any easy concept of a nation is that there are multiple constituencies, for example the Chinese Hokkien community, that cross the border of Indonesia and Malaysia.

A nation can pursue multiple strategies, and even though the official Malaysian architecture was modern, a few prominent examples pointed in other stylistic directions, as when the prime minister directed that the history museum be identifiable as Malaysian.²⁴ In the private sector, Ee Hong Chwee designed a ten-story building for the Chinese Chamber of Commerce, Singapore, 1966.²⁵ Lions guard this tri-partite art deco tall building and it sports a dragon mural. It is notable that Iversen and Lee had clients with official ethnic ties who could have selected other architects, yet they choose to show their progressive side, what Lu terms developmentalism, by hiring modernists.

Modern buildings were appearing everywhere. Architects, journalists, and academics sought to understand the new architecture, and the local press undertook a lively series of debates in the 50s, 60s, and 70s about what constituted Malaysian architecture. Modernism did not arrive in Malaysia unquestioned.



Fig. 3 Berthel Iversen. *MCA Building*, Ipoh. 1958. (Photo: author).



Fig. 4 Yoon Thim Lee. *Dewan Bahasa Dan Pustaka (Institute of Language and Literature)*. Kuala Lumpur. 1962. (Photo: author).



Fig. 5 Yoon Thim Lee. *East Asia Building*, Kuala Lumpur. 1963 (Photo: *Journal of the Federation of Malaya Society of Architects*).

Overtime, many of the standard issues related to the topic of global modernism were thoughtfully raised. Modernism was sometimes presented as a Western construct. One newspaper defined the architectural West as “New York, London, and Sydney”.²⁶ The association of modernism with the West is striking because one of the features of Malaysian architecture in the early years is that it was in local hands. The printed debate included some prominent outsiders, Maxwell Fry and Julius Posener.²⁷ Posener was a German who helped establish the nation’s architecture school and wrote for the *Architectural Review*. Travelling back and forth between Kuala Lumpur and Berlin, he provided a direct link between German modernism and its Malaysian cousin. He provocatively claimed that English architects in Malaysia were more interested in the area’s architectural heritage than Chinese architects.

The key issues that were addressed included climate, concrete, the Malay timber house, Chinese and Indian temples, and the difficulty in basing large structures on vernacular buildings. A challenge for twenty-first century readers of these polemical statements is understanding, in the absence of illustrations, just what kind of architecture is being referred to. When authors claimed that Malaysian architecture was becoming too Westernized, it is difficult to know if they considered Lee and Iversen as part of the solution or the problem. Kington Loo, a prominent, participated in a round-table discussion. One article singled out his (modern) Subang International Airport for praise. Lee’s Dewan Pustaka also benefitted from a press that praised its Malaysian character. Chee-Kien Lai emphasizes that was largely due to a mural that featured Malaysia’s ethnic groups, and the site’s landscaping, neither of which were the result of Lee’s design.

Jim Gibbons titled a newspaper article “Wanted – a skyline with magic” and he bemoans the similarity of the tall buildings being built. His article ends with a photo of Arthur Hubback’s Kuala Lumpur Train Station, 1911, presumably a model of good Malaysian architecture and with no irony intended, yet ironic it is.²⁸ An Indo-Saracenic fantasy of domes, minarets, and Gothic arches, it introduced to the peninsula a vocabulary that was previously associated with Mughal India. Prior to Hubback and his colleague A.C. Norman, the onion dome did not exist in Malaya. While the curtain wall was decidedly not a feature of historic Malayan timber structures, neither was the onion dome.

Answering What constitutes Malaysian architecture? was never going to be easy, and perhaps that was not the point then, and should not be the point now. The buildings examined here can be read as a series of cubist exercises midway between Platonic solids and structures wrapped with a transparent skin. Their architects left behind a material and visual legacy, and from the start people have grappled with the meaning these buildings carry for this region. The salient issues regarding the effects of modernism in Malaysia were discussed first as part of a contemporary dialogue. There was no waiting around for critical regionalism or postcolonialism to be on the intellectual horizon. What is clear is that for some twenty years a cadre of talented modernists built a body of work, at once exhilarating and restrained, and that deserves our admiration. Modernism did not become international because of Walter Gropius and Mies van der Rohe, it is because architects like Y.T. Lee and Berthel Iversen were so good at producing it.

Notes

¹ Anthony King, *Spaces of Global Cultures: Architecture, Urbanism, Identity*. London: Routledge, 2004, 72.

² Duanfang Lu, ed. *Third World Modernism: Architecture, Development, and Identity*. London: Routledge, 2011; Alexander Tzonis, Liane Lefaivre, and Bruno Stagno, eds, *Tropical Architecture: Critical Regionalism in the Age of Globalization*. Chichester: Wiley, 2001; and William S.W. Lim and Jiat-Hwee Chang, eds, *Non West Modernist Past: on Architecture and Modernities*. Singapore: World Scientific Publishing, 2012.

³ Chee Kien Lai, *Building Merdeka: Independence Architecture in Kuala Lumpur, 1957-1966*. Kuala Lumpur: Petronas, 2007.

⁴ Malaysia refers to the post-independence country; Malaya was the term used to describe the multiple polities, many of whom were under English colonial rule, as in the phrase, The Federated States of Malaya. Yong, Tan Tai. *Creating Greater Malaysia: Decolonization and the Politics of Merger*. Singapore: Institute of Southeast Asian Studies, 2008, 1.

⁵ Mark Crinson describes this phenomenon as “anti-official occidentalism” in “Modernism Across Hemispheres, or, Taking Internationalism Seriously”, in Lim and Chang, *Non West Modernist Past: On Architecture and Modernities* (Singapore: World Scientific Publishing, 2012), p. 43.

⁶ Maxwell Fry, “First Impressions of Kuala Lumpur”, *PETA: Journal of the Federation of the Malaya Society of Architects* 4 (June 1962): 26-27.

⁷ Mark Crinson, “Modernism Across Hemispheres, or, Taking Internationalism Seriously”, in Lim and Chang, *Non West Modernist Past: On Architecture and Modernities* (Singapore: World Scientific Publishing, 2012), p. 38.

⁸ In his telling of the inner-workings of Marcel Breuer’s office, Robert Gatje writes that there was a period when the work of several of the modernists resembled each other: “this was a white box not unlike those being built at the same time by many of Breuer’s contemporaries”. Gatje, Marcel Breuer: a

Memoir. New York: Monacelli Press, 2000, 18.

⁹ Just as Kuala Lumpur is not known for its large quantity of accomplished Art Deco buildings, it also has a rich collection of understudied Brutalist buildings.

¹⁰ As with many buildings from the period in Malaysia, the open ground floor was since been filled in.

¹¹ I am assuming that the building was finished in 1951, before Oct. 1, for that is when the firm of Iversen & Van Sitteren Architects, was known to be operating from their offices on the building's fifth floor. "Tender Notice", *The Straits Times* (3 Oct. 1951): p. 2.

¹² Both the Federal Hotel, and the addition to the Methodist Boys School, Sentul, have porthole windows.

¹³ An article appeared in the technical section of the official architectural journal that addressed the subject: "Wallspan Curtain Walling", *PETA: Journal of the Federation of Malaya Society of Architects* 2 ((March 1958): 56-59.

¹⁴ The firm later became Iversen, Van Sitteren and Partners, which later became Pakatan Akitek Sdn Bhd. The firm still exists.

¹⁵ "East Asia Building, Kuala Lumpur". *PETA Journal of the Federation of Malaya Society of Architects* 4 (Oct-Dec, 1963), 14.

¹⁶ From Mies' Friedrichstraße skyscraper (1921) to his apartment buildings at 860-880 Lake Shore Drive (1951), he conceptualized a high-rise building as being wrapped with a glass skin, a different design approach than that of Iversen and Lee.

¹⁷ "Due for completion this year, a spacious office block". *The Straits Times* (13 April 1959): 13.

¹⁸ The colonial name of the street, Mountbatten, lives on in the name of this and another hotel; the street is now Jalan Tun Perak.

¹⁹ Duanfang Lu. "Introduction: architecture, modernity and identity in the Third World", from Lu, *Third World Modernism: Architecture, Development, and Identity*. London: Routledge, 2011, p. 4.

²⁰ Chang, Jiat-Hwee.

²¹ "Reaching for the sky is the trend in modern hotels . . ." *The Straits Times* (26 September 1971); 16. In this article, Lee and the president of the Malaysian Institute of Architects are interviewed on the subject of high-rise hotels, the international marketplace, and an architect's design strategies to incorporate "a Malaysian flavor".

²² PATA was the Pacific Area Travel Association. "Mimaland will open next year in time for Pata". *The Straits Times* (3 December 1971): 21.

²³ p, 197.

²⁴ Nor Hayati Hussain, *Muzium Negara: the National Museum*. Subang Jaya: Modern Architecture Series in South Asia, 2010.

²⁵ "Chinese Chamber of Commerce Building", *Journal of the Singapore Institute of Architects* 8 (June 1966), 9. The project profile describes the building as having a "Chinese character, but fused with modern facilities."

²⁶ Jim Gibbons, "Wanted – a skyline with a touch of magic". *The Straits Times* (10 July 1971), 14.

²⁷ Maxwell Fry, "First Impressions of Kuala Lumpur", *Peta: Journal of the Federation of Malaya Society of Architects* (June 1962): 26.

²⁸ The Malaysian Institute of Architects (PAM) sponsored an exhibit on the life and work of Arthur Hubback, "A.B. Hubback: An Architectural Celebration in Malaysia: Federated Malay States Star Architect", 15 May to 30 June, 2014.



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The National Museum of western Art as a Prototype for a Museum of Unlimited Growth

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Abstract

In this essay I would like to look at how the Museum of Unlimited Expansion (M.U.E.) prototype was established, how it changed and how it was realized in the National Museum of Western Art (1955, N.M.W.A. / inaugurated : June, 1959), and also to touch on the relationship with the period that three Japanese architects, Kunio Mayekawa, Junzo Sakakura and Takamasa Yoshizaka were present as apprentices in Le Corbusier's Paris atelier and subsequently assisted in the design of that museum. In addition to the Main Building of the N.M.W.A., the Sanskar Kendra City Museum in Ahmedabad (1951, inaugurated on the 1st April, 1957) and the posthumously completed Chandigarh Museum and Art Gallery (1958, inaugurated on the 6th May, 1968) in India were also designed and realized as prototypes for a Museum of Unlimited Expansion. Other museum projects include the Museum of Contemporary Art in Paris (1931), the Center for Contemporary Art in Paris (1935), the Philippeville City Museum project proposal in Algeria (1939), the International Art Center at Erlenbach in Frankfurt, Germany (1963) and the Museum of the Twentieth Century (Musée du XXe siècle) in Nanterre, Paris, France (1965). Buildings that embody ideas of the World Museum and the M.U.E. are also present in Le Corbusier's series of urban design projects - such as in the Pan



Fig.1 Le Corbusier with the model of National Museum of Western Art 1956

Macia in Barcelona, Spain (1933), the Rive gauche de l'Escaut in Antwerp, Belgium, the University City in Rio de Janeiro, Brazil (1938), the St. Die in France (1945), the Berlin Urban Design Project proposal for the international design competition in Germany (1958), etc., - and are positioned to form the cultural nuclei of those projects. Taking these examples, the M.U.E prototype can be considered as one of the few prototypes that Le Corbusier constantly explored in his work.

Amongst various prototypes of that nature, the model Le Corbusier conceived of for museums was the Museum of Unlimited Expansion (M.U.E.). Starting with the conception of the *World Museum* as part of the 1929 Mundaneum project, Le Corbusier continued to develop and refine that concept. The Main Building of the *National Museum of Western Art* (N.M.W.A.) completed in 1959 (**Fig. 1**), was also designed as a M.U.E prototype.



Fig.2 The Mundaneum project in 1928

1. The Mundaneum Project

Le Corbusier produced the *Mundaneum* project in 1928 (**Fig. 2**) on land adjacent to the *League of Nations* property in Geneva, after being commissioned by Paul Otlet, a Belgian jurist, documentalist and internationalist. 1928 was the year following Le Corbusier's bitter experience of initially having his competition proposal for the *Palace of the League of Nations* (1927) selected, only for it to be rejected following opposition by old-guard architects.

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One significant aspect of the *Mundaneum* project by Le Corbusier and Otlet, was that it was an attempt to increase international cooperation through mutual cultural appreciation at a time when political axe grinding by the various countries in the League of Nations was making such cooperation difficult. The immense *World Museum* formed the nucleus of this project.

The *World Museum* had a pyramidal cross-section with a large internal atrium and was composed so that visitors would enter from a forecourt or '*parvis*', pass the *pilotis*, take a central elevator directly to the top of the building and then descend down from the top floor following a square spiral ramp comprising the exhibition hall. It was also designed so that each time visitors turned a corner of the square spiral exhibition hall they could enjoy the scenery outside. Subsequently, this *World Museum* developed into the *M.U.E.*, Le Corbusier's museum prototype of choice, which formed the basis for other plans including the *N.M.W.A.*

2. From Museum of Contemporary Art in Paris, to Museum of Unlimited Expansion, Philippeville 1939

Between 1929 and 1930 Le Corbusier reworked the *World Museum* at his atelier in Sevres, Paris, into a composition of abstract geometry, and developed the idea of the square spiral museum, which is associated with the *M.U.E.* Le Corbusier's concept of the square spiral museum was first expressed explicitly in his letter to Christian Zervos, the editor-in-chief of *Cahiers d'art*, a Paris based Magazine, in its February 19, 1930 issue. The idea of 'unlimited expansion' not only addressed the problem at the time of how to deal with continuously expanding collections, but was also based on the assumption that groups of donors would contribute to the construction of museums. Coinciding with the period of the above developments, Kunio Mayekawa (1905-1986) was an apprentice in Le Corbusier's Paris atelier from 1928 to 1930. During his time at the atelier, Mayekawa witnessed activities relating to the Palace of the League of Nations scandals, the *Mundaneum* project and the *Museum of Contemporary Art* in Paris.

From June 1931, following publication of the museum concept in *Cahiers d'art*, Le Corbusier presented a specific proposal - *Musée des artistes vivants* - using a site in Nesle-la-Vallée, the eastern suburbs of Paris. In that project, Le Corbusier determined modular dimensions under which, for example, one spatial unit is shown as seven meters square by eight meters high and the central hall is 14 meters square, the size of four spatial units.

Following that project, while Le Corbusier incorporated the idea of a *M.U.E.* as the nuclei of urban culture into his urban design proposals, in his urban design projects such as the *Pan Macia* in Barcelona, Spain (1933) and the *Rive gauche de l'Escaut* in Antwerp, Belgium, Le Corbusier adopted a pyramidal form similar to the *World Museum* in the *Mundaneum* project. Whereas, in his design for the *Center for Contemporary Art* in Paris for the Paris Exposition 1937, an expandable museum based on his proposal for the 1931 *Museum of Contemporary Art* in Paris, Le Corbusier made detailed studies into potential materials and construction methods. For example, in removable industrialized dry construction methods, such materials as asbestos panels, galvanized steel sheet panels and copper sheet panels were widely used for the external walls, and materials like bricks and glass-blocks were used for the *pilotis* at ground level.

The thinking behind this approach can also be seen in the construction methods of numerous other pavilions at the Paris Exposition 1937. This was probably influenced by the strong interest that the French construction industry had in dry construction methods at the time.

After the *Mundaneum* project Le Corbusier continued to produce square spiral ramp museum designs. For the *Philippeville City Museum* project proposal in Algeria, Le Corbusier gave the following explanation:

'The problem of extension of buildings is a task of our time, for which, until now, no solution has been found. A series of studies over a period of ten years has led to a notable result: complete standardization of the structural elements¹:

The totality is laid out according to the Golden Section and permits an unlimited number of harmonious combinations. The fundamental principle of this Museum is that it is built on columns, the entrance at ground level is in the center of the building hall of honor, destined to house several masterpieces.²

Junzo Sakakura was present in Le Corbusier's atelier from 1931 to 1936, coinciding with the period leading up to completion of this prototype. Sakakura, who played a central role as an assistant designer for the *N.M.W.A.* project, was indeed present during the exact period that research was being conducted into the *M.U.E.*, so he would have been able to observe Le Corbusier and his process leading up to completion of the prototype first hand.



Fig.3 Kanagawa Prefectural Museum of Modern Art, Kamakura 1951 Junzo Sakakura



Fig.4 Sanskar Kendra City Museum in Ahmedabad 1951 inaugurated on the 1st April, 1957



Fig.5 National Museum of Western Art 1955 inaugurated June, 1959

Comparisons can be drawn between the architectural composition and use of materials in the abovementioned *Museum of Contemporary Art* in Paris and Sakakura's representative work, the *Kanagawa Prefectural Museum of Modern Art, Kamakura* (1951) (**Fig. 3**). Sakakura's Museum was completed before any of Le Corbusier's *M.U.E* projects. When Le Corbusier came to Japan to inspect the site of the *National Museum of Western Art* in 1954, he made his way to Kamakura and visited the completed museum. At that time he presumably noted the size of the external courtyard. In any case, the central hall of the *M.U.E.*, which had previously been an internal hall, was subsequently designed as an external courtyard in the *Sanskar Kendra City Museum*, which was designed starting from 1951.

3. Le Modulor

In the first section of *Le Modulor* published in 1948, Le Corbusier touches on the beginnings of his research into the *Modular*. When discussing its 'mathematical calculation', he gives the *M.U.E.* as the third example, and cites the use of three standardized elements based on the golden section - standard columns, standard beams and standard ceiling lighting (for day and for night) - as an application of the *Modular* dimensions achieving a sense of organic unity. In the *Modulor 2* in 1955, one bay size of the grid in the *Sanskar Kendra City Museum* (**Fig. 4**) is given as seven meters square, and the same dimensions are given in Le Corbusier's *Œuvre complete* (Complete Works). However, one bay size of the grid in the *Sanskar Kendra City Museum* as built is actually 6.35 meters square and the same dimension is applied in the *N.M.W.A.* The seven meters square bay size of the grid was realized only in the *Chandigarh Museum and Art Gallery*, completed posthumously, and it somehow gives a sluggishly stretched impression.

Takamasa Yoshizaka (1917-1980) was present in Le Corbusier's atelier from 1950 to 1952, during the period that the *Modular* was being developed. Amongst other works, he was responsible for the *Unité d'Habitation* projects in Marseilles and Nantes, which were designed using the *Modular*; therefore, he had a direct experience of putting the *Modular* into practice with Le Corbusier himself. In 1953, after his return to Japan, Yoshizaka translated and published *Le Modulor*, and subsequently contributed in preparing the design details and working drawings for the construction of the *N.M.W.A* while teaching at Waseda University.

4. The National Museum of Western Art: a Realized Museum of Unlimited Expansion

To what extent were the prototype ideas, such as *pilotis*, the swastika form and expansion in a spiral, put into practice in the three museums based on the *M.U.E* prototype realized after the war?

First, with regard to *pilotis*, as a feature in each of the museums, visitors 'enter between *pilotis*, directly access the main central hall in the building, climb the ramp in the main central hall's atrium space and arrive at the second floor exhibition gallery space'. On the other hand, in relation to the statement 'the second floor has a square plan, with the exhibition gallery spaces arranged in a spiral around the periphery of the main central hall. The exhibition gallery space is arranged in a swastika configuration within the overall square plan forming a mezzanine floor in the two story atrium', the basic spatial composition is in place, but the 'lighting from above arranged in a swastika' that Le Corbusier placed the most importance on, in which 'lighting facilities (natural and artificial) are arranged in a swastika configuration on part of the third floor' was achieved only in the *N.M.W.A.*

How about the possible expansion in a spiral form? For each of the three museums, even though the concept that 'each time the number

of artifacts increases, the exhibition hall can be extended in a spiral shape and grow unlimitedly. Constructed with standardized and industrialized architectural components and designed so that the building maintains the same aesthetic of industrialization' is considered at the stage of the spatial composition, the site conditions and other factors became stumbling blocks and to this day nothing has been realized exactly as conceived in the prototype.

At the same time, all of the museums have, nevertheless, implemented the 'aesthetic of industrialization' that Le Corbusier sought and have been built in a form that applies the *Modulor* dimensioning system and so on. With regard to the application of the *Modulor* dimensioning to the *N.M.W.A.*, the *Modular* is applied to the height of exhibition gallery space, the rhythmic louvers around the circumference of the first floor enclosure, the external wall panels, the forecourt pavement and various parts of the museum.

According to the explanation of the *M.U.E.* prototype, the initial form of the museum prior to expansion requires a square plan with a size of seven spans east to west and seven spans north to south. Of the three realized museums, the plans of the two built in India, the *Sanskar Kendra City Museum* and Chandigarh Museum and Art Gallery were built with a grid of seven bays by seven bays, but the museum built in Japan, the *N.M.W.A.*, consists of a grid of only six bays by six bays.

In comparison to the two museums in India, where plentiful space can be secured, the *N.M.W.A.* has a very spacious forecourt, but both sides of the main building are narrow and the future extension planned à la the concept of the *M.U.E.* would become difficult to achieve due to site restrictions. In addition to the number of spans in the grid being reduced by one in each direction to a grid of six by six spans, the size of each span is also reduced from seven meters to 6.35 meters as with the *Sanskar Kendra City Museum* in Ahmedabad, making the museum small overall. Also, as a result of having one less span, the ramp in the central hall going from the first floor to the second floor lies under the skylights arranged in a swastika, thus light floods into the main hall directly from the skylights. Also, because of the ramp, the width of the northern side of the exhibition gallery space becomes one span wide, giving a different plan composition from the other museums. Am I the only one that relates the Mundaneum project, which became the source of the *M.U.E.*, as an international educational and cultural institution, to the composition of UNESCO, formed after World War II? In February 2015, including the *N.M.W.A.*, were recommended for nomination as World Heritage sites. The Mundaneum holds a clue as to what Le Corbusier himself would think about the current situation in which the *N.M.W.A.*, as the prime realized example of Le Corbusier's cherished Museum of *Unlimited Expansion*, is in the process of becoming a universal cultural asset under the UNESCO framework.

Notes

1 one column, one beam, one ceiling element, one illumination element for the day, one illumination element for the night.

2 LE CORBUSIER 1910-1965, *the Comprehensive Volume*, p.238w



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The Significance of Chandigarh - An Exemplar of Asian Modernity

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Abstract

The 3 Ms – Modern, Modernisation and Modernity are loosely constructed ideas which need to be dwelt upon to build an understanding of their significance vis a vis the Modern Movement. The Modern Movement that began in Europe and spread eastwards was essentially in search of an appropriate architecture with emancipation from the past, exploring new ways of life, new technologies and new materials to address changing needs. Asian modernity is characterised by the continuous interaction between indigenous modes of thought and western methods of construction and technological innovation. The east west dialogue displays acceptance and resistance to western thought processes and address issues of cultural continuity and economic appropriateness. The Modern Movement in India is represented by the planned modern city- Chandigarh by Le Corbusier, its strong advocate. The city over sixty-five years old now is the most favoured city in the country. It represents how an appropriate architecture and urban design can be realised while addressing the constraints of economy, indigenous technology and climate. Further, the city through the disposition of functions and infrastructure provides the best of amenities ‘*the maison des hommes*’ to all classes of people.

Keywords : modern, modernisation, modernity, chandigarh, cultural continuity, economic appropriateness

1. Introduction

Asian identity and modernity are recognized as having originated in Asia itself and continuously shaped by an Asian interaction with the rest of the world through various phenomena and the assertion of national and regional identities. The era of Asian modernity is critical: where the east –west relationship was being constantly redefined through displays of simultaneous acceptance of and resistance to western ideologies, and of the struggles of placing modernity within the issues of cultural continuity and economic appropriateness. The Modern Movement, which arrived in India almost at the same time as the rest of the world helped to rethink the nature and purpose of architecture for a modern, secular and democratic society. It did not become a fossil; but paved the way for the modern yet appropriate architecture for India.



2. The 3 Ms of The Modern Movement

It would be appropriate at this point to briefly dwell upon the 3 Ms, as one would like to understand these ideas– Modern, Modernity, and Modernisation, which shaped and directed the development of cities and towns of the Modern Movement in India and abroad. Modern as mentioned by historian Cyril Black implies the Latin term ‘denoting the quality of

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the contemporary era'; whereas Raymond Unwin notes that, the earliest meanings of the word 'were nearer our contemporary, in the sense of something existing now, just now'. The prenineteenth century accorded a pejorative status to the term modern, while in the twentieth century modern became equivalent to improved, satisfactory or efficient. Bertrand Russell talks of the modern age that rejects ecclesiastical authority and accepts scientific authority, which began with the Copernican Theory (1543 AD) and was strengthened by Kepler and Galileo (1700 AD). Then began the long fight between science and dogma and the traditionalists fought a long battle against new knowledge. The authority of science prevailed by its intrinsic appeal to reason. It pronounces only on the present time, what has been scientifically ascertained as a small island in an ocean of neoscience. John Galbraith the Keynesian economist in post-war America ascertains in his book "Good Society" another dimension to "modern", that it must address the problems of the masses by way of welfare reforms, be it price control, inflation or job opportunity, or mass housing. Thus to be modern was not a style or a way of the western world, or the antithesis of things that are oriental or Asian or even Indian, it was a way of 'taking charge of one's own destiny. Modernisation as a fruit of post enlightenment brought in unbelievable surplus of food production progress in science technology, medicine leading one to believe that when differences between national societies are narrowed off 'it will lead to a point at which various societies are so homogenised as to be capable of forming a world state'. Technological and economical changes ushered in modernity which had to do with using less to produce more, the spirit of efficiency that accompanied the modern movement especially in developing economies such as India's with a huge shelter gap on one end and resource strapped economies on the other. Less was to be utilised to achieve more, mindful of locally appropriate solutions and aspects of building production that could be economically regulated for increased efficiency.

3. The Modern Movement In India

The modern movement, which arrived in India almost at the same time as the rest of the world helped to rethink the nature and purpose of architecture for a modern, secular and democratic society. It is also to the credit of the tenets of the modern movement and its practitioners in India that it did not become a fossil; but paved the way for the modern yet appropriate architecture for India, its own version of indigenous urbanism and regionalism—wasn't that the whole objective of the Modern Movement to begin with? The closing year of World War I saw radical transformations in terms of social makeup and physical structure on account of new industries being set up. Bombay signified the arrival of the Modern Movement in India, the emergence of a large middle class, white collared office goers, and emerging architectural typologies such as banks, stock exchanges, trading houses, cinemas, clubs, and growth in industrial and educational hubs, transport lines.



4. Expressing Core Values of Modernity

India's challenge to embrace modernity was further heightened, as it had to address the freedom from colonialism as well as the partition of the east and West Pakistan, thereby reducing its boundaries as well as significant resources such as Lahore. Chandigarh signifies this embrace. Even though a state capital, yet its creation was supervised on several occasions personally by Jawaharlal Nehru who envisioned it to be 'unfettered by the traditions of the past'; ushering in a new future, a symbol of India's newfound freedom and a pacesetter and role model for future town planning not only in India but for the modern world. Of the various choices, to site the new capital, Chandigarh was conceived as a brainchild of Le Corbusier and Jawaharlal Nehru to provide the 'maison des hommes' for a displaced population and to celebrate our newfound independence leaving behind the colonial imprints.

The Modern Movement is also characterised by the temporary and fragile nature of the materials of construction. Chandigarh also represents Le Corbusier's largest urban creation



with its Capitol Complex and City Centre comprising large-scale constructions in reinforced exposed concrete '*beton brut*' as Corbusier called it, which have brought out the plastic quality and machine aesthetic of the Modern Movement's building material. The monumental buildings were realised within on a shoestring budget, utilising indigenous labour and methods of construction and addressing dictates of a composite climate.

5. Chandigarh an Exemplar of Modernity

In meeting the afore challenges to build a modern city, India did not turn to the past, but took the opportunity to take her place as a modern, progressive country amid the comity of nations. Thus, Chandigarh was realised, embodying Le Corbusier's principles of the CIAM, which were based and drew inspiration from the ideals of Modernity.

The city derives its urban form from a well ordered matrix of the generic neighbourhood unit – the Sector deriving their architectural vocabulary from compositions in brick, lime plaster and exposed concrete, the hierarchical circulation pattern – the 7Vs (*Les Sept Voies*) and, the distribution of densities resulting in a fine grain, uniform texture for the city fabric. Among the tools designed



to regulate the ordering of the city's architecture were extensive visual controls at the building level and extending upto the provision of a peripheral green belt – the 'Periphery' which set the limits to the built mass of the city. Located at the foothills of the Shivaliks, nestled between two seasonal rivulets, with potential to grow southwards, Chandigarh signified India's independence, -- heralding in its newfound freedom, a project of modernity, a moment of celebration, and emancipation from the past.

Le Corbusier's chequerboard plan for Chandigarh has a definite set of core principles derived from CIAM IV – The functional city, whereby disaggregation of the principal functions of Living, Working, Circulation and Care of Body and Spirit has defined the ordering of the city set within the natural confines of two seasonal rivulets (east and west), at the foothills of the Shivalik hills, the lowermost belt of the Himalayas. The Capitol as the head of the city occupies the northern end of the city and the ceremonial people's avenue *Jan Marg* connects it to the City Centre, the heart of the city where the principal horizontal V2 Madhya Marg that brings intercity traffic meets the Jan Marg. The circulation system *Les Sept Voies*; a distinct hierarchy of seven types of streets, continues to be in place and distributes traffic from intercity to the dwelling. The repetitive unit – the Sector as the container of urban life fulfils the needs of the inhabitants. Derived from the geometry of the Roman Quadras and for comfortable pedestrian negotiation within the 800mx1200m sector, its design is introvert and self-sufficient. The Leisure Valley is the linear parkland, which brings maintains man's contact with nature within the city. Traversing north south along it are strung various gardens and it serves as a natural catchment for the surface runoff and rainwater. The other important areas of the city are the industrial and the educational areas located on the eastern and western ends of the city. The Sukhna Lake is an artificial reservoir designed by le Corbusier as a 'gift to the citizens' at the eastern edge of the city to serve as a catchment basin for the streams that bring monsoon.

6. Summing Up

It would not be misplaced to say that Chandigarh does not have its set of problems. It faces all these boldly all the same. All growing cities must contend with issues of growth, need for more space, infrastructure, transport and mobility.... Yet it has to be appreciated that Chandigarh continues to well sustain the resident as well as the floating population. The city continues to augment its facilities, infrastructure and there are various initiatives at the administrative level to sustain the demands and needs of the people. It is the inherent design of the city, embodying the principles of CIAM IV conveyed through the disposition of functions, the les sep voies and the repetitive sector unit which are responsible for the city's well being till date. Thus, it would be appropriate to say that Chandigarh has served as a role model and pacesetter for similar developments in India as well as Asia as it continues to facilitate its residents as an exemplar of the core universal values of the Modern Movement while addressing cultural continuity and economic appropriateness.

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California Dreamin': Architect Paffard Keatinge-Clay and Modern Architecture's Road Not Taken in Northern California, 1960-1972

Eric R. KEUNE *

Abstract

From 1960-1972, a divergent architecture branch of evolutionary European modernism existed in Northern California. Neither pre-postmodernist critical regionalism in the vein of Charles Moore/William Wurster, nor the Bauhaus-via-Wright strain of Richard Neutra/Rudolph Schindler, this body of work, created at the hand of Paffard Keatinge-Clay, emerged briefly before largely disappearing from public view. At first glance, Keatinge-Clay's works might be dismissed as mannered Corbusian-isme. However, more careful, deliberate inspection reveals a broader, more inclusive, synthetic thought process at work – holding in one hand the strict rigor of Mies and in the other the material and geometric explorations of the late-career Frank Lloyd Wright.

Evidenced primarily in built works, this paper will unpack some of Keatinge-Clay's lesser known projects with a focus on those built in California during this period. Standing among the works of Guillermo Jullian de la Fuente and José Oubrierie, fellow alumni of Le Corbusier's Paris Rue de Sèvres studio, Keatinge-Clay's projects are perhaps more unique for their more libertine willingness to accept outside influence than the works of other second generation Corbusier disciples. His projects of this decade present a lucidity of thought and rigorous work methodology that was unique in North America (generally) and the West Coast (specifically) during the period. Little known outside the Bay Area, these buildings and projects, and by extension their author, struggled mightily in opposition to a cultural and societal tide which was turning away from works of this level of tectonic purity and singularity of purpose and instead toward a more diffuse, inclusive culture of protests, be-in's, and 'the vernacular.' A window into an alternate future, these works etch a path not taken. Had Keatinge-Clay reached a position of greater prominence, either professionally or academically, things may have turned out very differently. Instead, this small collection of buildings perseveres, often in spite of their respective owners, as a testament to an uncompromising vision of modernity

Keywords : paffard keatinge-clay, le corbusier, modernism, pavilion, san francisco, northern california

All the leaves are brown

And the sky is grey

I've been for a walk

On a winter's day

I'd be safe and warm

If I was in L.A.

California dreamin'

On such a winter's day¹

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Paffard Keatinge-Clay, perhaps unlike any other 20th century architect of consequence, was a man who positioned himself at a unique intersection of disparate yet contemporary vectors of modernist architectural thinking. It is the emergent promise of synthesis in Keatinge-Clay's work that intrigues us. Looking back from the 21st century vantage point and considered in total, Keatinge-Clay presents almost a Leonard Zelig/Forrest Gump-like figure who appears to have been at once beside, in the company of, adjacent to, and/or associated with nearly the full spectrum of major players in the history of 20th century architecture.² His position was informed directly by work experience with both Frank Lloyd Wright and Le Corbusier. It also speaks clearly to the legible, structural rationalism of Mies van der Rohe, and reflects elements used by other architects and artists working on Modern projects. Despite this, he remains largely unknown outside his most significant area of practice, San Francisco (locally) and Northern California (regionally) during the period 1960-1972. Almost as though resulting from a process of genetic distillation, recognizable elements in his work—not exactly quotes, but rather referents stemming from each influence—come together to advance the project of Modern Architecture.

1. The Wanderer

Born in England and raised not far from Stonehenge, Keatinge-Clay attended the Architectural Association in London from 1942 to 1947 and worked for London-based modernist Ernő Goldfinger. He then moved to Switzerland on an exchange program to study at the ETH Zürich and worked with Willy Boesiger, who was at that time involved with the formatting and publication of Le Corbusier's *Oeuvre Complète*. It was at this time—and through this connection—that Keatinge-Clay met one of the 20th century's most influential and polemical historians, Sigfried Giedion. He would subsequently elope with and marry Giedion's daughter, Verena, on his personal journey “up through the ranks” of Modern Architecture at the end of World War Two. This is only the beginning of Paffard's unusual story.

In 1948 Paffard moved from Zürich to Paris and the studio of artist Constantin Brancusi, and subsequently, via Giedion, to Le Corbusier's Rue de Sèvres atelier. Le Corbusier's office was at the time completing the construction documents for the seminal Unité d'Habitation in Marseilles. Paffard worked primarily on the concrete formwork for the pilotis, and (with Jerzy Soltan) on the unrealized, visionary replanning proposal for the French city of La Rochelle. Leaving Paris after approximately one year, he returned to London, via Zürich, en route to Spring Green, Wisconsin, where he had arranged for himself by mail an apprenticeship at Taliesin with (late-career) Frank Lloyd Wright. At the time of Paffard's arrival, Wright was completing work on construction documents for the Johnson Wax Research Tower. Its infamous ‘Taproot’ core/foundation system, an oblique precursor to the Metabolist-era Kenzo Tange, cantilevers its floors from a central elevator/stair/mechanical ‘stem.’³ Two memorable lessons in detailing of expressive concrete structural elements are secreted back, ultimately arriving in the New World under cover of the Union Jack.

