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Conference Tokyo Japan 2020+1
Poster Session

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Inheritable Resilience:
Sharing Values of Global Modernities

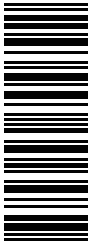
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Ana Tostões
Yoshiyuki Yamana

EDITORIAL ASSISTANCE
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DESIGN
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Asako Yamahara
Kyoko Kobayashi
Mio Slivey

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29 August–2 September, 2021

Urban landscape of Marunouchi in the middle of the 20th century



FUJISE Yuto¹

AJISAKA Toru²

MASUDOME Makiko³

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Abstract.

Began with the construction of red bricks architecture which designed by Josiah Conder and others in the early 20th century, followed by The Total Reconstruction Plan for Marunouchi in the middle of 20th century, until now Marunouchi in front of Tokyo station keep changing it' s image. However, even with the great changes, beautiful scenery of Marunouchi is still preserved.

1. Background

Marunouchi, in front of Tokyo Station, which is the leading business center of Japan, and its land were sold to Mitsubishi Joint Stock Company in 1890.

In the early 20th century, a 15m tall Red Brick Street was designed by Josiya Condor and Mitsubishi' s architects. At this time, Condor and Tatsuzo Sone designed the red brick Mitsubishi Building 1 and Mitsubishi Building 3 which facing Babadori, the building heights and facade designs was align. This was a design technique used to control the landscape of Red Brick Street at that time.

After that, during the period of high economic growth, those buildings, including "Iccho London" , are likely to be rebuilt with modernization, and there is a danger that buildings which was built after that will also be rebuilt one after another.

2. Marunouchi History

2-1. Era of 50 shaku building

From the Meiji era to the early Taisho era when Marunouchi was a red brick town, the height of the red brick office building built in Marunouchi was designed to be 50 shaku (about 15m). The height of the building, which is 50 shaku tall, was determined by Josiah Conder and others when designing Mitsubishi Building 1, considering the relationship with the road width.

Later, red brick office buildings built by Conder' s disciples with the 50 shaku height building design were built one after another. The cityscape of Maruouchi was born in this way, and is called "Iccho London" .

2-2. Era of 100 shaku building

Office buildings were becoming higher and higher due to the war economy in the Taisho era and the development of reinforced concrete technology. In 1920, the Urban Buildings Act was enforced, and when building a high-rise building in an area other than the residential area, the height of the building was up to 100 shaku (about 31m). After the Great Kanto Earthquake of 1923, Tokyo Station and the Imperial Palace were connected, and high-rise buildings lined up along Gyoko Street, and from that aspect it was called "Iccho New York" .

2-3. THE TOTAL RECONSTRUCTION PLAN FOR MARUNOUCHI

Before the "THE TOTAL RECONSTRUCTION PLAN FOR MARUNOUCHI" , Marunouchi had Higashinaka-Dori and Nishinaka-Dori in the east and west alongside Nakadori, but this plan eliminated those two roads. The eliminated parts then used to widen Nakadori. During the period of rapid economic growth, there was a growing momentum to review building height restrictions. In 1963, a revision of the Building Standards Law introduced a volumetric district system, which enabled the construction of buildings higher than 31 meters.

2-4. Current Marunouchi

At present, redevelopment is being actively carried out in Marunouchi, and the height-raising of architecture is prominent. However, the eaves line of 31m is left consciously. When expanding an office building with a height of 31m, the low-rise and high-rise sections are designed differently, giving the impression of the cityscape of 31m.

3. Analysis of facade design

Regarding the facade design, vertical and horizontal designs are seen depending on the strength of columns and beams. In terms of horizontality, since the construction of Shin-Otemachi Building, which started

construction in 1961, everything has been designed with horizontal facade designs.

Fig.3 shows the location where many office buildings analyzed are adjacent. All the office buildings shown in the figure have a horizontal facade design, and the facade facing Nakadori is particularly designed so that the eaves line runs straight with the next building.

In this way, as part of the Marunouchi Comprehensive Remodeling Plan, an office building with a symmetrical design centered on Nakadori was constructed, and the overall cityscape was well controlled.

This design control creates the current landscape of Marunouchi.

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Articles and chapters of books:

1 Fujimori Terunobu, "[Mitsubishi Estate] Japan Contemporary Architect Series No.15" Japan, Shinkenchiku-sha, pp194-254, 1992.

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Biography of the author:

1 Master course., Graduate School of Architecture, Faculty of Science and Engineering, Kagoshima University.

2 Prof.,Dept. Graduate School of Architecture, Faculty of Science and Engineering, Kagoshima University.

3 Assist.Prof., Graduate School of Architecture, Faculty of Science and Engineering, Kagoshima University.Master.Eng.

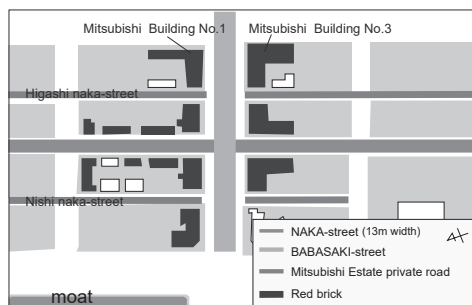


Fig1. Marunouchi of the red brick age

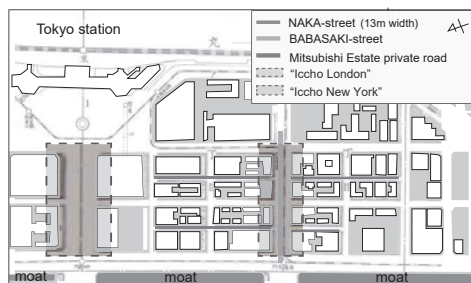


Fig2. Marunouchi s map around 1951

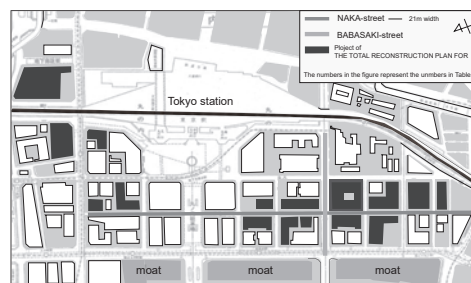


Fig3. Marunouchi s map around 1970

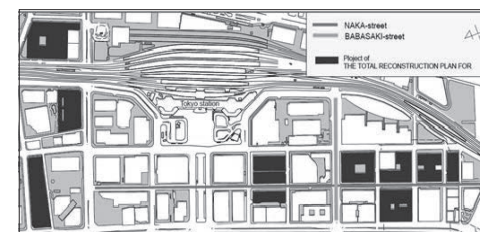


Fig4. Current Marunouchi



Photo1. Marunouchi of red brick town



Photo2. Marunouchi during the Meiji era (" Iccho London")



Photo3. " Iccho New York" cityscape



Photo4. Scenery of Marunouchi around 1970



Photo5. Scenery of Marunouchi around 1974

SOCIAL HOUSING IN LATE COLONIAL MOZAMBIQUE



Patricia Noormahomed P2012003

Abstract
During the second half of the twentieth century, in the last years of the Portuguese colonial rule, Mozambique witnessed an extraordinary urban growth where the old architectural models were replaced by a modern architecture. Beyond the emblematic buildings, this poster aims to survey and contextualize the most modest projects that were developed to accommodate social housing in the country during this period. Focusing on one particular set of settlements reproduced throughout the main cities of the country we intend to reassess the role of modern housing in the late colonial and post-colonial urban development of Mozambique.

Introduction
In 1964, Portuguese rule in Mozambique began to be officially countered after the outbreak of the anti-colonial struggle. The African settlements, most of them segregated from the urban city centre, were seen by the Portuguese authorities as the breeding grounds for the nationalism thoughts. For this reason, and as a way to counteract the support for the liberation movement and legitimize their rule over the local population, the colonial government of the *Estado Novo* began focusing on the improvement of living conditions of the natives by encouraging the development of lower-income housing areas based on modern criteria.