After having worked on iterative schemes for New York's Guggenheim Museum of Art, Paffard left Wright and his infamous cult of personality in 1951, during the tail end of the winter season migration to Scottsdale. Striking out on his own, he immediately filed a claim on the 1862 U.S. Homestead Act (then still in effect) for a site on Superstition Mountain outside of Phoenix, where, in the Taliesin apprentice tradition, he built a home/shelter for himself and his young wife Verena. The Homestead Act claim required him to live on the site for a minimum period of five years before ownership would be transferred. He named his built design the Desert Pavilion; it was a roof without walls on the slopes of the mountain. This modest project would become his first, and in many ways most pure, expression of his personal architectural vision.

2. The Leaves

From Superstition Mountain in Arizona Paffard moved to the periphery of Chicago to work for the corporate practice of Skidmore, Owings & Merrill. The move to Chicago and SOM dramatically shifted his professional existence from small-studio day labourer to capital-A Architect at the dominant corporate practice of the period, a move which could not have been more different from his prior experience in the offices of singular ‘visionary’ sole practitioners. Working within the multi-headed partnership environment of SOM allowed him to carve out an arena within which he was able to work with some measure of independence. An intensifying cascade of project work ensued, beginning with his involvement on the 23-story-tall Harris Bank Building (Addition #1) in downtown Chicago, which was both larger in scale and more refined in detailing and materiality than either the Johnson Wax Research Tower or the Unité, both of which are sizable buildings in their own right. This culminated in a professional move to SOM's San Francisco office. In the San Francisco office,

Paffard worked on what would become his final, perhaps most significant project of the SOM chapter of his career: a branch bank for Great Western Savings and Loan. As the first, and arguably most ambitious of those executed, the bank was itself a large scale sequel to the desert pavilion, which instigated Paffard's decade-long pursuit of the pavilion as a typology.

3. The Pavilion

Starting with the self-built Desert Pavilion in Arizona, an emergent interest in the pavilion becomes evident in Paffard's work. His highly personal interpretation of the typology shares the same design DNA of works done by other more recognized modernists. This chameleon-like ability to channel, synthesize, and expand both the grammar and materiality of multiple contemporary modernist works is reflected in the still little-known Great Western Savings and Loan Bank of 1960. Located just south of downtown Los Angeles in the city of Gardena, the building was a prototype originally intended for future replication. It was conceived as a singular, universal space, covered by a grid of post-tensioned beams which are supported by eight monumental concrete piers, each of which alight delicately atop hemispherical pin connections to a plinth below. Paffard's work on the building is contemporaneous with other more visible corporate and public projects, including Mies' unrealized 1960 Bacardi Headquarters and the realized 1968 Neue Nationalgalerie in Berlin.

Paffard left SOM in 1962 and opened his own office in San Francisco in 1963. The bank was reborn just three years later, in a greatly reduced, but arguably more dramatically sited, iteration as Paffard's California home. Executed at a smaller, more private scale, the house, named the Tamalpais Pavilion and completed in 1965, is certainly a fellow traveller of Japanese Metabolist Kiyonori Kikutake's own home, the Sky House of 1958. Following the time-honoured technique for demonstrating the design identity of a nascent practice, both Kikutake and Paffard would utilize the design of their own homes as both dramatic testaments to their architectural skill and as three-dimensional manifestations of their architectural ideas, which spoke clearly to potential clients and the media.

Both homes share a concern with the dynamic engineering potential of concrete, deployed to great effect on dramatic sites in areas of high seismicity. Representing different structural ideas, they can both be considered descendants of Mies van der Rohe's unrealized 50'x50' house project of 1950-1951, in which Mies gently placed a symmetrical object into a natural environment, open on all sides to its surroundings. Paffard's line of enquiry would reach its apogee in the unrealized competition entry for the Glasgow Burrell Collection Museum competition of 1971. In the building's drawn design, he attempted to reduce the number of supports to a minimum of four, a solution which resonates with contemporaneous works of Myron Goldsmith, at that time a Partner at SOM. These works by both architects explored very large scale, singular pavilion structures supported by a single column located mid-span of a square, long span roof element.⁴ In this particular Paffard design and similar to the Neue Nationalgalerie, the pavilion serves as an entry into a world of exhibition galleries carved out of the ground plane below, while Goldsmith's versions were singular structures which themselves became the armature to support exhibitions of various objects within.

4. Geometry & Tectonics

Exploration and transformation of the geometric module is a strand of design thinking which informed the zeitgeist of the period. This was especially true of Wright's work of the 1930s through the 1950s. Wright used a wide array of consistent yet non-standard construction modules—equilateral and isosceles triangles, hexagons, circles, squares, rectangles, diamonds, parallelograms, etc.—as guideposts which established logical boundaries within which projects could begin to make their own rule-based decisions.⁵ Paffard, as part of his design kinaesthesia, focused on triangulated geometries in his projects. The Tamalpais Pavilion used a square, 8-foot planning module in its organization.⁶ The square would later be subdivided diagonally into triangles, which could then be grouped together as parallelograms. In the San Francisco State University Student Union building, the triangular module drove not only the plan, but also a diagonalized building superstructure consisting of triangulated V columns. The triangle is also manifested as a pair of mountain-like, prismatic concrete tetrahedrons which stand atop the superstructure of the building base, one of which contains an occupiable amphitheatre. Paffard's entry to the competition to expand London Parliament shared a similar interest in geometry—in this case the problem of the long span—using it to resolve constraints involving existing below grade rail lines.

The module was pushed well beyond its limits in what Corbusier referred to as *The Search for Form* – generating truncated tetrahedrons, triangular prisms in compositions that are as unexpected as they are compelling. Paffard deployed geometry here as a path towards

discovery, then as a formula to generate conventionally understandable (and prosaically rational/buildable) design solutions.

The success or failure of so much of Paffard's powerful but limited body of work boiled down to the certainly not-new—and frankly mundane—issue of its 'buildability.' The appetite for risk was one most likely to be borne by large, institutional clients, and it is with these clients that his greatest works were realized. If a consistent line were to be drawn through nearly all of his projects, it would have to be through the continuous process of refinement and exploration of the plastic effects of concrete, still called the *béton brut*.⁷ As physical constructions, the buildings were difficult to make, expensive, and regrettably short-lived as original works. The uniformity of subsequent additions, and in some cases unrecognizable transformations, demonstrate this consistently across the entire remaining body of Paffard's work. Not a single structure remains intact.⁸

5. If I were in LA

As the tide against modernism turned, Paffard's buildings, and by extension the ideals which they represent, were unable to keep pace. Unwittingly, he had chosen San Francisco as his base, the one place which would come to define itself by its opposition to modernism. Looking back on this, one might imagine a somewhat different result had Los Angeles been chosen as the location for the PKC office. Southern California could have proven to be a territory both more receptive and fertile within which to operate.

What remains of the work leaves a strong impression. Not only does the presence of these buildings remain after having visited (arguably more so than comparable works of their period), but the buildings' progenitors have, in a sense, also never left. One is struck (I was at least) by a palpable sense of *déjà vu* upon first encountering the rooftop belvedere of Paffard's addition to the San Francisco Art Institute, which resonates experientially with the three dimensionality of the similarly exalting Unité in Marseilles.⁹ Interrogating both program and structure, all of these buildings work at some level as works of art by transcending the prosaics of pure function; they are provocations which by and large have remained unanswered—either ignored, or in some cases given up on. They offer us a variety of points for consideration and were arguably intellectual and sometimes even physical challenges, not only to users, but also to neighbours, contractors, and viewers alike. They were increasingly seen as an affront to the soft, pseudo-humanist anti-establishment trajectory of the hippie culture into which they were placed. It is their role as unapologetic, architectural provocateurs that speaks to us today. Paffard's work was nothing if not out of time – and also at times out of place.

It is this geographic, temporal, and aesthetic displacement that makes this body of work so compelling. Through its materiality and grammar of signal, one is reminded of works of Modern Architecture that have come before. Yet, in hindsight, Paffard's work collectively manages to advance Modern Architecture's formal and societal aspirations of enlightenment via a dramatic break with 'the past.' What is ironic (and frankly disappointing) is that at a time of such great social upheaval, San Francisco had become (after Paris) the worldwide epicentre of progressive, anti-establishment, social thinking, and yet the city glossed over Paffard's creative buildings and his character. In this context, the work appears to have arrived too late; moving beyond mere "functionalism" as a formal *raison d'être*, the projects define Modernism on their own terms: singular, individually authored, and at times overpowering. These characteristics of Paffard's work are what caused it to be reacted against so strongly at the time of its making. In the case of Modern Architecture's aspiration to create an architecture of the epoch, and Paffard Keatinge-Clay's obscurity within the movement, timing truly was—and remains—everything.

Notes

¹ John Phillips and Michelle Phillips (Gilliam), *California Dreamin'*, 1965.

² Wes Jones, "Paffard Keatinge-Clay: innovation through mastery/mastery through innovation", *Harvard Design Magazine*, Spring-Summer 2007, 54-62.

³ Specifically, the 1968 Shizuoka Media Building in Tokyo, whose main vertical circulation core is also the only structural support for the office areas suspended from it. Unlike the Johnson Wax Research Tower, which effectively conceals its compelling structural idea within an banded sheath of alternating brick and pyrex glass tubing, the Shizuoka building 'lets it all hang out,' literally.

⁴ This work on the pavilion was of a type, and focused on a solution, found in many Illinois Institute of Technology (IIT) graduate thesis projects of the period. These include Reginald Malcolmson's 1957 project for 'A Theater,' and Peter Carter's 'An Art Museum,' a 1958 project in which a very similar formal/structural solution encloses the building. While structured in steel, these pavilions are clearly influenced by Mies' thinking of this period, in which monumental overhanging roof structures are suspended by a minimum number of supports. Myron Goldsmith— an IIT student in the 1930s—would continue these studies at SOM, where he rose to the position of Partner as both an Architect and Structural Engineer. Goldsmith's 1960 studies for the

1964 World's Fair, while unrealized as buildings, argue persuasively for the compelling spatial and tectonic nature of these solutions.

⁵ Critical in such a large practice ostensibly run by a single visionary father figure. Given the large number of projects, the history and precedent having been established early on of what the results would look like, as well as lessons learned relative to success/failure, use of 'the module' was certainly a compelling strategy to both streamline the workflow while also incrementally advancing the design grammar of projects within each geometric 'type.'

⁶ Perhaps a vestige of work on the bank, or of his time with SOM – colloquially known during the period as "Stay on Module"—or both. Cited from page 72 of *Modern Architect(ure)/Modern Master(s)*.

⁷ Le Corbusier's mid-career shift towards a doctrinaire advocacy of *béton brut* (allegedly stemming from a visit to the Tennessee Valley Authority's Norris Dam, located outside Knoxville, Tennessee) would become a rallying cry and fundamental tenet of the Brutalists. Arguably, Paffard took this in from his personal work on the structural supports of the Unité, but the expressive potential of board-formed concrete, and in particular its appearance and texture in raking sunlight, would evolve in the bush hammered grammar of Paul Rudolph, who was practicing his own variation of highly tectonic modernism rooted in the materiality of concrete at approximately the same period, however with significantly different results.

⁸ Of those structures which remain, and most do, the Great Western Savings and Loan building is perhaps the least molested, save for a coat of paint and the reconfiguration of the main banking hall.

⁹ Stanislaus von Moos makes a similar, admittedly more eloquent, point in his essay "Triangulations in Space and Time: Notes on the Architecture of Paffard Keatinge-Clay," included in *Modern Architect(ure)/Modern Master(s)*.

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Eric R. Keune

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A lifelong student of architecture and design, Eric's work is guided by established modernist principles – interlocking of architecture and landscape, advancing the science of integrated buildings, and furthering the dialogue between structural and programmatic expression. Designs which innovate within craft traditions and excellence in making, the works attempt to connect with a broader context of contemporary visual arts and world history.

After having spent 10 years in SOM's San Francisco office situated within the topographic environs of the City by the Bay, he continues to acclimate to life in the Midwest – in particular the flatness of both its landscape and vowel sounds.

Chandigarh- Adapting to the Legacy of Modernity

Niyati JIGYASU * Deepika GANDHI **

The British are usually credited with the advent and spread of the modern movement in India. As a repercussion of the negative association with the colonial rule, many changes were initially opposed. However, catalysed by the rising Indian educated middle class post-independence, the winds of modernism swept away any doubts regarding the future course of India and consequently the course of the evolution of Modern Architecture. In 1948, JawaharLal Nehru; the first Prime Minister of India with his futuristic vision initiated the creation of a new capital city of Punjab “unfettered by the traditions of the past”-a statement that conflicted with the nationalist sentiment of post Independent India. With the creation of Chandigarh the debate regarding the future of Indian architecture was settled once and for all even though it was a major deviation from the prevalent notions of modernity at that time. Chandigarh faced criticism for not being “Indian enough” because the structured grid iron pattern and alien concrete edifices went contrary to the prevalent notion of a typical Indian city. However the growth of the city so far has been a tale of constant acceptance and rejection of its many facets. As a result, the city has undergone various transformations over the years due to changing trends, adaptability and conflict with the context. The paper will elaborate on the state of modern architecture today in context of Chandigarh and the conflicts resulting from present needs and future aspirations.

The city of Chandigarh was born out of the ecstasy of a freedom achieved after a long and bitter struggle and the agony of a partition that left searing scars in the psyche of the nation. Out of this turmoil came a city that was poised to be in conflict with its context from the very start. Divergence was inherent in the very blue print of the city which was a manifestation of the culmination of the vision of two futurists -Jawahar Lal Nehru¹ and Le Corbusier. Nehru’s brief - *“Let this be a new town, symbolic of the freedom of India, unfettered by the traditions of the past...an expression of the nation’s faith in the future”* found a tangible manifestation in the seminal works of Corbusier creating a unique legacy of modernism. Chandigarh was not created for what India was but what it wanted to be.



“Will we still be Indians if we change?”

India’s tryst with the Modern movement started while under the British imperialism. Changes were often opposed by Indians simply because they were under British rule and vice-versa. As early as 1920 with the introduction of new building materials, techniques and building types, the limitations of revivalist and traditional thought in art and architecture had become apparent. Post independence the growing intellectual strata realized that a misplaced interpretation of patriotism gave rise to *“A narrow and aggressive nationalism”* would lead *“to a form of escapism, the indulgence of which leads us nowhere.”*²



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In this struggle between permanence and change the creation of Chandigarh by Corbusier was a definite turning point in the history of modern architecture in India. It “shook India out of its stupor”³ and decided for once the debate between the revivalists and the modernists. Even though architects of the first generation after independence were influenced by this unique architectural vocabulary by the mid sixties they started evaluating the relevance of their work to the Indian context. The search for an Indian identity was evident in their regionally rooted works. Parallel to this the decay and unsuitability of concrete, exposed brick and glass facades was becoming evident.

Similarly, in Chandigarh, the common man- oblivious to the intellectual legacy of his setting and grappling with issues of self -identity did not accept the city and its components in totality. Moreover development takes place in space and time and is subject to social, economic, political, and technological and a host of other stresses leading to constant reinvention and adaptation.



This process is clearly manifested in the commercial areas of Chandigarh which have been undergoing numerous transformations while still trying to retain their basic character. The traditional marketplace in India, besides being an important source of basic necessities, symbolizes a significant public and social space for gathering of people from different socio-economic levels. The Indian *bazaar*⁴ -with its narrow lanes, organically generated congregation spaces and a mixed use land pattern is active through all the times of the day and the week. But keeping the European model in mind the commercial areas in Chandigarh were planned to provide organized retail trading activity on the concept of hierarchical distribution of commercial centres which was a clear departure from the organic developments of the traditional towns.

Based on the traditional Indian concept the shopping centres were designed as Shop Cum Flats (SCFs) with commercial activity on the ground floor and residential unit above. The linearity of the commercial blocks limited interaction between families of shop owners and lack of social spaces on the ground level made the idea of habitation in a predominantly commercial zone, impractical. The concept was therefore modified in the second phase wherein flats were replaced by offices.

Contrary to the original concept neighborhood shopping centers today largely serve the residents of other Sectors as well due to their transformation into specialized markets. Due to the ease of motorised access distance is no longer a deterrent and this specialization is largely need based. For example markets near prominent hospitals of the city have a high concentration of Chemist shops, diagnostic centres and suppliers of medical equipment. Concentration of traders dealing with the same merchandise gives each shopping centre a unique brand identity and is favorable to the Indian way of shopping where the customer wants more alternatives of quality and price within the same area.

To address the needs of the middle and lower middle class, Rehri⁵ markets consisting of small booths have mushroomed as an alternative to the expensive showrooms. These legally recognized local markets, selling a wide array of products, come closer to the morphology of an Indian market.

¹ The first Prime Minister of independent India.

² Source: Journal of Indian Institute of Architects-1947

³ Patwant singh, an Indian Architectural critic.

⁴ A bazaar is a market: and originates from the Middle Persian word Vāzār; a permanent enclosed merchandising area, marketplace, or street of shops where goods and services are exchanged or sold

Lower down the hierarchy is trade under the informal sector which was not fully acknowledged in the Master plan leading to squatter /pavement markets in shopping centres all over the city. Any Indian bazaar is incomplete without the presence of pavement and mobile hawkers selling sundries like posters, toys, artificial jewellery, accessories, food and beverage items etc., and catering to people of all social strata. The nuisance created by these hawkers as they encroach on corridors and dilute the orderliness of the built environment is offset by their humanizing effect for the average visitor who seems to welcome their presence. The shopping centres have also become nodes for celebrating regional festivals, turning into thriving and vibrant temporary street markets- usually with the permission of Administration.



The biggest resistance in the shopping areas has been to the standardization of the appearance of commercial stock which rules out the possibility of giving an individual expression as per the trade and severely limits the visibility and identity creation of showrooms on upper floors. This conflict is echoed in residential buildings coming under the Frame Control⁶. The architectural idiom established by Corbusier's team was enforced by the administration as Aesthetic controls or Frame controls and bye laws. Many Indian cities like Jaipur or the temple towns in South India had their own controls to create harmony at the urban level and to meet minimum levels of light, ventilation and hygiene. Since these rules responded well to the functional and cultural needs of the masses, they were not opposed.

The housing areas of Chandigarh were based on the concept of a neighborhood unit⁷; in an attempt to create within the modern city, physical and social units of smaller and manageable sizes. The size of neighborhood unit or sector was 800m x 1200m on the basis of comfortable walking distance. This can be compared to a similar unit in India called a mohalla⁸, which is mainly based on a strong sense of community and social similarity. Planned to be a self-sufficient unit having shops, school, health centres and places of recreation and worship, the Sector of Chandigarh however has no bases of social or economic coherence.

The neighbourhood unit has not evolved as per the original concept due to the rapid increase in motorised circulation and changing aspirations that have made people reach beyond their Sector. Residents are not confined to the use of institutional facilities like schools and dispensaries in their own Sectors while the shopping belt too has evolved overtime as discussed above.

Aesthetically, the Government owned housing gives the city its definite architectural character that initially influenced a large number of private buildings also. The team of architects involved in designing and detailing the housing stock of Chandigarh evolved details and construction techniques like decorative brickwork, brise soleil for dealing appropriately with the harsh tropical climate. As prototypes these houses became the inspiration for future development showcasing the possibility of using locally available materials like brick and concrete to create a unique aesthetics for a modern city. But the limitations of these houses soon became apparent. Insufficient balconies and overhang left the walls unprotected in the harsh sun and rain while the concrete brise soleil accumulates too much dirt and heat.

Ignoring the traditional residence planned around a central courtyard with minimum openings on the outside with narrow lanes providing shaded walkways, in Chandigarh a very European concept of houses with stepped terraces resulting from defined setbacks on the front and rear was evolved to create a defined streetscape. The dynamics of progress and changing aspirations of a globalised citizenry have repeatedly put such controls under scrutiny. A harmonious and unified street facade - though appealing at the urban level - restricts diversity of expression limiting reflection of the personality and financial standing of the owner in his house- especially in the case of privately owned houses

⁶ The "Frame controls" applicable on the residential stock of the city lay down laws for fixing the extent and height of party walls and a top course connecting these thus forming a frame.

⁷ The term 'neighborhood unit' was coined by Clarence A. Perry in 1929 to describe a self sufficient sub-division of urban or rural settlements with a population of between 5,000 and 6,000 .

⁸ An area of a town or village; a community: from Arabic mohālla: Source: Oxford dictionary.

The biggest challenge at present is the emergence of unplanned settlements and slums in and around the city which was an inevitable outcome of the non-integration of socio-economic planning in implementation of the Chandigarh Plan and the virtual absence of holistic housing and employment policies. The city is heavily dependent on the migrant work force of maids, peons, masons and general labour that not being able to afford accommodation in even semi urban areas dwells in these slums. Addressing the need to integrate this section -which accounts for 15% of the population⁹, into the city the Chandigarh Administration is the process of making EWS¹⁰ housing to make slum free in a phased manner.

Another impact of the growing population has been increasing pressure on the circulation system so carefully worked out by Corbusier as a grid iron pattern with a large round about at each junction of roads encircling each Sector. Even as the general public appreciates the wide roads and grand vistas, the roundabouts are becoming major bottle necks needing traffic lights to prevent traffic jams at rush hours. The hierarchy of circulation system catered to all grades of traffic from high speed vehicles to the pedestrian. In reality owing to its urban sprawl and the harsh climate Chandigarh is not a very pedestrian friendly city. The cycle tracks incorporated in the initial plan intersect high speed traffic at every junction while the heterogeneous mix of low and high speed traffic further disrupts smooth movement of traffic. The parking spaces are proving to be inadequate in a city the highest ownership of vehicles per capita. Chandigarh has become a regional hub and sees a large floating population from neighbouring cities and states putting additional stress on the circulation and parking.

Beyond the basic necessity of shelter and circulation ,for the “Care of body and spirit” Corbusier incorporated green spaces and parks in each Sector, with the Leisure Valley running right across the city and the Sukhna Lake providing a much needed interface with water against the majestic backdrop of the Shivalik hills. Together these assets have important amenity values that include provision of leisure and aesthetic enjoyment for the residents of the city. The idea of leisure is not formalised in Indian context. Hence Sukhna lake- meant to be a haven of tranquillity and peace is bustling with life and the Leisure Valley is the venue for most of our cultural events like - Rose Festival¹¹, Chandigarh Carnival¹². The use of an urban space meant for peace and relaxation to host high fervour festivals is modelled on the Indian concept of a *Mela*¹³.

Perhaps what Corbusier did not realise was that the typical north Indian does not relax in isolative contemplation but in a boisterous group full of chatter and laughter. The residents have adapted the spaces to suit their temperament accounting for the celebration of vernacular festivals in the Leisure valley and numerous organised walks, events and musical nights held on the lake promenade. Ironically the City centre, Sector 17, with its vast open spaces exposed to the harsh elements of nature, is devoid of much cultural activity and is fast succumbing to the onslaught of air conditioned malls which are becoming the new nodes for socio- cultural events.

Conclusion

Le Corbusier’s vision for the modern city of Chandigarh initially faced criticism for not being “Indian enough” but had the potential to adapt to changes across space and time. Through a constant process of acceptance and change, the city will need to undergo further transformations, enabling it to fulfil the aspirations of the present and future generations while resolving the conflict with its unique social, economic, political and technological context.

⁹ Source: City Development Plan Chandigarh. 30-55% of the population is living in slums in other Metropolitan cities of India.

¹⁰ Economically Weaker Section

¹¹ Festival of Gardens -a three-day extravaganza held in the month of February, to motivate people to visit the Rose garden. Consists of cultural programs , folk dances, musical performances, flower shows and exhibitions by local artists.

¹² A three day long mega event celebrated with fun and frolic, held every year in November at the Leisure valley in Sector 10 by the Chandigarh administration to promote creativity and talent of the citizens and tourists.

¹³ A Sanskrit word meaning ‘gathering’ or ‘to meet’ or a ‘fair’. It is used in the Indian subcontinent for all sizes of gatherings and can be religious, commercial, cultural or sport-related.

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Modernity in The Architecture of Kim Jeong-Soo: Technology and Expression in Modern Korean Architecture in The Mid-20th Century

Seong-Woo KIM *

Abstract

If the meaning of a person's life can be determined by how that person understands and responds to the surrounding social milieu and epoch, then the meaning of an architect's life is similarly bound by how well that architect understands the architecture of the times. This understanding is manifest in the actual architectural work. In this paper, we studied how an architect named 'Kim Jeong-soo' understood the architect of his times and lived through the architecture he created. It has been almost 30 years since he died and the modern generation does not know him. Kim Jeong-soo is a worthy figure of study given that his view of architecture differed to those of other architects of his times; in a word, he stood on his own ideas. Our intention in writing this paper is not to praise or criticize his architectural works, but to give people reason to think again about the architect Kim Jeong-soo. We aim to spur reflection on the meaning of his architectural works and his personality by examining his thoughts of what an architect was in the mid-20th century in which he lived and by studying the way he gave shape to his thoughts through his architecture.

1. The Social Climate in The 1950-70S

During the period of Japanese occupation, Korean people became better acquainted with aspects of modern Western civilization and were vaguely conscious that Korea needed to adopt Western culture. Korea started to model itself on 'Western modernity', the only advanced cultural model, in the aftermath of the Korean War following the end of Japanese occupation. The 1950-70s were unusual times in the history of Korea. In the 1950s, Korea struggled to recover from the aftermath of war. At the same time, it embarked on an ambitious modernization drive by following the Western model. By the 1960-70s, all Korean people were making great strides on their march to modernization, yet many sacrifices were made in the name of national progress. The social systems and protocols governing Korean life began to be changed to match those of the West. Moreover, democracy was gradually achieved through years of violent political upheaval. From the 1950s to the 1970s, Korea sought to emulate the West across all fronts. Yet, the pendulum of modern civilization in Korean imagination had swung away from Europe, the birthplace of modernity, to the United States, from where Korea took its models.

During this period of 'modernization', Korea experienced a demographic shift, with large swathes of the population migrating from rural areas to Seoul, which expanded rapidly as a result. Buildings were no longer constructed in traditional Korean style (i.e. as hanoks), but in a modern style with concrete. Universities in Korea opened architecture and construction engineering departments to usher in a new era of modern architectural education. Meanwhile, educational systems and programs imported from the West were repackaged and delivered to students though the extant educational systems left over from the times of the Japanese occupation. Schools of the time emphasized the works of famous modern Western architects as a way to differentiate themselves in the minds of university applicants. Without an extended network of experienced practitioners in the field of modern architecture, architects who worked during the period of Japanese occupation were forced to assume the leading role in sharing their own knowledge and experience. The remnants of architectural customs from

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Japanese occupation lasted into the 1960s. It was not until the 1970s that American practices were more fully adopted as more useful for modern living styles. US-centered modern architecture initially seemed somewhat of a mystery, which added to its allure to architectural students of the times. Architecture magazines like *Architectural Record*, *Progressive Architecture* and architecture books published in English fascinated young people and architects of the time. They adopted the modern, experimental architecture style of building structures found in the wide-open spaces of the United States and used innovative methods to construct new buildings within centuries-old cities in Korea, displacing thousands of years of history with modern architectural statements. Though it was difficult to overcome the weaknesses of the technologies and materials they used, they managed to put up new buildings with unique aesthetics using a wooden mold to form concrete and brick up walls.

2. The Life and Architectural Work of Kim Jeong-Soo

Amidst this social situation, Kim Jeong-soo sought to express his own voice through his architectural work. Looking back, it may seem that Modern Korean architecture was nothing but a kind of adolescence to be gone through, yet this would be a discredit and disservice to the architects of that time who pondered seriously and sincerely about the direction that architecture should take in Korea the attempts they made to usher in a new architectural paradigm suitable for modern times.

In the mid-20th century, Kim Jeong-soo was unprecedented within the field of Korean architecture. He graduated *Gyeongseong Gogyeong* High School and began his architect career in the *Building and Repairs Section* of the Japanese Government-General of Korea. Following Korea's independence, he continued to work as a public architectural officer for 10 years in the *Construction Department, Capital Building*. In 1948, he resigned from public officer and founded his own construction company to raise funds to establish a school and, to this end, he purchased a site in the suburbs of Seoul (taken from 「*Essays in celebration of 60th birthday of Kim Jeong-soo* (김정수 회갑기념논문집)」, *reminiscence* (회고사), 1979). Far from a mere pipe dream, then, his ambition to found a school had already seen him invest in land on which to build it. His construction company lasted for three years and, in his own words, was not a huge success. Nevertheless, financial records show that it performed far from poorly. He then worked for the Housing Administration at UNKRA (The United Nations Korean Reconstruction Agency) for two years. He made this career choice because he did not study abroad and there were no architectural design companies offering a viable alternative career path at the time.

In 1953 when he was 34 years old, he founded Jonghap Architect Engineers in partnership with Lee Cheon-seung. His dedication to his company shone through in his commitment to continue working there even after taking on a professorship at Yonsei University in 1961 and, indeed, the majority of his works were implemented through his company. Though it was not the first architectural firm in Korea, there is no doubt that it laid the foundation for the subsequent blossoming of the field of Korean architecture. Nor was the name Jonghap Architect Engineers without merit, given the intent in founding the company to establish an architectural firm capable of encompassing all areas of architecture through to construction, structure and engineering in order to cope with the rapid evolution in architectural technologies. The implication is that he had already seen the need for a comprehensive approach through his experience before starting the firm. Furthermore, his understanding of architecture as a field requiring a 'comprehensive approach' was to form a belief he would hold throughout his life.

Jonghap Architect Engineers was the most successful architectural firm in the 1950s. However, with the beginning of the 1960s, Kim Joong-up began his career and Space Group, founded by Kim Swoo-geun, and Mooa Architects entered the field. These architectural firms were leaders in the field of modern architecture in Korea. Throughout the 1960s, Jonghap Architect Engineers continued to show a different orientation to those of rival architectural firms. Kim Joong-up and Kim Swoo-geun were oriented toward figurative formation, while Jonghap Architect Engineers and Kim Jeong-soo pursued architectural design that expressed the use of materials, construction and engineering technologies, as distinct from formativeness. As a result, Architecture & Engineering produced architecture drawn from a more economical and hands-on approach. In those days, students were perhaps less interested by the work of Kim Jeong-soo than by those of Kim Joong-up and Kim Swoo-geun in terms of formative features. Kim Joong-up and Kim Swoo-geun were 'starchitects' who hogged the limelight, while Kim Jeong-soo flew largely under the radar and was noted not for his architectural expression tendency, but for his emphasis on practice and technologies. However, he neither neglected figurative formation nor thought less of visual expression.

Kim Jeong-soo could not work in the same direction as Kim Joong-up and Kim Swoo-geun precisely because his view was fundamentally different to theirs. He had his own belief as to what he had to do in order to meet the architectural demands of the times.

While working at Jonghap Architect Engineers, he lectured at Seoul National University, Korea University and Yonsei University. He spent his entire working life teaching architecture from 1961, when he took up the professorship at Yonsei University, to his passing in 1985. He maintained a fixed personal view of what should (and should not) constitute architectural education. He insisted that architectural education must be substantial, practical and deeply involved with the actual architectural work. It was on these principles that he lectured students. He always gave courses in construction and general structure, in addition to the design. During his classes, he taught students using specific examples from his hands-on experience. He was known as someone who explained things clearly and easily, which helped students understand better. Above all, he stood in high respect as a teacher because of his noble personality. People say that he was man of action rather than words and he was famed for his gentle disposition and subtle sensitivity. All his students remember and respect him as a model teacher who laid the foundation for architectural education at Yonsei University.

He neither studied abroad nor worked for architectural firm owned by someone else. His teaching was based on what he had experienced and learned through his own adult life. He himself said that he had admired Ludwig Mies van der Rohe and expressed a personal preference for functionalism-oriented architecture. Yet, his work was not taught or influenced by one particular architect. This is in contrast to the works of Kim Joong-up, who was singularly inspired by Le Corbusier, or Kim Swoo-geun, who was strongly influenced by Japanese architects like Kenzo Tange and the influx of modern Western architecture into Japan. Kim Jeong-soo learned architecture from being about at the work site and formed his own architectural view without studying or working overseas. In this sense, he was native to the barren Korean architectural field and learned everything about architecture from within conventional Korean society. When he was working, being a native Korean architect was nothing to be proud of, but today, his native Korean background has special meaning and significance, particularly in terms of the contribution he made towards developing the field and his lasting legacy.

His first direct experience of life overseas was in 1956 when he studied at the University of Minnesota for one year and this marked milestone in his architectural teaching career. It seems that what he learned and experienced at the University of Minnesota broadened his outlook and vision beyond the knowledge he had gained during Japanese occupation. Compared to his Korean compatriots, he wanted to learn something different from the American architectural field. He spent his time on learning about the latest trends in building materials, construction technologies, structural engineering and construction sites, while others sought to visit the most famous modern architecture and design classes at American universities. He visited construction-related production facilities such as Vermiculite, Cast Stone and Anderson during his study in the United States. Such experience is reflected in his attempts to develop new materials, construction technologies and engineering processes following his return to Korea. It is said that he complained about having to tour construction sites and production facilities alone because his companions were busy looking for the latest visual spectacle found in architectural works.

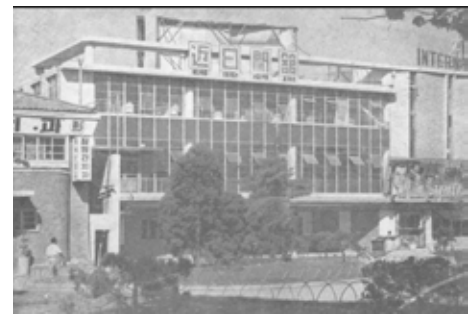
3. Technology and Expression in The Architecture of Kim Jeong-Soo

It was mentioned earlier that Kim Jeong-soo wanted to approach modern Korean architecture from a different direction than those of his peers. While his natural character no doubt played a part in this viewpoint, the role of his own particular career path played a no less significant role. He had spent almost 15 years working as a public architectural official and CEO of a construction company before founding Jonghap Architect Engineers. These experiences gave him an extra quiver to his architectural bow. He had learned to appreciate that architecture is more than just designs drawn on a piece of paper and this lesson was directly gained from his hands-on background and construction experience gained through working at a government office. He had also seen that technologies and engineering are as important as figurative formation and expression in architectural works. This is not to say that he was blind to artistic expression in architecture, but rather that he believed that architectural expression should display technological aspects and engineering in the very exterior of the building. His unusual career path informed his own architectural education and is reflected in his distinct architectural works. He believed that all elements and processes from the materials required through to the construction, engineering and functions should be understood as a cohesive whole and that this comprehensive approach should be expressed through architecture. He said that aesthetics did

not equal architecture and that to do so would be to diminish the field, with the exception of special cases such as for monumental buildings ("*Modern architecture and scientific movement* (현대건축과 과학화)", *theory of modern architecture* (현대건축소론), 1963). He was skilled at drawing three-dimensional pictures of buildings using watercolors and even drew perspective drawings by himself. He was very much interested in the aesthetic expression of architecture, but uninterested in its formative expression. His view of architectural expression was that different aspects, including function, structure and engineering, should be expressed in a comprehensive, honest and well-balanced way. In other words, he had a more practical architectural and aesthetic view compared to others. Though he suffered no fools when it came to the non-centrality of aesthetics in architecture, his words denote an implicit understanding of architecture. While his architectural view may be regarded as pragmatism or functionalism, these words fail to describe his view adequately. Howsoever his architectural style is termed, it should include a reference to the situation in Korea at that time and his architectural viewpoint as well.



He always considered how to use new materials, structures and engineering techniques when designing buildings and was open to all possibilities. This was something that made him different from his peers who gaped after possible formative expressions. There are countless examples of his attempts at this approach, such as the *National Theater* using the *Copenhagen rib* and push-plate for the first time in Korea (1957), *St. Mary's Hospital* with the first aluminum curtain wall (1958), *Chungshin Girls' High School Science Lab* using the curb that he developed (1958), the *YMCA building* with an iron curtain wall and *PC mullion* (1969), *Dongdaemun Indoor Rink* using an 80m long span steel frame (1961) and *Yonsei University Student Union Building* using a *PC panel* (1967). What's more, he made many new attempts in terms of building materials, technologies and engineering. For instance, he used light concrete, big panels, wide flange angles, aluminum fittings, HP shells, the tilt-up construction method, patented artificial stones, artificial stone wall, *artificial stone blocks*, *traversing ondol* (Korean floor heater) and *carve-slate*. All such attempts were the first of their kind in Korea, which had no rich knowledge base of modernist architectural experience to draw on. His work reflects the national industrialization drive and the consequent requirement for architecture to reflect this shift. His interest and attempts were thus deeply involved with industrialization, structural efficiency and the development of new building materials, construction and engineering technologies and structural methods.



The practical difficulty that new attempts faced in Korean architecture in the second half of the twentieth century should not be forgot. What's new is always difficult, yet it is especially so when there are none of the required industrial products, experts or professions available. However, Kim Jeong-soo achieved this impossible feat not once or twice, but in almost all his architectural designs. This achievement was ultimately made possible through his own strong determination and power of execution. One of his co-workers said that Kim Jeong-soo collected cheap materials like hair from a beauty salon, glass fiber from a plate glass factory in Incheon and sawdust from a sawmill and put his head together with researchers to develop a new material that could replace 1-8 grade asbestos imported from Canada in order to lower the price of the slate (*Korean architect Kim Jeong-soo* (한국의 건축가), 1995, *Korea one* (고려원)). These efforts show Kim Jeong-soo's commitment to research and development.





To Kim Jeong-soo, design was about giving shape to technology. He tried to adapt technologies to his aesthetic expression. He expressed architecture through the honest expression of construction technology and structure. True, the development of technology was in itself difficult, yet it would not ever have been given shape without his design skill. What his designs lack in terms of interesting figurative formation, they make up for in reflecting his architectural work and personality: someone who was plain, practical and pioneering. He was indeed highly sensible and reasonable when it came to the use of materials, structural efficiency and construction, and this characteristic shines through in his architecture. His personality helped him embody the essence of modern architecture through his work, certainly more so than any of his peers did. Indeed, when we remember that the original intention of modern Western architecture was to express a practical solution encompassing technologies and functions, rather than figurative formation, his work is all the more remarkable. Modern Western architecture was designed to provide practical benefits to as many people as possible. It was this facet that saw modern Western architecture quickly take root in society and usher in a new chapter in social history. In this regard, the architectural work of Kim Jeong-soo more closely reflects the true modern spirit than the work of any of his peers.

4. Modernity in the architecture of Kim Jeong-soo (conclusion)

The life of Kim Jeong-soo is defined by two periods in terms of his contribution to Korean architecture. The first period is when he worked for Jonghap Architect Engineers as an architect from the 1950s to the early 1960s and the second period is when he served as a lecturer from the 1960s to the mid-1980s. His career as an architect should be assessed

based on his architectural work, while his service as a lecturer and professor should be remembered by what he taught his students and the lasting, indelible impression he made. In this paper, we focus more on his role as an architect than his service as a teacher of others. This, however, does not detract from the plain fact that he devoted his entire life to the advancement of Korean architecture and acted according to his own views and beliefs on what architecture should be. Though he did not study abroad when he was young, he remained true to his own way of understanding modern architecture and sought with all his might to express his view through architecture. His work has made a lasting contribution to Korean architecture. Alas, he was unable to appreciate the magnitude of this contribution during his lifetime and lived largely unappreciated. Yet, when we look back, we can see how he understood the true spirit of modern architecture better than any of his peers. We can appreciate how he lived according to this spirit. In this regard, he was native to Korea, yet held a global view.

During the 1950-70s, Korean architects tend to understand and evaluate architecture based on artistic expression following the influx of modern Western architecture. In most cases, such newly held views reflected certain biases. The failure of Korea to initially match the modernization of the West led the modern architecture of Korea to be viewed as the outcome of a single architect, rather than the product of inevitable social change. In other words, architecture became isolated from the social context and there was emphasis placed solely on its artistic and visual expression. Such biased understanding of modern architecture can still be seen today. All the more reason that we should shed new light on the meaning and value of the architectural work of Kim Jeong-soo in Korean society during the 1950-70s.

Kim Jeong-soo was first and foremost a modernist. He was a person who tried to answer the needs of the times. When Korean architecture needed to expand its horizons with modern technologies, he made use of them in architecture, rather than focusing on figurative formation. This approach meant more people could receive the benefits of modern architecture. He was dedicated to the essence of modernist architecture and pioneered a new architectural approach in Korea. We today are indeed fortunate for the contribution made by Kim Jeong-soo to Korean architecture from the 1950s through the 1970s. He remained steadfast in his values, thoughts and work and his works, like he

himself, have come in from wilderness to live in the hearts and minds of contemporary society. One cannot speak of architecture in Korea without referencing his technological attempts and development. Modern Korean architecture walked along the path that Kim Jeong-soo paved. It was his work that, ultimately, laid the foundation for Korean architecture to develop into the thriving global leader it is today. Rather than shirk, he answered the call of his times and acted upon his belief. Though others looked elsewhere, he remained true to himself. We miss and are grateful for his dedication to a value beyond himself and for the path he walked steadily, but in solitude



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The Correlativity of Building Form and Urban Space: Swoo-Geun Kim's Daehangno Projects in Seoul

Inha JUNG *

Abstract

Swoo-Geun Kim's building projects in the Daehangno area of Seoul provide a remarkable example of how architects can respond to high-density environments. They also illustrate both the theoretical and the practical dimensions of the concept of correlativity, still having the potential to show us a way forward. Inspired by the urban equivalent of a traditional village structure, Kim sublimated into modern building types the fluid indeterminate spaces created by its alleyways and courtyard. This legacy is what has enabled these buildings to survive handsomely for some thirty years amid the omnipresent threat of high-density development in Seoul.

What Kim's Daehangno projects show is that the public interest must be placed at the center of the design process if buildings are to function properly as reciprocal loci in high-density environments. Their form needs to correspond appropriately to the scale of the buildings around them, and their circulation system need to be closely linked with the urban tissue to secure a continuous flow. Their ground floor should be open to the public to preserve social commitment to common urban spaces, and they need to employ consistent building materials to achieve an integral identity. Finally, the interflow of space between interior and exterior environments, both in the public and the private realm, has to be treated with the utmost delicacy and candor in order to disclose the correlativity of the architectural and civic dimensions of existence.

Swoo-Geun Kim's attempts to realize these goals in Daehangno can serve as important references for other Asian cities that now find

1. Introduction

Swoo-Geun Kim's building projects in the Daehangno area of Seoul provide an illuminating example of how architects can respond to high-density environments, and they still have the potential to show us a way forward. Indeed, a close look at Kim's approach to these projects will reveal how one architect in particular, was able to mount a creative intervention to regenerate the old town and give it a new urban identity. The American scholar Kevin Lynch has identified four distinct roles that planners and architects can play in the decision process of urban planning: they can act as advocates, informers, project designers, or public planners, depending on the situation.¹ Among the four, the role of project designer or project planner predominated in East Asian cities because its practitioners were able "to pursue highly centralized top-down procedures in planning and building regulation."² Not only did they work for a specific client, such as a corporation or government agency, but they were only charged with "preparing a solution to some limited, well-defined problem, according to an explicit set of purposes."³ In the 1960s, Swoo-Geun Kim had played this role in the development of large-scale plans for Yeouido Island and the Sewoon Commercial Complex. But in the 1970s, when he turned his attention to the Daehangno area of Seoul, he began to search for new options. The choices were limited. The role of the informer who seeks to educate the public with accurate information about planning issues is predicated on traditions of citizenship and grass-roots self-governing that simply did not exist in East Asia at the time. The role of a planning advocate who seeks to be persuasive on behalf of an interest group was also problematic, because most of the urban concepts then in use had been abstracted from the experience of Western cities. How then could one respond adequately to the reality of East Asian cities?

The remaining option of a public planner—a planner, that is, who works in the public interest—was the role that Swoo-Geun Kim began to

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assume as he executed a series of projects in the Daehangno area. Implicit in this approach was the concept of *correlativity*, a term derived from the correlative thinking that some scholars have placed at the core of Chinese thought.⁴ With a long history in East Asian architecture, the concept has dual meanings in the context of urban design: first, it means that architecture is seen as an integral part of the whole city. In fact, architecture is a microcosm of the city, with building form analogous to urban structure. Second, it means that a close linkage is maintained between buildings and the urban tissue through the complementarity of the void and the solid—in other words, through a continuous flow between interior and outer space. These mutual relationships, as Swoo-Geun Kim saw, become more compelling when an architect is able to uphold the public interest as the top priority of his design. Unlike the large-scale projects he pursued in the 1960s, when he sought to insert radical new megastructures into the tissue of old Seoul, the Daehangno projects revealed his subsequent awareness that heroic megastructures destroyed the historic identity of Seoul, producing an urban chaos that could only be resolved with an entirely different approach.

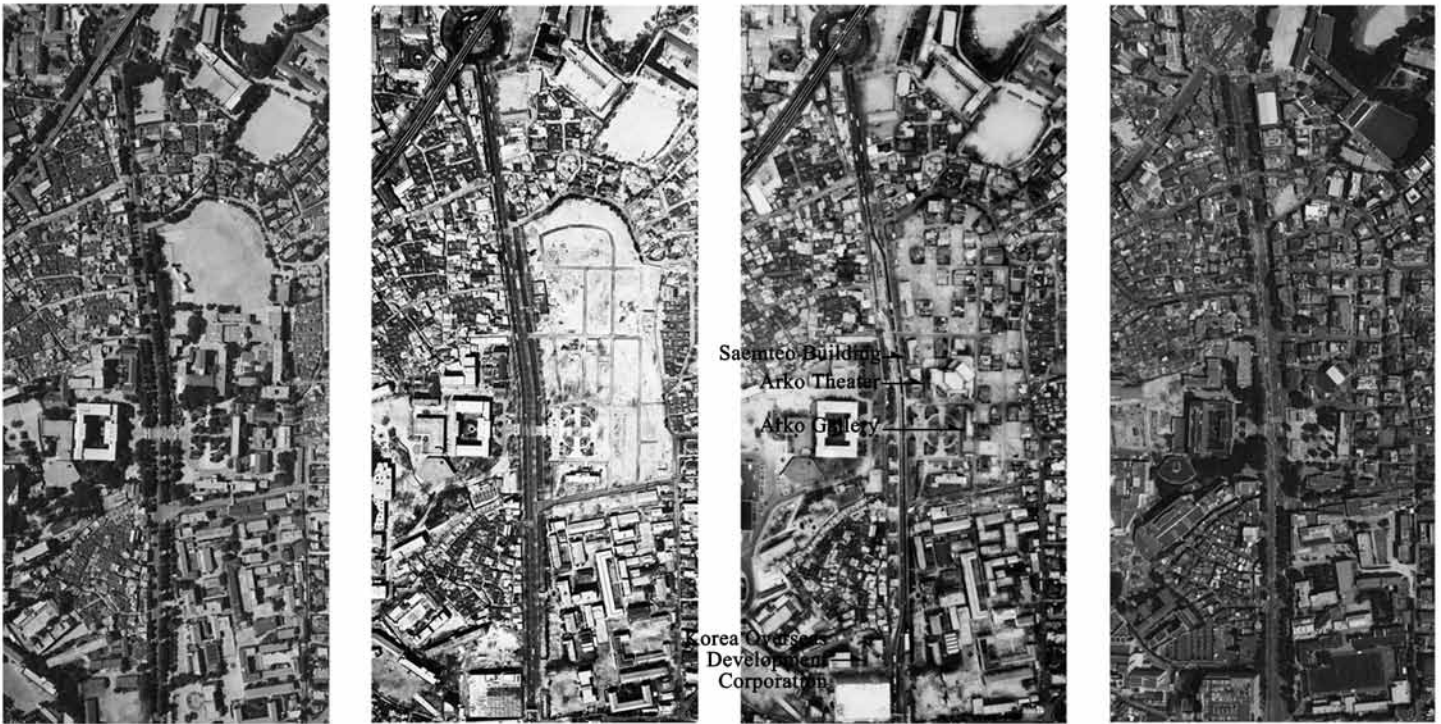
2. The Urban Spaces Between

Swoo-Geun Kim's inspiration for his projects in Daehangno was the distinctive urban space found in the Bukchon area of Seoul. Located between the Gyeongbokgung and Changdeokgung palaces, Bukchon has maintained its character as a traditional residential village since the Joseon dynasty. Its urban structure is unique because it was spontaneously formed. In other words, the topography of old Seoul, surrounded by its four inner mountains, spawned here an irregular, tree-like street system with many cul-de-sacs. As a result, the alleys of Bukchon are closer in character to the indeterminate spaces that lie between houses than to the thoroughways of modern cities. They serve as semi-private spaces for the use of neighbors. During the colonial period, these alleys were lined with traditional houses, or hanok, each with a courtyard, called a madang. The interpenetration of the alleyways and madang created the kind of fluid urban space that later Western architects have explored since the 1960s, dubbing it the "urban void."⁵

The Arko Gallery was the first of Swoo-Geun Kim's projects in Daehangno. The architectural program for the building was based on spatial concepts explored in his Space Group Building (Gonggan Saok), completed in Bukchon a year earlier. The Space Group Building, which served as his office and residence, was the crucial achievement of Kim's long career. Through a series of experiments and revisions over a six-year period, he had arrived at the creation of an innovative building type that layered vertically overlapping spaces. In particular, a long sequence connecting separate places and the many intermediate spaces of the building recalled the alleys, stairs, and madang of Bukchon. For the Arko Gallery, Kim proposed to modify that format, placing more weight on the implications of the building's urban context. From the initial phase of design, he clearly intended to create a continuous flow from the park to the surrounding urban space. To this end, he opened up the central part of the building so as to link the small alleys on the Mt. Naksan side to Marronnier Park, promoting direct communication. Even though buildings located on the edge of a park can act like a fence,¹ the architect wanted his building to serve as the gateway for a continuous flow, not a final terminal. This vision was a profound interpretation of the site's potential, and it stemmed from the architect's emerging view of the public interest. He understood that cultural buildings should not be closed spaces separated from the outside, but intimate places where many people can easily take part in cultural events. To him, a museum wasn't simply a space for the exhibition of art works but a total system meant to provide an opportunity for ordinary people to come into contact with potentially life-changing perceptions and events. In his view, "architecture ceases to be a backdrop for actions, becoming the action itself." In other words, "space and events affect each other.

3. Continuous Spatial Flows

After completing his first two buildings in Marronnier Park, Swoo-Geun Kim added three more with a similar presence. Together, they lend consistency to the urban tissue of Daehangno. One of them is the Korea Overseas Development Corporation building, constructed on the site of the former College of Fine Arts of Seoul National University. The most impressive feature of this building is that a rectangular site has been divided into two triangular masses by a diagonal, all of them slightly slipped, with a band-shaped passage inserted between the two shifted triangular masses. Swoo-Geun Kim proposed this solution after fully considering the site requirements. The two issues he struggled with initially were how to secure adequate parking space while still connecting the new building to an existing one located at its rear. Because the site was confined, these were not easy issues to solve. He addressed the problem by creating a corridor and central



courtyard that serve to connect the main entrance on the Daehangno side to a secondary entrance leading to the parking lot. In addition, positioning the main entrance on a corner can put undue emphasis on the frontality of a building. But with the front mass diagonally pulled back by the middle corridor, the building's rear mass now acts as a backdrop that grasps a visitor's eyes. Setting a brick tower between the two triangular masses accentuates the presence of the main entrance, and Kim added stairs in front of the entrance, preserving the willow tree.

The design of the Saemteo Building, adjacent to the Arko Theater, was a commission awarded to Swoo-Geun Kim through his personal relationship with Jai-Soon Kim, former chairman of the National Assembly and the founder of Saemteo Magazine. They had known each other before their work in Daehangno and found that they had a common resolve to develop the area as a cultural center for Seoul. Drawing on his innovations in the Space Group Building, Kim accommodated complex functions such as a café, a small theater, and several galleries in one building. His method of distributing those functions through the interior space was also very similar. One difference is that the Space Group Building has a skip-floor circulation system, because it is situated on a steep slope, while the Saemteo Building does not. Furthermore, while the Space Group Building is composed of two articulated masses, the Saemteo Building is treated as a single mass. More crucially, while the Space Group Building had no need to consider the passage of pedestrians, Kim felt it important to create a circulatory flow in the Saemteo Building that would fuse the building indissolubly with the urban space around it. To do so, he turned part of the ground floor into a communal space. Today, seen from the perspective of the communality of architecture, this building was very much ahead of its time, displaying major features of what has come to be called landscaped architecture.

4. Conclusion

Swoo-Geun Kim's projects in Daehangno illustrate both the theoretical and the practical dimensions of the concept of correlativity. Inspired by the urban equivalent of a traditional village structure, Kim sublimated the lessons of Bukchon and translated into modern building types the fluid indeterminate spaces created by its alleyways and madang. This legacy is what has enabled these buildings to survive handsomely for some thirty years amid the omnipresent threat of high-density development in Seoul. What's more, the innovations in Kim's buildings merit evaluation as *practical* methods of adapting building forms to changing urban environments.

Notes

¹ Kevin Lynch, *Good City Form* (Cambridge, MA: MIT Press, 1984), 44–46.

² Peter G. Rowe, *East Asia Modern: Shaping the Contemporary City* (London: Reaktion Books, 2005), 37.

³ Lynch, *Good City Form*, 45.

⁴ David L. Hall and Roger T. Ames, "Chinese Philosophy," in E. Craig, ed., *Routledge Encyclopedia of Philosophy* (London: Routledge, 1988). Retrieved December 12, 2013, from <http://www.rep.routledge.com/article/G001SECT2>.

⁵ See, for example, Rem Koolhaas and Bruce Mau, "Imaging Nothingness," in *S, M, L, XL* (New York: Monacelli Press, 1995), 202; and Ignasi Solà-Morales, "Terrain Vague," in Cynthia Davidson, ed., *Anyplace* (Cambridge, MA: MIT Press, 1995), 118–123.

⁶ Boem-Jae Lee, "Hanguk munhwayesul jinheungwon misulhoegwan" (The Arts Council Korea Gallery), *Space Magazine*, October 1989, 68. 7
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Roof and the Land: Kim Chung Up and Le Corbusier

Eui Sung YI *

Abstract

Kim Chung Up is the only Korean that ever worked for Le Corbusier (**Fig. 1**). His principle legacy within this period is the design of the landscape and roofs for the new Capital Complex of Chandigarh, India.

The significance of this cross-cultural, global pollination between the Korean Kim Chung Up and the Swiss-Frenchman is its timing: the 1950s marked a remarkable shift in the architectural language of Le Corbusier as he expands his post-war vocabulary to include symbolic and figural forms at the time of the Chandigarh project. Materials were no longer neutral, but authentically expressed, and, as in his paintings, strong figural forms collided and integrated into Cartesian organizational systems.

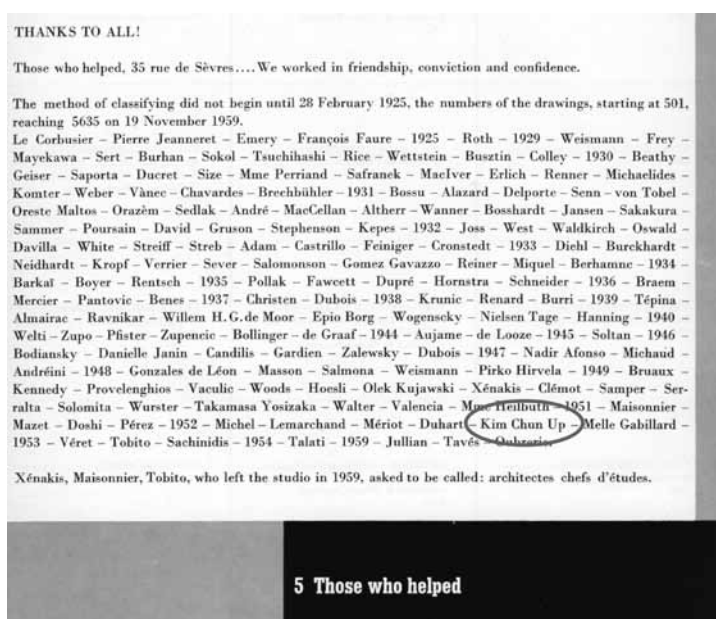


Fig. 1 Le Corbusier's Staff List from *Creation is a Patient Search* by Le Corbusier.

This paper posits Le Corbusier's expansion of his language legitimized and permitted modernist interpretation of traditional and regional forms, thereby liberating and empowering the next generation of global non-western architects. As the influences of Le Corbusier reached far across the world, Kim Chung Up tested the adaptability of Corbusian principles in Korea: the best example being the French Embassy. One can chart similar growth patterns with Japan's Maekawa and Brazil's Niemeyer. As a contrarian speculation, if Kim Chung Up apprenticed during the pre-war period of Le Corbusier's industrial white cubic villas, what would have been the consequence? Would Kim Chung Up have returned to Korea without the confidence to express Korean traditional forms as he did in designing the French Embassy?

1. Introduction

"I was given the landscape and the roofs to design for Chandigarh," Kim Chung Up said in a rare recorded interview which visitors can hear at the Kim Chung Up Museum in Anyang, Korea.

This is a revealing insight into how Corbusian values were seeded into Kim Chung Up. The design of two grand horizontal planes—the roof (sky) and the landscape (ground)—constitute the essences of both Korean and Japanese traditional architecture and the Corbusian theory of the Dom-ino House and its free plan. Traditional Korean architecture define the roof and the ground as permanent, solid anchoring

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Fig. 2 The free and open plan: an expansive horizontal space framed and defined by the roof and the land (platform) Left: Domino House by Le Corbusier. From Le Corbusier's *Oeuvre Complète Volume 1, 1910–1929* Middle: Sketch of Asian Roof ("floating roof") by Jorn Utzon. From *Utzon* by Richard Weston. Right: Space between Roof and Building of French Embassy. (Photo by Kim Chung Up). Copyright Anyang City Council.

devices that frame the horizontal space which is captured in-between; this space is transfigured by flexible free-moving partitions. This spatial theory is shared with Eastern traditional architecture and contemporary Western architecture. A sketch by Jorn Utzon, previewing his Sydney Opera House, is revelatory—showing his inspiration in the heavy, monolithic, traditional Asian roof floating levitated above the ground plane. [figure 2]

The roofs and eaves become didactic as they frame the elevations and define the building profile against the sky. Expressionistic works, such as the Chapel of Notre Dame du Haut in Ronchamp with its famed dark roof-shell, inspire Kim Chung Up and advance modernism from a functionalist language to a more complex, mature juxtaposition of the natural and of the structured.

2. Kim Chung Up's Career

Kim Chung Up has been regarded as one of the pillars of Modern Korean Architecture. Many consider him to be one of the first major architects to meld Western Modernism with Korean traditional references. Kim Chung Up's international legacy parallels the early global influences and careers of two other Korean modern masters, Kim Swoo Geun and Kimm Jong Soung. Both Kim Swoo Geun and Kimm Jong Soung adapted their studies and professional experiences from abroad to the cultural, tectonic and social needs of Korea. Kim Swoo Geun's spatial interplay was influenced by his Japanese education and work experience while Kimm Jong Soung advanced the technical and spatial clarity of Mies van der Rohe. Kim Chung Up, as the only Korean that ever apprenticed for Le Corbusier, would embark on a personal search for the balance between symbolism in tradition and the possibility of a plastic modern. He remained an enigmatic but influential figure in Korean modernism. Critics and theorists cite a classic triptych in his arc beginning as a global journeyman, then his struggle to adapt the global lessons to a local context, and ultimately, the search for his own language.

Born in 1922 in Pyongyang (now North Korea), Kim Chung Up studied in Japan and returned to the newly liberated Korea after the Second World War. Kim began teaching at Seoul National University in 1947. In 1952, after the Korean War began, he was one of the four Korean delegates to attend UNESCO's first International Conference of Artists in Venice, Italy. As the Korean delegate, Kim became acquainted with the French delegate to the conference, Le Corbusier. Anecdotes vary as to how Kim joined the famed atelier, but apparently, a favorable impression was made upon the legendary architect during the UNESCO conference. During his four years (Oct 1952- Dec 1956) with Le Corbusier, the projects in India, the application of the Modular system, and the search for the modern integration of regional tradition, defined this period of Kim's life.

Upon his return to Korea in 1956, Kim's career swings from producing astounding works that shift the cultural paradigm (such as the French Embassy) to being politically and culturally exiled from his country. These dramatic circumstances of inspiration versus isolation will shape an extremely complex, sensitive and divisive character. He passed away in 1988 as he prepared for the competition for Seoul Arts Center. Up to the end, Kim Chung Up struggled valiantly to find an internal truth that would fully integrate the contemporary West with the traditional meanings of the East.

3. Kim Chung Up and Le Corbusier's India

“Getting acquainted with Mr. Le Corbusier was the beginning of my life as an architect. It was July, 1952 and lasted till 1956. The first exorbitant project, Shangdhigal [Chandigarh] Project, led me into painful and joyous experiences of architectural work during my stay at Le Corbusier's Atelier.”

–Kim Chung Up from his typewritten memoirs, copyright of Anyang City Council.

From his first day, Kim Chung Up's responsibility in Le Corbusier's 35 Rue de Sevres studio is defined by the projects in India. In 1950, Le Corbusier receives from the Indian Prime Minister, Jawaharlal Nehru, the commission to plan Chandigarh, the new capital city for the State of Punjab. After the liberation from English colonial rule and the formation of Pakistan, the state of Punjab was divided and the ancient capital city of Lahore was given to Pakistan, leaving the Indian half of Punjab without a capital city. The Chandigarh Capital Complex had to represent the new India, free from colonial rule. The integration between a proud cultural past and a new modern identity had to be deftly balanced. Incredibly, within just 18 months, the master plan design—under the stewardship of Jane Drew, Maxwell Fry, Pierre Jeanneret, and Le Corbusier—is completed in March 1951.

Having established the conceptual master plan, the next work-scope for the team is the development of each building. The master plan relied on the all-ready present monumental objects to anchor and inscribe a type of Corbusian geomancy, imbuing meaning through the landscaped connection between the structures. Though the master plan can be traced back to projects such as La Ville Radieuse of pre-war Le Corbusier, the architectural language

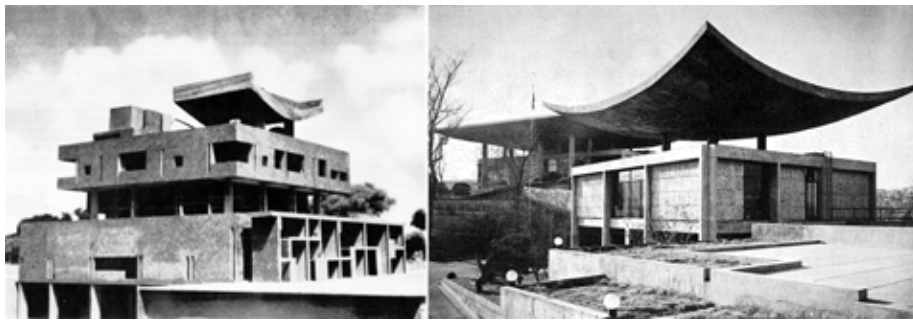


Fig. 3 Left: Model of Governor's Palace. From *OEuvre Complète Volume 6, 1952–1957*
Right: French Embassy in Korea. (Photo by Kim Chung Up). Copyright Anyang City Council



Fig. 4 Perspective Sketch and Final design of Tapestry inside High Court. From Le Corbusier's *OEuvre Complète Volume 6, 1952–1957*

represents a new chapter in Le Corbusier's maturation as an architect.

Kim Chung Up's closest and most senior associate, Ahn Byung Eui, recalls anecdotal conversations with Kim Chung Up regarding those heady days of working for Le Corbusier [figure 4]. Arriving in the famed atelier in October 1952, Le Corbusier charged Kim immediately with designing the roofs for the buildings in Chandigarh. The first project which Kim designed was the roof top of the Secretariat building According to Ahn's anecdotes, Le Corbusier told Kim that the roofs he drew looked like the Korean Flag. Unsure of the intention of the comment, Kim approached a colleague in the atelier about Le Corbusier's comment. His colleague reassuring told Kim that it was a compliment, a sign that Le Corbusier had finally accepted him.

As Kim continued designing the roofs for the Capital Complex, hisLe Corbusier's concept of the roof segues from being a functional garden-terrace to a symbolic sculptural gateway for the remaining palace buildings. While the Secretariat can be ascribed to a

genetic connection with the Unité d'Habitation, the other three structures—the Assembly Hall, the High Courts, and the Governor's Palace—incorporated highly symbolic elements based on regional artifacts. Le Corbusier and Kim developed a number of key elements that would become iconic and symbolic of Chandigarh. These include the grand entry arcade for the Assembly Chamber, where the sectional crescent profile invokes the ox horns sketched by Le Corbusier. While Kim Chung Up's final involvement had a hand in the with the four structures of Chandigarh's Capital Complex, was the unbuilt Governor's Palace. The parti consists of three vertically stacked, square volumes of differing sizes, crowned by a single broad, gently curved, wing-like U. This project and its distinctive roof draws the most critical comparison with the French Embassy. Given the program is a residence for a politician, the parti and many similarities were drawn between the Governor's Palace in Chandigarh and the French Embassy which Kim would later build in Seoul [figure 3].

In this author's conversation with Balkrishna Doshi, who worked with Le Corbusier and supervised the construction of the projects in Chandigarh and Ahmedabad, Doshi recalled Kim Chung Up's name instantly when asked about a Korean colleague and described him as a kind man, nice and hard working. Doshi's highlight in his memory of Kim Chung Up was his production of the monumental tapestry that hangs in the High Courts [figure 4]. This tapestry was important as it merged the art of Le Corbusier, the local crafts in wool weaving and provided the acoustic control needed for a concrete structure. In parallel to these large civic projects, Kim Chung Up was also involved with two significant residential projects: the Shodhan House, in Ahmedabad and Villa Jaoul, in Paris. The intimate scale of both residential projects allow focusing on clearly identifiable key concepts, such as Shodhan's deep brise-soleil elevations, the floating roof, and Jaoul's use of simple rustic materials. These key concepts will be adapted later to Kim's Korean projects.

The High Courts became operational in 1956, while Chandigarh was fully inaugurated six years later, in 1962. Kim returned to Korea in December 1956, after 4 years and 2 months with Le Corbusier. Kim returned to a Korea focused on rebuilding his nation, and the nation took note of, and gravitated towards, the foreign trained Korean architect. In his designs, Kim began to balance and harmonize the training he had received abroad with Le Corbusier with the cultural roots of his motherland. The French Embassy in Seoul, his most revered and referenced project, would define his apogee.

4. Kim Chung Up and the Legacy of Le Corbusier in Korea

Upon the establishment of his practice in Korea, Kim Chung Up was inundated with projects, allowing him to immediately test the viability of applying the Corbusian theories and methods he learned in Paris at home in Korea. By analyzing the following four projects, one can clearly track the differing degrees of success in the application of the typological and morphological roots of Le Corbusier. These four, including the French Embassy, provide a clear spectrum of how Corbusian systems were adapted and integrated into the Korean context:

1956: Pusan University Administration Building

Pusan is the second largest city in Korea; the city had remained untouched during the North Korean invasion of South Korea. Therefore, unlike Seoul, which had to rebuild from scratch, Pusan was the first city to recover and resume its civic operations. Anchoring the university was the new Administration Building, which Kim Chung Up designed as an elegant, curved, glazed five-story bar. The plan recalls the raised and transparent ground levels of Le Corbusier's linear buildings, with a concrete patterned screen wall that recalls Villa Shodhan's screened windows.

1958: Han's House

This seminal project's most significant element is the oversized, curving roof. The roof simultaneously reflects both the bold figural profiles of Chandigarh's roofs—specifically from the Assembly Chamber and the Governor's Palace—but also the gravitas of traditional, Asian roofs. This tension and duality would continue as Kim Chung Up searched for cultural meaning.

1958: Seogang University Administration Building

The Seogang University Administration Building represents the only authentic application of the deep post-war brise-soleil screen,

recalling the main elevation of the Millowners' Association Building. The historian and critic Inha Jung astutely observes that Kim's Corbusian vocabulary slowly erodes to a stripped down system that leaves only the roof as the final remnant and champion of expressing regional, cultural signs. Ultimately, Jung discovers the four elemental Corbusian systems, the pilotis, the modular, the pan de verre and the brise soleil, would disappear from Kim's work by the early sixties. If Kim Chung Up spent four years in Le Corbusier's atelier to acquire these principles, it took four years for them to disappear from his vocabulary in Korea. The pilotis were deemed overly indulgent in such a small country—in which every square meter of area was precious. If the ground floors were open, they were quickly filled with program. The modular didn't fit the smaller Korean person. Pan de verre and the brise-soleil were victims of Korea's harsh summers and winters, and were further limited by the available technology. Kim's associate Ahn Byung Eui expands upon Inha Jung's observation. He asserts the roof was prioritized as the most evocative and primary horizontal surface throughout his work., Aand true to the tenets of Le Corbusier, Kim also drew the plans first and then followed by drawing the sections afterwards. The sections were always drawn with the modular—but allowed for the modular to slowly diminish in importance as further design went on. Finally, the elevations were not actively designed, but rather emerged as a result of the program and the plan, as vertical spaces passively formed. The most aggressively designed, and confidently sustained element, was the notion of the sculptured roof, which, one can argue, paralleled its significance within traditional Korean architecture.

5. 1962 French Embassy in Korea

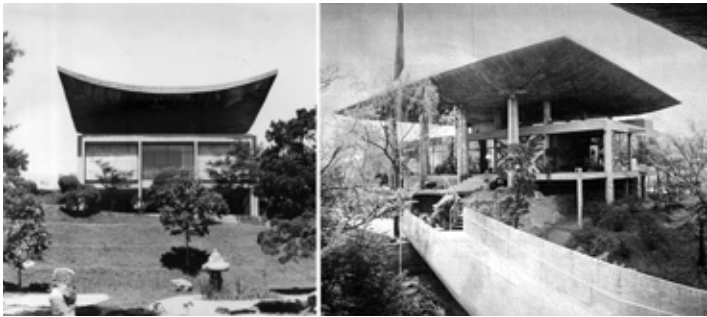


Fig. 5 French Embassy in Korea. (Photo by Kim Chung Up.) Copyright Anyang City Council.

Many regard the French Embassy in Korea as Kim Chung Up's magnum opus (**Fig. 5**).

"In spring of 1959, I had an opportunity to compete with seven other French architects for designing French Embassy at Seoul. Even though Ambassador Changgall [Chambard] told me that there is only one out of a hundred in chance, I was exited [excited] for the project. I also heard Mr. Le Corbusier recommended me strongly. I drew first schetch [sketch] while I was at New York Madison Hotel, and kept working throughout that summer. At Christmas time, I was told that I was a winner. I have tried to combine the sprit and beauty

of Korea and the elegance of France at the same time. By 1961, the project was finished. I received Seoul City Artist's honorary in 1962 and the decoration medal from French government in 1965 for this project. This project put me firmly into a position as an architect, "Kim Choong-Up".—Kim Chung Up from his typewritten memoirs, copyright of Anyang City Council. This seminal project, completed in 1961, is considered the most significant work of modern Korean architecture. Kimm Jong Soung regards it as Kim Chung Up's best project. The project resonates on multiple references and transcends the perceived tension between cultural iconography and modern vocabulary, previewing issues that are still raised by contemporary architects today. This convergence of traditional re-interpretation (in the vein of Kenneth Frampton's critical regionalism) would ultimately become profoundly ambiguous within the recent and immediate context of what Kim Chung Up did in Chandigarh. However, one should be cautious in simply stating that Kim Chung Up imported formal roof notations of Chandigarh into Korea. This might have been the case in the very beginning in his Han's House and Seogang University Administration Building, but one would argue that the iconic French Embassy warrants a more complex and nuanced discussion. It begins by utilizing and engaging Le Corbusier's "permission" for modern architects to engage locality and regionalism but within this permit, introduces a wholly original and personal artifact—a precise, modern interpretation of Korea's traditional roof and site-planning. The brilliance of the project lies in how the roof and the site design sensitively nestle the buildings within—not on top of—of nature. This relationship between the buildings and the topography allow the whole ensemble to be unfurled in a cinematic narrative and structure as one approaches and walks through the diplomatic compound. The flat orthogonal composition of the Chandigarh Capitol Complex has now been replaced with the deeper and more powerful reference of Bulguksa Temple—a favorite inspiration and an often-mentioned reference for Kim Chung Up. The delicious tension between the cultural meaning of roof and the narrative of nature and site lends to a wholly modern but very Korean creation and experience.