While there is an extensive literature on the topic of modern architecture in the ancient Portuguese colonies in Africa, and in particular in Mozambique, their main objective was, so far, to understand how the international models were interpreted in the specific context of the African continent, either on the work of a few well-known authors,¹⁻³ or on the official bodies that were based in the metropolis.⁴ However, the focal point here is to examine the other architecture, the one created for the lower echelons of the colonial society, in order to provide a broader view of what really meant the development of modern architecture in these territories.

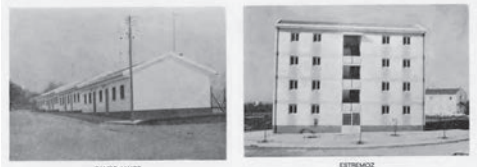


Fig. 1. Fundação Salazar neighbourhoods in Campo Maior and Estremoz, Portugal. Source: Freire and Borges 2018.



Fig. 2. Fundação Salazar neighbourhood in Maputo, still known today by the same name, 2019. Source: Author.



Fig. 3. A similar neighbourhood in the city of Beira. There known as Prédios do Goto, 2020. Source: Author.



Fig. 4. A similar neighbourhood in the city of Nampula, 2020. Source: Author.

The Junta dos Bairros e Casas Populares neighbourhoods
Already since the end of World War II, within the framework of the African continent decolonization, that socio-economic development of indigenous population became a major concern on the ideological and political agendas of colonial authorities in Sub-Saharan Africa. In accordance with the spirit of the time and with the colonial discourse on development, housing was given a very prominent place. In the Portuguese colonies, and in particular in Mozambique, the improvised peripheral neighbourhoods, the so-called *Caníços*, undertook remarkable growth from the fifties, due in large part to the immigration of indigenous rural population that spontaneously occupied the suburban areas of the main Mozambican cities. Against this background, the colonial government was forced to develop a structured policy of construction of social housing, destined for the lower-income population, regardless of race.⁵ The intention was to build houses equipped with the basic living conditions such as running water, sanitation facilities and waste management systems together with electricity and paving streets and sidewalks.⁶ To promote the construction of this type of affordable housing, the *Junta dos Bairros e Casas Populares* was founded in 1962. Throughout the 60s and the 70s, while the colonial city centre was subjected to a euphoric transformation with tall buildings and modern architecture replacing the former garden city, this institution planned a series of modernist model settlements located on the urban peripheries to accommodate the lower-income population. Among them, a particular set of neighbourhoods composed of medium high multi-family buildings and reproduced throughout the main cities of the country, the object of this study.

Having identified these in the capital of Mozambique, Maputo (former Lourenço Marques), and in the cities of Beira and Nampula, it has been possible to verify how they have been adapted to the different sites, occupying in all cases a

transitional position in the colonial city, on the border between the urban and the rural. However, given the nature of this presentation, this poster will only focus on the settlements built in the capital. There, the construction of this kind of neighbourhoods had the support of the so-called *Fundação Salazar*. This foundation, created in Lisbon in 1969, aimed to contribute to the resolution of the national problem of urban housing along the Portuguese “Empire”, through the construction of popular quarters for the lower-income. To promote and built their undertakings, they appealed mainly to private funding from individuals and companies, but also to public financing. In the oversea territories, they established partnerships with local municipalities, which supported their activities not only with legal access to public funding but also with technical assistance and standard dwellings.⁷ At the architectural level, although there are some cases of single-family housing, usually these constructions followed a prototype based on a medium high multi-family building with two apartments on each floor (left and right) accessible through a central stairwell with open spans to the outwards. The latter being one of the most distinctive marks that allow the recognition of these neighborhoods.⁷ It was an ingenious architecture, purged of detail and characterized by a sober functionalism that relied upon the organizational scheme, the structure and all kinds of technical requirements (ventilation, light requirements etc.)

The *Fundação Salazar* settlement in Maputo was designed in the early seventies mostly to accommodate retired black military who had been injured or mutilated while fighting alongside the Portuguese armed forces during the anti-colonial war. The buildings kept up with the spatial characteristics mentioned above and consisted of two 4-story block modules formed by two three-bedroom apartments on each floor. The interior was divided in night (bedrooms and bathroom) and day (common living room and kitchen) areas that open to a large terrace which pro-

vide an extra living space. Despite the sobriety of the layout, the blocks are complemented by a series of elements that contribute to the visual expression of the set. On the one hand, the entrance is framed with the extension of a concrete slab supported by two slender pillars that face the stairwell from the outside while conforming a bench between them. On the other hand, the open spans of the vertical communication core are protected from the direct incidence of solar radiation through fixed horizontal *brise-soleil* and/or geometric lattices.

Conclusions
Forty-five years after the country’s independence, these residential blocks are still perfectly recognizable in today’s Mozambique urban landscape. In the meantime, the spatial characteristics of the dwellings have been largely transformed and adapted to meet the urban and social current conditions of today’s users what has given way to an interesting process of (re) appropriation. However, intensive use after independence was not accompanied by a strategy to guarantee proper maintenance of these buildings leading to their rapid degradation and putting their integrity in risk.

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Biography of the author
Patricia Noormahomed is a PhD student in Architectural Heritage at Universidad Politécnica de Madrid (UPM). She is an Architect and holds a Master’s degree in Rehabilitation, Restoration and Integral Management of Built Heritage and Existing Buildings. She has been a visiting researcher at Habiter Research Centre of the Faculty of Architecture La Cambre-Horta (Université Libre de Bruxelles) and at the Faculty of Architecture and Physical Planning (Universidade Eduardo Mondlane). She was also a member of the project “Coast to Coast – Late Portuguese Infrastructural Development in Continental Africa” and is currently a lecturer at Universidade Wutivi (UniTiva).

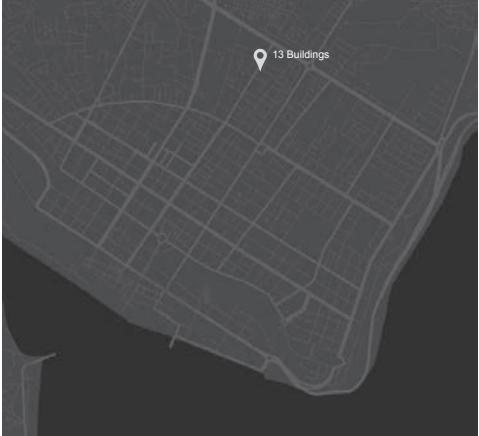


Fig. 5. Fundação Salazar neighbourhood location in the city of Maputo. Today in a more central position within the urban fabric. Source: Author.

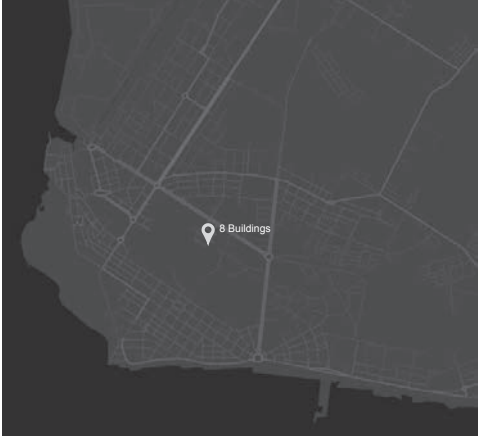


Fig. 6. The neighbourhood location in the urban fabric of Beira, in a swampy area along the banks of the Chiveve river. Source: Author.

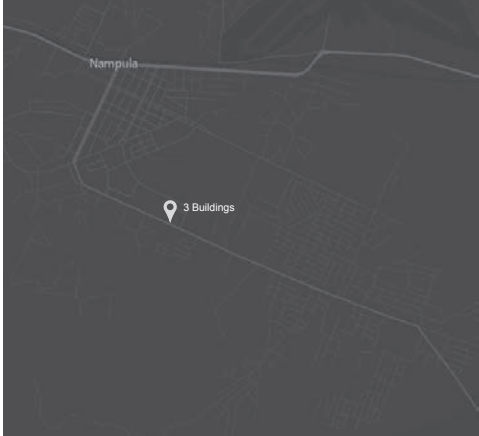


Fig. 7. The neighbourhood location in the urban fabric of Nampula, at the edge of the city centre. Source: Author.