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Yi has been involved with academia and scholarship for over fifteen years in Asia and the U.S. His current position of Director with The Now Institute at UCLA is a 10 year culmination of research initiatives and speculations with Thom Mayne on emerging urban issues confronting major metropolises and disaster-stricken cities. Prior to UCLA, Yi was with USC School of Architecture where he served as the Director of the Master of Architecture programs from 2007 – 2010. Additionally, Yi has been an AIA National Speaker on Urban Design (Los Angeles) and Sustainability (San Antonio) for two National Conventions. Presently, he serves as an Executive Committee member of Docomomo International, helping organize the 2014 International Conference in Seoul, Korea.

Professionally, Yi has worked extensively in Asia and the US. His 20-year history with Morphosis began in 1992 where he currently oversees the Asian region and academic research. Most recently, as Vice President of Design at Chang-jo Architects, he oversaw the completion of his competition-winning Korean Embassy in Tokyo, Japan and the Korean Consulate in Guangzhou, China.

The issue of urbanism and cultural relevance continues to thread and anchor all scholarship throughout Yi's parallel academic and professional pursuits.

A Rough Poetry in the Architecture of Ra Sang-jin

Choon CHOI *

Abstract

One of the founding members of the Korean Institute of Architects, Ra Sang-jin, whose active professional career spanned over two decades immediately following the Korean War, left an indelible imprint on the history of modern architecture in Korea. As most of the research so far on modern architecture in Korea has focused mainly on the two canons—Kim Swoo-geun and Kim Joong-up, the works of minor figures such as Ra Sang-jin have been largely overlooked or ignored. A recent adaptive-reuse project, the Kkum-maru in Seoul Children's Grand Park, which was completed in 2011, attracted a surprising amount of media attention, thus placing a sudden spotlight on the career of its original designer, Ra Sang-jin. An overview of the brief but prolific career of Ra Sangjin, who reportedly completed over 150 projects, provides us with a glimpse of the exhilarating first years of contemporary architecture in Korea, when a small group of young men, often through forging privileged or dubious relationships with the dictatorial regime, carried out ambitious projects, on par with the prevailing architectural trends in the West. Coincidentally brutalist, but with a romantic flair, the architecture of Ra Sang-jin illustrates how sociological, or ethical basis of the New Brutalism was seamlessly and creatively adapted into the historical and economic context of Korea in the 1960s.

Keywords : Ra sang-jin, walker hill, seoul country club, kkum-maru, new brutalism

1. An Accidental Brutalist

One of the 14 founding members of the Korean Institute of Architects, Ra Sang-jin (1923-1973) was born in Gimje in the southwestern province of Jeonbuk. After completing his studies at the Jeonju Technical High School in 1940, he was trained under a Japanese subcontractor in Seoul, later formally becoming an employee of the Kajima Corporation where he stayed until 1945. Reportedly, he started his independent design practice in Myeongdong, Seoul in 1952 at the age of 29, but it was not until 1957 that he was recorded as part of the design teams for important public projects, such as the United States Operations Mission to Korea and the Grand Hotel in 1957, and the Mapo Apartments in 1958.

Many of the projects in the post-war decade were undertaken by a group of loosely affiliated architects as there were only a handful of qualified practitioners at that time. The Jonghap Gunchuk (Total Architecture), founded in 1953 by Kim Jung-soo and Lee Chun-seung, was the first prominent architectural practice, followed by Shingunchuk Munwha Yeonguso (Laboratory for the New Architecture Culture), founded in 1954 by Kim Hi-choon, Jung In-gook, Kim Chang-jib, Hahm Sung-gwon, Aum Duck-moon, and others. It was also during these years when Kim Joong-up returned to Seoul in 1956. As highest profile project of the decade, the competition for the National Assembly in 1959 provided a reason for Kim Swoo-geun to return from Japan. It was a period when many architects began forming partnerships and establishing professional associations, but only a few projects of significance could be found. (Between 1950 and 1960, only 88 projects were published in *Architecture*, which is published by the Architectural Institute of Korea.)

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In the 1960s, the industrialization of Korea began in earnest under the military dictatorship of Park Chung-hee, and a burst of construction activity followed. Ra Sang-jin immediately became involved in the process, based now at his new Euljiro office, by designing the factory for the Saenara Autos, a company founded under the government initiative to foster a new industry, where Nissan Bluebirds were to be assembled. It appears Ra Sang-jin quickly became a trustworthy architect of choice for the new regime, as his projects during the 1960s were almost exclusively for presidential or governmental use, such as the president's *an-gas* (*boudoirs*) or the Central Intelligence Agency in 1965.

The Walker Hill Resort Project of 1962, for which Ra Sang-jin designed the master plan and the main building, became a turning point in his professional career. Completed in 1964, Walker Hill was one of the first ambitious construction projects undertaken by the Park Chung-hee regime. Sited on the riverside retreat frequented by the former president Syngman Rhee, the resort was originally intended as a luxury destination to lure American soldiers who mostly vacationed in Japan. In addition to earning much needed foreign currency, the military regime also wanted to appease the American displeasure with the violent process of political transition. As the project was initially undertaken confidentially by the Intelligence Agency, Ra was the sole designer in charge, until he was replaced by Kim Swoo-geun and a team of other prominent architects including Kim Hi-choon, Aum Duck-moon, and others. The most striking project on the resort was the Hilltop Bar, credited to Kim Swoo-geun. The structural engineer for the project, Hahm Sung-gwon, who studied at Waseda University, credits Kim Chang-jip for its design. (*Science and Technology*, 1996) The engineer Hahm later became a close collaborator for Ra Sang-jin, and it was through this collaboration that Ra's architecture took an unmistakably Brutalist direction.

2. The Raw Beauty of Reality

The beginning of the architectural profession in the newly independent Korea coincided with the rising popularity of the Brutalist aesthetic in the West. Reyner Banham's seminal article "The New Brutalism," published in the *Architectural Review* in 1955, provided a new theoretical platform for the younger generation of architects who were growing increasingly suspicious of the Modernist project, which had become an authoritative but hollow refrain promoted by aging masters. For the Korean architects returning from their studies in Japan and the US, the ethos of the New Brutalism provided the legitimately *avant-garde* design principles, and proved to be fortuitously appropriate for the economic and technical reality of the post-war decade.

If the precision-based aesthetic of the International Style seemed impossible to achieve, not to mention its unwanted association with some of the buildings constructed during Japanese occupation, the bold and unprecedented imagery of the Brutalist buildings clearly signaled a clean break from the painful past. Following the lead of Le Corbusier, who had "abandoned the pre-war fiction that reinforced concrete was a precise, 'machine-age' material" (Banham, 1966) the young Korean architects enthusiastically embraced the brute materials roughly put together by hand.

"*Beton brut*" was born at the Unite d'Habitation, Marseilles, where there were eighty contractors and such a massacre of concrete that there was no way of imagining how to construct useful relationships through rendering. I had decided: leave everything "*brut*." I called it "*beton brut*." The English immediately jumped on the band wagon and dubbed me (Ronchamp and the convent of La Tourette) "Brutal"—"*beton brutal*," and that the end of the day, the brute is Corbu. They called it "the new brutality." My friends and admirers thinking of me as the "brute" of "brutal concrete" (*beton brutal*)! (Quoted in Eduard F. Sekler, William Curtis, 1978)

The practical challenge that Le Corbusier faced at Marseilles was an everyday reality for the Korean architects, and a violent break from the past symbolized by the unfamiliar building materials and forms was favored not only by the designers and the political leaders but also the general public yearning for a new beginning.

Raw concrete, the material of choice for the Brutalists, was also one of the few available building materials in post-war Korea. The first phases of the Economic Development Plan under the Park Chung-hee regime actively promoted the cement industry as an engine of growth, and at the end of the second phase of the 5-year plan in 1971, the number of cement manufacturers in Korea increased to 8 from 2 in 1961. In fact, cement became one of the first exported products in 1964, making Korea the 11th largest exporter in the world by 1971.

The ethical attitude toward reality and the atmosphere of social responsibility also appealed to the young Korean architects, who sought to reconcile their discomfort with the political reality with their architectural ambitions. "The New Brutalism," was, in the words of Reyner

Banham, “an ethic, not an aesthetic”(Banham, 1966), and whereas the movement quickly became overly stylized, or brutalized, in other Western countries, the Korean followers remained faithful to its core principles, partly due to the visceral reality that they had to deal with on a daily basis. While the West and Japan were enjoying the post-war euphoria of accelerated economic expansion, Korea was still trapped in a war-stricken reality.

3. A Rough Poetry



Fig. 1 Ra Sang-jin, Seoul Country Clubhouse, Seoul, Korea, 1971, (copyright Space)

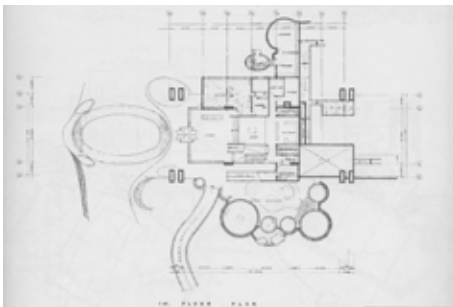


Fig. 2 Ra Sang-jin, Seoul Country Clubhouse, Seoul, Korea, 1971, ground floor plan, (copyright Space)



Fig. 3 Ra Sang-jin, Seoul Country Clubhouse, Seoul, Korea, 1971, lobby stair, (copyright Kim Jae-kyoung)

No other project better illustrates the principles of the Brutalism, as faithfully and imaginatively interpreted by Korean architects, than Ra Sang-jin’s Seoul Country Clubhouse, designed in 1968 and completed in 1970. (**Fig. 1**) The project was commissioned by a private golf club, but the initial intent, as ordered by President Park Chung-hee, was to create an intermediate point of interest along the new road leading to the Walker Hill Resort. Collaborating with Hahm Sung-gwon, structural engineer and professor at Hanyang University, Ra Sangjin designed the clubhouse as a structural *tour-de-force*, with four pairs of rectangular columns supporting the 18m x 50m restaurant floating 10 meters above the ground. Delicate glass-and-steel curtain-wall facades filled the voids below the heroic concrete structure, and two 50-meter horizontal bars on the ground floor, covered entirely in prefabricated concrete, further stretched the building along the landscape. The Wrightian horizontality of the building was perhaps meant to be enjoyed by passing automobiles. The bush-hammered concrete surfaces dominated the exterior above, while curving brick walls and natural stone-clad cylinders on the lower floors connected the building to the ground, forming a mineral plinth that merged organically with the landscape. (**Fig. 2**) Ra Sang-jin’s project was overall a textbook illustration of the three characteristics of the Brutalism as summarized by Reyner Banham: “1. Memorability as an image; 2. Clear exhibition of Structure; 3. Valuation of Materials ‘as found’.”(Banham, 1966) Inside the main lobby, the continuous loop of varied circulation paths culminated on the suspended stair, the cantilevering weight of which was precariously supported by steel wires attached to a welded plate. (**Fig. 3**) Visitors walked up this sculptural stair to reach the locker rooms, and later descended down the long sinuous ramp, with a golf cart in tow. The image of a Cadillac driving toward the driveway, with golfers standing at the foot of the pedestrian ramp in the background, conjured up an image of an idyllic lifestyle mostly witnessed in those days only inside US army bases. A simple palette of natural materials, softly illuminated by cylindrical skylights above, provided an atmospheric counterpoint to the light-filled spaces above, for the basement bars and saunas which were cavernous spaces embedded into the ground. The sublime atmosphere overall was an achievement rarely witnessed in the Brutalist buildings, and the ultimate aim of a new architecture as described by Le Corbusier in *Vers une architecture*: “*L’Architecture, c’est, avec des matieres brutes etabli des rapports emouvants.*”

Any discussion of Brutalism will miss the point if it does not take into account Brutalism’s attempt to be objective about ‘reality’—the cultural objectives of society, its urges, its techniques and so on. Brutalism tries to face up to a mass-production society, and drag a rough poetry out of the confused and powerful forces which are at work. (Banham, 1966)

Over the next 40 years, the building was reincarnated three times, first as a cultural exhibition hall for the new Children’s Grand Park and later as the park management office, while enduring severe neglect for decades. “The patchwork of temporary remedies further deformed its appearance into a monstrous oddity. It was an obvious decision for people without an intimate appreciation for its vicissitude of fate to

declare the building dead, and make way for something new.”(Choi, 2011) The building was saved through the hard work and dedication of many people involved, and its final reincarnation as ‘Kkum-maru’ ultimately restored its original grandeur, and at the same time Ra

Sang-jin’s place in history. (Fig. 4) The building now stands as “a repository of forgotten memories, still capable of inspiring our minds and restoring our ties to our heritage.” (Choi, 2011)



Fig. 4 Choon Choi, Joh Sung-yong, Kkum-maru, Seoul, Korea, 2011, (copyright Kim Yong-gwan)

4. A Resilient Survivor: An Epilogue

Toward the end of his career, after yielding the design leadership for the Walker Hill to Kim Swoo-geun, Ra Sang-jin absorbed another blow to his pride with the competition for the National Government Complex in Seoul. Ra Sang-jin’s entry won the competition in 1966, but the government ultimately replaced the scheme with another, undertaken by the Pacific Architects & Engineers (PAE), a US government affiliate that was also responsible for the US Embassy building across the street as well. Some of his acquaintances attributed Ra’s

relatively early death at the age of 50 to the frustration experienced during this process.

Regardless, there is no doubt that Ra Sang-jin was a “resilient survivor” just like his Kkum-maru project, deftly maneuvering the political networks to achieve considerable fame and professional success despite the lack of elite academic credentials of his peers. The recent resurgence of interest in his work, due to the successful rehabilitation project completed in 2011, has brought him back into the historical discourse, and his unique place in the history of modern architecture in Korea has been reclaimed.

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Choon Choi

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The Recognition of Tradition in Early Modernity: A Cross-Cultural Approach to Korean Modern Architecture

Myengsoo SEO *

Abstract

This paper investigates the recognition of tradition in early modernity in Korean architecture. The research focuses on two representative Korean modern architects: Park Gil-ryong (1898-1943) and Park Dong-jin (1899-1981). Both architects experienced similar challenges of adapting their architectural traditions to modernity in the transitional periods from tradition to modernity. However, they took different positions in encountering traditions in order to construct modernity. Park Gil-ryong adopted and made use of tradition actively, but Park Dong-jin tried to overcome tradition. The paper analyses their perspectives of tradition in housing designs, especially their implementations of the concept of *ondol* (a traditional Korean heating system) and geometry in their designs. To understand the embodied cultural conflicts and transition in the origins of Korean modern architecture, this research not only compares two Korean architects themselves, but also compares them with two French neo-classical architects: Jacques-François Blondel (1705-1774) and Étienne-Louis Boullée (1728-1799), who explored architecture in the transitional periods from Western classic tradition to early modernity. My research employs the hermeneutic approach for analysing and interpreting archival materials such as writings, drawings, photos, and manuscripts about the buildings designed by Park Gil-ryong and Park Dong-jin. This research seeks for a deeper understanding of Korean early modernism through a comparative study based on the current scholarship about Korean early modernism within the Korean or East Asian context.

Keywords : Park gil-ryong, Park dong-jin, tradition, modernity, *ondol*, geometry comparative study

1. Introduction

The purpose of this research is to clarify the origin of modern architecture in Korea. With the strong western influence to East Asian modernity, it is crucial to recognize the values of Eastern tradition in building the early modernity of Korea. This paper investigates two representative modern Korean architects in the early 20th century: Park Gil-ryong and Park Dong-jin who lived in the transitional periods from tradition to modernity and had different understandings about tradition when they led the movements toward modernity through architecture. The both belonged to the first generation of modern Korean architects who endeavored to synthesize tradition and modernity. In their architecture, adapting tradition was a key factor for constructing modernity, although they had different approaches in dissolving conflicts between tradition and modernity. In order to reveal the complicated origin of Korean modernity in the context between the East and West, these two Korean architects were compared to French neo-classical architects who lived in a similar transitional period from tradition to modernity. To be clear, these French architects were not typical "modern architects" and their designs were not in the category of "modernism". As architectural historians such as Kenneth Frampton and Alberto Pérez-Gómez stated, the 18th-century French architecture played a crucial role in the transformation from classic tradition towards modern architecture in the Western history.¹ Although the two Korean modern architects and French neo-classical architects lived in different historical times and spaces, there are many similarities in their architectural theories and design approaches when encountering conflicts between tradition and modernity.

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2. Park Gil-ryong's Interpretation of Tradition in Building Modernity

Park Gil-ryong designed various types of buildings. His Western-style houses especially expressed his modern ideas. He integrated Western

modern architectural doctrines such as rationality and functionality with Korean traditional housing system known as *hanok*, and attempted to renovate traditional dwellings mixed with Western features for a comfortable and modernized lifestyle.

In order to fulfill his ideas, he promoted the Movement of Housing Improvement and intended to build Korean modernity through this movement. Although the structure and materials of his architecture imitated Western approaches, the specific elements of *hanok* and the overall atmosphere of living in his modern houses originated from Korean tradition. He strongly preserved the *ondol* system and installed this in each room in order to respect the traditional life style of inhabitants.² Park Gil-ryong emphasized the scientific concept of efficiency in design and construction.³ His concept of efficiency, which was seen in his suggestions for the Movement of Housing Improvement, is strongly related to his design implementation of geometry. Geometry played a crucial role in the Eastern transition from tradition to modernity as demonstrated by the architectural and art exchanges between the Chinese imperial court and European Jesuits during the 18th century.⁴ Park criticized the “courtyard plan” of the *hanok* tradition and insisted on a housing improvement based on the *hanok* tradition. His criticism of the old living style in traditional houses was harsh and wide-ranging, such as the “uselessness” of the courtyard, the “inconvenient” floor plan, the poor lighting conditions, ventilation, and fire prevention of rooms, especially in crowded urban living quarters. In traditional houses, individual rooms such as the bed rooms, kitchen, toilet, or living room were not connected to each other; these spaces enclosed a courtyard (Fig. 1).

Compared with the traditional courtyard layout, Park’s “housing improvement” plan is concentratively located on the site. His new plan is in a square shape in order for a more compact and symmetrical plan (Fig. 2).

Regarding this new plan, he explained: “It is called as a modern dwelling. The structure and general atmosphere are Western style and it is installed with the Korean traditional heating system of *ondol*. Windows and the interiors are of the Joseon style. But each room's arrangement goes beyond traditional patterns. One room was covered by a wood floor and looks like a Western room. In general, my new housing improvement plan is like this kind of arrangement.”⁵

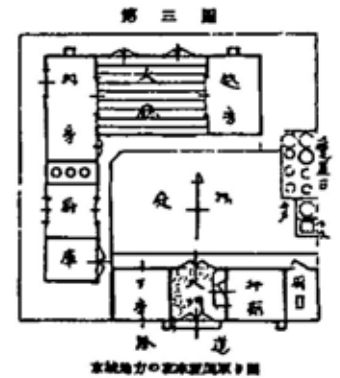


Fig. 1 (Left) Gil-ryong Park, Gil-Ryong Park's sketch of the traditional private house. 朝鮮住宅雜感 (Thoughts on Joseon Housing) in 朝鮮と建築 (Chosun and Architecture), v. 20, n. 4 (April, 1941)

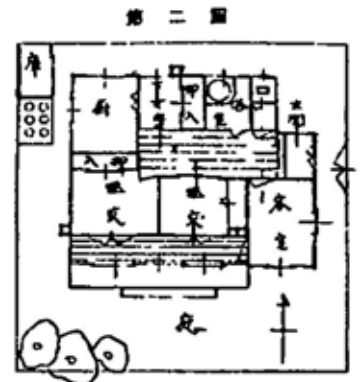


Fig. 2 (Right) Gil-ryong Park, Gil-Ryong Park's sketch of the centralized housing improvement plan. 朝鮮住宅雜感 (Thoughts on Joseon Housing) in 朝鮮と建築 (Chosun and Architecture), v. 20, n. 4 (April, 1941)

¹ Kenneth Frampton, *Modern Architecture: A Critical History* (London: Thames and Hudson, 1992), 8; Alberto Pérez-Gómez, *Architecture and the Crisis of Modern Science* (Cambridge, MA: The MIT Press, 1983), 130.

² MyungSun Kim, “박길룡의 초기 주택개량안의 유형과 특징 (The Improved Plans of Korean Traditional Folk Houses by Park, Gil-ryong from the Late 1920s to Early 1930s),” *Journal of Architectural Institute of Korea*, v. 27, n. 4 (April, 2011): 69.

³ Ibid., 61.

⁴ Hui Zou, *A Jesuit garden in Beijing and Early Modern Chinese Culture* (West Lafayette, IN: The Purdue University Press, 2011).

⁵ My translation from Gil-ryong Park, “朝鮮住宅雜感 (Thoughts on Joseon Housing),” 朝鮮と建築 (Chosun and Architecture), v. 20, n. 4 (April, 1941): 15.

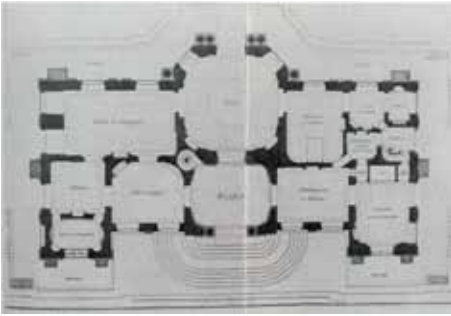


Fig. 3 Jacques-François Blondel, Maison à l'Italienne, 1737-38, plan of main floor. Image credited to Jean-François de Bastide, *The Little House: An Architectural Seduction* (1996)

The plan is characterized by a central corridor. The main living room and most other rooms face to the south, and a kitchen and toilet face to the north. This new plan creates a much more efficient flow pattern between rooms. Such a design is similar to the Japanese dwelling with the central corridor.⁶ At that time, from a Western perspective, Korean and Japanese dwellings were seen as very similar. During the early 20th century, Japan was strongly influenced by French neo-classical architecture as well as modern architect Le Corbusier. The modern concept of "efficiency" in spatial layout can be traced to Jacques-François Blondel's (1705-1774) theory of "distribution of spaces." In his treatise *Cours d'architecture*,⁷ Blondel investigated the spatial distribution in various types of buildings such as hôtel, churches, markets, and convents. He scrutinized not only the relationship between rooms, but also their connections to the land⁸ (**Fig. 3**).

3. Park Dong-jin's Interpretation of Tradition in Building Modernity

Park Dong-jin had a different attitude about tradition in his construction of modernity. He excluded traditional rules and directly adapted western architectural tradition into building modernity. He regarded Le Corbusier as the most representative person of modern aesthetic ideas by mentioning the latter's design of Villa Garche in the *ShinDongA* magazine in 1931.⁹ Park Dong-jin's son once recalled, "My father loved Frank Lloyd Wright's architecture and [, as Wright,] Park Dong-jin showed a strong attachment to life."¹⁰ Park Dong-jin strived to create his modern architecture based on western architecture rather than Korean tradition. Like Park Gil-ryong, Park Dong-jin also advocated the housing improvements based on western concepts of rationality and functionality. Unlike Park Gil-ryong, Park Dong-jin believed the system of *hanok* contradicted to the modern life. In his opinions, it is impossible to build up modernity through the continuation of Korean tradition and the reinterpretation of the tradition: "[*hanok*] has a poor appearance, lacking of changes ... It used primeval materials ... its plan originated from the feudal age ... I cannot help denying this inefficient plan."¹¹ Moreover, he strongly insisted disusing the *ondol* system in modern housing because it is inefficient and useless. Instead of using the *ondol*, he promoted the *pechka* (a Russian brick stove) because he believed that the latter was a more practically efficient heating system.¹²

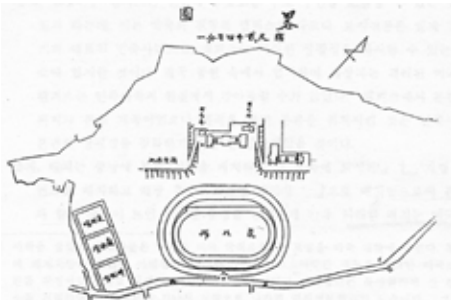


Fig. 4 Park Dong-jin, Park Dong-jin's sketch for the Bosung College Campus Plan. Korea University Museum (1936)

Park Dong-jin used more conventional geometry, such as ellipses and rectangular shapes which tended toward symmetrical planning. In his house designs, he argued for "the formation of mass" as a fundamental design principle. "The formation of mass" is similar to Park Gil-ryong's augmentation of the housing improvement plan which emphasized the concentrative plan. It seeks the efficiency through massing spaces on the floor plan that enables people to move easily on the floor and between floors so as to fulfill the clear function and purpose of the building and program. In his other buildings such as schools, his geometrical features are clearly shown and look more similar to western modern architecture. In his design for the Bosung College Campus Plan, the entrance, playground, and the main building were located along one primary axis. He located the auditorium on the left and the library on the right of this axis, and posited the main building at an elevated location in order to emphasize the axis and hierarchy of the site (**Fig. 4**).

⁶ Myeongseon Kim, "'중정식 배치'의 재래 주거에 대한 박길룡의 비판과 '집중식 배치'의 주거개량안 분석 (The Analysis of Park, Kilyong's Critics on the Courtyard Type Disposition' of Traditional Housing and His Proposal for Improvement of the 'Compact Type Disposition,'" *Sunmoon Research*, v. 8, n. 1 (2003): 93.

⁷ Jacques-François Blondel, *Cours d'Architecture ou Traité de la Décoration, Distribution et Construction des Bâtiments* (Paris, 1771).

⁸ Pérez-Gómez, *Architecture and the Crisis of Modern Science*, 67.

⁹ Quoted by ChangMo Ahn, "건축가 박동진에 관한 연구 (A Study on Architect Park Dong-jin)" (PhD diss., Seoul National University, 1997), 105, originated from Park Dong-jin, "곡선과 건축미 (Curved Line and Korean Architectural Aesthetics)," *ShinDongA*, 1(2), (1931).

¹⁰ *Ibid.*, 228.

In particular, the design of Bosung College's main hall and library were modeled on Duke University's library, the school of medicine building, and the union building. He used marble as a main building material for his campus design instead of more traditional materials such as wood which was the typical material in East Asian classic architecture. The combination of Park Gil-ryong and Park Dong-jin's approaches to tradition can be comparable to the French 18th-century "visionary" architect Étienne-Louis Boullée's interpretation of tradition. Boullée believed that tradition should be transcended. He explored the meaning of the fundamental geometrical bodies whose geometrical shapes originated from the Greco-Roman tradition and were revived during the Renaissance age. Boullée's fundamental geometrical shapes include pyramid, cube, cylinder, sphere, and the truncated cone. As shown in his design drawings, his architectural geometry continued the Vitruvian tradition of fundamental forms but broke away from the same tradition by moving from the human scale and its embodied cosmic order to the monstrous scale for expression of the supernatural sublime.¹³

4. Conclusion

Park Gil-ryong held a more positive attitude in integrating tradition into building modernity, especially continuing the Korean traditional housing system known as *hanok* in his modern housing design. On the other hand, Park Dong-jin had radical thoughts and intended to break away from the tradition for constructing modernity. The two Korean modern architects' implementation of concentrative geometry for plan design echoes Jacques-François Blondel's theory of distribution of spaces, which emphasized the concept of spatial "efficiency", and Étienne-Louis Boullée's fundamental geometry, which paradoxically continued but broke away from the Vitruvian tradition towards the emergence of early modernity.



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¹¹ Park Dong-Jin, "조선주택 개혁론 (On Reforming Korean Housing)," *Spring and Autumn*, v. 2, no. 7, (1941).

¹² Ahn, "건축가 박동진에 관한 연구 (A Study on Architect Park Dong-jin)," 228.

¹³ Alberto Pérez-Gómez and Louise Pelletier, *Architectural Representation and the Perspective Hinge* (Cambridge, MA: MIT Press, 1997), 223.

Expansion and Conflict in Korean Modern Architecture from 1960s to 1980s : Focused on the relationship between architectural works and historical circumstances

Jonghun KIM *

Abstract

In the 19th and 20th centuries the Korean peninsula was in the center of "expansion and conflict" created by historical circumstances such as the opening of its ports, liberation and the Korean War. The modern architecture of Korea represents a dramatic realization of these historical circumstances. Port openings gave way to a confluence of eastern and western styles which were widely expressed in the architecture of the time. Despite the fact that architecture during the Japanese colonial era was regulated within the framework of Japanese conventions, a number of Korean architects, like Kilyong Park and Dongjin Park, produced unique work. After the liberation a movement arose which merged architecture styles within the context of Korea and its customs. However, being influenced by the US during the Korean War in 1950, this movement faced circumstances in which it had to re-new everything. In addition, the modern historical events of April 19 and May 16 had a great impact on Korean architects and on daily life. Since the opening of ports, throughout the Korean War and even in modern times a consistently applicable key word during this country's conversion has been "nationality", a word which each generation has interpreted differently within a broad spectrum of meaning.

Keywords : modern architecture, korean modern architecture, expansion and conflict, kim swoo geun, kim chung up, tradition, modernism

1. The Interpretation of Modernism and Korean Modernism

The question of when modernism emerged in modern Korean architecture is not an easy one to answer. It's also associated with further questions of how we define modernism, which also leads to those questions of how many works of architecture actually properly depict the ideologies of Western Modernism, and makes us wonder whether implementing a Western ideology such as modernism in Korean words actually portrays the genuine ideologies of modernism, which is to establish a rational world based on self-awareness and rationality.

On the other hand, it's also almost impossible to define modernism in one simple sentence because modernism doesn't have a unified view. The development of the modern movement itself was complicated and there is a co-existence of several mutually exclusive streams. Recently, there have been several publications that zone in on the relationship between Western Modernism and East-Asian traditional architecture. Therefore, modernism can also be seen as the history of interpretation of Modernism. Such complex modernism was later perceived as one organized ideology by Henry-Russel Hitchcock and Philip Johnson's architectural exhibition sponsored by MoMA along with their publication "The International Style: Architecture Since 1922."

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Afterwards, modernism, with its rich flow and various theories, was simplified to an international stylistic viewpoint, which prompted Colin Rowe's criticism that when modernism was accepted among American architects, all ideologies and social contexts within modernism were abolished. Such American modernism, or the international version, thrived because of convenience through a simple visual means of the box form. However, such simplicity becomes the reason why it was strongly challenged by Postmodernism after the 1960s. But instead of criticisms on Postmodernism, modernism starts thinking of ways for the rationality of modernism, represented by the slogan of "Form follows function," to cope with various changes in the function of internal spaces that conform to contemporary needs. In other words, the question of how to define the remaining characteristics of buildings without the functions needed in the modern era within Modernism's concept is quite perplexing.

Therefore, it's preferable for perspectives on Modernism to acknowledge the universality of the modernization process but recognize the differences and the uniqueness of different countries and leave open the possibility that each society might experience modernism differently. Modernism is not only the process of accommodating the Western Civilization but also the history of the transformation or naturalization of that country's tradition. In this perspective, each society's modernity allows for the diversity of its patterns, and different versions of modernity as various as the diversity of each society's modernization process.

2. Modernism from the West to Korea

In 1930, 『Chosun & Architecture』 introduced Louis Sullivan (1856 ~ 1924) and Frank Lloyd Wright (1867 ~ 1959), Le Corbusier (1887 ~ 1965), Russian modern architecture, and so on. This was when the western classic style architecture reached its peak with the construction of the old Seoul station (1925), Japanese General-Government Building(1926), Seoul City Hall(1926). However, henceforth the classic elements were omitted, leading to an eclectic approach, which paved way for modernism. The years between 1925 to the 1930's brought on a wide range of stylistic change from the usage of buildings, clientele, architects, architectural structure and exteriors of buildings. Thus, the architectural stylistic transformation in this period is not only superficial changes in form but also dynamic process accompanied by sudden and abrupt changes closely linked to social phenomena in architecture in general.

In fact, the Japanese General-Government Commercial and Industrial Promotion Building (1929) and the Kyung Sung Medical College Hospital (1929-33), which is registered cultural property #375 applied modern methods in using a variation of the arrangement of the columns of the entrance hall to handle space and in its handling of interior space, including structure, plane, and elevation. Whether we can consider such Japan-centered modernism to be Korean modernism remains controversial. However, the 3.1 movement in 1919 served as a momentum for modernization through Korean society's self-identity and the development of capitalism, which paved the way for *Park Gil-Young* to quit his work in the Japanese General-Government in 1932 and open an office by himself allowing for a chance for Koreans to accept and acquire modernism by themselves.

Park's Bowhagak, which is currently used as *Kansong* Museum shows geometrical form well by handling the exterior concisely and using horizontal windows which protrude on a curved surface. Korean's acceptance of modernism can also be seen in *Kim Hee-Chun's* graduation piece at the end of the 1930s.



Fig. 1 Kyungsung Medical College Hospital, Seoul, 1929-33. Park Gil-Young's Bowhagak, Seoul, 1938. (© Yoon Joonhwan, 2013).

3. Kim Swoo-Guen and Kim Chong-Up in the development of Korean Modern Architecture

The Korean War, which lasted for three years after Korean independence, demolished the architecture that had been built so far. But in the meantime, *Kim Hee-Chun*, *Jung In-kook*, *Aum Duck-Mun*, *Bae Ki-Hyung*, etc. established the Korean Architects Association(KAA) with *Lee Cheon-Seung* as their president. In 1952, *Kim Chung-up* had an opportunity to learn directly from Le Corbusier. The most notable event of this period was the emergence of *Kim Swoo-Geun*. In 1959, after being elected for a position in National Assembly, *Kim Swoo-Geun* returned home to open an architectural firm with *Kahang Byong-Kee* and *Park Choon-Myung*, and actively carried on his career building The Wallkerhill Hilltop Bar and Freedom Center. However in 1967, archaeologists who went fishing in *Buyeo* reported to the *Dong-A Ilbo* that the *Buyeo* National Museum was a Japanese style building, which lead to a heated dispute on architectural style. *Kim Chung-Up* vigorously criticized that the Buyeo National Museum as a Japanese style building. But ironically, after this incident, both Kim Soo-Geun and Kim Chung-Up evolved into architects that represent Korean architecture.



Fig. 3 Kim Swoo-Guen's Space Group of Korea, Seoul, 1971. (© Yoon Joonhwan, 2013).



Fig 4 Kim Chung-Up's Seo Gang University, Seoul, 1958. Kim Soo-Guen's Freedom Center, Seoul, 1964. (© Yoon Joonhwan, 2013).

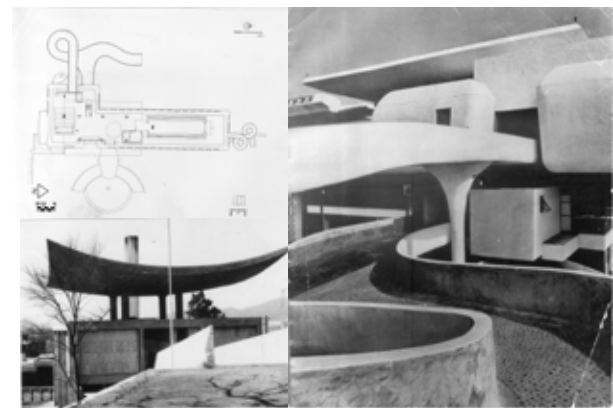


Fig. 5 Kim Chung-Up's The Embassy of French in Korea, Seoul, 1962. (© Yoon Joonhwan, 2013). Kim Chun-Up's National Jeju University, Jeju(demolished), 1964

Since then, *Kim Swoo-Geun* shifts focus from form to a traditional Korean sense of space. Located next to *Changdeokgung*, which was designated as a UNESCO World Cultural Heritage site in February in 1997, the Space Group of Korea conceals its form with the use of black brick. However, once you step inside, you have a dynamic spatial experience through a continuous flow of space. The humanistic scale taken from Koreans provides not only the visual but also the bodily experience of the tightening of the space. In other words, the closed space mitigates the narrowness through the incision of the wall and the inter coursing, sets the hierarchy of space through having a stair gap between open spaces and regulating the height of spaces, and varying the characteristics of spaces by installing appropriate furniture in its proper place. Kim's architectural philosophy, or so-called negativism, is clearly shown in the Space Group of Korea.

It is clear that the Space Group of Korea is the starting point when Korean architecture started to have its own self-identity, and from here Korean architecture achieved a special Koreaness. Afterwards, contrary to the Space Group of Korea, through the New version of Space Group of Korea in 1998, *Jang Sea-Yang* provides a twist by completely opening up the interior space. Space Group of Korea continually influences Korean architects, and thus Seung H-Sang's *Soo Jol Dang* also adopts the spatial structure of the Space Group of Korea into a residential building.

On the other hand, *Kim Chung-Up* embodies Korean architecture in a differently than *Kim Swoo-Geun*. In his most famous work, the Embassy of France in Korea, he segregates the wall and the roof, thereby expressing the dramatic opposition of transparency and massive volume through Korean sentiment. Fluid roofline holes in the roof seem to imply the sky reflected in the wall through the main building of Jeju National University (1964), the Seo Clinic for women (1965), the UN Cemetery Gate (1966), and the old Embassy of Italy in Korea (1967).

4. Na Sang-Jin, Kim Jung-Soo, Kimm Jong-Seoung and other architects in Korean Modern Architecture and its application

Na Sang-Jin combined *Kim Swoo-Guen's* space and *Kim Chung-Up's* form by using the structural elements in the Seoul Country Club House. He has been forgotten because due to political reasons. But nowadays his work has been re-evaluated. Unlike them, keeping in mind the contextual circumstances, *Kim Jung-Soo* considered construction through the eyes of economics, architectural materials, and structural uniqueness in several buildings such as the *Kookjae* theater where he used Kopenhagen Rib and a push-plate for the first time, the Catholic Hall Building where he used an aluminum curtain wall for the first time by creating details through folding aluminum manually. If *Kim Jung-Up* and *Kim Soo-Geun* expressed a modernistic form, *Kim Jong-Soo* enhanced the prevalent technology that allowed for the portrayal of modernism architecture in to Korea's circumstances. In this manner, he can be considered a genuine modernist who stayed faithful to its true original spirit. We also can't leave out *Bae Ki-Hyung* when talking about mechanical aspects. Based on his previous experience designing mostly factories, he designed buildings based on structural technology. Through the factory of *Jeilmojik*, he showed off a cylinder shape shell structure and the saw-tooth roof design for the first time in Korea. The UNESCO Hall is a building that geometrically developed changes in elevation with details.

After studying at IIT in 1956 and juggling simultaneously teaching and learning design, and working, *Kimm Jong-seoung* returned to Korea in 1978 to design the Seoul Hilton Hotel. In the Hilton Hotel, he exhibits a monk's attitude towards technology by avoiding all superfluity. By exemplifying Mies Van der Rohe's architecture, he is considered to have portrayed Korean modernism more actively. Busan Paradise Hotel, Art Sonje Museum, Seoul Museum of History, are still significant in that he accurately adapted western modernism in Korean architecture.

5. Inquiry on “Koreanness” and Autonomous development in Korean Architecture

In modern Korean architecture, in heritage of tradition even until now remains the subject of debate. This is because after undergoing the Japanese Colonial Period, Korean architecture recognized modernism as a separation from tradition, making it difficult for it to develop autonomously. In particular, the criticism in the 1960s that *Buyeo* National Museum was a Japanese style building dampened the resolve to portray a more traditional form, and the inquiry on “Koreanness” was limited within the concept of ‘space.’ However, contrary to architectural perception, society constantly demanded architecture related to traditional architecture. Architects that held a limited view of modernism in believing in exclusion of tradition weren't capable of completing design. The continuous appearance of incomplete works showed limitations of methods on portrayals. The vicious cycle paved way for an even more spatial approach. Despite such prevalent tendencies, *Lee Hee-Tae* attempted a modern approach through a structural principle by reinterpreting the Korea wood structure. As seen in the National Theater (1967), the National *Kyungju* Museum(1972), the National *Kongju* Museum (1973), a unique interpretation of different features exhibit a different elevation each. Even though whether it accurately portrays traditional characteristics is up for debate, its significance lies in that it continuously sought to find a answer for the interpretation of tradition. But it's also noteworthy that *Kim Soo-Geun*, who attempted a spatial approach after the *Buyeo* National Museum in 1967, started showing interest in form through the National *Jinju* Museum and the *Cheongju* Museum. He showed his thirst for a spatial approach and realization of the limitations of such an approach through these buildings. Contrary to before, after 1900s, the debate on Koreanness began to unfold more actively.

The significance of the yard, portrayed in *Kim Soo-Geun's* the Space Group of Korea, *Seung H-Sang's* House in *Hakdong*, are all designed based on such debate. Furthermore, in *Kim Ok-Gil* Memorial Hall, *Kim In-Cheol* attempted to go beyond the limitations of an internal space and to expand to its surroundings. Meanwhile, *Chung Guyon* grew interest in soil characteristics and methods of construction and materialized using various soil architecture in *Mujoo*. Moreover, *Cha Woon-Ki* employed various utensils from our everyday lives to break the prejudice that architecture only used high-class and expensive materials, thereby opening up the relationship between architecture and the public. In the Houses of Hanam City, *Shin Sung-Yoon* portrayed details in architecture through handicraft construction of wood and concrete instead of pre-established materials. *Lee Il-Hoon*, who distinguishes himself from others by unifying his works and evidence for his theory, conveys social messages through ‘*Chaen anum; to divide into many parts as much as possible*’, ‘material and color are one’, and ‘to live uneasy’. His recent publication shows his architectural approach to the energy problem. Furthermore, *Hwang Doo-Jin's* new *Hanok*

House and *Cho Jung-Goo*'s Hanok Hotel Ragung in Kyungju spurred by recent growing interest in Hanok are all noteworthy movements. Thus, in Korean architecture, there have been plenty of movements that take into consideration the "Koreanness." Therefore, there's no need for its devaluation. However, this does leave us with the necessity for all of these different movements to increase its perfection while still maintaining their distinctiveness.

6. Conclusion ; From 1876 to 1980

In the 19th and 20th centuries the Korean peninsula was in the center of "expansion and conflict" created by historical circumstances such as the opening of its ports, liberation and the Korean War. The modern architecture of Korea represents a dramatic realization of these historical circumstances. Port openings gave way to a confluence of eastern and western styles which were widely expressed in the architecture of the time. Despite the fact that architecture during the Japanese colonial era was regulated within the framework of Japanese conventions, a number of Korean architects, like *Park Gil-Young* and *Park Dong-Jin*, produced unique work. After the liberation a movement arose which merged architecture styles within the context of Korea and its customs. However, being influenced by the US during the Korean War in 1950, this movement faced circumstances in which it had to re-new everything. In addition, the modern historical events of April 19 and May 16 had a great impact on Korean architects and on daily life. Since the opening of ports, throughout the Korean War and even in modern times a consistently applicable key word during this country's conversion has been "nationality", a word which each generation has interpreted differently within a broad spectrum of meaning.

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Between Modernization and Colonization: Mixed Urban Environment of Japanese Settlement in Seoul from 1885 to 1910

Yeonkyung LEE*

Abstract

Since 1882 when Korea government permitted foreign residents in Seoul, Japanese have resided in the *Jingogae*(泥岬) district on the northern part of Namsan(南山). With the growing power of Japan on Korean peninsula, Japanese expanded their residential area, which affected urban environment of Seoul. At first, the settlement of Japanese was relatively small and was based in the *Jingogae*(泥岬) district on the northern part of *Namsan*(南山). However after Sino-Japanese war of 1895, the Japanese residential area expanded to *Namdaemoonro*(南大門路), taking shape of a typical Japanese village. Finally, the area was extended to areas outside of Seoul such as *Yongsan*(龍山) as well as to the entire *Namchon*(南村), and the Japanese settlement became the outpost for the invasion of Korean. The urban environment of Japanese settlement was closely linked with Japan and Korea in the same period. Japanese settlement showed the features of Japan in a transition period where modernization brought by *Meiji*(明治) restoration and traditional *Edo*(江戸) culture was mixed. At the same time, the changes in the Japanese residential area were mutually influenced by the urban changes of Seoul. Thus changes in the urban environment of the Japanese residential area were influenced by Japan, Korea, and Western world. In Korea, modernization and colonization was carried out at the same time before 1910, and the changes of Japanese settlement can be interpreted in the aspect of modernization and colonization. Additionally, the changes in the Japanese residential area seemed to function as the connecting link between traditional Seoul and colonized city of Seoul as the changes of Japanese settlement were closely related with the changes of Seoul after 1910.

Keywords : japanese settlement, urban environment, modernization, colonization, seoul

1. Introduction: Growth of Japanese Settlement in Seoul

The modernization of Seoul is deeply related with influences from Japan and the West. It was 1882 when foreigners began to reside in Seoul, and since then, that the city has been directly influenced by foreign cultures. Especially, the urban culture of Japanese settlement where the biggest group of foreigners in Seoul resided has greatly affected the city. In early days, there were a large number of Chinese and Westerners in Seoul, but the number decreased after the Sino-Japanese War in 1895 and Russo-Japanese War in 1904, respectively. The changes of Japanese settlement can be categorized into three periods: 1885~1894 (the first Sino-Japanese war), 1895~1904 (Russo-Japanese war), and 1904~1910. (Fig.1) The first period refers to the days between 1885 when Japanese began to settle in Seoul in earnest as they built the legation in *Namsan*(南山) and 1894 when the first Sino-Japanese war occurred. During

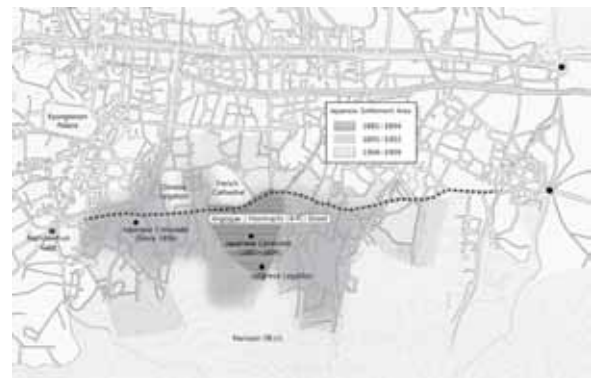


Fig.1 Area of Japanese Settlement ((Drawing on Kyungseongjeondo(1907))

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this period, the residential area (settlement) of Japanese was relatively small that was based in the *Jingogae*(泥峯) district on the northern part of *Namsan*(南山). In the first stage of settlement, most dwellers were public officials and government merchants who came to Seoul alone, not with their families, because of the insecure state of the Japanese settlement. In 1887, the Japanese settlement corporation and the Japanese chamber of commerce were established and many regulations of Japanese settlement were made. The population increased from 34 households with 163 people in 1886 to 65 and 245 in 1887, and 86 and 348 in 1888.

The second period is between 1895 and 1904 when Russo-Japanese war occurred. Due to its victory in the Sino-Japanese war, the power of Japan had surpassed China in Korea. In the Japanese District, the population more than doubled from 848 in 1895 to 1,839 in 1896, and its area has broadened towards the west, *Namdaemoon*(南大門) Street. Since 1895, modern urban planning had begun with improvement of road conditions on *Jingogae*(泥峯) Street, and done continuously all over the Japanese residential area. Additionally, there was establishment and movement of public institutions, and introduction of education, sanitation, and religious facilities. The increase of Japanese-Korean trade and decrease of Chinese merchants in Seoul made Japanese merchants prosper. Through development of public works and expansion of the Japanese business world, the appearance of the Japanese district changed greatly.

The third period is between 1904 and 1910. The Russo-Japanese war was a result of competition for supremacy in Korea between Russia and Japan, and victory in this war made Japan the most influential country in Korea. In 1905, the year after the war, the Residency-General was established, and Korea became a protected state of Japan. Japanese settlement was extended outside of Seoul to areas such as *Yongsan*(龍山) as well as to the entire *Namchon*(南村, meaning southern village of Seoul), and the Japanese settlement became the outpost for the invasion of Korean. Its population was more than 10,000 in 1906, and more than 30,000 in 1910 (total population of Seoul was about 260,000 in 1909).

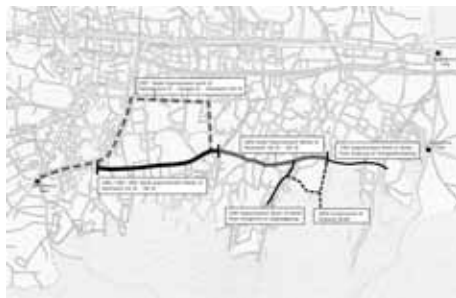


Fig. 2. Street Improvement Work of Japanese Settlement ((Drawing on Kyungseongjeondo(1907))

2. Changes of Urban Environment of Japanese Settlement from 1885 to 1910

Before the 1880s, there were only one-story traditional Korean buildings in Seoul; however, as foreigners began to live in the city, they built foreign style buildings in their residential areas. Red brick multi-story buildings appeared in Seoul, and though there were not very many, their appearance was a shock to traditional Korean cityscape.

With the expansion of Japanese settlement, the urban environment of Japanese settlement also greatly changed. While most Japanese residents rented Korean-style houses in the early days, as time went on, Japanese-style houses began to appear, starting with two-story houses in 1885. In 1895, an urban improvement project was begun in the Japanese settlement. Urban improvement works were aimed at improving its transportation, sanitation, and business. It was continued through 1910, changing the street environment in Japanese settlement. Roads were newly paved and repaired to improve the condition of the road and street facilities, including street lamps and electronic poles. (Fig.2)



Fig.3 Streetscape of Commercial Street in Japanese Settlement (©George Rose, Korea Through Australian Eyes 130)

As the business world in the Japanese settlement rapidly grew, the Japanese residential area also expanded. The number of shops owned by Japanese merchants was increased, and most of the shops were built in a Japanese style. Major streets of the residential area, including *Honmachi*(本町) Street(Japanese name for *Jingogae 3Street*), were surrounded by unique Japanese commercial buildings such as the newly-built *Machiya*(町家, Japanese style commercial building), and western style commercial buildings, along with Japanese commercials and decoration. (Fig.3)

After the Sino-Japanese war, many facilities and regulations were introduced in the Japanese settlement. Most facilities such as schools, hospitals, and public offices were built in the western style, while some of them were traditional Japanese and eclectic style. Around the *Jingogae*(泥岬) district, there were Western style office buildings and retail stores, and also Japanese style houses and retail shops, while many Korean traditional Han-oks still remained. The district showed a mixed townscape of Western, Japanese, and Korean, which created a unique cityscape in Seoul.

3. Hybridity of Urban Environment of Japanese Settlement before 1910

The urban environment of the Japanese settlement was constructed by urban infrastructure, including newly improved roads, water and sewage systems, and construction of Japanese and western style buildings. However, there still remained old Korean style buildings and the area was surrounded by a traditional Korean town. From the physical aspect of the townscape, hybridity of Japanese settlement can be interpreted as a mixture of diverse building types and urban facilities.

There were four types of buildings: (1) traditional *Hanok*(韓屋) (though most were altered by Japanese residents), (2) Japanese style buildings like *Machiya*(町家), (3) Western style wooden buildings, and (4) Western classical style masonry buildings. At first, most new buildings were traditional Japanese style buildings, however as the Japanese settlement grew, Western style buildings were being built by the Japanese. Most public facilities such as the consulate office, healthcare and educational facilities were built in a Western style, but commercial buildings and houses were still built in Japanese style. After 1905 when the Residency-General was established, commercial buildings were also designed in a Western style, becoming taller and bigger.

The hybridity of Japanese settlement is based on its locational condition. Japanese settlement in Seoul was different from other settlement areas of Busan and Incheon. Japanese settlement in Seoul was not a distinctively separated area for Japanese residents as it was originally a Korean town inside the wall of Seoul. Most Japanese lived near the *Jingogae*(泥岬) district (northern part of *Namsan*(南山)), but no clear boundary was set for them, and this brought the hybridity of the area.

At the same time, hybridity is one of characteristics of the late 19th century and the early 20th century in Korea. Like the Japanese settlement, Seoul itself was shaped by diverse forms of buildings, which included multi-story buildings, modern facilities, urban infrastructure. Foreign settlements like the Westerners' *Jeongdong* and the Japanese *Jingogae*(泥岬) district clearly showed this hybridity of urban environment of the city. (Fig.4)

Furthermore, the residential area showed the features of Japan in a transition period where modernization brought by *Meiji*(明治) restoration and traditional *Edo*(江戸) culture was mixed. Its living environment was shaped by the urban system, namely administration, medical and education systems, and establishment of urban facilities, such as hospitals, religious and entertainment facilities, and it had a unique Japanese atmosphere, and at the same time, was very modernized. Modern changes were found in administration, education and sanitation system and facilities, whereas Japanese culture of *Edo*(江戸) period was strongly embedded in the religious and entertainment sectors. That is, hybridity of this area can be interpreted in three aspects: (1) local conditions of mixed residence, (2) characteristics of transitional period between the traditional and modern city, and (3) peculiarity of Japanese living environment at that time, as a mixture of modern(*Meiji*(明治)) technology and pre-modern (*Edo*(江戸)) culture.



Fig.4 Mixed Townscape of Japanese Settlement
(©Unknown, Korea One Hundred Years Ago Photographs)

4. Between Modernization and Colonization

The changes in the urban environment of the Japanese residential area were basically made before Japanese annexation of Korea in 1910. Before 1910, Korean government tried to transform Seoul, a traditional capital of Korea to a modern city, and at the same time, the Japanese tried to make their residential area similar to their hometown in Japan. Japanese' desire to transform its settlement can be interpreted in both ways – from the aspects of modernization and colonization. Similar to Korean government's attempt to modernize Seoul, Japanese' efforts in urban improvement works and installation of street facilities can be understood as its desire to modernize the urban condition of Seoul. Obviously, some of the urban transformations in Japanese settlement show the characteristics of the city at the early modernization process. However, it is hard to see the changes of Japanese settlement as a result of the city's modernization process because the changes were limited only to the small part of Seoul.

In the aspect of colonization, changes of Japanese settlement should be considered separately before and after 1905. Before 1905, officially Japan had no right to manage transformation of the urban environment in Seoul. Thus, at the first stage of Japanese settlement, changes of urban environment were made from the bottom, led by private sector, rather than by government-led top-down strategies. In other words, the changes were made by Japanese residents themselves for the sake of their own life before the political colonization. However, since the establishment of the Residency-General in 1905, Japanese government began in earnest to transform the urban conditions of the Japanese settlement. They even tried to change the whole city.

The hybridity of Japanese settlement was also made in the process of modernization and colonization. Newly introduced Western urban systems and buildings in the Japanese settlement were not imported directly from the West, but were brought by Japanese residents. This means the changes in the urban environment of the Japanese residential area were not genuinely Western as they were already filtered by Japan. Furthermore, as the main agent of the transformation of the area was moved from the private sector agents such as the Settlement Corporation to Japanese government in 1905, the hybridity of the area was similarly affected. Before 1905, the urban changes were aimed at making the settlement into a small Japanese town; however after 1905, the changes by the government were based on the intention to convert it into a role model for the entire city.

The word 'Japanese settlement' disappeared in 1914 with the breakup of the Japanese Settlement Corporation; however the changes in urban environment in the Japanese settlement affected the transformation process of modernization and colonization of Seoul after 1914. Therefore, it is imperative to understand that the changes in Japanese residential area functioned as a connecting link between traditional Seoul and the colonized city of Seoul.

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A Survey of Korean Settlements by Konrad Püschel, a Graduate of the Bauhaus

Hideo TOMITA *

Abstract

The activities of the Bauhaus professors who went to the U.S. following the school's closure in 1933 have received considerable attention. However, the work of Hannes Meyer, the second director of the Bauhaus, and his students, who broke new ground in the global spread of modernism, has not been adequately evaluated. Although, the global activities of individuals from the Bauhaus have been studied, little is known about their architectural activities in the Democratic People's Republic of Korea (North Korea). Therefore, this study focuses on the activities of Konrad Püschel (1907-1997), a graduate of the Bauhaus during Meyer's tenure. Püschel worked at a university in East Germany; from 1955 to 1958, he was a leader in planning the post-war reconstruction of Hamhung and Hungnam in North Korea. In order to examine Püschel's activities during the latter period, this paper explores his surveys of historical settlements in the Korean peninsula, and evaluates them as an architectural education achievement for the Bauhaus under Meyer's direction. The materials consulted for this paper are Püschel's thesis (1959) and unpublished texts on Korean settlements from the Bauhaus Dessau Foundation. He concluded that the design of these Korean settlements was rooted in the form and the structure of the Korean landscape and in the mutual relations of landscape, society, and economy. Püschel learned the importance of landscape in his education at the Bauhaus under Meyer. Moreover, his experience at Orsk in the USSR under Hans Schmidt allowed him to acquire a method for applying this idea to city planning. His survey of Korean settlements reflects architectural education at the Bauhaus, which attached great importance to survey and analysis, enabling graduates to work in places around the globe with different climates, landscapes, and historical backgrounds from that of Germany.

Keywords : bauhaus, north korea, post-war reconstruction, settlements, landscape

1. Introduction

1.1. Püschel's Career

Konrad Püschel was born in Wernsdorf near Glauchau in Germany in 1907. He studied architecture at the Bauhaus from 1926 to 1930.¹ In 1931, he went to the USSR as a member of the Bauhaus Brigade, under the direction of Hannes Meyer, before returning to Germany in 1937. From 1948, he worked at the Academy of Architecture and Fine Arts (*Hochschule für Baukunst und bildende Künste*) in Weimar in East Germany. Between the years of 1955 to 1958, he functioned intermittently as a leader of the city planning department in charge of the post-war reconstruction of Hamhung and Hungnam. (In 1972, he was again invited to North Korea and his role in the development of both cities was confirmed.) From 1964, he was concerned with the protection of the Dessau Bauhaus building.

1.2. Outline of Post-War Reconstruction of Hamhung And Hungnam

The Korean War waged from June 1950 to June 1953. The Central Committee of Workers' Party of Korea plenum established a three step post-war reconstruction in August 1953. The plan was scheduled as follows: (1) a six-month preparation, (2) a three-year plan for 1954 to

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1956, (3) a five-year plan for 1957 to 1961.² Socialist countries helped in the reconstruction. In particular, East Germany took charge of Hamhung, the second largest city in North Korea, which is an important industrial area. Several hundred engineers and their families lived there during the reconstruction. Rüdiger Frank (1996) and Charles K. Armstrong (2013) describe the background and character of the post-war-reconstruction of Hamhung and Hungnam by East Germany.³ However, few evaluations have been attempted from architectural and city planning standpoints.

2. Püschel's Survey and City Plannin for Post-War

In his thesis, 'A Survey of the Development and Construction of Korean Settlements' (1959), Püschel's describes the attraction of the Korean landscape in an introduction (Fig. 1).⁴ In the first half of the thesis, he classifies the Korean settlements by their geographical feature and shows their development process. In the second half, he points out the spatial features of Korean settlements. Finally, he states that the results of these surveys were applied to his planning of the post-war reconstruction of Hamhung and Hungnam.

Simultaneously, in his unpublished texts 'An Outline of the Joint Work of Korean and German Specialists in the Department of City Planning: Hamhung from April 1955 to December 1958' (January 1959), 'The Landscape of the Province of Hamgyon-Namdo' (July 1957), and 'The Life Form of the Korean People' (1957), Püschel focused on the Hamhung and Hungnam region. He analysed the landscape, life forms, and economic system of the entire Hamhung and Hungnam area, supported by local planning organs. Based on these analyses, he designed post-war city planning.

In short, Püschel's analyses were made within two contexts: the settlements in the Korean peninsula and those in the Hamhung and Hungnam area.



Fig. 1 Landscape near Hamhung (Photo by Püschel)

2.1. Classification of Swttlements by Geographical Features

Püschel classifies the Korean settlements into four types: settlements around valleys, settlements by rivers, settlements along seas, and settlements in the mountains. Based on analysis of each type, he argues that three dominant elements of Korean nature (mountains, plains, and the sea) create landscape spaces (*Landschaftsräume*). He then points out that geographical features and water systems control the spatial arrangement of settlements.

Moreover, he includes analytic drawings in different scales: the entire Korean peninsula, the province Hamgyong-Namdo (**Fig. 2**), and villages in Dzoyang near Hamhung (**Fig. 3** left). Based on these drawings, he indicates that the mountains made districts in every scale (province, city, and village); these districts always contain river systems and rice fields, which are the foundation of the Korean economy.

Except in his thesis, he classified Korean cities by geographical features and their walls, along with the typical house types of each province of the Korean Peninsula (**Fig. 4**). The house type of each province had different inner room and external arrangements. Püschel explained Korean houses in 'The Life Form of the Korean People' (1957) as follows: 'He [the farmer] fits it [the farmhouse] organically into the landscape, makes it resistant against the forces of nature, and adapts the arrangement of the house to the farmer's life... Always, the client knew how to bring his house into close relationship to the landscape'.⁵ In short, nature supported spaces in various scales, in which settlements and the economy fit perfectly: from landscapes in large scales, (the areas correspond to districts) to living spaces in small scales (nature affects room arrangement). From this analysis, Püschel concludes that the arrangements of Korean settlements are rooted in the form and structure of landscapes and that a relationship exists among landscapes, societies, and economics. This argument is explained in detail in Püschel's unpublished text of forty pages, entitled 'The landscape of province Hamgyong-Namdo' (June 1957).

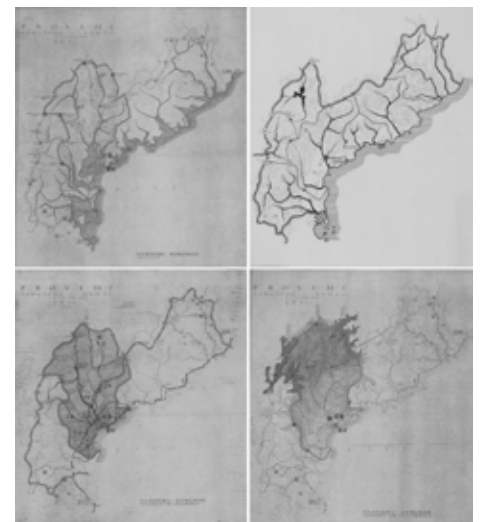


Fig. 2 Geographical analysis of Hamgyong-Namdo province



Fig. 3 Plan of a village in Dzoyang, near Hamhung (left: survey; right: new plan)

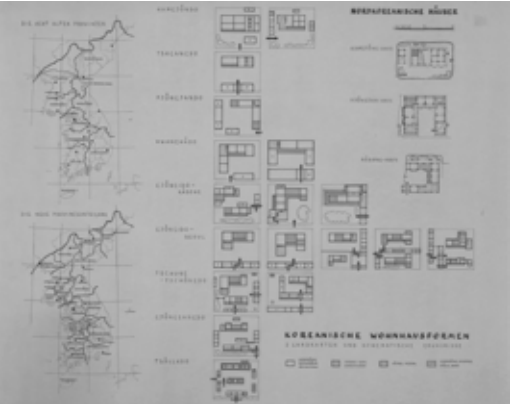


Fig. 4 Typical house types of each province of the Korean Peninsula

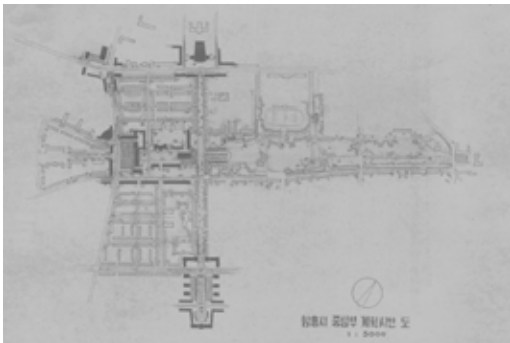


Fig. 5 Plan of Central Square: a part of reconstruction plan of Hamhung

2.2. Rejection of Rectangular Grid-Based City Planning

Since Püschel learned from historical Korean settlements, which have a close relationship to landscape, he rejected the rectangular grid-based city planning methods of the Japanese colonial period. For example, in speaking of the city of Mokpo, he explains that ‘this map shows clearly the difference between planned Japanese arrangements and the Korean arrangement, which were nestled on the ground’. Moreover, he comments on the company town constructed in the Japanese colonial period at Ryusongri in Hungnam: ‘Here nothing about form is spoken, only technology and economy’. In short, through the survey of Korean settlements, Püschel evaluated historical settlements in landscapes and rejected rectangular grid-based city planning methods. The results of his survey were adopted and applied to his city planning. He designed new houses, buildings, squares and streets in Hamhung and Hungnam in a way that resonated with their landscapes (**Fig. 5**)

3. Experience Under Meyer and Schmidt

3.1. Architectural Education of Bauhaus

Architectural design and city planning through an analysis of nature (sunshine, wind, and geography), social structure, and human scheduling was one of the most fundamental methods taught at the Bauhaus under Meyer’s leadership. Püschel, who studied architecture there at that time, also gained practical skills at the construction site of the Federal School of ADGB (completed in 1930), which is Meyers’s representative architectural work. Püschel wrote of the complex, connecting it with his education at the Bauhaus:

The design and construction of the ADGB’s Trade Union School are Hannes Meyer’s most mature and perfect works; in them, he gathered up all his good and valuable thoughts about architecture and city planning, the insertion of architecture in nature, the full harmony of architecture and the environment, just as he had taught us in lectures and seminars and in specialist and human social education at the Bauhaus.⁶

Moreover, Meyer spoke of landscape in his ‘Bauhaus and society’ (1929).

Finally all creative action is determined by the fate of landscape. . . . If a floating population lacks these roots, its work easily becomes stereotyped and standardized. A conscious experience of the landscape is building determined by fate. As creators, we fulfil the fate of the landscape.⁷

Püschel’s experience under Meyer permitted his evaluation of the close relationship between Korean historical settlements and landscape and the resonation of new buildings and streets with nature. The same tendency is evident in Arie Sharon’s (another Bauhaus student under Meyer) survey on Israeli settlements.⁸

3.2. Activity at Orsk in the Ural

After his graduation from the Bauhaus in 1937, Püschel worked in the USSR. From 1934 to 1937, he engaged in the construction of the new city of Orsk in the Ural, where he worked under the Swiss architect Hans Schmidt, who taught city planning at Bauhaus as a visiting lecturer. (Mart Stam, Ludwig Hilberseimer, Hans Witwer, and so on also taught there during Meyer's tenure.). In Orsk, Schmidt pointed out the dullness of American cities, which look like an infinite chessboard and argued that only nature could be a creator of cities.⁹ Moreover, Püschel's study of Orsk (1967) first explains its landscape, before turning to city planning.¹⁰

4. Conclusion

Püschel learned the importance of landscape survey and the necessary resonance of architecture and landscape in his education at the Bauhaus under Meyer and mastered the application of these concepts to city planning in his experience at Orsk under Schmidt. Püschel then utilized these concepts and methods in Korea. His survey of historical settlements in the Korean Peninsula thus reflects his architectural education at the Bauhaus under Meyer, which attached great importance to survey and analysis, enabling graduates to work in places around the globe with different climates, landscapes, and historical backgrounds from that of Germany.

Notes

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² Charles K. Armstrong, *Tyranny of the Weak: North Korea and the World, 1950-1992*, Ithaca, Cornell University Press, 2013, 52-93.

³ Rüdiger Frank, *Die DDR und Nordkorea: Der Wiederaufbau der Stadt Hamhung von 1954-1962*, Aachen, Shaker Verlag GmbH, 1996.

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⁶ Konrad Püschel, *Wege eines Bauhäuslers*, Dessau, Anhaltische Verlagsgesellschaft mbH, 1996, 50.

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⁸ Arieh Sharon, "Collective Settlements in Israel," *The Town Planning Review*, Vol. XXV, No. 4, 1955, 255-270.

⁹ Püschel, *Wege eines Bauhäuslers*, *op. cit.*, 81-83.

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News from Asia - Pioneering knowledge of the early Asian Modern Movement through European specialized magazines

Caterina FRANCHINI *

Abstract

In the first half of 20th century, early Modern Movement and its core values travelled worldwide, from West to East and backwards, by means of articles and pictures published in architecture magazines showing fusions and conflicts during cultural communication.

In the interwar period, some magazines in Europe specialized in spreading Modern Movement. A western-centric or euro-centric approach and, in some countries, the growing of nationalisms oriented editorial choices and limited a worldwide perception of Modern Movement, nevertheless some sporadic news on what was going on in Asia spread through the most advanced periodicals.

The paper investigates the european knowledge of the Asia early Modern Movement in architecture and interior design mainly focusing on writings published on the italian *Casabella* and the french *L'Architecture d'Aujourd'hui*, directed by the architects Giuseppe Pagano and André Bloc respectively. The two magazines, in fact, were those offering an international press review section: *L'Architettura mondiale* and *Revue des Revues*. Articles, captions and sidebars underlined, for both western and eastern architects working in Asia, the adherence to the western models or an authentic eastern approach able to integrate features of local architecture to modern design.

In those magazines Japan was the most represented country and all architectural typologies were mentioned, from private to public, including religious buildings, but the debate western-modernity versus eastern-tradition mostly polarized on housing interior design.

On one hand, journalists appreciated the courageous rebellion undertaken by Japan to forget its “folklore” and old architecture in order to enter modernity, on the other hand, the combination of the traditional japanese style and the western one was admired and experimented even by european architects.

Through the debate on japanese modernity the authors called into question the values of the western approach to Modern Movement, and asked themselves the crucial question: What is national and what is international?

Keywords. asia, hudec, japan, posener, raymond, taut

In the interwar period, some european architectural magazines, involved in the promotion of the Modern Movement, started taking in consideration the new asian architecture. In those magazines Japan was the most represented country, and few articles on other eastern countries occasionally appeared. In more than twenty years - from 1920 to 1943 - only two articles appeared on the german *Moderne Bauformen*, both about japanese architecture (n. 29, 1930; n. 30, 1931). While *Domus* published just few example about modern japanese interior design.

By reviewing the architectural magazines from all over the world, in 1939 *Casabella Costruzioni* (n. 136) underlined the lack of “reassuring” examples of modern architecture, complaining an insufficient ardour of “spring and surprise”. Nevertheless, it was noticed that each month regularly, Japan helped with its “little but clear magazines”, to find “careful taste” works.

In the early Thirties, the italian magazine *Casabella* (Cas.) and the french *L'Architecture d'Aujourd'hui* (*L'Arch.*) were the ones that

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regularly included in their press review the Japanese magazines: *Sinkentiku* (Sink.) - now *Shinkenichiku-sha* -, *Kokusai Kenchiku* (Kok. Ken.), and *Kentiku Sekai* (Kent. Sek.).

In 1933 *L'Architecture d'Aujourd'hui* considered *Sinkentiku* a beautiful Japanese magazine, well presented and illustrated, but it lamented the lack of documentation on other countries from the Far East. Concerning the n. 1 of *Sinkentiku* 1933 the editorial staff commented: "finally there are some buildings built in Japan, but are works of Italian, English or American architects and almost always are quite bad" (*L'Arch.* n. 4, 1933, 102).

On the contrary, *Casabella* (a. VII, n. 79, 1934) judged *Sinkentiku* rather abreast of the modern taste and informed of worldwide architecture, thus being able to provide an effective universal circulation of the Modern Movement including the Italian one. Shortly after, it valued those magazines especially for having recorded the most advanced Japanese buildings.