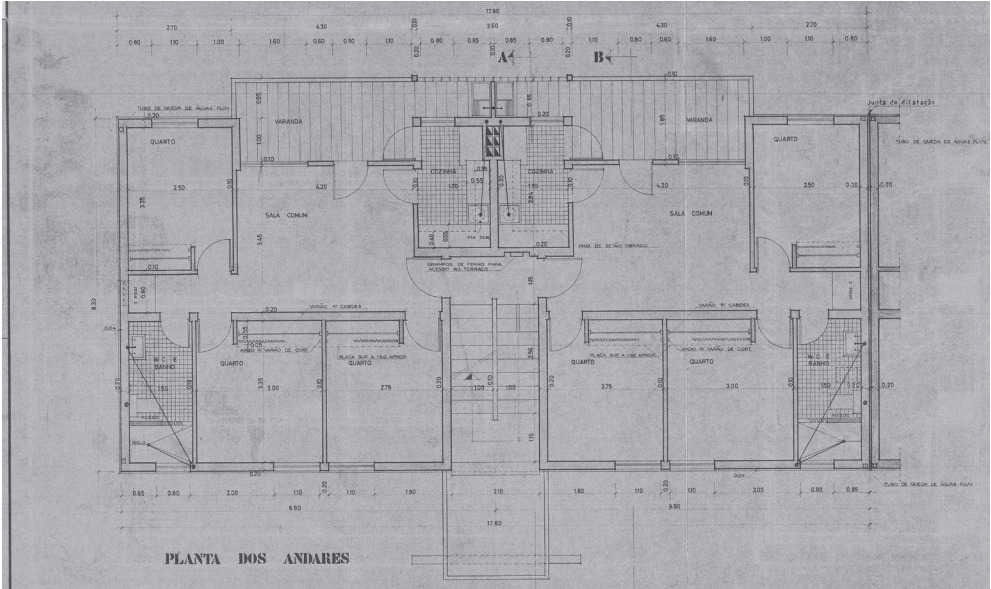


Fig. 8. The buildings floor plan with two three-bedroom apartments on each floor. Source: Conselho Municipal de Maputo, 19/71.



Fig. 9. Detail of the *brise-soleil* protecting the vertical communication core, Beira, 2020. Source: Author.



Fig. 10. Detail of the entrance framed with a concrete slab, Beira, 2020. Source: Author.

Eroding edges of housing estates – 1960-s retail pavilions at danger

The sixties welfare state in its communist version envisaged young mothers pushing prams to nearby grocery kiosks, pavilion post-offices and creches, housing blocks being designed in principle without ground floor services. Small pavilions served the socialist society's primary needs, as there was not much to be bought. At the end of 20th century, retail pavilion architecture of communist era, obsolete or abandoned, occupying desirable land, faced the risk of annihilation. Many pavilions are of high architectural merit, all complement the composition of housing slab estates. This presentation focuses on one example – *Osiedle Słowackiego* in Lublin by Zofia and Oskar Hansen.

Contrarily to the orderly, closed housing estates of early modernism and socialist realism, the complexes erected after 1956 in Poland were designed as open urban compositions. Since early 1960-s the governing principle of socialist urbanism was the transformed *neighborhood unit* (i.e. *school unit*), with auxiliary functions located in free-standing pavilions. The authorities did not standardize retail buildings, unlike housing and schools [5, p. 47], hence large variety of individualized pavilions complemented the estates' functional programs with volumes in-between the scale of housing slabs and landscaping. Expressive structural solutions and finishes of pavilion architecture, contrasted with unified blocks of flats, often lining major streets.

Late – modern estates are perceived as loose arrangements of free-standing housing slabs, small-scale pavilions often omitted in contemporary spatial analyses at urban scale. In the free market economy these buildings disappear gradually from cities owing to increase of value of land, and due to societal change.

A photo inventory of *Osiedle Słowackiego* in Lublin, exemplifies problems of safeguarding small - scale pavilions vital to the original housing estate's spatial organization and community life, to date unnoticed by architectural historians.

The complex designed between 1961 and 1965 by Oskar and Zofia Hansen¹ is a textbook example of post-war housing in Poland, being a manifestation of Hansen's design philosophy of *Open Form*, and an attempt at a *linear system* for housing, later rehearsed by the architect at much larger scale [2], [3], [7]. The estate is organized in three strips, described by Oscar Hansen as the *servicing* and *serviced* areas. Servicing areas comprise roads and parking to the north, and public zone with kindergarten, greenery, retail to the south, with the serviced zone of housing in-between (Fig. 1).

The pavilions form expandable grid structures with parabolic hyperboloid roofs designed to contrast with elongated, undulating lines of multifamily houses. Public services were grouped in three complexes: a kindergarten (Fig. 4), a group of retail pavilions' designed as an aggregate of cubes covered with hyperbolic paraboloid roofs (Fig. 5), and a retail market complex: a footpath lined on both sides by rectangular one and two-story pavilions with expressive roofs (Fig. 2). Taller pavilions are joined above the path with an open gallery (Fig. 3, 6). Hansen described the concept as follows: *The clarity of space is expressed in a contrasting relation of forms [...]. A kindergarten and a shopping center are, above all, a large number of colorful forms, usually in motion. At the Słowacki Estate in Lublin, Euclidean geometry is the background for the serviced zone of the apart-ments, and hyperbolic geometry is the background for the servicing – social – zone.* [3, p. 80-81]

Since its completion Słowacki estate underwent thermo-modernization involving changes in color schemes, illegal additions to pavilions, vandalism. A new church was built (architect Jan Kożuchowski) in 2003-8 as a replacement of former cultural center (of 1970s), arousing a wave of criticism.

At present the Hansens' kindergarten (Fig. 4) is in operation, the facades heavily changed,



Grazyna
Hryniewicz-Lamber

P2012004

departing from elegant structural composition of the original red brick walls complementing white load bearing elements.

Pavilions in the north-east (Fig. 2) sustain original features: shape, openings, finishes and - partly - colors. The buildings closed down in 2017, due to their technical state requiring rescue conservation. Lublin municipality engaged in their ineffectual sale in 2018. A conflict over land ownership has been revealed in 2019: former owners applied to the local authorities to reclaim the land under pavilions sequestered under communist rule [9].

The market (Fig. 2,3 and 6), although its' facades suffered changes in the composition of openings seems to be almost intact, retaining its' function and form. In fact, one of the pavilions within the market was extended vertically in 2006 which was subject of litigation for infringement of the Hansens' intellectual property rights, resulting in a fine imposed on the offending architect and some publicity [6]. Nowadays, the pavilions are a focus of discussion owing to awareness actions of NGO's among which there is a *Museum Of Housing Estates* located in the market [8].

The "urban structure of the Słowacki estate" is listed since 2012 in the commune of Lublin heritage register [10]. Additionally, local planning regulations impose protection of 'architectural substance' within the estate. This form of heritage protection, allowing for 'inevitable changes' with a consent of the local heritage conservation authorities seems adequate, although Polish practices in other cities provide evidence of its ineffectiveness².

Oskar Hansen pointed out: *Our designs weren't created for formal reasons but to answer precisely such questions: how to bring moral life closer to the physical one, in a situation when the latter obviously lasts longer than the former. The walls, the floors, etc., last, while the functions evolve, the economy changes. For those*

reasons, spaces have to be potentially transformable, able to recompose. [3, p. 241] Should heritage protection in case of pavilions be consistent with this attitude, until all original specimens of this architectural type disappear?