In 1938, by publishing the Teisin hospital and the Municipal crematory at Mizuye-Tokyo - that also appeared on Blumenthal's article in *L'Arch.* - *Casabella* (a. X, n. 122, 1938) editorial staff was amazed at the cultural updating demonstrated by Japanese technical offices compared to the Italian ones. With regards to modern private houses, it had to admit that, right in Japan where the tradition left to presage the development of a "brittle modernity", Japanese architects were earnestly involved in building a "solid experience" of modern architecture. They were able to receive commissions even by aristocracy. The prince Tokugawa's house, built in Tokyo by the architect K. Tsuchiura, was published to provide European aristocracy an example to be followed (*Cas.*, a. X, n. 131, 1938, 30).

From 1928 to 1941 Japan was the only Eastern country recorded by *Casabella*. When the Italian magazine confined its comments on the press review section, *L'Architecture d'Aujourd'hui* also published full articles.

From 1933 (n. 2), the French magazine had a reporter for the entire Far-East named Harry Litvak that in 1936 became reporter only for China (n. 7). While in 1935 (n. 2) Bruno Taut was the reporter from Japan, replaced, one year later, by Antonin Raymond whose Japanese works were extensively published in European magazines.

Litvak published just one article about the cinema Grand Theatre in Shanghai by the Hungarian architect László Eede Hudec (Fig. 1). Nowadays he is recognised as the pioneer of Chinese modernism and is renowned for having built the Park Hotel (1931-1934) in Shanghai, supposedly the first skyscraper outside America. The Grand Theatre blends Art Deco and modernism in its interior design, and now is an attraction recommended by tourist guides. The key factors of modernity underlined by Litvak, other than formal ones, are mainly technological and structural. He emphasized the new solution adopted to ensure hygiene, safety, and climate comfort, comparing the Shanghai cinema to the most successful movie theatres in Europe.

The interest for structural innovations in Asia appeared in another article published on *L'Arch.* Where in 1936 Regis mentioned the case of the covered market of Battambang in Cambodia built by the French architect Louis Chauchon. Only in 1945 a special issue would be dedicated to France Overseas. On this number there were interesting articles about urban planning and modern architecture in Indo-China and in Iran.

The two reporters for Japan, Taut and Raymond, had both lived in the country and had studied in depth the Japanese building tradition and ancient architecture. As known Taut published a series of books on the subject. In 1935 Taut was the author of the more extensive article on the new architecture in Japan ever published in the interwar period. This article is crucial not only because it faces without bias the true values of the new architecture and the professional context in Japan, but mostly because it calls into question the too "schematic" and restrictive approach of the European modern architecture through the knowledge of the specific features of the Japanese building tradition. Taut masterfully highlighted the Eastern-Western cultural conflict that was going through Japan in the Thirties, essentially based on the tense



Fig. 1 László E. Hudec, Grand Theatre, Shanghai, China, 1931-1933. The 40 m glass tower completely lighted up and the gigantic electric sign on the entrance are early examples of the self-promoting light effects of the growing modern entertainment industry. (From *L'Arch.* n. 7, 1934, 57. Free credits).

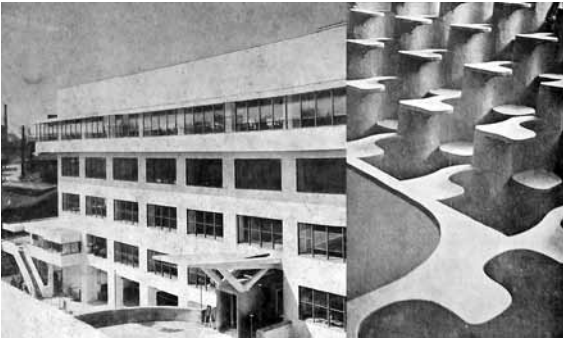


Fig. 2 Dunzo Yamaguti, Dental clinic, detail of the auditorium balcony, Tokyo, Japan, 1932. (From *L'Arch.*, n. 4, 1935, 72. Free credits).



Fig. 3 Bruno Taut, Hyuga Villa, Atami, Shizuoka, Japan, 1936. Modern *Tokonoma* made out of glass. (From *L'Arch.*, n. 1, 1937, 67. Free credits).

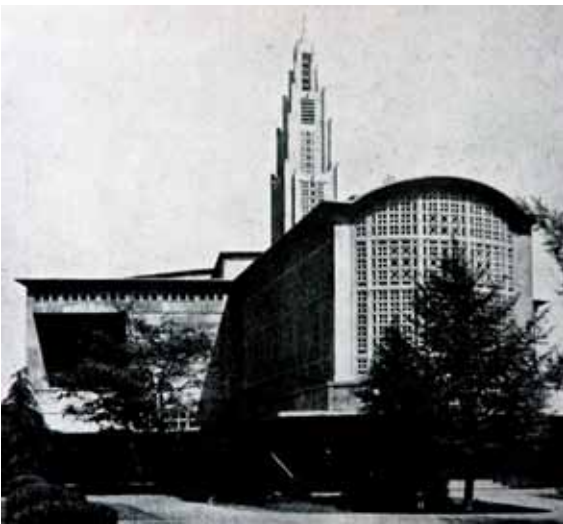


Fig. 4 Antonin Raymond, Chapel of the Tokyo Women's Christian University, Suginami Tokyo, Japan, 1934. (From *L'Arch.*, n. 7, 1938, 49. Free credits).

relationship between tradition and innovation. He argued that if the Japanese had sometimes embraced Modernism in a too hasty way, the responsibility would have been largely due to the opinion of Westerners.

He sometimes attributed the adoption of modernism to the fact that a number of Japanese rejected the European and American cliché perceiving their country exotic, colourful, populated by geishas, and charming women wearing kimonos in nice gardens.

Taut stated that among new Japanese architecture there was a number of very authentic modern works (Fig. 2). He was persuaded that it was essential to know the specific features of traditional Japanese architecture in order to assess the importance of those or to criticise them. Already, Charlotte Perriand had anticipated this approach in a passionate article about family housing and the functionalist design of Japanese peasant houses.

The combination of modern spaces with traditional Japanese ones challenged Taut who in 1936 worked in Mr. Hyuga's villa, and published it in 1937 (*L'Arch.*). Nowadays, the villa

still exists, is well preserved and open to visits. After having studied proportions, colour hues, and materials of the classic Japanese architecture, in the interior design Taut used traditional materials i.e. the Chinese wood Chioji, Nara wood, natural bamboo, black lacquer, Japanese plaster, and white paper. He also designed sliding doors and a series of furniture for the ping pong room following the Japanese principle of improving flexibility on the use of interior space. By taking into account the absolute balance of proportions, in order to achieve the total harmony necessary for meditation, he designed a Japanese bed-room and two living-rooms where he placed *tatami* and a modern *Tokonoma* made out of glass (Fig. 3). The research of a balance or a compromise between Japanese and Western architecture seemed to characterize the difficult mission of Western architects working in Japan. In his 1934 article, Julius Posener admired the ability to “make out just fine” of the young Czech architect Antonin Raymond.

The house he built in Tokyo for the doctor Hatoyama greatly combined the two cultures by associating a series of windowed rooms, that opened out each other like in “a very Mies van der Rohe's ensemble”, to small “Japanese rooms” based on the *tatami* module and separated from the others by sliding partitions. The richness of the cultural contrasts was considered excellent because accomplished through the design of harmonious proportions.

The German architect and critic recognised the rare talent of the architect for having designed a charming Western-Eastern architecture. The Raymond's house at Karuizawa was, in fact, an original synthesis of a modern European plan with a Japanese country house. Standing on a concrete foundation, the wooden building became very thin, while maintaining its archaic principles. The outer and the inner coating consisted of wooden planks, the roof was thatched, the windows were protected by bamboo blinds.

Not all Raymond's works were positively criticized. About the factory lifts Otis in Tokyo the *L'Arch.* editorial staff in 1933 (n. 4, 1933, 102) considered it “clean enough”, but confused in its volumes and distribution of full and empty spaces.

In 1936, surprisingly for an architect who built the same year the church of Karuizawa using local materials and traditional buildings

techniques with extreme sensitivity, Raymond built the Chapel of the Tokyo Women's Christian University (Fig. 4) visibly inspired by two modern churches built in France by Gustave et Auguste Perret: Notre-Dame du Raincy (1922-'23) and Sainte-Thérèse at Montmagny (1925-'27). Although it was a clear imitation, the church in Tokyo was not criticized, but rather justified in an article published in 1938 by the architect André Herman, friend of Auguste Perret. On the contrary the editorial staff of *Casabella* (a. X, n.128, 1938) judged the building "a kind of Perret out of context", while it appreciated the dosshouse at Ashram Pondicherry in India for being modular without monotony.

The fundamental question largely debated in interwar magazines was: what is national and what is international?

In order to answer the question professor Motono Seigo from the technical school of Kyoto, on the pages of *Moderne Bauformen* claimed the surprising argument that the modern way to build was generated by the design process of Japanese ancient architecture. The house of the Buddhist monk-architect Kobori Enshû, built in 17th century in Kyoto, showed the conformity to the principles of the Modern Movement. The pioneer of modern design Motono Seigo exemplified with sketches that the house, once deprived of its national features, proved to be an architecture of universal value (Fig. 5). He stated that the quintessence of the discussion about national and international resides in the meaning of beauty and truth in the ancient and new way of building. This meaning is the same in Japan as in Europe, despite the fact that outward forms significantly differ.

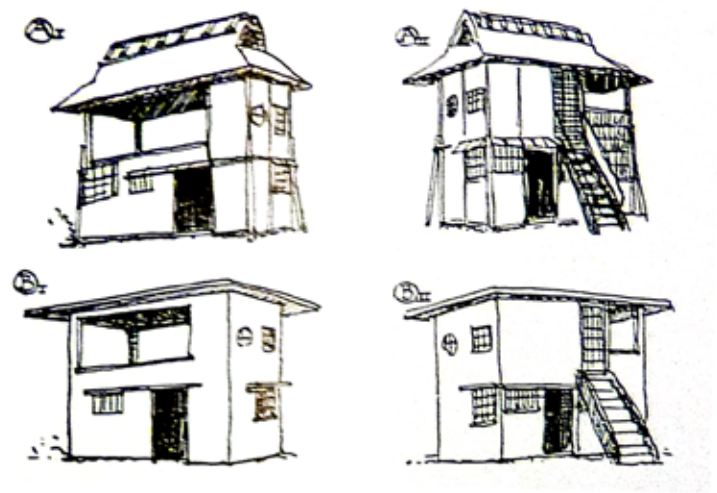


Fig. 5 Seigo Motono, sketches of the Kobori Enshû's house (17th century), Daitokuzi-Kohooan temple, Kyoto, changed according to the principles of the Modern Movement. (From *Moderne Bauformen*, XXX, 1931, 237. Free credits).

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Uniqueness of Modern Apartments in Korea or, Disenchanted Modernism

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Abstract

This paper examines unique characteristics of Korean apartments, comparing it to the original western model. The *zeilenbau* type apartment was adopted as the standard for the era in mass housing campaigns beginning in the late 1960's, and high rise apartments became the most common type of house in Korea post-1970. Unlike the west, however, the theoretical debates on social and psychological merits of the high rise was absent in Korea. It was adopted simply as a symbol of modernization and westernization. Furthermore, the modern apartment was imported in absence of a cultural, theoretical foundation of urbanism. Instead, large housing sites called *danji* became independent developmental units within the cities of Korea. Each *danji*, as a fragmented site within the city, lacks order within the city as a whole. Neighbourhood unit theory played an important role in this development. It was used as a planning unit to distribute population and infrastructure within city, and applied to high rise apartment *danji* located in urban contexts. This created problems around the edges of the residential area, as the *danji* became disconnected from the surrounding urban context. It is also unique that production of high rise apartments in Korea was initiated by government officials and the construction industry rather than by architects. The apartments were mostly provided by private companies as a commodity for sale rather than as social housing. This resulted in high rise apartments becoming housing for the middle class who could afford them. The unique combination of state dictatorship and market capitalism in the production of Korean apartments is very close to Corbusier's idea for the contemporary city. However, there was no room for the Open Hand to guide the capitalistic machine as Corbusier had imagined. Therefore, unlike the western model, there is no utopia in Korean apartments. It was disenchanted modernism.

Keywords. korean apartment, *zeilenbau*, *danji*, *ciam*, *siedlung*

1. Introduction

There was no modern movement in Korean architecture. Yet, the cityscape of Korea is constituted of modern architecture. The modern high rise apartment is especially prominent as the most common type of housing in Korea. In that respect, the modern Korean city is a realization of high-rise city that modernist architects of 1920-30's Europe such as A. Perret, Le Corbusier and Hilberseimer envisioned.

What is more, high rise apartments, considered a failure in the West by now, have been so successful in Korea so as to become the typical house for the middle class. In Korea, they are not merely the relics of the past to be preserved, but rather the living legacy of its evolution. In this respect, the Korean apartment, despite many formal similarities to the western model, is an original product of the process of modernization as it occurred in Korea. In this paper, I would like to highlight the uniqueness of the modern high rise apartment in Korea, comparing it to the western model.

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2. Zeilenbau Type Mass Housing

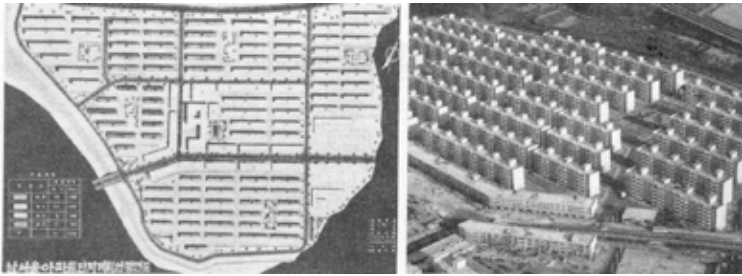


Fig. 1 Banpo Apartment blocks, Seoul, Korea, 1978, site plan and aerial image

During the 1950s, in the aftermath of the Korean War, the nation suffered from a severe housing shortage. In response, the government launched an extensive campaign for the mass production of houses beginning in the 1960's. While various types of single family houses had previously been built with foreign aid, the high rise apartment was thought by the political leaders of the time to be the ultimate solution for the Korean housing problem. They believed the high rise apartment, though new and unfamiliar, to be a symbol of modernization and a tool for industrialization.



Fig. 2 Yuyeido Sinburn Apt, Seoul, Korea, 1971

The first modern apartments built in Seoul were *zeilenbau* type mid-rise apartments.¹ These *zeilenbau* type apartments first emerged in German *Siedlungs* of the 1920's as an alternative to traditional block type apartments typical in western cities, and were transmitted to other countries as a symbol of modernism after WWII. In Korea, where there had been no architectural typology for urban mass housing, it was adopted as the new building type for modern mass housing. The site plans of the apartment blocks also mirrored that of the German *Siedlung*. (Fig. 1)

3. From Mid-Rise to High-Rise

At first, mid-rise apartments of less than five stories were built due to cost and technological constraints. The tradition in Korea of floor heating was also a factor that hampered the construction of high rise apartments. However, following the success of the *Sibum* apartments (1971), the first twelve story apartment with elevators and central floor heating, this particular type of high rise apartment became very popular.² (Fig. 2-3) High rise apartments did not necessarily mean high density development. It was possible to achieve comparable densities with mid-rise apartments. Also, high rise apartments were not necessarily more economic compared to midrise apartments either. The high rise was adopted in Korea above all, as a symbol of modernization and westernization of life. Theoretical debates on high rise apartments go back to Europe in the early thirties. During the 3rd CIAM meeting, Le Corbusier and Gropius argued that high rises were better than mid-rises since high rises could provide more open and green spaces, air and light. Although mid-rise apartments were more economic, Gropius argued, the social and psychological merits of high rises should be considered. (Fig. 4) In Korea, however, there was no such theoretical debate among architects or government officials regarding this issue.

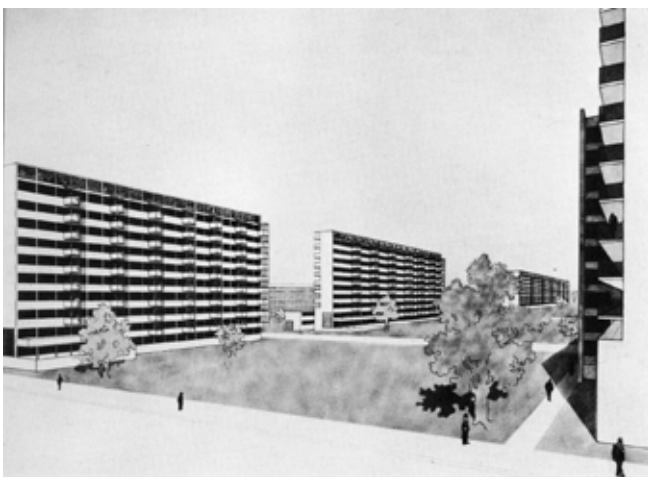


Fig. 3 Walter Gropius, perspective view of zeilenbau housing project, 1931

4. Urban context of Korean Apartments

4.1. Building vs. City planning

Modernism in the West was an attempt to give order or synthetic form to the modern city. Le Corbusier's plans for an ideal city, for example, exhibited monumentality with strong axis and strict hierarchies. Hilberseimer's high rise city, on the other hand, gave a new order to the chaotic modern metropolis by adapting itself to the productive mechanism of capitalism in the purist form. CIAM meetings dealt with the relationship between building and city, in which topics ranging from minimum housing to rational planning of settlements and the functional city were discussed. In Korea, however, apartment types were imported without such urbanism in mind whether that of Le Corbusier or Hilberseimer, or the functional city. Without an idea of urbanism as a whole, a large housing site called *danji* was treated as independent developmental unit. While *danji* was a large fragmented site within the city, there was order within the *danji*.

4.2. Neighbourhood Unit theory as a Planning Tool

In the absence of a theoretical foundation of urbanism, neighbourhood unit theory played an important role in developing the large sites for apartments.¹ The neighbourhood unit theory was originally proposed as a social, regional theory for the urban community in the residential area newly developed in the suburbs in the midst of city expansion. However, in Korea, it was used simply as a planning unit to distribute population and infrastructure within city, and applied to apartment *danjis* locating in the urban context. Thus, the inwardness of *danji* created problems along the edge areas, disconnecting them from the urban context.

High rise apartment *danjis* thus created are admittedly closer to Hilberseimer's ideas than those of Corbusier in that they consist of simple repetition of the same units and buildings, lacking any symbolism or monumentality. However, unlike Hilberseimer idea, there is a lack of order in the city as a whole, and each *danji* is chaotically fragmented. In this sense, high rise apartments in Seoul are modernist without utopia, whether it be positive (like Le Corbusier) or negative (like Hilelsemier). (Fig. 5)

5. Modernism Without Avant-Gardes.

The Korean apartment is not a result of systematic application of CIAM Ideas. When the modern high rise apartment was introduced in 1960's there were no systematic study by architects on the topics dealt with in CIAM such as minimum housing, rational planning and functional city, nor was there any discussion of theories developed after CIAM such as *habitats*, advocacy planning and other neo avant-garde ideas. The high rise apartment was imported as an established model, quantitatively rather than qualitatively. So much so that it was led by government officials and the construction industry rather than by architects. Modern apartments in Korea emerged as a result of the systematic application of standardized mass housing technology by technocrats and the construction industry rather than as a by-product of theoretical and philosophical models. If we call the mass housing campaign of Korea beginning in the 1960's a

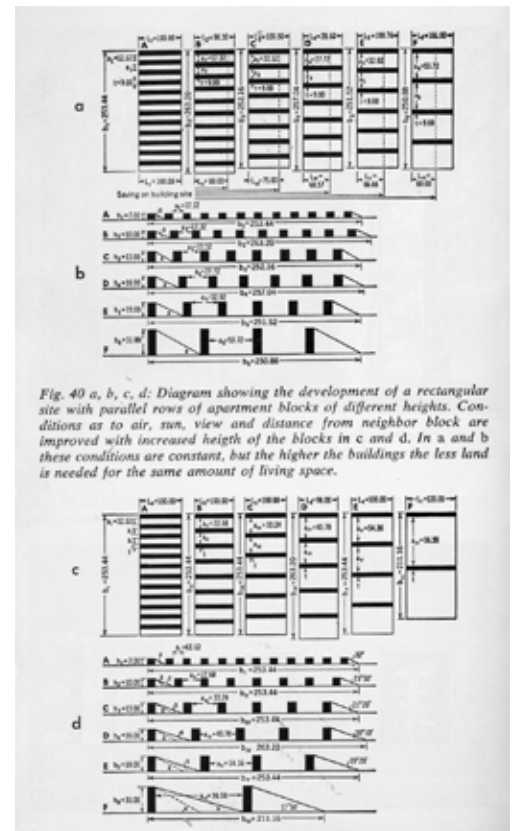


Fig. 4 Walter Gropius, Diagram Showing the development if a rectangular site with parallel row if apartment blocks of different heights, 1932



Fig. 5 View of high-rise Apartments, Oksu-dong, Seoul, Korea

modern movement, it was a movement without avant-gardes. It was implemented by the collective efforts of the government industrial complex while the role of individual architects was virtually non-existent.

6. Social Housing vs. Private Commodity

High rise apartments in the west were built as social housing for the working class as a means of easing the housing shortage that occurred after WWII. However, this was not the case in Korea. Although extensive campaigns to build apartments for the working class were initiated by the city government of Seoul in late 1960's there were not enough funds, building materials, technology, or industry to achieve this goal. Nor were there many trained architects. Furthermore, due to the limited availability of housing sites, many apartments were built on hill sides previously occupied by squatters. Thus, the production of citizen's apartments often resulted in low quality apartments which soon became slums. After the fatal collapse of Wau apartment in 1968, social housing campaigns by the city government were abandoned at last.

Since then, mass production of housing in Korea has been led by private companies with government support. Private companies built apartments as commodities in the market and the government guaranteed profit through implementing various institutional measures. High rise apartments were the product of the market principle of seeking maximum profit, rather than solution for the welfare system. So much so that it became the case that only those who could afford housing could buy an apartment. Thus, high rise apartments essentially became housing for the middle class with them only being gradually transmitted to lower classes. Therefore, it is fair to say Korean high rise apartments have nothing to do with social housing. Westerners often wonder how Korean apartments are so well maintained. The reason lies in the fact that they are private property. They are not only well maintained but also redeveloped by their owners. This is the most conspicuous difference between the western model and that of the Korean apartment.

7. House for Middle Class.

In the West, the middle class families that settled in high rise apartment blocks after the WWII gradually moved out to single family houses in 1960's. As a result, the condition of high rise apartment blocks deteriorated. In Korea, however, the high rise apartment was well received by the middle class. The reason for this seems obvious in historical context. There was no solid housing alternative for the middle class in modern Korea after the *hanok*. Although various types of modern single family houses were built since modernization, they did not last long. In fact, even single family houses built not long ago have been rebuilt as multi-family housing for low income families. The modern high rise apartment was not only economical, convenient and functional compared to single family houses, but also considered a symbol of modern life. In short, it was the only model for the house of the middle class. The fact that the apartment became the house of the middle class is the main reason why it has been so successful in Korea.

8. Modernism by State Capitalism

As a matter of fact, it was through apartments that new middle class emerged in Korea. In the process of industrialization, government investment in housing is relatively small. Mass production of housing was carried out by private companies with the government only providing support. Therefore in Korea, it was state capitalism, rather than social democracy or philanthropy, which was the motor force of housing production. In the meantime, the middle class that could buy an apartment could reap huge profits as the price of these apartments skyrocketed. This helped stabilize the state system by solidifying the middle class. As V. *Gelézeau* pointed out, apartments in Korea were not only the product of state led industrialization, but also the means through which it was achieved.⁴

Centralized state control and capitalistic methods used in building high rise apartments are very close to Corbusier's idea that the ideal modern city could only be built through strong political and business leadership. Yet Le Corbusier also believed that the Open Hand of a central power was needed to control the rules of the game in the capitalist city. However, strong government intervention in Korea stopped short at the provision of land, and the provision of apartments was carried out in purely capitalistic manner. In this unique combination of state dictatorship and market capitalism, there was no chance for the Open Hand to guide the steering wheel of the capitalistic machine.⁵ In this respect, one might call the Korean modern apartment a disenchanting modernism.

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- 1 Jongam(1958), Mapo(1962) Dongbu Ichon-Dong and Simin Apts(1968-71))
- 2 It was modelled after Gropius's zeilenbau type high rise apartment(1932)
- 3 Neighbourhood unit theory was first introduced in 1956. It was first mentioned in Mapo and Dobuichon-dong danji. Afterwards it was applied to all apartment blocks of 500-1000 units
- 4 Valérie Gelézeau, Seoul, Ville géante, cites redieuses, 2003, Korean translation by Asiatic research centre, Korea University, 2004
- 5 Tafuri, Machine et mémoire; The city in the Works of Le Corbusier, in Le Corbusier, ed. by Allen Brooks, Princeton University Press, 1989 p.214



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Born in Seoul, Korea, Sanghun Lee graduated from Seoul National University and received Ph. D. in History, Theory and Criticism at MIT in 1996. He worked at Ilkun and Junglim Architects and was a founding partner of INU architects in Seoul. He is a licensed architect in both Korea and US. Currently he is a professor at Konkuk graduate school of architecture in Seoul. He published many books and articles including, "There is no Architecture in Korea (2013)" "Iron construction and the development of Theory of Modern architecture.(1997)" " "Origins and Characteristics of Korean Apartments in 1970-80's (2005)"

Modern Lessons from Ancient Asia: Távora's "on Board" Diary (1960)

Gonçalo Canto MONIZ *

Abstract

In February 1960, Fernando Távora, an important Portuguese architect and pedagogue, undertook a study trip with a Gulbenkian Foundation scholarship to visit the American schools of architecture where he was able to follow their educational programs on architecture and urban design. On his way back, he decided to participate in the World Design Conference (Wodeco) in Tokyo. In the last month of this journey, he travelled from the future, which he had just encountered in America, to the past, visiting the classical architecture in Japan, Thailand, Pakistan, Lebanon, Egypt and Greece. To report this amazing round-the-world trip, he kept a diary containing more than 800 pages of written notes and drawings. This has just been published under the title *"On board" diary* (2012), offering a new approach to research into his work.

The diary, which reveals a set of reflections about the world, society and architecture, went on to have a strong impact on his practice as an architect and on his pedagogy as a professor. As a starting point, other authors suggest that the West (America) was more relevant to his pedagogy while the East inspired his architecture, although, as Távora used to say, 'in architecture, as in life, the opposite can be also true'.

Keywords. fernando távora, architect's diary, american schools, asian architecture

1. West: Teaching Design Through History

The notes taken during his visits to the American schools of architecture established the matrix for his teaching activity in Porto School in the '60s, particularly in the courses on Theory and History of Architecture and Architectural Design II. These new courses were implemented by the educational reform published in 1957, creating challenges for young professors. The '57 Reform was the main pedagogical goal of Távora's master, Professor Carlos Ramos, who drew up a complex curriculum with three cycles to create connections between architectural courses and artistic, social and scientific ones. The first cycle was propaedeutic with artistic and scientific courses; the second cycle involved architectural design, construction, and theory and history of architecture; the third focused on urbanism issues. Távora was appointed lecturer of the second cycle and soon understood that the training of the architect should be not only artistic and technical but also social, or related to society's concerns. In the well-known American schools of architecture, Távora wanted to study the architectural and urbanistic teaching methods developed under the influence of modern masters, such as Walter Gropius at Harvard, Mies van der Rohe at Illinois (ITT), Paul Rudolph at Yale, Louis Kahn and G. Holmes Perkins at Philadelphia and, especially, Frank Lloyd Wright at his own school, Taliesin.

His contact with the American schools gave him some answers to his search for humanistic education that could renovate modern architecture. The highlight of this itinerary was, probably, the meeting at Pennsylvania University with Louis Kahn, the well-known American architect, who was doing something new by integrating History, Construction and City Planning lessons in his designstudio.

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These disciplines were supported by two other professors, Robert le Ricolais and Norman Rice, that also worked with Kahn in his office. The studio was complemented with lectures on timeless themes where Kahn considered, for example, the Roman temple in conjunction with the collaboration between arts and ornamentation: The eternal issue of the integration of the 3 arts was much debated, having Arch. Kahn presented a theory that I found very interesting and which states that decoration appears naturally with time, and that the first and most elementary decorative element is the junction (either in the sense of the changing of material, or in the sense of changing plan).¹ Távora saw himself in Kahn's approach to teaching² and started to prepare a new course on Theory and History of Architecture, that latter will be called General Theory of Space Organization. This course presented the main architectural topics to students through the interpretation of historical moments. In each class, Távora drew in the board taking students in a trip that relates the buildings of the past with the contemporaneous problems, training the architects in a cultural perspective, that became central in Porto School.

2. East: Design with History

When Távora arrived in Japan to attend the WODECO Conference, beginning of May, he was feed up of the future:

The impression of Tokyo, apart perhaps from some interiors and the beauty of Japanese women, is disastrous. The things that progress has led to, the machine, democracy, money, and all the modern myths...³

Instead of participating in the conference, he was “more interested in the physical and human landscape than in the thoughts, however extraordinary they might be, of all the fellows that are gathered here.”⁴ Nevertheless he found a common topic between all interventions: “to create a bridge between man and technology through form”⁵. In fact, this would become the main goal of his visit and probably of his life, as he reports in the diary: Given that the world can't turn the clock back – the current chaos has to be accepted and to try once again to achieve the order and the harmony that some old and happy civilizations knew.⁶



Fig. 1 Fernando Távora, “The created city and the spontaneous city”, Lecture n.º 12, General Theory of Space Organization. FIMS_FT_A0035

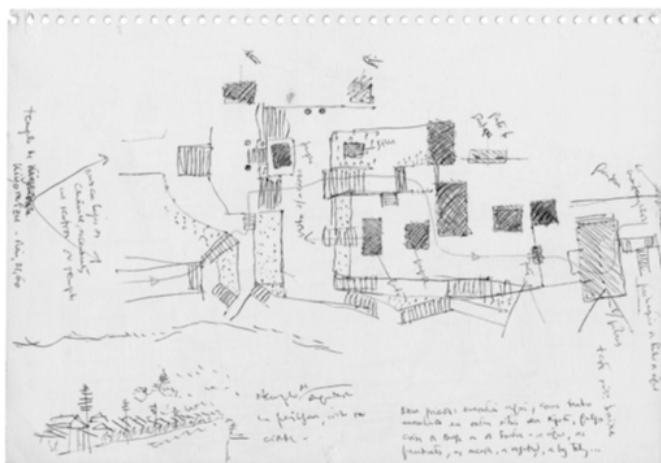


Fig. 3 Fernando Távora, Drawing of Katsura, May, 23rd, 1960. Fernando Távora, “On board” Diary, vol. 1, facsimile, Porto, Associação Casa da Arquitectura, Família Fernando Távora, FIMS, Fundação Cidade Guimarães, drawing 11.



Fig. 2 Fernando Távora, Drawing of Temple of Kiyomizu, Tokyo, May, 21st, 1960. Fernando Távora, “On board” Diary, vol. 1, facsimile, Porto, Associação Casa da Arquitectura, Família Fernando Távora, FIMS, Fundação Cidade Guimarães, drawing

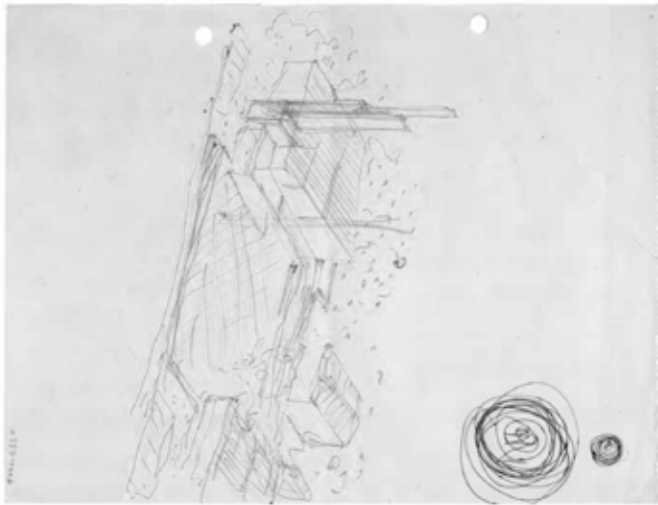


Fig. 4 Fernando Távora, São João de Ovar Parochial Church, 1967. José António Bandeirinha (eds.) *Fernando Távora Modernidade Permanente*, Porto, Associação Casa da Arquitectura, Família Fernando Távora, FIMS, Fundação Cidade Guimarães, 292. Sketch.



Fig. 5 Fernando Távora, São João de Ovar Parochial Church, 1967. José António Bandeirinha (eds.) *Fernando Távora Modernidade Permanente*, Porto, Associação Casa da Arquitectura, Família Fernando Távora, FIMS, Fundação Cidade Guimarães, 293. Preliminary Project, Plan 1 and Section C5.

The analyses of buildings from the past, learnt with Kahn, is also present in the drawings and notes that Távora made in historical places such as Kyoto, Bangkok, Karachi, Baalbek, Giza and Acropolis. While visiting these monuments, he put his camera aside and took up his pen to study the architecture, urban relations and organization of space.

By changing the method and the tool, he started to sketch ideas, forms and typologies for future projects. The drawings undermine the reality that he was observing with plans, sections, perspectives and small notes to deeply integrate it as a design reference. In Kyoto, for an example, Távora made thirty-two drawings of the temple complexes focusing his attention on the traditional Japanese relationship between the temples and the gardens, or the organization of space that explores the articulations between volumes and landscape, as he explains while visiting Kiyomizu Temple: The Complex is very open, it clearly evolved over time, but it is very rich in forms and in perspectives (at the moment what interests me most in the japanese temples is not so much the building but its structure together and in relation with the site – flat or sloping)⁷ The next day, Távora “found” at Katsura Palace his masters and the foundations of the modern architecture. “All the so called modern is present – Mies, ‘Corbusiacas’, Wright (this less so, formally).”⁸ But what impresses the Portuguese architect is the umbilical relation between the house and the garden: “But the great charm lies, perhaps in the whole house-garden. It is not a house plus a garden – it is a whole.”⁹ This topic, the relationship between interior and exterior, was one of the main concepts of the renovation of the modern architecture that he was working on in that period. To explain this relationship, underlines in his drawings of Katsura but also of Higashi-Honganji Temple in Kyoto, “the importance of doors as a preparation element” and clarifies that it is “a meaning somewhat unknown to the west”¹⁰.

This reference and others that Távora made in the

East had direct consequences on his main projects, designed in the early ‘60s, such as the churches and the houses. These religious spaces reveal an experimental attitude towards the renovation of the liturgy, particularly in their relationship with the community, as we can see in the plans for the church in São João de Ovar, although it wasn’t built. If we follow the set of drawings published in the diary, we can see that the symbolic and spatial relation between the architecture of the palaces (Katsura, Higashi-Honganji or Nijo) and its gardens constitutes an important reference explored in this project. The exterior space of the religious complex in Ovar connects the city with the three buildings, creating a whole church-patio. Távora also plays with the volumes looking for a balance, an oriental balance, that he liked to see in Japanese temples or palaces complexes: “I was more | interested in the play of volumes than in the buildings themselves”¹¹. In fact, Távora is interested in the constants of architecture and urbanism, especially three of them: its permanent modernity, the collaboration effort, the elements that determines men’s life¹². In this perspective, he integrates history in his design process through drawing; as Alves Costa claims: ‘For him, drawing was not merely acquiring knowledge, but also researching’¹³.

The trip and the diary were for Távora a methodological tool that enabled him to rethink his relationship to architecture and also to further develop the ideas already expressed since the 50s in both his projects, such as the Ofir house (1956-58), and in his texts, such as

The Problem of the Portuguese House (1945). In *Fernando Távora: Permanent Modernity*, the catalogue of the exhibition organized in Guimarães (2012), two authors launch the discussion about the importance of this voyage to Távora. Jorge Figueira argued that “The central history of the Porto school has started to be conceived here (in America)”¹⁴ but William Curtis related the gardens in Kyoto with the previous projects, as the Tennis Pavilion (1957-60), ‘Inevitably one thinks of the importance of the ground plan in Japanese temple enclaves in Kyoto (which Távora probably knew) (...)’¹⁵. In both cases, the importance of history as an operative tool to the design process is one of the main lessons that Távora took from ancient Asia and which he used to renovate his teaching and practical work.

Notes

¹ Fernando Távora, “On board” Diary, (Wednesday, February 24th Philadelphia, 43v), 69

² Idem

³ Fernando Távora, “On board” Diary, (Thursday, May, 12th Tokyo, 336), 306

⁴ Idem

⁵ Fernando Távora, “On board” Diary, (Friday, May, 13th Tokyo, 338v), 313

⁶ Idem

⁷ Fernando Távora, “On board” Diary, (Saturday, May, 21st Kyoto, 357), 331

⁸ Fernando Távora, “On board” Diary, (Monday, May, 23rd Katsura, 361), 335

⁹ Idem

¹⁰ Fernando Távora, “On board” Diary, (Monday, May, 24th Katsura, Drawing 11), 378

¹¹ Fernando Távora, “On board” Diary, (Wednesday, 18th May, Nikko, 351), 325

¹² Fernando Távora, “Arquitectura e urbanismo. A Lição das Constantes”, *Lusíada*, 2, 1952.

¹³ Alexandre Alves Costa, “Illustrated fragments on the ‘Porto School’”, *Joelho*, 4, 2013, 39.

¹⁴ Jorge Figueira, “Alma Mater. Travel in América, 1960”, José António Bandeirinha (ed.), *Fernando Távora Permanent Modernity*, Porto, Casa da Arquitectura, FIMS, Guimarães 2012, 132-140.

¹⁵ William Curtis, “Memory and invention: Fernando Távora’s park and tennis pavilion at Quinta da Conceição” 1956-60, José António Bandeirinha (ed.), *Fernando Távora. Permanent Modernity*, Porto, Casa da Arquitectura, FIMS, Guimarães 2012, 126-131.



Gonçalo Canto Moniz

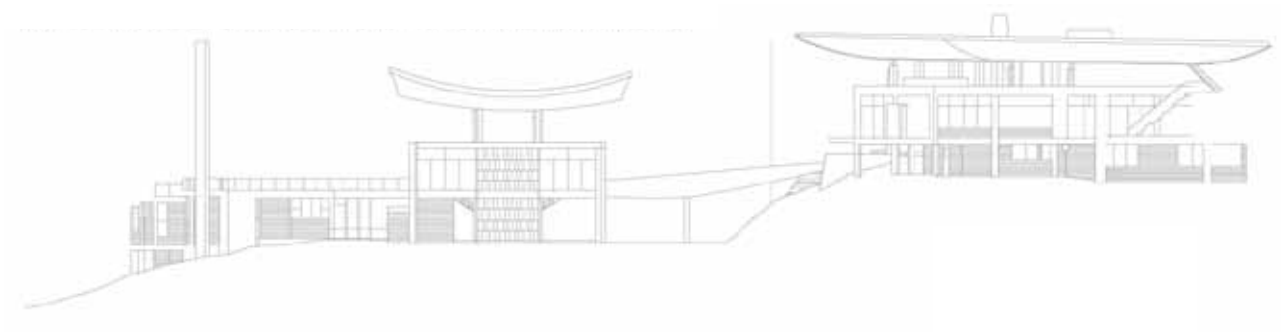
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He organized with Álvaro Siza and José António Bandeirinha the exhibition and catalogue *Fernando Távora Permanent Modernity* for Guimarães 2012, European Capital of Culture. In 2014, he was invited editor of *Docomomo Journal*, N 49, with the theme “For an architect’s training”.

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POSTER SESSION

THEME

Education and Theory

Conservation and Re-use

Urbanism and Landscape

Technology

Asian Modernity

Essence and resilience of Modern Movement: Serpentine Gallery Pavilions

Eduardo ROSSETTI *

Serpentine Gallery pavilions have been being the most celebrated happening of the architectural field over the last decade because every year a brand new one is build on the same site achieving the most instigating results of the contemporary architecture production. Guided by a high quality esthetical instinct their directors have established a sort of questions for the architectural field: who is going to be the next architect/office? How the pavilion will be? What kind of surprise will it bring? What kind of spaces, materials and forms will it explore? Serpentine Gallery pavilions have become a great architectural although keeping the simple task to solve a shelter for meetings, coverage to protect from the rain and sun, a place with a coffee shop, a space with a rich internal space layout, with several possibilities of using it as part of daily activities. The whole Serpentine Gallery pavilions explore technical problems, investigate spatial solutions, provoke perceptions, materialize sensitive expressions and rebuild the sense of place supported by an architecture whose main character is not to last forever. Somehow a pavilion has its own complexity and besides the formal, technical or spatial singularity the pavilion is an attraction itself. So pavilions have become an extraordinary opportunity to explore constructing solutions, refine architectural language, and upgrade the discourse renovating spatial experiences. Thus pavilions as the most experimental field of contemporary architecture get related to the main tasks of Modern Movement architecture: provide a real sense of the ultimate level we are. Much more than an circumstantial result these pavilions show new limits and boundaries of a professional field completely full of theories and rhetorical approaches highlighted by a team composed by Zaha Hadid, Rem Koolhaas, Alvaro Siza & Eduardo Souto Moura, Frank O. Gehry, Daniel Libeskind, MVRDV, Olafur Eliason & Kjetil Thorsen (Snøhetta), Jean Nouvel, Peter Zumthor, with an expressive participations of Asians architects such as Toyo Ito, Kazuyo Sejima, Ryue Nishizawa and Sou Fujimoto, besides the famous Brazilian architect Oscar Niemeyer. Actually these pavilions are build and pulled down every year and we just get the images, the photographs, the architect's speech, the critical approaches, movies and memories of an ephemeral architecture. So as a matter of physical result all Serpentine pavilions are the most essential challenge of the contemporary architectural field and at the same time the most resilient one because it must reach an importance for history and critics thorough three months. Serpentine pavilions exposes how many possibilities lays on an architecture beyond canonical references but without denying the Modern Movements ones. Far from pretending to get any label these pavilions show how simply contemporary they are rebuilding a strong historical perspective once they are located in the same Royal Park where the Crystal Palace was celebrated and also pulled down, opening up a brand new era that a few could even realize. Serpentine pavilions can point out reflections about our contemporary conditions. That's why Serpentine Gallery pavilions remain as a manifesto of the essence and resilience of Modern Movement.

* Architect

East Wind: West Wind. The originality of California mid-century architecture and other modernist myths

Jose Parra MARTINEZ *

California has always been on the edge in both a literal and metaphorical sense. Its territory lays at the western edge of a continent and the eastern edge of the largest ocean. In the United States, westward expansion has always meant that ideas, not just people, traveled from east to west. Yet it was difficult for many in the eastern academic and cultural establishment to accept that educated thought could travel in reverse. This conflict between East and West Coast perceptions and inspirations would shape California modern architecture and the way the world knew it through local and international architectural periodicals. In presenting the significant influence of Richard Neutra over Harwell Hamilton Harris and the way Harris' legacy affected Gordon Drake's work, a modern genealogy spanning three generations of California architects –from the mid-20s to late 40s– is established on this research work to discuss how these authors understood and expressed their special links with the physical and the creative landscape of Southern California. Harris reached Neutra's office in 1928 where he begun working on the project of the Lovell Health House, the building to which Neutra devoted the most important promotional effort in his career and the work that confirmed his international celebrity. Just over a decade later, Gordon Drake joined Harris' office where he worked in fact on the Weston Havens House project, the house that assured the recognition to his mentor. The analysis of the projects in which these architects worked together as disciples and masters and, above all, the identification of their circles of influence, can describe some of the formative events that best explain the channels through which the most original modern traditions in the region were generated and transmitted. Harris and Drake are two genuine California architects. Despite the quality of their work, it remains quite unknown to the architectural culture outside the United States. This situation is representative of how the history of modern architecture has approached California only through a few incomplete reports whose main sources should be furthermore examined. This is the case of Esther McCoy, the first architectural historian of the California modern period whose writings are often quoted without considering her frequent personal involvement in the very facts that she describes. The cover of March 1940 issue of California Arts & Architecture portraying full-page the inspired cross-section of this house meant a turning point in Harris' career and equally decisive for John Entenza. For the architect it entailed the end of his relationship with the magazine. Regarding the writer, it was his first cover and the beginning of a thriving publishing career oriented to make international prestige. The Media interest aroused by the work of these architects and their editors brings the opportunity to explore the mechanisms of fame and the editorial policies of the time, as well as the publicity strategies of these authors and even the importance that some protagonists of these stories conceded to the elaboration of their own mythology.

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Max Bill criticism on Brazilian Modern Architecture

Marcos José CARRILHO *

Recent surveys at São Paulo City public archives have allowed access to significant sources concerning, among others, five Oscar Niemeyer buildings designs. They are COPAN Building (1951), Montreal Building (1952), California Building (1952-3), Triangulo Building (1953) and Eiffel Building (1953). Each to their own way, these buildings comprise different sorts of urban insertion that met modern architecture requirements adjusted to traditional urban morphology. As an invited artist at 1953 São Paulo Art Biennial, Max Bill visited some of those buildings. Afterwards he would criticize hard the excessive formalism of Brazilian Modern Architecture. In a different tone, he was also followed by Ernesto N. Rogers, Walter Gropius and Giulio Carlo Argan. Instead of formal speculation, Bill suggested that tropical architecture investigation should be driven to traditional buildings developed around patios as means to achieve adequate environment control. Local critics immediately reacted against Bill's proposals. They repudiated patios as an unfit form that should be avoided by modern architecture. Both parties did not realize that California Building, the case that stroke Bill's criticism, was a well succeeded example of a modern building organized around the patio system. In the heat of the debate, it seems that neither critics nor supporters had assessed those works properly. Unfortunately, that debate remained long time lacking a deeper development. Little researched, those works only recently have deserved more accurate investigation. Their architecture is not strictly modern as it was then supposed. They were compromised by local urban regulations and their urban context. A review of those sources and an accurate analysis of the buildings confronted to the points criticism had raised that time would certainly bring new references to their assessment. The proposed paper intends to discuss Bill's criticism and other visitors' articles contextualized by local response, as well as by the buildings analysis.

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Corridor-Free Schools in Slovenia

Natasa KOSELJ *

Slovenia was for a long time part of the Austro-Hungarian empire. There are still over 30% schools designed in the old Maria Theresa manner. In the beginning of the 20th century, after the break of the Austro-Hungarian empire, an Austro-Hungarian school in Slovenia became a prototype for the school with a long and dark corridor, something that Slovenian modernist approaches in architecture tried to get rid of, following the Modern Movement ideals of the flexible and rational plan construction, the light, the air, transparency, hygiene, socialising and links with the nature. The architect Emil Navinšek, Plečnik's pupil, was the first one who introduced a corridor-free school to Slovenian public. He also published a book with the title *The Revolutionary New Corridor-Free Systems in Architecture* (1969). There are still over 50 schools in Slovenia designed by the Navinšek's corridor-free system. The main idea of which was to put the main staircase and the main hall in the centre of the school. The architect Danilo Fuesrt was also Plečnik's pupil and worked for Navinšek for some time after the graduation. He is an author of a combined, corridor-free and pavilion school in park and a pioneer of prefabrication in Slovenia. He is also the one who was the main organizer of the event *From the Old to the New School* in 1954, with Alfred Roth as a main speaker. The paper will discuss the first attempts of the Slovenian national identity in architecture presented through the development of the school plans in the 20th century, with the main focus on the work by Emil Navinšek and Danilo Fuesrt. To present the idea about how a modern Slovenian nation should be educated in the 20th century in a way that was following Modern Movement ideas in its very roots, using the corridor-free system as a vehicle.

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Klaus Heufer Villas in Caracas, or the Resilience of the Modern Movement

Rafael Pereira ESCALONA *

1. Translation The idea that the principles of Modern Architecture do not always have to be imported by local architects from abroad ---but instead could be also brought into a country by an “imported” architect---, explains well the case of German architect Klaus Heufer and his oeuvre in Venezuela from 1952 to 2000. Klaus Heufer studied in the Braunschweig School of Architecture in 1950 and was a disciple of Professor Friedrich Wilhelm Kraemer, one of the masters of the German modern reconstruction. Heufer was invited to Venezuela in 1952 by Venezuelan architect Luis Malaussena to be in charge of two “very modern” projects: the Hotel Maracay in the city of Maracay and the Salon Venezuela of the Círculo Militar de las Fuerzas Armadas in Caracas. These two buildings meant the entrance of Heufer into the History of Architecture as one of the pioneers of the diffusion of the International Style in Venezuela. With this language he produced a significative body of work: office, industrial, religious and apartment buildings, in Venezuela, in the Antilles and in Portugal, where his Hoescht-Remedia Building in Porto is listed by DoCoMoMo Iberico. But it is in his houses where we can appreciate a sublime manifestation of the resilience of the Modern Movement. 2. Regionalism In 1958, Heufer founded the firm Arquitectos Asociados and started an independent practice characterized by the application of the architectural principles that Kraemer taught him: an extreme compositional rationalization of the layouts as well as the structure; the independence of the wall from its bearing function, allowing the diagonal interconnection of spaces and open bays where needed. Another relevant feature of Heufer quintas is his obsessive care for detail, developed in the final phase of his training in Denmark and Sweden, where he went to learn from the leading Nordic wood furniture designers. Therefore, Heufert houses from the '50s where a radical departure from the “perforated boxes” typical of Venezuelan modern architecture, more related with Art Deco and the Parisian School. Heufer was in love with the exuberant nature of Venezuela and started to be aware of its architectural tradition. Thus, he began to incorporate formal and typological vernacular elements: the tiled roof, the patio and the corridor, re-elaborating these elements in his modern architecture thinking. The tiled roof became an abstract inclined plane with a tile texture, no longer depending on the supporting walls structure of the partitions, which used to demand brakes of the roof surface. The corridor became much higher than the traditional corridors, allowing the social areas of the house a full bay that created a threshold with the outside, an interior/exterior interfase in continuous relationship with the garden. 3. Topophilia As Heufer became aware of the rich landscape variations in Caracas, he also developed a refined sense of place. Therefore he enhanced his villas with elaborated gardens and art collections. In this way he made an outstanding contribution to the quinta as a villa, and merged the modern architectural language with the vernacular.

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Passion for Tong Lau: Conservation and Adaptive Re-use of Tong-Lau Ensemble in Mallory Street, Wan Chai, Hong Kong

Edward LEUNG *, Hung CHENG **

A disastrous bubonic plague broke out in the densely populated Chinese district of Hong Kong in 1984. Investigators from the British administration concluded that the poor environmental conditions and short of sanitary provisions of general uncontrolled dwellings in the Chinese district were the main cause. Thus the first modern ordinance on Buildings and Public Health was introduced in 1903 to impose various modern 20th century concepts like natural ventilations, natural daylight, rear service lanes, limit of depth, structural stability, connection to drainage, and flue for kitchen etc. The Chinese community, without the direct design inputs of British engineers who build the government buildings or houses for Westerners, integrating traditional techniques like Chinese timber purlin structure and tiled roof, modifying popular South China urban form similar to Shophouse, utilizing modern construction technologies borrowed from British engineers like iron lintels and concrete cantilevers, derived a new urban building form known as “Tong Lau”. Tong Lau not only represents the rudimentary yet effective milestone which steered the proper design and construction of buildings in Hong Kong, but also a testimony of the first step of the Chinese community developing into Modernity. Wan Chai is an old district of Hong Kong fast rejuvenating as a hip retail / commercial area. A group of ten Tong Lau buildings built in 1910s is probably the only largest, intact, remaining group of pre-war Tong Lau ensemble. Urban Renewal Authority (URA) took up this almost impossible task of three concurrent objectives: (1) Conserve this valuable historic ensemble, (2) Create a public open space out of this tiny site as required by Planning Authority, and (3) Revitalize this old district by making an art and cultural public venue. With the support of URA, Architect and the professional team are determined to spend extra efforts to explore innovative design and to painstakingly integrate traditional craftsmanship with modern technologies, in order to preserve the historic fabric, interpret the traditional spaces, reveal the original materials / techniques, comply with modern safety regulations, and fulfill the contemporary functions. This project is made possible by the passion by the team for Tong Lau as a unique architectural expression of Hong Kong. This achievement is not merely a conservation project, but a demonstration that even modest urban buildings are capable of being revitalized for public use, telling the memorable story of the road to Modernity for humble citizens of early colonial Hong Kong.

Unpublished material for the study of the work of Moreno Barberá: the case of the School of Agricultural Bachelors of Valencia (Spain)

Ignacio CABODEVILLA *, Xavier LAUMAIN **

The Italian and Spanish dictatorial period focused their expansion plans over Africa, covering a wide and ethereogenic geographical area spanning from the Golden Corn to the Atlantic Sea during the first half of the Twentieth Century. The occupation required the production of new cities, or the enlargement of existing ones, based on European models and usually unaware of the preexistences, in order to configure a new identity for the territory and its inhabitants. Asmera and Massawa in Eritrea, Addis Abeba in Ethiopia, Mogadishu in Somalia, Tetouan, Sidi Ifni, Al Hoceima or Larache in Morocco, are urban models developed overseas, European cities in an Islamic culture, that often attempted to show an unreal modernity of the occupying country. The use of the modern architectural language, or the recall of the classical language were dictatorial tools here used to differentiate the International period that often carried improvement to the colonies, also if not accessible to everyone. When the colonial forces withdrew from Africa the model was obviously erased, but no alternatives were found. The growing pressure of new urban population, and the problems related with the protection of cultural heritage urge to be addressed, and a better understanding of the evolution of these cities, comparing several case studies, can help to formulate new rules and guidelines for their enhancement. The paper aims to present from an historical point of view how Italy and Spain exported their urban models to Africa, when new cities were founded, or existing ones expanded. The presence of these countries in the African continent covered a wide and ethereogenic geographical area, giving the possibility to investigate different models, but also similarities existent in the process. This survey, based on archives spread all over Europe, focuses to understand the inner nature of these cities and their evolution. The relation between urban development and colonial planning will be explored in the structural, formal and functional relations, giving a great attention to the links between the original, sometimes rural or informal tissue, and the colonial expansions.

The Future of School Building Stock. Open Building System, Spatial Reappropriation and Institutional Regimes.

Maja LORBEK *

Based on the architectural and organizational history of classrooms in European schools since the 19th century this paper will discuss some of the multifaceted relations between the built environment, institutional regimes and users. The idea of “open building system” [1], first described in 1960s by John N. Habraken will be introduced as a concept which can ensure both continuity in use of historic material resources while at the same time enable reappropriation, diversion [2] in the use and production of space and allow for contingency and change. Within the built environment, which is defined as a crucial, non-renewable cultural resource [3], it will be demonstrated how this approach works in existing school buildings. Architectural history usually narrates stories about original ideas and discloses historic societal and political conditions. Except for buildings under monumental protection, there is no linkage between knowledge on historic conceptions and contemporary transformation practices. Pedagogical ideas and teaching practice changed considerably during the course of the 20th century. Until today, in most new schools and corresponding norms, the shape and the volume of the classroom remains the same as in 19th Handbuch der Architektur [4]. Unlike the constant spatial shape of a typical classroom, the school class which used to be a fixed and homogenous social entity today is changing fast due to new educational approaches. However, future education will still take place in historic buildings. Open building system applied to existing buildings can diminish determinacy in use but also reduce conflicts between contemporary requirements and historic features, particularly in post-war Modernist buildings. Diagrammatic schemes will be used to demonstrate, how the “open building system” approach can be used to modify existing school building types in order to ensure the future of material in cultural resources in modernist buildings. References [1] HABRAKEN N.J.: Supports. An Alternative to Mass Housing, The Architectural Press, London, 1972 (Dutch edition 1961) [2] LEFEVBRE H.: Production of Space, Wiley Blackwell Publishing, 1991 [3] HASSLER, U. (2009): Long-term building stock survival and intergenerational management: the role of institutional regimes, Building Research & Information, 37:5-6, 552-568 [4] DURM, Josef (ed.): Handbuch der Architektur, 6. Halbband: Gebäude für Erziehung, Wissenschaft und Kunst, Darmstadt, 1889

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New approaches to Niemeyer's CTA design

Marcos José CARRIHO *

Started in the 1930s, modernization efforts in Brazil continue in the immediate post-war period. In 1947, the Air Ministry held a design contest for the creation of Aeronautical Technology Centre - CTA. The scope of the competition comprised a school for research and professional training, laboratories, residential housing, sports facilities and administration. Oscar Niemeyer's proposal was the winner. Built in the late 1940s and early 1950s, this small town achieved good reception by international critique as the Stamo Papadaki's studies about the architect well demonstrate. After more than sixty years of its creation, the CTA is being considered for its nomination as a National heritage. Researches in the archives of the institution brought to light extensive documentation unknown to the public. Preliminary analysis of those sources suggest a new appraisal of those works in many aspects. The first and most intriguing refers to urban designs submitted to the contest. These calls attention to the striking similarity between urban plans presented by Oscar Niemeyer and Affonso Eduardo Reidy. These, in turn, appear to derive from another source, the design presented by Le Corbusier, in 1936, for the Rio de Janeiro University Campus. The second aspect comprises the plan effectively carried out. The Oscar Niemeyer's proposal was subjected to at least two successive revisions. Nevertheless, the main features that guided the original design were kept. The set of distinct buildings performed resulted, as well, different in many aspects from those initially projected. Most of the buildings, however, retained an expressive value and a strong freshness in their formal innovations. They also demonstrate an anticipatory character, especially those concerning urban solutions, in particular the arrangement of dwelling rows. Detached from the commitments of the criticism at that time, the review of the documentation recently compiled will surely bring new contributions to knowledge of the work of Oscar Niemeyer and the remarkable CTA achievements.

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Tuberculosis Sanatoria architecture: nowadays challenges for its conservation and re-use

Renato Gama-Rosa Costa *

Beatriz Colomina once Said: “Modern architecture is unthinkable outside tuberculosis. The principles of modern architecture seem to have been taken straight out of a medical text on the disease”. From her affirmative, that important North American researcher, traced numerous parallels between Medicine and Modern Architecture, in other words, in how the medical science and the obsession for tuberculosis had influenced the architecture made in the 1930’s, quoting Le Corbusier, Giedion, Mies Van der Rohe and Tony Garnier works, etc. This same health program that so much would had influenced modern architecture, lives nowadays a dilemma: must its continue to follow contemporary medicine precepts continuing being update and, this way, taking the risk in losing its constructive characteristics that so much enchanted researchers as Colomina or must be preserved at any cost as one of the best programs of the Modern Era Architecture? Which are the limits and principles between conservation and re-use that imposes challenges on its preservation? The sanatoriums, as they were conceived, no longer exist after the discovery of the BCG vaccine in the second half of XXth Century and begin an abandon or even a re-conversion process that initiate a menace for its integrity. Its original function, one of the greatest principles of Modern Movement, has no more reason to be maintained. How to proceed to preserve these sanatoriums if they are no more useful? Should they stay just as a register and a testimony of a way to make medicine in the past – if this shouldn’t be a good reason itself? These worries would be enough to initiate a campaign for its preservation? The 2011 International Docomomo Homework seems to points positively. But, which are the real actions that must be done to preserve these important modern buildings before it’s too late? Starting from these questions above, we want to present examples from sanatoriums built in Portugal, Brazil and even in Maputo, Mozambique, between 1934 and 1942, most of them still existing and preserved, but that no longer function as its original uses. What contributes of its preservation can we get from the discussions in this congress to guarantee its past, its present and its future?

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An Italian Thirty Years Architecture - Colony IX May to the Sea's People in L'Aquila

Renato MORGANTI *, Alessandra TOSONE **

An Italian Thirty years architecture - Colony IX May to the sea's people in L'Aquila Renato Morganti, Alessandra Tosone, Simona Cociolone, Danilo Di Donato Department of Civil, Building-Architecture and Environmental Engineering University of L'Aquila renato.morganti@univaq.it alessandra.tosone@univaq.it danilodidonato@libero.it Among the numerous architectural themes introduced in the Thirties by the Fascist Regime special place is occupied by the Colonie climatiche di soggiorno together with the more familiar examples of the Casa del Fascio, Palazzi Littori, Post office buildings, etc. The colony "IX May" was built in 1937 by architect Ettore Rossi on behalf of "The institute of assistance to the sea's people", in Poggio di Rojo (L'Aquila), about a thousand meters above sea level. Used for only few years as colony, during the second world war hosted American army until 50's, and then Dalmatian's refugees without any architectural transformations. Between 60's and 70's it was considered appropriate to host University functions and during his period was subjected to many changes and enlargements which transformed the original envelope. The 2009's earthquake damaged most of the facades and internal partitions without compromising seriously the particular structure. In the specific condition of the post-earthquake, this paper intends to contribute to the reconstruction of its historical and structural events, in the frame of application particular modalities, in Italy, of the reinforced concrete technique, also with respect to aspects of seismic safety, without omitted the aspects more closely connected to the restoration and rehabilitation of the modern building significant for the architectural solution and environmental context. We want to analyse the historic value and architectural and technological features of this building, in order to define a cognitive tool useful to suggest the project of re-use and preservation of building. This project can't be postponed due to the process of disrepair that has involved the colony since the 2009 earthquake.

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** 10 Architectural Engineering at the University of L'Aquila

Sustainable marginalities: conservation and reuse of “Colonie Climatiche di Soggiorno” in the Abruzzo Region.

Renato MORGANTI *, Alessandra TOSONE **

Sustainable marginalities: conservation and reuse of “Colonie climatiche di soggiorno” in the Abruzzo region. Renato Morganti, Alessandra Tosone, Danilo Di Donato Department of Civil, Building-Architecture and Environmental Engineering University of L’Aquila renato.morganti@univaq.it alessandra.tosone@univaq.it danilodidonato@libero.it In the Thirties, in the Abruzzo region several “colonie climatiche di soggiorno”, summer youth hostels, were built such as colonies “Rosa Maltoni Mussolini” in Giulianova and “Stella Maris” in Montesilvano, or the mountain hostel “IX May” in L’Aquila. These buildings represent a heritage of architecture of Modern Movement in Italy and are worthy to be preserved. However the requirement of conserving them has to be judged considering the specificity of use to which they were originally intended: the colonies were in fact built in marginal areas of cities and this singular condition of peripheral spaces, that are currently both inside and outside of urban spaces, makes difficult the defining of effective strategies in order to achieve a re-use compatible with actions of conservation that take also into account of particular events of each building. The marginal conditions of these constructions haven’t only to be referred to the eccentricity of their placement respect to urban centers where they insist on, or to their atypical features compared to those of more common architectural themes in Thirties, but also to marginal conditions they are relegated by dynamics of growth and development of contemporary cities. As a result of urban transformations these buildings are affected by a process of disrepair due to a progressive abandonment. In the case of marine colonies the disrepair suggests the need for proposing new functions as a prerequisite to any possible conservative actions. On the contrary in the case of the L’Aquila hostel, that is not currently used because of the damage of the L’Aquila earthquake of 6th April 2009, the project of preservation seems to have to be ensured through a project of remodeling of the method of use and use of space. We want to suggest a reflection useful to define a good balance between the need of preservation and opportunities of reuse, trying to reduce the impact of contradictions between themselves. The good balance has to be translated in terms of complementarity and not of opposition between conservation and reuse, in order to develop strategies that are not only limited at the scale of the building but that can involve the whole built environment, changing the condition of marginality into suitable solutions, more integrated to relations linking different parts of cities.

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** 10 Architectural Engineering at the University of L’Aquila

The Sydney Opera House: An Icon of Transcultural Modernism

Adrian CARTER *

The Sydney Opera House, one of the most innovative and iconic Modernist buildings of the twentieth century, owes its design to Jørn Utzon's range of transcultural sources of inspiration; notably from Asia. Today the Sydney Opera House has become the reference for politicians and the wider public alike of how a single work of architecture can transform the identity of a city and even, as in this case, a nation. It was Jørn Utzon's vision, alone among all the competitors that recognised that this unique site at Bennelong Point needed to be understood in terms of its surrounding landscape and that being visible from many surrounding vantage points required a sculptural solution with regards its "fifth facade". Having not visited Sydney, it was through his skilled reading of topographic maritime charts that Utzon was able to appreciate the particular morphology of the Sydney harbour basin, with its characteristic headlands; which he emulated in the forming of the podium. Thus the podium, with its origins in the ancient architectural idea of the raised platforms that Utzon had experienced at the Mayan ruins at Chichen Itzá, Monte Albán and Uxmal in Mexico, becomes in Sydney a continuation and evocation of the local natural terrain, developing further Alvar Aalto's (with whom Utzon worked briefly) notions of building as artificial landscape. Seemingly floating above the podium, the Sydney Opera House's signature sail-like roof shells were expressed by Utzon in his conceptual sketches as being like clouds hovering above the sea, both as experienced in nature and as evoked in ancient Chinese and Japanese temple roofs floating above a stone base and are reminiscent of the entrance to the Forbidden City in Beijing. While the choice of ceramic tiles to accentuate the sculptural character of the shells, which earned the Opera House the earlier nickname "The Other Taj Mahal", owes its inspiration to one of Utzon's favourite buildings, the Great Mosque in Isfahan, Iran and the central space between the halls, was intended to be publicly used like the bazaar in Isfahan. Another loss to the project due to Utzon's departure, were his proposed interiors; that were so profoundly influenced by his fascination and understanding of Chinese Architecture, most particularly the Yingzao Fashi building manuals of the Song Dynasty. This Paper will examine Utzon's sources of inspiration; notably his references from Asia and discuss how they informed the design of the Sydney Opera House. The paper will discuss how the building came to represent a new direction in the Modern Movement and also Australia's move towards a greater connection with Asia, as its immediate geographical context. The paper will also consider the issues of the inevitable future refurbishment and redevelopment of the Sydney Opera House, as a listed building, that are particularly complex since the building was not completed as originally intended by Jørn Utzon; but his vision deriving from the original drawings and the design proposals he made for the building in the last decade of his life could be implemented in the future.

* Director of the Utzon Research Center.

The George Roseborough Collins archives: a Typological Vision of Modern Urbanism

Carlos FEFERMAN *

The George Roseborough Collins archives at the Harvard Frances Loeb Library contain the life work of architectural historian George Collins (1917-1993), dedicated to the study of modern urbanism, particularly the notion of linear city planning. The research documents present a systematic look at modern planning up to the early 1960s. Collins attempts to bring into coherence a wide-ranging production, spanning the first half of the twentieth century and a broad geographical spectrum. A typological approach requires sufficient material to allow for the identification of common underlying principles. Collins's comprehensive studies contain examples from four continents: North and South Americas, Europe and Asia, including early Soviet plans and Kenzo Tange's Tokyo Bay plan. The expanded vision of modern urbanism brings about a sense of historical closure present in some of the late 1950s manifestations, such as the later CIAMs. It also reveals the inherent differences that would lead to a revision of the modern legacy. Two main studies result from the research. "Linear Planning Throughout the World" (1959) establishes the idea of type through its relationship to the underlying city structure. The study, which began as a comprehensive survey of linear plans, gradually transcended the more evident formal characteristics. Despite having the linear city as a common motto, important differences between the examples presented a challenge to the idea of unity. "Utopias that Allow for Growth and Change" (1962), an unpublished research project, organizes modern plans according to three categories: "the extensible suburb"; "the assembly line city" and "the dynamic city". Here, Collins identifies sustainable growth as a key issue in the modern approach to urban development, particularly in its relationship to functional allocation and infrastructure. The analysis of the city's capacity to sustain growth and transformation requires a more dynamic use of typology. Collins's research situates itself between an operative vision of modern urbanism – one showing a continued belief in the modern capacity for planning – and a historical approach, benefiting from the hindsight of the early sixties. His comparative analysis reveals a broader and more complex history of modern urbanism. The expanded field which emerges in Collins's investigations would accommodate new critical approaches and regional manifestations.

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Models of Cities Overseas: a Comparative Study between the Italian and Spanish Colonial Experiences in Africa

Guido CIMADOMO *, Gabriella RESTAINO **

The Italian and Spanish dictatorial period focused their expansion plans over Africa, covering a wide and ethereogenic geographical area spanning from the Golden Corn to the Atlantic Sea during the first half of the Twentieth Century. The occupation required the production of new cities, or the enlargement of existing ones, based on European models and usually unaware of the preexistences, in order to configure a new identity for the territory and its inhabitants. Asmera and Massawa in Eritrea, Addis Abeba in Ethiopia, Mogadishu in Somalia, Tetouan, Sidi Ifni, Al Hoceima or Larache in Morocco, are urban models developed overseas, European cities in an Islamic culture, that often attempted to show an unreal modernity of the occupying country. The use of the modern architectural language, or the recall of the classical language were dictatorial tools here used to differentiate the International period that often carried improvement to the colonies, also if not accessible to everyone. When the colonial forces withdrew from Africa the model was obviously erased, but no alternatives were found. The growing pressure of new urban population, and the problems related with the protection of cultural heritage urge to be addressed, and a better understanding of the evolution of these cities, comparing several case studies, can help to formulate new rules and guidelines for their enhancement. The paper aims to present from an historical point of view how Italy and Spain exported their urban models to Africa, when new cities were founded, or existing ones expanded. The presence of these countries in the African continent covered a wide and ethereogenic geographical area, giving the possibility to investigate different models, but also similarities existent in the process. This survey, based on archives spread all over Europe, focuses to understand the inner nature of these cities and their evolution. The relation between urban development and colonial planning will be explored in the structural, formal and functional relations, giving a great attention to the links between the original, sometimes rural or informal tissue, and the colonial expansions.

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Environmental Performance of Adaptive Building Envelope Design: Urban Housing in Seoul, Korea

Jeewon PAEK *

In 1962, the first apartment construction began in Korea. Prominently influenced by the 1930s rational architecture from Europe, the housing site planning for Seoul systematically multiplied into a linear urban pattern of slab typologies. This development represented modernity and quickly became a ubiquitous urban housing typology in the midst of Korea's rapid economic growth. As the city stepped into the late 1990s, the slab typology has been criticized for their lack of life quality, diversity, dynamic urbanism, and low density. The scale of housing developments increased into a model adapted from contemporary urban residential schemes- the mega glass tower, to meet this demand. Energy consumption of the tower typology has doubled from the linear slab model due to the increase in glazing ratio, the application of tinted green double glazing in replacement of clear double glazing, and the irregular orientation of the floor plans. The research finds that the energy performance of the tower typology is improved with double glazing with low-e, external wall U-values of $0.28 \text{ Wm}^2/\text{K}$, night shutters with 20mm insulation 0.026 conductivity, and external shading devices to address the heat loss and solar gains through the façade of the new residential tower typology. This research determines to analyze the environmental performance of the new tower typology in comparison to the previous slab typology at different urban obstruction ratios, with the objective to improve its quality in terms of architectural design and energy consumption through the building's envelope. Keywords: Urban Housing, Adaptive Building Envelope, Tower Typology, Passive Design, Urban Obstruction Ratios.

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From Urbanism to Architecture: Niemeyer's Vision to University Campi

Klaus ALBERTO*

Despite the inherent urban and architectural aspects related to the studies on university campuses, usually such studies highlight the urban theories and their applications to “micro ideal cities” aimed at education. However, from the 1960s, several projects emphasized architectural themes and proposed a single building of large dimensions categorized by the critic Reyner Banham as “megastructures”. This was an alternative to the university, different from the ideal of the separate blocks campuses. In Brazil, the project of the Central Institute of Sciences (ICC) at the University of Brasilia (UnB) developed by Oscar Niemeyer stands out as an example of this architectural proposal. In this sense there was a great effort to create sophisticated technical solutions that would allow flexible spaces able to different uses and constant changes due the dynamics of science. The project was developed according to the ideals of academic integration advocated by educators involved in the planning of the university and is intrinsically related to the tectonic of the building, here understood as an analytic approach to the formal aspect of the building with the techniques that allowed its construction. By the time the Central Institute of Sciences building was under construction, other views concerning university spaces were being developed. Although sharing conceptual similarities, those concurrent perspectives were, formally, new possibilities of understanding the architectonic and urbanistic space. These structures became internationally known as mega-structures and were largely adopted in university programs. Technical racionalization, modulation, flexibility, greater building functional longevity, prefabrication, use of exposed concrete inside and outside the building, are visible themes in both groups of projects, as much for the national experiences of production of universities in that period as for the international ones. This article discusses both the study of ICC as its impact on several other projects of the architect to the same theme because the solutions studied for the UnB became a standard answer to projetuais problems related to higher education in the repertoire of the architect.