¹ Oskar Hansen (1921 – 2005), was an architect and artist, professor at Warsaw's Academy of Fine Arts, active member of TEAM TEN, known as author of theory of Open Form and planning concept of Linear Continuous System; all his architectural works were designed together with his wife Zofia Garlińska-Hansen (1924-2013)

² The same type of protection did not save other pavilions, such as "Sudety" in Wrocław (architect: Tadeusz Izbiński, built 1961 [1, p. 91]), an awareness action of activists and architects succeeded in involving local council and city conservator's office in an attempt at saving the building as part of listed heritage area "Borek estate", which was repudiated by the Polish General Conservator, resulting in demolition in November 2019; visual data at: <http://futurearchitectureplatform.org/projects/955223c6-9cd8-4268-b090-53f3cba6225c/> [accessed Feb 02 2020].

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Grazyna Hryniewicz-Lamber, PhD Arch: is an adjunct professor at the Faculty of Architecture, Wrocław University of Science and Technology, Wrocław, Poland. She teaches design studios and lectures about intellectual rights in architecture, tutors student workshops, and helped to realize museum exhibitions on works of Wrocław's important post-war architects. Currently holds the post of secretary to Docomomo ISC E&T. She is interested in architectural axiology, and has organized a series of conferences on architectural ethics. Apart from teaching she is a practicing architect, member of the Lower Silesia Architect's Chamber Disciplinary Court, and treasurer of Polish Association of Architects Wrocław branch (SARP).



Fig. 1. A view of housing in Słowacki Estate in Lublin, PL, embedded sketch depicting the layout of Słowacki Estate, A – kindergarten, B – abandoned pavilions, C – the market. Photo: Bartłomiej Woźniak BArch, February 2020, drawing by author



Fig. 2. "The market" pavilion complex of Słowacki Estate, Lublin, PL, a view from major street, to the right marked with an arrow – illegally enlarged pavilion. Photo: Bartłomiej Woźniak BArch, February 2020



Fig. 3. Top floor of "the market" – the original features almost intact, between the pavilions – a temporary canopy extends ground floor retail space. Photo: Bartłomiej Woźniak BArch, February 2020



Fig. 4. The kindergarten at Słowacki Estate in Lublin, PL. Photo: Bartłomiej Woźniak BArch, February 2020



Fig. 5. One of the abandoned pavilions, note the original roof structure. Photo: Bartłomiej Woźniak BArch, February 2020



Fig. 6. The internal passage of "the market", currently under illegal temporary canopy, resembles - what Oskar Hansen dreamed of – a souk in a Mediterranean Arabic town, vandalism and lack of maintenance visible. Photo: Bartłomiej Woźniak BArch, February 2020

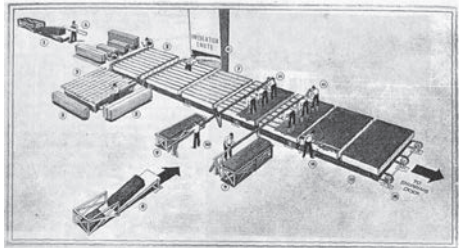
“Engineered Dwelling” and its Impact on Modern Housing
Development in the United States in the Mid-twentieth Century

Hyun-Tae Jung, Ph.D.

38444083

“An engineered dwelling would be one in which, through technical procedure, optimal use is obtained from all the materials in the dwelling, not only from the standpoint of resistance to predetermined structural loads, determined by wind and floor loads, etc., but predetermined numerically expressed values, such as might be developed from test and research by engineers and scientists in the fields of thermal environment, illumination, sanitation, physiology, and psychology and sociology.”

Robert Davison, “The Engineered Dwelling,”
Prefabricated Homes, April 1943.



Comparison of Automobile and Housing Production. Robert L. Davison,
“The Engineered Dwelling,” *Prefabricated Homes*, April 1943.

Historical background

The Great Depression (1929-1939) and the Second World War (1939-1945) significantly transformed the culture, economy, and politics of American society. With two of the most severe crises of the century, modern American architecture also changed accordingly. The economic and political upheaval brought architecture close to other disciplines such as consumer engineering and industrial design. Rational and systematic conceptualization and production of houses became an urgent issue for the economy. Architecture incorporated the findings of modern science (e.g., motion study and scientific management) and adopted advanced industrial technology. From the 1930s to 1940s, traditionally unrelated or rarely related-fields of research contributed markedly to the reformulation of modern housing.

The John B. Pierce Foundation

The John B. Pierce Foundation epitomizes this convergence of remote disciplines and architecture through the idea of the “Engineered Dwelling.” Established in 1924 by John B. Pierce, the foundation researched housing, technological, and medical issues in the domestic environment. Its research and publication boundary were unprecedentedly broad. Prefabrication, industrial engineering, ergonomics, psychology, and physiology were among many subjects the Foundation covered. For the housing research, it investigated dimensions of domestic objects and human activities, family living, and psychological reactions of individuals in the domestic environment.

Multidisciplinary Approach

The impact of a German sociologist, Svend Riemer, on the Foundation's initial research programs was pivotal. Riemer worked with Swedish Cooperative Building Society in the late 1930s for modern family living. His publication on the subjects of the family, housing, and cities helped the foundation, its members, and the affiliated architecture firm, Skidmore, Owings & Merrill, to develop a rationalized and systematic design and mass production of modern houses. The John B. Pierce Foundation reformulated housing by combining architecture with other disciplines. The foundation's contribution left a lasting impact on the developments of post-WWII American housing.

Two Major Projects and After

Two significant commissions of the Foundation are exemplary. At Middle River, Maryland (1941-42), the Foundation (with the help of SOM) built 600 houses for the Glenn Martin Company based on the idea of the Engineered Dwelling. At Oak Ridge, Tennessee (1943-46), built as a part of the Manhattan Project, the foundation and SOM was responsible for the design and construction of tens of thousands houses. The “Engineered Dwelling” evolved to become an inspiration for large-scale housing projects after the Second World War. As suburban life became gradually more popular, a great many projects appeared all over the country.

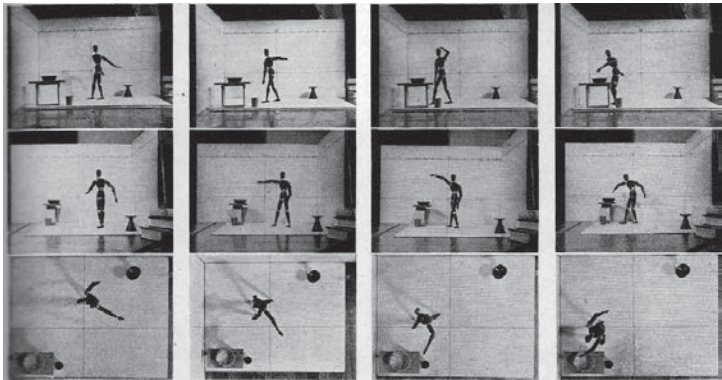
Modern Housing as a Technological Synthesis

Levittown is a pioneering example of a mass-

produced, post-war housing settlement. It is also an early experiment in large-scale suburban housing. Scholars and journalists have often characterized it as a symbol of dreadful monotony and uniformity. In this regard, most of the post-WWII suburban housing projects are not different from Levittown.

However, the issue of the style was never seriously considered to be an essential part of the engineered dwelling. The engineered dwelling was supposed to be technologically versatile and psychologically comfortable. It was a synthesis of many different research and tests, including thermal environment, illumination, sanitation, physiology, psychology, and sociology – the standardized, prefabricated dwelling aimed to be sturdy, comfortable, and mass-producible.