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The landscape configuration in Brasilia: the Center-Outskirts Relation and the Case of Aguas Claras

Luciana SABOIA *, Lucas BRASIL **

Although not an *ipsis litteris* materialization of the Athens Charter, the federal capital of Brazil, Brasilia, brings in itself a clearly search for the implementation of modern movement ideas. It was designed by Lucio Costa as a city characterized by wide spaces, the separation of roads and pedestrians and the public ownership of urban land, in which the obvious dichotomy between public and private – a characteristic of traditional Brazilian cities (HOLSTON, 1993) – shouldn't manifest itself so violently in the urban configuration and landscape, marked by horizontality. With six floors residential buildings over pilotis, intending to allow the free circulation and appropriation of spaces for all individuals and the enhancement of public over private and with a strong focus on the notion of “neighborhood”, where the residents could access education services, leisure, health services and interact with their immediate community, beyond the clear separation between commerce and residence, this urban proposal carried a new model of social organization, of urban fabric, integration and composition of the city landscape. Brasilia, polynuclear city since before its inauguration, has its urban settlement made around its unique design, the Pilot Plan. New nuclei, called “Satellite Towns” were planned according to the same modernist principles, but without the same careful deployment and architectural quality. With the heightened criticism of modern urbanism – like the claims of emptying the public sphere, the lack of identity in public spaces, the landscape of urban sprawl without density and social gatherings - the new Satellite Towns, built from the 1980s, followed new urban paradigms and housing typologies. In the early 1990s, is established, in close proximity to the originally designed Brasilia region, lying about 19 km from the Pilot Plan, the City of Aguas Claras, under the speech of remedying the ills of modern urbanism. It claimed a return to “traditional urbanity”: urban density - buildings in towers of 12 floors -, avenues and streets formed by commercial galleries, vertical landscape formed by the typical corridor-streets, etc. Three decades after the start of the first buildings, the new Satellite City presents itself as a “dormitory-city” with the same problems of other nuclei near Plano Piloto: it presents characteristics such as lack of autonomy, concentration of housing without nearby places of employment, etc. Instead the street-corridor which should “revitalize” the urbanity lost by modernist spaces, today the landscape is marked by the closing of the towers in gated communities and the privatization of public space with few sidewalks and collective spaces or gathering places. It is observed that, unlike the critical and original design, new ventures seek to rescue the urban logic found in the Pilot Plan, but enclosed in gated communities, indicating the ineffectiveness of the typological change. That said, how an open landscape and with ample public spaces initially planned has being reshaped in face of a growing metropolitan growth?

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Modernity Laminated: Global trends and Local Ways in Batanagar, India (1934 to the Present)

Victor MUÑOZ SANZ *

Following the spectacular growth of the Bata Shoe Company and the transformation of its home town, Zlin (Czech Republic) into a field of spatial and social experimentation, the enterprise began a strategy of decentralization and global expansion which led to the replication of an urban and community model in a series of modern ideal industrial satellite towns, built between the years 1930 and 1945 around the globe. In 1934, a site near Kolkata, in India—a country with millions of potential customers and a source of raw materials—was chosen by the company to build the first outpost in its expansion toward the Asian markets: the new town of Batanagar. Czech architects and social planners developed a tropical version of the ideal city prototype used repeatedly by Bata in Europe; their work became a negotiation to transform both the model and the local conditions to a new hybrid state that would give a new scale the high modern utopia and streamlined ideals of Bata urbanism. With the time, the neutral green fields of the modern colony became an elastic ground of exchange and conflict in which different worlds—Indian workers, European managers and the residents of the neighbouring villages—coexisted and constantly overlapped. 80 years after that, in the context of India's thriving economy, real estate developers eager to make profit with the money from raising upper classes and investment funds, Bata's ownership of a large tract of land in a dense city, and the high operating expenses of a large company town made the perfect match, and Batanagar is now a construction site of a massive integrated new town. With the old shoe factory in operation, and workers re-housed in mid-rise company-owned buildings, the old artifacts in the colony are being demolished as new buildings are erected, albeit schools, temples, trees and water bodies will be preserved. In the context of a pressing need for housing and economic development, new towns in Asia—built after Shanghai and Singapore models—are neither informed by nor anticipate on future and likely conditions of coexistence, and perpetuate global references and binaries between the formal and the informal. The situation urges for the study and conservation of historical and hybridized precedents as Batanagar, which story unveils the spaces for uncertainty in the urban form and architectural typologies of modernity, and the opportunities for their reinvention.

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Domestic engineering: technology driven thinking for the new domestic space in mid-twentieth century Mexico. The case of Boris Albin Subkis.

Alejandro LEAL *

Domestic engineering: technology driven thinking for the new domestic space in mid-twentieth century Mexico. The case of Boris Albin Subkis. Mexico and Latin America are a prime examples of what the modern movement as a form of thought was capable of doing in so modeling through built space a new society during the twentieth century. Even though the region as whole presents innumerable contradictions regarding the application of the modern rhetoric; for instance: are we Latin America part of the western culture? It is without doubt its' prevalence what amaze's us all considering the amount of obstacles it had to surpass for its development e.g. local idiosyncrasy, economic and technological backwardness, climate, etc.... How was this possible considering the regions relationship to science and technology? How come in Mexico a considerable part of built space was carried out by engineers and not by architects? In particular domestic space, apparently so far from engineering tasks and desires. To me it reflects the society as a whole relationship towards domestic space and the pervasiveness of modern values as a way of living; situation that changed Mexico as a country and in particular Mexico City being it's economic and political center. But also and more importantly it perhaps explains how it came about that concrete construction turned out to be the most prevalent form of architecture production. In other words, the engineer's involvement in the construction of people's most intimate spaces on the long run made it possible for a total submission of local architecture to modern rhetoric. By means of understanding how Ukraine born Engineer Boris Albin erected 90 apartment buildings in Mexico City in between the years of 1948 and 1981 I will try to explain precisely the scope and penetration of the modern values in local domestic space and how it changed Mexico.

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Material Perception, Structure and Advanced Technology

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In the art of construction, the fundamental understanding of the materials and the adequate construction methods, both of which are based on the theoretical and the empirical data have been continually developed and refined through the human history; in conjunction with the development of engineering theories with the mathematical and empirical verifications. The acquisition of knowledge about a material may have come about through the art of construction, before any systematic approach to understanding of the material characteristics has taken place. At the same time, as the fields of material research expands people have endeavored to develop the more adequate construction methods for both the existing and the new type of materials. It often takes some time for the society to adapt the use of the new material for the following possible reasons: • The material's physical performances are not fully accepted by the groups of professionals • The supporting technology and the construction methods for the application of the material are not in more fully developed form. • To pay high cost for the early adaptation • The visual image of the material has no established connection within the target society. As the construction industry has been demanding ever more economical and technologically efficient solutions, the traditional construction methods and materials are constantly in the request for the improvements to satisfy the future needs. The modern industry requires higher production efficiency, better economic value, improved strength and other engineering properties. This has resulted in: • the buildings which are built with more resource efficient construction methods while keeping the building material as traditional as possible, • the out-dated building which are renovated with better performing modern materials, • the buildings which are built with modern construction methods and materials to give the visual impact of the traditional buildings. The possible conflicts may occur not only for the buildings where the newly developed materials are used in which one could not find any traditional values, but also for which the appearance of the modern materials are purposely modified to mock the traditional values. In the former case the viewers may question the designer's understanding of the new material, and in the latter case the viewers may feel deceived, and possibly argue that the genuine quality of the tradition has been cheated or abolished. The purpose of the paper is to describe the work which is in search for the more balanced cases that demonstrate the expansion of our knowledge in construction and the progressive conflicts within our built environments.

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Information System of Modern Materials

Daniela BOSIA *, Valentina MARINO **

One of the peculiarities of modern architecture is the use of modern materials, either as the application of well-known materials in new building products and technologies, or the integration of real inventions, such as new materials, in building fabrics. Among difficulties in refurbishment and preservation actions on Modern Movement's buildings some facts prevail: the lack of information about building construction due to the absence of standards in the use of modern technologies that characterised the original building practice, and the need of refurbishing or replacing original materials not manufactured anymore or not the same way. Uncertainty increases when technologies developed in a specific region are imported elsewhere, replacing original materials with local ones. Or when a new idea of modernity encounters local building traditions, developing different interpretation of modern architecture and industrialized constructions. Did the evolution of modern technology follow the same development in western and eastern countries? Which are the local innovations in technologies and material use that the conflict between western and eastern countries enhanced through the diffusion of the modern movement? Should conservation processes and techniques follow globalized rules for preservation and re-use or local custom is allowed to interpret the modern movement heritage according to the local cultural tradition? The paper proposes the implementation of a catalogue of buildings' and furniture' materials that developed within Modern Architecture. The SIMM material catalogue (Sistema Informativo sui Materiali dell'architettura Moderna – Information System of Modern Materials) aims at supporting preservation and restoration practice on XX century buildings. Collecting data about technical features, manufacturers, application and installation systems, refurbishment techniques already used, the system will provide information useful for facing conscious restoration of XX century buildings' materials and architectural components. SIMM will potentially allow different approaches to the restoration of XX century buildings: for each material are collected data about characteristics, manufacturing and manufacturers, technical application, case studies of existent buildings in which are applied, restoration techniques already experimented and innovative one. The work aims at knowledge building about conservation and re-use of modern movement's architecture around the world, with insight about local specificity of material use. The resulting web tool would support the work of designers in analysing and choosing appropriate technical interventions on the base of data collected from real case studies worldwide.

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Indexing the Modern: images, mnemonic residues and a past to be recollected

Konstantinos IOANNIDIS *

The scope of the paper is to discuss the issue of displacing the heritage of the Modern Movement from the analog space to the digital storytelling platform by setting its indexing in relation to broader phenomena of cultural practices. The aim is to explore the configurative relationships that emerge on the light of a “studia humanitatis” of the immaterial museum of Modernity. A digital index is often associated with a list – or collection - of projects organized into sessions (chronological, geographical, personal, morphological etc.) with a brief descriptive text and indicators that associate the project to the relevant sources. Such on-line presentations with emphasis on the technical description of the project are already a common practice and fulfill their operational goal in a satisfactory way. But when the index is seen as part of the Modern visual culture, then the digital image of the past entails the construction of specific mnemonic residues. The paper introduces this concept as a means to shift the interest beyond the materiality of the projected object and reposition the relationship between recognition and recalling of the modern information within a performative study of its morphologies and configurations through online museums. As part of an ongoing research, the research puts on the table this particular form of exhibiting the Modern by promoting a discussion beyond the conventional notion of the “index” as a static and linear presentation of online images of places and buildings. The narrative function of the index of modernity is, in the beginning, an imaginary construct inherently embedded in the initial intentions of its creator. As the observer enters into the understanding of the configurative relations that the page encourages, it is gradually objectified as a symbolic construct within the subject. This leads to the notable situation where the mind is challenged to synthesize the mental representation of a rather displaced actuality related to the Modern Heritage. That is one made of several displaced relationships and ideas generated, metaphorically or metonymically, by the perceived differential elements in the composite spatial picture of the Modern. It is argued that the diasporas of modernity through the digital landscape relates to specific displaced and differential elements in the mind of the perceiving subject. The study of the displacement of the modern architecture within interactive and digitally generated environments opens up a field of discussion on the identification of the way in which the underlying instrumental knowledge of the Modern can be used as an inductive mechanism to complement the technical dimension of the index and to mediate the understanding of the project beyond the actuality of the screen image. The digital platform of the first official immaterial museum of Greek Architecture DomesIndex (<http://domesindex.com>) and its examples of Modernity’s heritage will be to inquire the configurative dimension of a past to be recollected. The above thoughts frame the following organizing research question that the paper poses through this research: How can Modern digital storytellings be configured as interpretative structures with narrative potential beyond the actuality of the screen? By examining cases of immaterial indexes of the Modern, the paper will try to unfold the underlying (linguistic, configurative and interactional) structure of its digital perceptions.

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Making Modernity from the inside out: the power of three in Milan Mrkusich's house in Auckland

Linda TYLER *

Designing his own home in the aftermath of World War II when there were materials restrictions inhibiting the scale of domestic architecture in New Zealand, painter Milan Mrkusich developed a unique approach to construction. As an artist, his paintings were influenced by his adherence to the ideas promoted by C.G. Jung in his seminal *Man and His Symbols*. Similarly, his architecture used geometric form symbolically. To combat the geological forces of the site, he relied on the structural stability of the triangle. His strategy was to build down a steep slope, using the declivity of the hillside to prop up the structure and to use long wooden beams to open up wide living spaces on the interior, with a fully glazed northern wall for sun and light. Of Dalmation descent, this approach to building technology epitomises the kiwi approach to “making do”, adapting the principles of modern design from international examples to the local materials and conditions. The technology to manufacture innovations that the International Style promoted such as glass sliding doors did not exist in New Zealand, but kiwi architects were ingenious, adapting details from garage doors in order to achieve the same desire effect of opening up the house to the garden through a wide expanse of glazing. Yet the Mrkusich house is more than just an exemplar of “kiwi ingenuity”. As the home that Milan Mrkusich created for himself, his wife Florence and son Lewis in 1951, its innovations are manifold and curious: a three-level dining-living-studio space combined, and two bedrooms divided not by a wall but split by a freestanding room divider, all evidence of a unique approach to construction. Ironically, given that the designer is of Dalmation descent, and a geometric expressionist painter, steeped in European traditions, it is a house that has been claimed as “homegrown” and connected to a vernacular building tradition. There is little sense of the bach or the woolshed on the interior, where three essential elements of daily life - art, music and food - are accommodated by built-in fitments. This paper will argue for the house’s sophistication deriving from a three-dimensional approach to design based on a conception of interior spaces as interlocking and interpenetrating, designed to accommodate three individuals within a pattern of living derived from the premise of the ubiquity of the triangle.

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Beyond Modernity

Catherine GROUT*

From a contemporary and historical perspective we would like to put into question the content of the conflict between Western modernity and Japanese architectural tradition. For this purpose, we propose to analyse the works, architectural thinking and relation to the world of the Japanese architect Naito Hiroshi. Born in 1950 in Japan, Naito belongs to a post-war generation who has learnt modern architecture with Western references. Later, he has discovered the wood tradition when he was conceiving the buildings of a museum that became famous (the Sea Folk Museum 1985-1992). Since that time, we may say that he is developing an architecture that goes beyond the opposition. He associates renewal technology to an integration of the essence of ancient architecture (related to the forces of nature, to an old craft knowledge and to the climate change). Going beyond the opposition means that he is not nostalgic neither regionalist rather he associates the CAD and CAM technology to the deep knowledge of the carpenters for the structure of his projects. At the same time, he emphasizes the terms in opposition, writing often about his concern against a certain approach of architecture as an idea without relation to the reality that produces an object without dialogue within the context. This paradox reveals less his opposition to a Western modernism imported in the nineteenth century than to a contemporary reality (shared around the world) where the meaning of place, of living in a certain milieu, is going to be lost as well as the relation to the landscape. This leads to explore the terms of the conflict from different levels of understanding. We propose to do so in analysing Naito's practice and thinking. One level is the language with the concept of architecture he puts into consideration, one is the materiality and choices related to it (material, tools, way to build), one is the experience of the presence of the architecture with the milieu (*fûdo*) in relation with everyday life, and one is the socio-economical context with the power relations, for example in the Tohoku area in Japan. Since the tsunami in 2011, he participates in a group of architects, KYSIN no Kai, with Ito Toyo, Yamamoto Riken, Sejima Kazuyo and Kuma Kengo, working for the survivals. Voluntary consultant for some communities, he is helping them to plan their future. In this context, the discrepancy in the power relations, the difficulties for a bottom up process, express one current scene of a conflict between at least two ways of thinking that are into question with modernity within the Japanese situation.

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“Oceanic Modernity” as a Strategic Problematizing Activity – On the New Regionalism Architecture in Taiwan

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The development of modern architecture in Taiwan is intertwined with, and shaped by, multi-colonialism that simultaneously defends and interrogates the orthodox modernity. As embodied in the performative discourses of the modern architecture in Taiwan, the incapability to identify themselves with their own regional cultural modernity leads to a very complicated postcolonial condition that formulates a structure of what Fanon (1967) and Bhabha (1985) refer to as “belatedness” and “time-lag”. Belatedness and time-lag render the production of urban space and architecture in this island not only a transitional zone that colonization, anti-colonization, and postcolonization imbricate, but also a characteristic of liquidity, ambivalence, and incompleteness. They are the liminality of sorts, where different processes of cultural colonization intersect, where different historical interpretations and material conditions renegotiate, where governable spaces and bodies are delineated and institutionalized, where sovereignty, citizenship, and nationality are reconfigured. This characteristic may lead to the interrogation of the relationship among modernity as a thought, modernity as a way of thinking, and modernity as a discourse. By elucidating the imitation and resistance of the New Regionalism architecture in the post war consumerism Taiwan to the culture of Europe, US, Japan, and China, this article explores how, and in what ways, the episteme that discusses “modernity” in the context of “the East” and/or “the non-West” (the so-called residual category of “the West”) is a site where boundaries of meanings are renegotiated and reterritorialized. In doing so, it provides some methodological and epistemological concerns to the conceptualization of “oceanic modernity”. As a strategic problematizing activity, it is neither a career that seeks for certain “equivalents” of the West; nor, by emphasizing “cultural incommensurability” of the East, a production of “real” discourses that can be manoeuvred for a project of constructing a non-Western modernity. Instead, by deploying “oceanic modernity” as a temporal “le mot juste de l’espace” to criticize national modern architecture in Taiwan, it reveals in the problematizing activity what are seen as neutral, self-evident, a-cultural, and universal, to the extent that the post-colonial “epistemic violence” underpinning the “translational modernity” or “translation of modernity” can be made visible. Keywords: oceanic modernity, liquidity, epistemic violence, new regionalism

Inverted Diaspora

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What would a Japanese Imperial Villa of the XVIIth century and a work of Mies van der Rohe built in the XXth century have in common, besides the fact that both are among the most remembered examples of, respectively, pre-modern and modern architecture? Katsura Imperial Villa (1527-1629) and Barcelona Pavilion (1929), for instance, are 300 years apart. However, despite the obvious primacy of the Japanese work, the spread of modern architecture and the integration of their values in regional conditions were usually associated only to a Western origin flow. For Asia's case, these colonial expansions have produced violent conflicts and challenged the cultural heritage of the region. However, this article, while looking comparatively to Villa Katsura and some of the major works of Mies, seeks to show that the diaspora may also have worked the other way around. The harmony and the many similarities in aspects such as architectural design, language, formal composition, structure, geometric structures, transparency, permeability, interior-exterior relation, proportions, spatiality, textures, and especially the understanding of architecture as direct expression of the construction, are some of the indications that the proximity between Eastern tradition and Western works of Mies is not only a hypothesis, but a self-evidence. Mies collected Chinese books, and writings of Confucius and Lao-tse were important elements of his library. The friendship with Frank Lloyd Wright and Hugo Häring, who paved the way for awareness in the West to the design methods developed in the Far East, certainly had an influence on Mies. In parallel, the contacts between Mies and Graf von Karlfried Dürckheim, who had a deep knowledge of the east and was engaged with him at the Bauhaus Dessau, probably had further strengthened these ties in Mies. And along with that, the proximity of Mies at IIT in Chicago with Ishimoto Yasuhiro, a Japanese photographer who distinguished himself by photographing the Katsura Villa between 1953-54, completes a box of evidences that suggests that, together with the theoretical basis arising from European classicism (mainly Schinkel), a number of other influences were being absorbed by Mies from the eastern experience, specially the Japanese one. However, one should remember that, despite all these evidences, in the few texts left by Mies there are no references to inspirations coming from the Far East. Moreover, these evidences do not represent a direct dependence on the architecture of Mies towards the eastern way of conceiving design. Nevertheless, they may indicate that at some point happens a meeting between the ideal of architecture produced in Japan in the early XVII century with the thoughts and principles of Mies. This closeness and harmony has similarities in other architects contemporary to Mies, such as Gropius and Taut, who visited Japan and were aware of the variety of modernity in Asia, or the designs of Neutra, Eames and partners to the Case Study Houses. Taking all these evidences and relations in context, this article is interested in comparing the extraordinary similarity and harmony that arises from this here so-called "inverted diaspora" of modernity.

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Innovation in Tradition: Understanding Stylistic Trends of Southeast Asian Buddhist Architecture, after the Modern Era

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This paper is on the relationship between Buddhist architecture and modern society, specially focusing on stylistic trends after the modern times. It is aimed to study the modernist phenomenon in the Buddhist architecture in Southeast Asia where its representations and its resultant factors are taken as variables to study the modern architectural phenomena. Historically, Buddhist architecture serves to remind, to support and to reinforce the Buddhism's ideal value. Architecture and Buddhist cultural idea are also dialectically related in Southeast Asia, specially Thailand, Myanmar, Laos, etc. Buddhist architectural culture introduced in Southeast Asian region has been localized through the process of interaction with a native society and its culture, and still is continuing strongly as a main source of values dominating the cultural image of Southeast Asia. To understand the Buddhist Architecture during the modern times, we need to analyse the issues relating to social change and historical experience after the modern times, including colonialism and modernization. The post-colonial period has seen the continuation of many of the colonial values, modernism (or modernization), and religious nationalism, etc. After the independence from Western imperialism, each countries of Southeast Asia began to re-build (or renovate) many religious architectural works to strength national integration and governing ideology, and sometime to reform social conflict. In some Buddhist architectural works, it may be recognized that the stylistic image is invested with a conventional meaning which may be different from the primary meaning itself. These are more than just quotation and combination of ancient and contemporary imagery; it is conscious exploration of the Buddhist community's identity and of the meaning of the Modern Buddhism the way it is developing. The design is, in any case, not a copy of older imagery but a new synthesis. Traditional forms are transformed by new modern meanings.

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An Historical and Analytical Survey of Iranian Modernity Movement and it's Affect on Tehran's Architecture

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In 1973 the Iranian “national monuments record law” changed and allowed the modern and contemporary buildings, monuments and sites to be added on the national heritage list. It was the same time that the young educated architects in Iran experienced and designed in new forms enthusiastically. By developing Modern Movement in Iran one can see its effects on different aspects of the society and the country. In architecture, new knowledge and new functions caused to new forms and buildings which were completely different from the traditional ones. Modern architecture in Iran developed by 3 different groups of architects: 1. foreign architects who built different lasting buildings in Iran; 2. Iranian architects who educated abroad; 3. Iranian architects who educated in the first modern school of architecture in Iran. These three groups affected on the modern architecture in Iran. The third group has a critical role in development and expanding the modern architecture in all parts of the country. Also the government supported the architects for new constructions and developments. By growing and expanding modernity, protecting the architectural and cultural heritage was another field of interest for some modernists and professionals in Iran. The first, basic new law for considering cultural heritages approved in the first modern National Assembly of Iran in 1907. After two decades the main legislation for preservation of national monuments was adopted. It was the principal law which was the base for next changes and improvements. By the policies of the ambitious government and professionals, the legislation improved so that the inscription on the national heritage list was not based on the date restrictions. This paper at first will review how the modern movement affected the architects and architecture in Iran. It will also review the other aspect of development which was for protecting architectural heritage. The paper would try to express the reasons of developments of national law registration. It would also show the results and efficiencies of this law for protecting modern architecture in Iran. Finally it will tell how new attentions and new practical and educational activities are necessary for protecting and preserving the modern architectural heritage in Iran.

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**A new conscience in preservation
– aspect of preservation on modern architecture in Taiwan**

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The first Cultural Heritage Preservation Act in Taiwan is approved in 1982. People are more interested in the preservation of traditional heritage. They are more built monuments influenced by Chinese culture of the South of Qing Dynasty. In the beginning, ages and materials are more criterias for classification. Yet, twenty years after the first Act, some new concepts on preservation are introduced to the milieu of preservation. People accept diverse ideas of preservation, that modern architecture built in 20th Century to be one. A new version of Cultural Heritage Preservation Act is revised and approved in 2005 with some huge modification, both on concept and on the content. Few years before this revise, Taiwan begins to pay attention to the preservation of heritage built in the 20th Century. Though the revise of the Act doesn't show any specific article for buildings of 20th Century, there're still more and more buildings classified as monuments or inscripted as historic buildings. This paper will work on a general view to the protection of buildings of 20th Century in Taiwan, through the explanation of classification as a discourse, and the movement for the protection to promote preservation.

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Seoul (1910-1945): the Modern Movement through the lens of Japan.

Sara Di RESTA *

Background. In the years in which the West has been reflecting upon a new architecture corresponding to a new idea of society, the values and the forms of the Modern Movement were crossing the western frontiers. To define the ways through the Modern Architecture came in Korea, how its language changed through the encounter with local history and how its style adapted to the local culture, the reflection will be focused on the Japanese Colonial Period (1910-1945): the period corresponds to the maximum expression of the western Modern Movement and to the entrance of the Modern in Korea “through the lens” of the Japanese architects who built there.

Materials. Modern Architecture in Japan was deeply influenced by Le Corbusier, Mies van der Rohe and Frank Lloyd Wright. After the World War I, the Japanese architects began to make their own original contribution to the eastern development of Modern Architecture. In which way the Bruno Taut’s “Five Points” of Modern Architecture have been adopted by the modern building in this part of Asia? Through the investigation of emblematic Korean public buildings of the Japanese Colonial Period, heterogeneous levels of “adaptation” to the western modern style are recognizable: the Cheondogyo Central Temple in Anguk-dong (Seoul, 1921) was designed by Japanese architects in a Viennese secession style (Fig. 1); the Mitsukoshi Branch-Store (Seoul, 1930) is a big-scale store designed by the Japanese architect Hayashi Kouhei as a symbol of the western way of life (Fig. 2); the Main Hall, Old Keijo Imperial University (Seoul, 1931) was built in Modernist style and decorated by a Wrightian scratch tile (Fig. 3); the Dasan Hall, Old Keijo Imperial University (Seoul, 1942) communicates a complete acceptance to the Italian Rationalism (Fig. 4).

Discussion. The selected examples represent, between others, characterizing case-studies. Until after Korean independence in 1946, Korean modernity had not stopped being western-centric and the local culture seems to have interpreted the concept of “modern” as a source of different building languages.

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Modern movement of Junzo Sakakura and Japanese Traditional Beautiful

Toru AJISAKA *

Junzo Sakakura was involved in design projects at the Atelier Le Corbusier from 1931 until 1939. He returned to Japan briefly in 1936, but went to France again to design the Japanese Pavilion at the 1937 Paris International Exposition. The Japanese Pavilion was awarded the Grand Prize for Architecture together with Alvar Aalto's Finnish Pavilion. The design of this Japanese Pavilion was a building of novel modern movement that is different from previous Japanese Pavilions. Junzo Sakakura designed a Japanese tradition by a modern movement. He realized a slope and opening-like space thought to be the influence of Le Corbusier. And Junzo Sakakura designed a building work affected by Le Corbusier after return home. In 1951 he created Japanese-style space united with a garden in the museum of Modern Art Kamakura which was his masterpiece. I consider the Japanese-style design and modern movement of Junzo Sakakura which his works to the museum of Modern Art Kamakura from the Japanese Pavilion in Paris. 1. The Japanese Pavilion at the 1937 Paris International Exposition 1-1. Junzo Sakakura at the Atelier Le Corbusier 1-2. Design of the Japanese Pavilion of the international exposition 1-3. The Japanese Pavilion at the 1937 by Junzo Sakakura 2. Work after the return home 2-1. Leonard da Vinci Exhibition in 1942 2-2. Takashimaya Department Store, Wakayama in 1948 2-3. Osaka Stadium in 1950 3. The museum of Modern Art Kamakura in 1951 3-1. Design competition 3-2. "Musée à croissance illimitée", Le Corbusier 3-3. A technique and design of the museum of Modern Art Kamakura 4. A modern movement of Junzo Sakakura and the Japanese traditional beauty

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Unfair Treatment of Modern Architecture in Thailand

Waeovichian ABHICHARTVORAPAN *

It is often said that older architecture has received effective conservation than newer one. This situation can be seen in Thailand. The conservation between Colonial architecture (19th century) and Modern architecture (20th century) are different. In many cases, Colonial buildings have been better protected than Modern one by conserving buildings elements and providing registration of historic buildings. Colonial buildings include Ananta Samakhom Throne Hall, Ministry of Defence's building and Bangkhunprom Palace (Figure 1). Conversely, most Modern buildings have not been registered and demolished without enough research and documentation. The cases of Chalermtai Theater (demolished in 1989) and Panapun School (demolished in 2001) (Figure 2) are the examples of those buildings. There are many Modern buildings which have not been demolished yet, but they are at risk of demolition and losing its values. The Supreme Court of the Court of Justice complex and Rajamangala University of Technology Isan's building (Figure 3) are facing those risks. In the case of the former one, the demolition is in progress since 2007 which has been criticised by conservation professionals whether it is appropriate to demolish this building. If there had been research and documentation of this case, the possibility of total demolition can be minimised.

Unfair treatment of Modern architecture can stem from two reasons. First, it has been questioned about its beauty because it has less decoration when comparing to more decorative Colonial architecture. Second, it seems that Modern architecture has negative image because most Modern architecture was commissioned by the 1932-military regime which has been regarded as anti-monarchy architecture (Prakit-nonthakan 2005, 23). These two reasons have caused many cases of demolition of Modern architecture in Thailand. Therefore, establishing Modern architecture conservation body can provide the better treatment of Modern architecture.

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Cultural Conflict and Blending: Modern Transformation of Architecture in Dao-Wai District, Harbin

Yan WANG *, Tong LU **

Dao-wai, one district of Harbin, once was the area named Fu-jia-dian and ruled over by Chinese central government at the beginning of 20th century. Here, Chinese traditional culture was remained before the Chinese Eastern Railway was built in 1898, and western culture together with the modernity ethos flooded in and caused great changes in social and cultural aspects of Harbin. Simultaneously, Chinese traditional architecture thus began to transform towards modernization passively or actively to some extent. This kind of modern transformation in Dao-wai district was spontaneously developed, in a bottom-up way, and full of folk customs. The Chinese citizen in Dao-wai, composed by craftsmen and small merchants, always had the initiative to transplant western construction techniques and some composition forms to their buildings, therefor became the main force of this transformation. The district gradually formed unique characteristics of architecture in the process of the transformation, which was totally different from that in another two districts virtually under controlled by Russia, thus created a unique architecture style in the modern age of Harbin. Dao-wai modern architecture usually shows the first impression of its seemingly western style, the construction techniques and the facade composition both could explain it. However when researching deeply, one can recognize that the architecture of Dao-Wai is full of sino-western cultural conflict and blending. The most representative features of Dao-Wai architecture can be summarized as follows: 1. Universal pattern of quadrangle courtyard with outside gallery As the modernized trading appeared in Dao-Wai, the architecture and the municipal facilities presented new look. But most of the buildings adopted almost the same pattern of quadrangle courtyard with outside gallery, without previous arrangement, and the pattern became the most widespread special features in Dao-Wai's modern age. The main reasons lied in the factors such as the influences of the traditional housing folkways and cultural psychology, the needs of the real estate development, the climate, and the superiority of the layout itself. 2. Multi-level blending of sino-western culture The plan presents the Chinese quadrangle pattern combined with western building plan facing the street, the construction techniques shows the transplanting from western. The facade is of large ratio of western style composition with some Chinese reformation, and the decoration constitution is of a large ratio of Chinese traditional patterns. 3. Mighty expression of folk custom Dao-wai's modern architecture contained abundant and outstanding folk custom and interesting, which were expressed with the decoration languages on the building. Traditional appreciating habit and interests can be recognized from partial to whole structure, such as the "good luck wishes". The decoration point almost included all places that could be decorated. It still kept prosperous vitality and were applied in almost every building in the transformation of Dao-wai modern architecture. The application also evolved a style of the folk custom and interesting itself.

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Japanese Interest in the Modern Movement Houses Registered by DOCOMOMO Japan.

Yasuko KAMEI *

There are quite a lot of articles in magazines and books about the DOCOMOMO Japan registered houses but not that many papers about them in Journals. It is not easy to see the trends on the time and the feature of Japanese modern movement housing, analyzing journals and magazines separately. Therefore, in this paper, I am analyzing them -architectural journals and the mass magazine- in the same time. 1. Analyzing the summaries of technical papers of annual meeting AIJ by an architecture and also by an architect, the professional interests towards the DOCOMOMO Japan registered houses are revealed in detail. In which of four -innovation, technical, social and aesthetic-, the professions find the value for modernity in the houses will be showed. 2. Analyzing the fashion magazines for masses in Japan, Japanese mass people interests towards the DOCOMOMO Japan registered houses are revealed in detail. In which of four -innovation, technical, social and aesthetic-, Japanese mass people find the value for modernity in the houses will be showed. Combined the professions with the Japanese mass people in the views and the trends toward the Japanese modern movement houses, we can follow the changes in Japanese modernity in houses more accurately.

* Executive Director of Docomomo Japan

Between History and Tradition: Architectural Modernity in the Korean Modern Expositions

Yoonchun JUNG *

It has been argued that the Joseon Exposition of 1929, like the Joseon Industrial Exposition of 1915, was hosted for the purpose of legitimizing Japan's colonization of Korea, as a great amount of exhibition materials were displayed with the intention of showing the development of Korea since the beginning of colonial rule. It has also been argued that Japan encouraged its political legitimization by creating visual and spatial, or architectural, contrasts between the traditional (Joseon) and the modern (Western). For example, a great number of the traditional buildings in the Gyeongbok Palace were demolished and a few remaining buildings created drastic contrasts with Western-styled pavilions. Current examination of both Japanese modern expositions in colonized Korea has not fully explored the value of the Korean architectural traditions in showing architectural modernity. Most of the research has unconsciously followed the perspective that only by tracing Western architectural forms, can one explore the origins of architectural modernity in the Japanese modern expositions in colonized Korea. In this perspective, however, there is an Orientalist prejudice that assumes the underdeveloped Korean architectural tradition, and that Japan introduced advanced Western architectural forms to modernize it during the colonial period. However, rather than just being cast aside, the status of the Korean architectural traditions in the two modern expositions suggests a different reading from the current perspective if we consider that there had been a series of Japanese efforts to build its own history (toyoshi) with Asian traditions for the purpose of overcoming the West from the early Meiji period. (Japan also had started looking for the historical origin of Japanese people in Asia.) As a continuous effort in architecture, Japanese architectural historians had started to explore Asian architectural traditions, not only to create a Japanese architectural history, but also to define Japanese architecture around the 1900s.

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DOCOMOMO International

DOCOMOMO stands for “DOcumentation and COnservation of buildings, sites and neighborhoods of the MOdern MOvement”. Officially launched in 1988 at the international conference organized by Eindhoven University of Technology, in The Netherlands. Currently, Professor Ana Cristina dos Santos Tostoes, Civil Engineering and Architectural Department of the Instituto Superior Tecnico, Universidade Tecnica de Lisboa, serves as the chair of Docomomo International.

DOCOMOMO Korea

DOCOMOMO Korea has come to existence with the founding symposium which was held on May 2, 2003. DOCOMOMO Korea is embarking once again to serve as a ‘corner stone’ in architectural arena at home and abroad. The organization is dedicated to the study of important works of modern movement architecture and urban planning, which was one of the key trends in the 20th century, and seeks to preserve and document such buildings and sites.