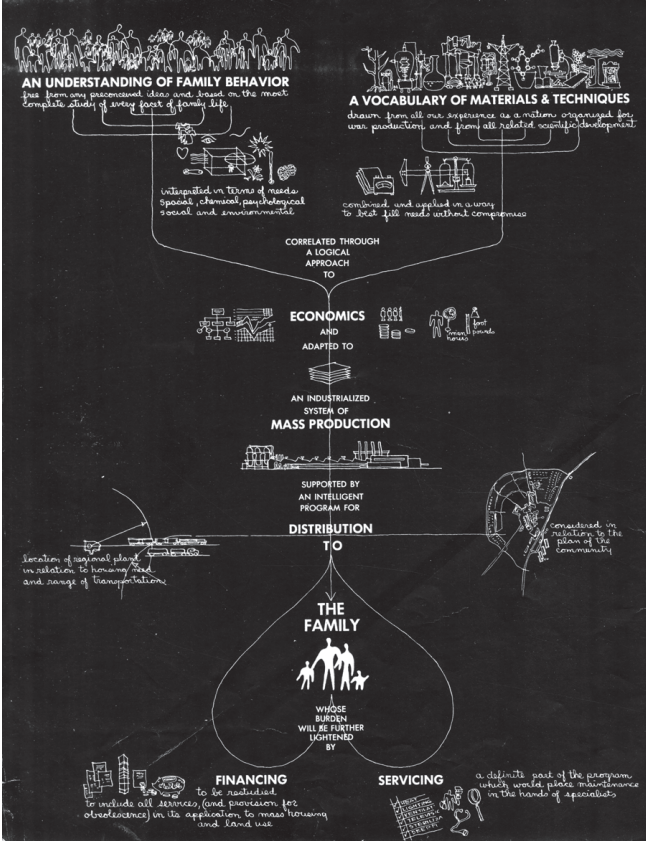
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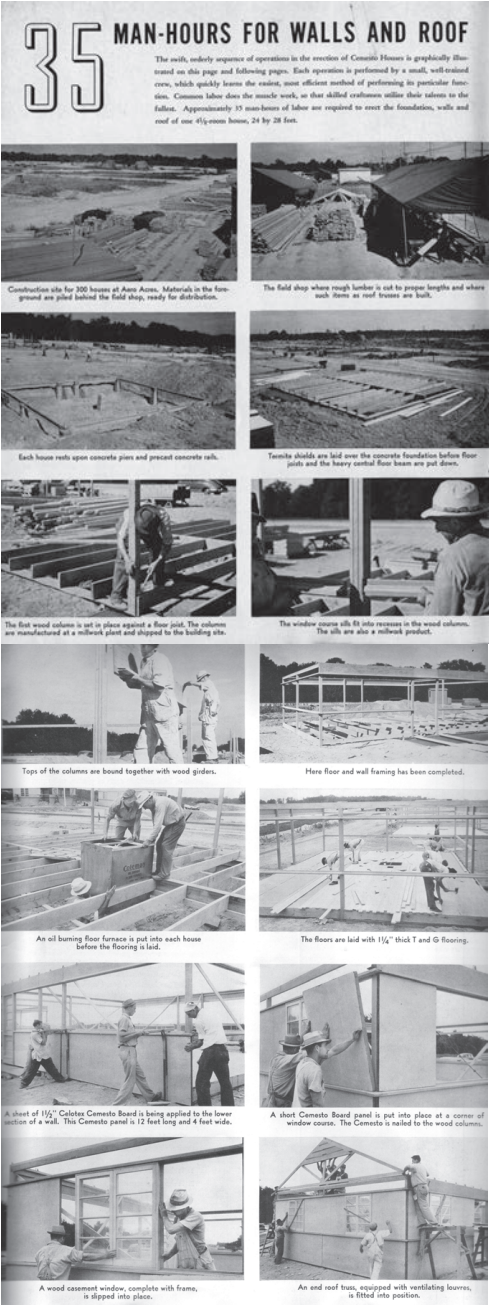
Testing a new photographic measuring method with a puppet. From *Measuring Space and Motion* (New York: The John B. Pierce Foundation, 1944): 23. Courtesy of The John. B. Pierce Laboratory.



View of Stansbury Estates, 1941. From *A Vital Contribution* (Chicago: Celotex Corp., 1941): 11. Courtesy of The John. B. Pierce Laboratory.



Charles Eames, “Chart” on Prefabrication, *Arts & Architecture*, July 1944. Courtesy of David Travers.



Construction of Cemento Houses, 1941. From *A Vital Contribution* (Chicago: Celotex Corp., 1941): 9. Courtesy of The John. B. Pierce Laboratory.



Visualization of a man changing clothes. From “Space Shapes” *Life Magazine*, May 7, 1945, 113. Courtesy of The John. B. Pierce Laboratory

A REVIEW OF WOODEN COMPOSITE SYSTEM OF
J. PROUVE’ S F.8X8.BCC HOUSE

Mitsuru Hirai
Sayu Yamaguchi
Ryohei Kumagai
Masaki Ogawa

P2012008

ABSTRACT
This research presents in-depth survey of the F.8x8. B.C.C. House: a demountable house devised by Ateliers Jean Prouvé during WWII. Due to the limit of steel, Prouvé utilized the axial portal frame structure developed in 1939 and eventually adopted wood instead. An analysis revealed that he paid carefully attention to attributes of wood: durability, lightweight and easy to form. These 3 aspects might allow quick dismantle & assemble methods, low waste in production process, and create distinctive wooden architectural and structural characteristics. Thus the emergence of the F.8x8.BCC House can show Prouvé’ s ingenious abilities to overcome difficulties in wartime.

INTRODUCTION
The F.8x8.BCC House is one of the series of prefabricated housing projects applied the axial portal frame system created by Prouvé and patented in 1939. The housing projects were planned in 1941 to construct houses for engineers worked at several factories of Aluminum company. The construction began between 1942-46 at those factories located in various cities in France, namely, Saint-Auban, Gardanne, Salindres, Brignoles, Lunel and Bédarieux. In terms of structural system, Prouvé typically used steel as the main material to compose the axial portal frame built from 1939-50s. However, during extreme wartime conditions, steel was becoming scarce. As a result, Prouvé sought an alternative to steel and eventually utilized the axial portal frame structure, but it is comprised entirely of wood with minimum use of steel only at joint parts.

One of the survived F.8x8. B.C.C. House’ s buildings is demounted and brought to Japan. In order to preserve the building, Meguro Architecture Laboratory and the Kumagai Laboratory, Tokyo University of

Science received a commission to make a restoration plan of this distinctive wooden demountable house. According to the characteristics revealed by this survey, we can understand Prouvé’ s a meticulous sense of material selection from architectural and structural perspectives.

HISTORY OF THE F.8X8.BCC HOUSE
According to the specifications of “Bureau Central de Constructions: the fully equipped BCC family house” dated March 2, 1942, Le Corbusier, Pierre Jeanneret, Charlotte Perriand and Andre Masson were in charge of town planning, architecture and decoration. Ateliers Jean Prouvé was responsible for structural steel work and joinery. Additionally, Rene Zaniroli & Co. planned sanitation, heating and kitchens. However, the partnership was split between Le Corbusier and Jeanneret which led to the withdrawal of Le Corbusier.

The F.8x8. B.C.C. House, a subject of this survey, was originally constructed at a bauxite mine in Bédarieux, a town in southern France. Later the House was moved and refurbished for exhibition at art gallery in France before selling it to the Japanese art collector in 2016. The House was exhibited at “the CONSTRUCTOR Jean Prouvé: Designs of Construction and Deconstruction” , an exclusive exhibition at the French Embassy Ambassadors’ Residence in Tokyo in October of the same year. After the exhibition, the House has been well stored.

STRUCTURAL SYSTEM AND MATERIALS
The original drawing shows that the F.8x8. B.C.C. House is a one-story detached house with 8.24 x 8.24 m floor plan, sitting on concrete masonry pilotis, and outside terrace for the entrance. The House composes of wooden boards forming elevations, floor, ceiling and partitions. A compass - shaped

wooden frame so called “the axial portal frame” is set at the center to support 2 gable beams assembling with modest designed joints. All components were sized and weighed so that they could be carried and ideally assembled by 2 trained staffs. They were standardized and produced at a factory, then transported and assembled on site.

Thanks to this modular structural system, it allows a high degree of freedom in 2 main design aspects. First, a length of building can be increasable by adding a modular unit into a gabled side. Second, façade design patterns can be changeable by rearranging the design of modular panels. At the present conditions, the House is placed on stones instead of pilotis, and the internal partitions, ceiling panels, equipment and fixtures do not exist. However, the main skeleton devised by Jean Prouvé has remained beautifully.

CHARACTERISTICS OF THE F.8X8. B.C.C. HOUSE
Generally, in wooden architecture, a structural member is simply made of a single piece of wood, which makes size of section member relatively large. Although the F.8x8. B.C.C. House was also entirely made of wood, Prouvé accurately calculated load in each structural member and precisely designed shapes and sizes of the members in order to minimize a waste of material.

He paid carefully attention to attributes of wood - including durability, lightweight and easy to form. In terms of durability, he considered material attributes when deciding which types of wood to use in parts of structure. Hardwood such as oak and ash was used in parts where carrying heavy building loads, whereas softwood such as fir was used in lighter load areas. It is clearly that Prouvé ingeniously choose a material fit for purpose. Another aspect is that wood is light material. Panels and frames were composed of several pieces of simple - shaped wood. Therefore, this method

can minimize deformation caused by shrinkage and swelling in structure. It also possibly allows quick dismantle & assemble methods, and easy transportation which not only efficiently makes the structure reusable, but also creates unique design to this wooden architecture. Finally, using an easy to form material like wood allows Prouvé’ s to fully control shapes and sizes of structural members greater than in designing steel members. Because shapes and sizes of which in steel structure were formed by standardized moulds which commonly available in large sized sections. It is clearly that using steel was not appropriate to the nature of this project and the situation during wartime when steel was becoming scarce.

It can be said that the emergence of the F.8x8.BCC House, was accidentally occurred under factors involved at that time. The application of the wooden axial portal frame system can be only seen in this project, which reflected Prouvé’ s ingenious abilities of craftsmanship and engineering.

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Biography
Mitsuru Hirai
He holds a Master degree and is a PhD candidate from the Kogakuin University and a lecturer at the Jissen Women’ s University. He is a founder of Meguro Architecture Laboratory (former Drawing Notes Architectural Design Office).

Sayu Yamaguchi
She is an architect and a PhD candidate Japan Women’ s University. She is a part-time lecturer at Tokai University and Japan Women’ s University. She is also a founder of Meguro Architecture Laboratory (former Drawing Notes Architectural Design Office).

Ryohei Kumagai
Ryohei Kumagai (“1976) is specialized in Rehabilitation technology and construction history of modern architecture. He studied at the Graduate School of Engineering in The University of Tokyo, and finished PhD in 2008. He also studied at the graduate school of the Universitat Politècnica de Catalunya (2004-2006). In 2008-2009, he dedicated a research on technology of restoration works of modern architecture as a JSPS Research Fellow at the Tokyo Metropolitan University. From 2009 he dedicated research and education at the Department of Architecture, Faculty of Engineering in Tokyo university of Science. He is a co-author of published book “Kasumigasaki-building”.

Masaki Ogawa
Received the Mr. Engineering in 2019 from the Department of Architecture, Graduate School of Engineering, Tokyo University of Science.



Jean Prouvé : The F.8x8. B.C.C. House, Tokyo, Japan, 1941: Relocation to Japan in 2016.
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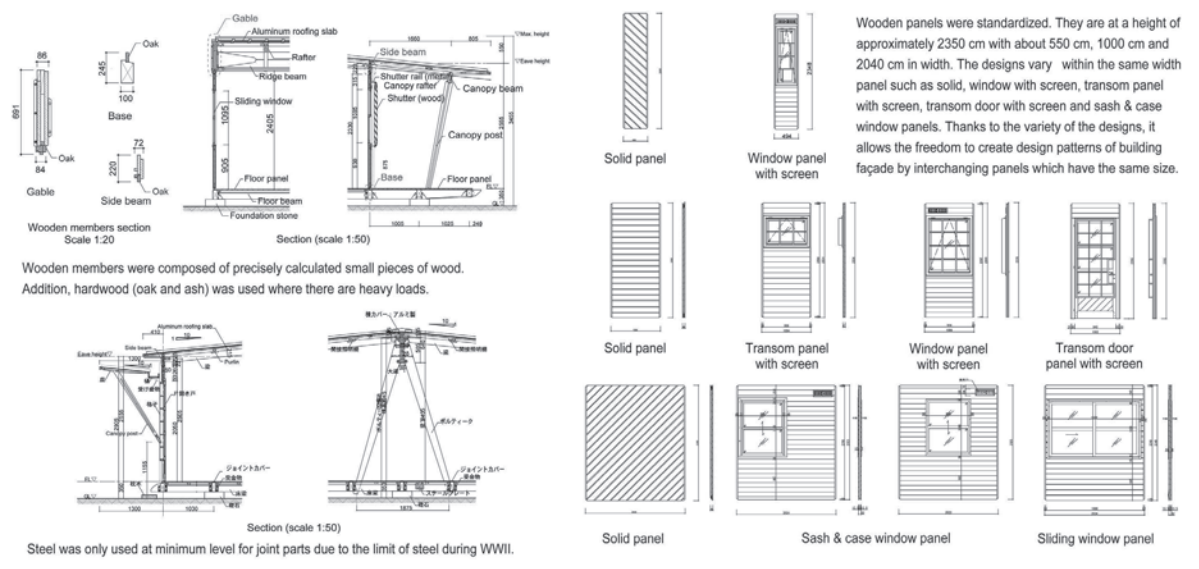
The F.8x8. B.C.C. House is assembled for “the CONSTRUCTOR Jean Prouvé: Designs of Construction and Deconstruction” exhibition at the French Embassy Ambassadors’ Residence, Tokyo, Japan in 2016.
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The combination of hardwood (oak and ash) and softwood (fir) in gable and base.
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The minimum use of steel material was only at necessary areas such as joints and screen.
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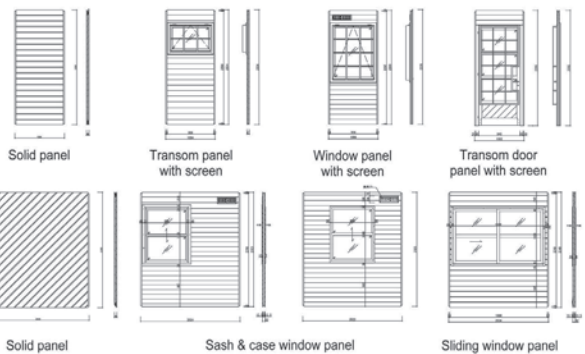
A compass-shaped wooden frame so called “the axial portal frame” is set at the center to support 2 gable beams assembling with metal joints.
© Meguro Architecture Laboratory Co., Ltd. , 2016



Wooden members were composed of precisely calculated small pieces of wood. Addition, hardwood (oak and ash) was used where there are heavy loads.

Steel was only used at minimum level for joint parts due to the limit of steel during WWII.

Wooden panels were standardized. They are at a height of approximately 2350 cm with about 550 cm, 1000 cm and 2040 cm in width. The designs vary within the same width panel such as solid, window with screen, transom panel with screen, transom door with screen and sash & case window panels. Thanks to the variety of the designs, it allows the freedom to create design patterns of building façade by interchanging panels which have the same size.



CONCRETE SHELLS IN THE MODERN
ARCHITECTURE OF GUATEMALA



VICTOR DANIEL
POZUELOS POLANCO

P2012014

ABSTRACT

The use of concrete shells in the modern architecture of Guatemala was a great success, both for its easy and economical construction process and for the great variety of shapes that could be obtained with the advantage of roofs that could be very light and highly resistant. This is how these structures achieved a strong presence in the country's modern architecture. Due to the importance they have as a structural and aesthetic element, it has been necessary to investigate them in depth to determine their construction processes and now their conservation and care.

TEXT

Guatemala was undergoing a strong modernization process that required significant changes to the city's image and the few existing architects were flooded with commissions demanding quick, affordable and aesthetic solutions. This reality led to the development of proposals for concrete shell structures in Guatemala that would part with the country's traditional and conservative architectural style and place concrete shell structures in the limelight. The popularity and success of these structures yielded buildings that are now architectural icons and which shapes evidence the country's important construction progress during that period.

The reinforced concrete shells, using the hyperbolic paraboloid system, were introduced to Guatemala by engineer Mauricio Castillo Contoux, who had previously established, with two engineer brothers, a private engineering company. At the end of 1957, after having constructed their first concrete shell in the auditorium of the Faculty of Engineering of

Universidad de San Carlos, the company Cubiertas Ala de Guatemala was founded in order to extend the work of concrete shells across Guatemala and Central America. This firm was associated with Cubiertas Ala de México, directed by Félix Candela, who maintained a professional and friendly relationship with Mauricio Castillo Contoux. The integration of the plastic arts and the search for new forms in those years favoured the creation of multidisciplinary teams which included plastic artists, engineers and architects who developed innovative and representative works of the time. Cubiertas Ala de Guatemala carried out the design, planning and execution of more than forty projects in Guatemala and Central America, of which the majority are currently in operation. Among them can be mentioned auditoriums, factories, markets, residences, religious temples, banks, restaurants, commercial premises, gas stations and buildings for diverse uses.

Cubiertas Ala de Guatemala's first commission was to design and build the auditorium of the Faculty of Engineering of Universidad de San Carlos de Guatemala. Given that the university was in the process of building the university complex known as Ciudad Universitaria. The construction of the auditorium gained immediate notoriety. Castillo's design included details, provided by Candela, on construction and techniques to build the formwork and perform the concrete casting work. The concrete shell structures are an innovative construction element that while making use of the force transfers also provides an important aesthetic solution. Religious temples are included among the best preserved structures. Cubiertas Ala de Guatemala built and designed five hyperbolic paraboloid projects in Guatemala, each with formal features that

distinguish them from others given that the task team in charge of each project aimed to design a structure offering different sensations in each temple, through their shape and space.

The Civic Center of Guatemala City built in the fifties and sixties, represents one of the most important sets of national modernity due to its strong presence of plastic integration as well as criteria of principles based on CIAM. The complex currently represents the ultimate expression of modern architecture in the country. This area arose thanks to several urban factors that favored its development coupled with a society eager for new ideas, as well as a group of professionals interested in incorporating the new trends of modernity. The IGSS was designed by the architects Roberto Aycinena and Jorge Montes. Its tripartite condition clearly differentiates the baseline, the middle and the top of the building. In its base are exhibited murals of the artists Carlos Mérida and Roberto Gonzalez Goyri. Looking for new forms of expression, without using the flat slab of rationalism, the terrace of this building is formed by a sequence of hyperbolic paraboloids designed by Castillo Contoux.

Our task team has documented approximately 70% of the 46 structures that we know were built by CubiertasAla de Guatemala. It is interesting to point out that of those structures that have been documented, 90% have not changed the use for which they were built and only 4 were demolished. Constructions performed by Cubiertas Ala de Guatemala constitute a major contribution to Guatemalan architecture for they preserve the legacy of Felix Candela and Mauricio Castillo Contoux in their buildings. Almost all these constructions are standing, in optimum preservation condition and hold the original spaces for which they

were designed.

BIOGRAPHY

I have dedicated my career to the investigation of modern heritage in Guatemala, an active member of Docomomo in Guatemala and "Cubiertas Ala de Guatemala", my work in the documentation of concrete shells in the country has led me to present research in different national and international congresses. Work which has been published thanks to a team made up of Sandra Castillo, German Melendez and Mauricio Soza, among which we have achieved an effort and dedication to research for the conservation and protection of the modern heritage of my country.

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Photo of the interior of the Cristo Rey Lutheran Church, built in 1963. It is currently in optimum conditions. (Photo: José Mata, 2017)



Photo of the interior of the Francisco Vela auditorium, built in 1957 at the "Universidad de San Carlos de Guatemala". The building is currently in optimum conditions. (Photo: Víctor Daniel Pozuelos, 2018)



Photo of shell structures built in series for market places in 1960. The system was also used for factories. (Photo: Copy from the Castillo family photographic archive)



Photo of the restaurant at "Parque de la Industria", built in 1960, demolished to build a parking lot. (Photo: Copy from the Castillo family photographic archive)



Photo of the social security building in Guatemala City, the building has a penthouse of concrete umbrellas, built in 1959. (Photo: Taken from the magazine "Galería G&T", Year 9. #26. 2006)



Photo of the exterior of the Shaarei Binyamin Jewish Synagogue, built in 1959. It is currently in optimum condition. (Photo: José Mata 2017)

GUIDE TO SPECIFIC TERMINOLOGY:
DOCUMENTING PORTUGUESE MODERNITY

ABSTRACT
The guide to the specific terminology used within the framework of the research project “Mapping Public Housing: a critical review of the State-subsidized residential architecture in Portugal (1910-1974)” is a performative and constantly updated collective work tool that is fundamental for the consolidation of systematised knowledge. The guide is also an instrument that, instead of restricting knowledge of the subject through categorical definitions, offers a theoretical tool for motivating new readings, further enhanced by the inclusion of bibliographical references, parallel definitions in international contexts and sample listings. In this sense, it has the structure of permanent hypertext. The aims of this document therefore reach far beyond the mere definition of concepts. Each selected entry constitutes a universe of its own, in which attempts are made, with varying degrees of characterisation, to construct a framework of references, further broadened by parallel definitions or relevant quotations drawn from a specialised national and international bibliography.

A “**Guide to specific terminology in State-subsidized residential architecture in Portugal [1910-1974]**”, published in July 2019, was developed under the auspices of the research project “Mapping Public Housing: a critical review of the State-subsidized residential architecture in Portugal (1910-1974)” [PTDC/CPC-HAT/1688/2014]. This research project conducted by the Faculty of Architecture of the University of Porto addressed the State’s role as a housing developer, seeking to identify the public programmes that were implemented, together with their spatial realisations (residential complexes, multifamily or single-family housing).

In Portugal, as in other international contexts, the scientific, theoretical and academic discourse on housing architecture is dominated by a terminological framework of ambiguous semantics, naturally linked to specific cultural, historical or socio-economic contexts. In the particular case of the Mapping Public Housing project, the research carried out involved the use of a broad set of concepts, terms and denominations with a specific framework, whose definition necessarily constructs a space of its own. The term

“economic houses” is a paradigmatic example: in the context of State-subsidised housing, this expression refers to a programme with a concrete legislative framework that was implemented in 1933, whereas, in the common lexicon, the breadth of its meaning is somewhat greater. Therefore, the purpose of the guide is to clarify this set of concepts, terms and denominations by establishing some parallels with the international context.

In the pursuit of this aim, this specialised guide has acquired another critical dimension, as it brings together a wide range of neighbourhoods built between 1910-1974, grouped according to the housing programmes that gave rise to them. Some of these neighbourhoods are well-known paradigms of Portuguese modern architecture (such as the neighbourhood of Estacas, the Estados Unidos da América housing complex, and the neighbourhoods of Olivais Norte/Sul or Chelas, all in Lisbon). Nonetheless, most of the neighbourhoods gathered together in the guide remain relatively anonymous and are associated with low-end construction, despite their architectural quality.

The guide is also a valuable tool for disseminating and documenting the modern movement’s lesser-known architectures, as each entry includes recent photographs of various selected neighbourhoods, duly georeferenced.

The book is divided into two entirely separate sections: “Programmed Housing [1910-1974]” and “Housing”. The **Programmed Housing** section seeks to clarify the terms directly linked to State-subsidised housing programmes, focusing not only on the associated legislative context, but also on the construction of a framework of bibliographical references and the listing of examples of such housing. This section includes the housing programmes implemented in Portugal between 1910 and 1974, together with the identification of a number of house building initiatives, albeit without any legislative framework, and useful information about a number of housing bodies and developers.



GISELA LAMEIRA
LUCIANA ROCHA

P2012017
P2012018

In this sense, the “Guide to specific terminology in state-subsidized residential architecture in Portugal [1910-1974]”, and, by extension, the online database that supports its contents, are to be seen as theoretical tools designed for the further dissemination of their specific subject-matter. These instruments will help to frame the debate on the design and production of everyday architecture, which in its way was responsible for shaping the modernity of Portuguese cities between the 1920s and the late 1960s.

The guide can be downloaded at:
<https://mappingpublichousing.up.pt/en/>

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Gisela Lameira, Luciana Rocha (eds.), *Mapping Public Housing: Guide to specific terminology in State-subsidized residential architecture in Portugal [1910-1974]*, Porto: Universidade do Porto - Faculdade de Arquitectura, Research Project (FCT) Mapping Public Housing, 2019.

BIONOTES
Gisela Lameira (Portugal, Viseu, 1978) is an architect and researcher with the ‘Atlas da Casa’ (Housing architectural design and forms of dwelling) working group of the Center for Studies in Architecture and Urbanism (FAUP, CEAU). She has a PhD in Architecture (FAUP, 2017). Her research interests include the study of architecture and urban theory and history, specifically the genesis and transformation of multifamily housing in Portugal. She worked as a research fellow on the project “Mapping Public Housing: a critical review of the State-subsidized residential architecture in Portugal (1910-1974)”, hosted by FAUP/ CEAU [P2020-PTDC/CPC-HAT/1688/2014] and is currently undertaking research for the exploratory projects ‘Ageing in Place/Architecture4Ageing’ and ‘ICAVI. Independent Living model’, at FAUP, where she also teaches History of Contemporary Architecture for the second cycle course at FAUP.

Luciana Rocha (Portugal, Santa Maria da Feira, 1983) is an architect and researcher with the ‘Atlas da Casa’ (Housing architectural design and forms of dwelling) working group of the Center for Studies in Architecture and Urbanism (CEAU/FAUP). She has a PhD in architecture (FAUP, 2016). Her research is centred on the preservation of the built heritage, namely the analysis of intervention strategies in multifamily housing buildings from the mid-20th century, questioning the adaptability and flexibility of these constructions in adjusting to the current requirements of domestic comfort. She worked as a research fellow on the project “Mapping Public Housing: a critical review of the State-subsidized residential architecture in Portugal (1910-1974)” [P2020-PTDC/CPC-HAT/1688/2014] and is currently undertaking research on architectural design and intervention on built heritage, with particular reference to preservation measures and sustainability strategies. She also teaches Building Construction 2 for the second cycle course at FAUP.

This work was produced in the scope of the research project Mapping Public Housing, which is co-financed by the European Regional Development Fund (ERDF) through COMPETE 2020 - Operational Programme Competitiveness and Internationalisation (POCI) and national funds from FCT under the PTDC/CPC-HAT/1688/2014 project.

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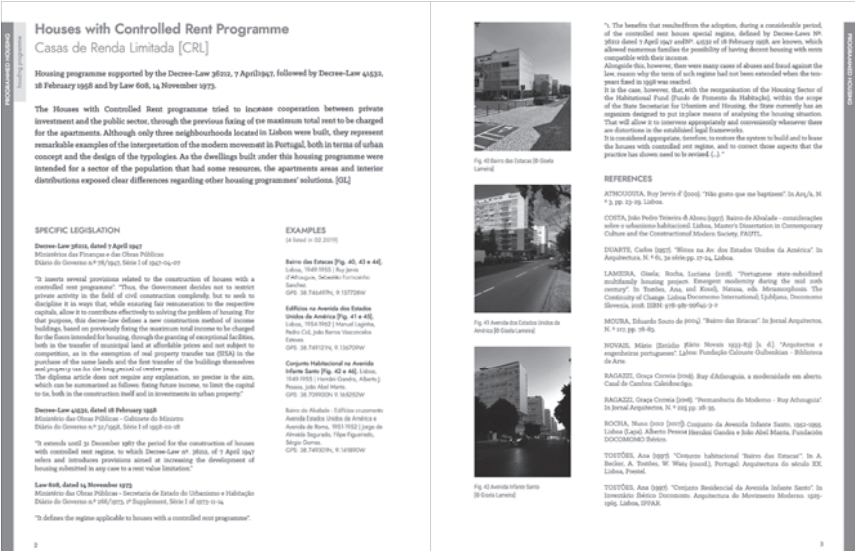
‘Guide to specific terminology in state-subsidized residential architecture in Portugal [1910-1974]’ © Ana Amil



Estados Unidos da América Housing Complex, 1954-1962 | Manuel Laginha, Pedro Cid, João Barros Vasconcelos Esteves. GPS: 38.749121N, 9.136709W



Cell A Cat.III Housing Complex in Olivais North, 1957-1958 | Nuno Teotónio Pereira, Nuno Portas, António Pinto de Freitas. GPS: 38.776181N, 9.116821W



Spreads from the ‘Guide to specific terminology in state-subsidized residential architecture in Portugal [1910-1974]’



Cell A Cat.III Housing Complex in Olivais North, 1959-1964 | Cândido Palma de Melo, Artur Pires Martins. GPS: 38.775414N, 9.114904W



Pantera cor-de-rosa Housing Complex, Chelas neighbourhood, 1972-1980 | Gonçalo Byrne, António Reis Cabrita. GPS: 38.760081N, 9.124207W

© Gisela Lameira

Modern Practices in Housing under Reactionary Ruling: Policies and Politics in the Portuguese Dictatorship (1933-1974)

ABSTRACT
Does architecture reflect a regime's view on housing? This poster focuses on the four-decade lasting Affordable Houses Programme (Programa das Casas Económicas), a housing initiative created and managed by politicians and state bureaucrats of the Portuguese dictatorship and developed by three generations of architects, reflecting the transformations within the regime and the profession. The study of the Affordable Houses Programme, along with other housing initiatives developed by the dictatorship, casts a light on this Portuguese view from the periphery of the great debates of the architectural profession and housing development in the 20th century: collective housing vs single-family houses; the Garden City vs the Cité Radieuse; and state-ownership vs family property.

INTRO
In 1933, a new constitution instituted the Estado Novo (New State) regime, a corporatist dictatorship inspired in Mussolini's Italy. In the same year, a nation-wide housing programme was created, the Affordable Houses Programme. The regime outlasted its Italian model, falling only when a military coup in 1974 instituted a parliamentary democracy; the Affordable Houses Programme withered quickly without its patrons. When fleeing to exile after the coup, the deposed head of state, Marcello Caetano [1906-1980], wrote a book on his very personal - and unsurprisingly quite biased - view of the regime's "good deeds", noting how the Affordable Houses Programme was still active by the time the regime fell, along with many other housing initiatives that followed that original 1933 initiative, catering to specific needs of the population - not as in a "welfare state" point of view but more as a "contain any revolutionary idea at its inception" perspective. Created as a toned-down response to local calls for government action in the field of housing, the programme evolved into an instrument of social control and a reward system for supporters of

the regime; in 1933 the programme refused collective housing, but by 1974 it was developing entire "new towns" in an almost unprecedented scale in the Portuguese case.

THE INITIATIVE
We will not be delving deeply into the programme's political side, but it is worthy of note that very quickly a - somewhat - well-intended housing initiative for families of lower incomes turned into a programme focusing on rewarding regime supporters and state employees. Even then, every estate had a state representative, the "supervisor", that worked as part-neighbourhood watch, part-janitor and part-informant. The Portuguese regime skidded from Italian rationalism, to a diluted German-inspired classicism, to bland regionalist pastiches; right behind them, Portuguese architects depending heavily on state commission for work attempted to keep up with conflicting requests, diverging opinions and a bureaucracy network that tried to guess what the regime's architectural path was, a confusion that only worsened when a younger generation of technicians and engineers returned from studying abroad. It is clear that Portuguese architects were aware of the ongoing debates in central European modern architectural discourse; remnants of progressive approaches to architectural design are present in unexpected places and designs. We have identified four examples of housing estates built by or with the support of the Portuguese dictatorship where modern architecture influence is clearly present, in some cases obviously, in others surreptitiously.

The **Affordable Houses Estate of Olhão** (arch. Eugénio Correia [1897-1985], Olhão, Algarve, 1934-40, figure 1) adapted a house type developed by architect Raul Lino [1879-1974] for the



Sérgio
Dias Silva

CEAU-FAUP
Portugal

P2012006

first phase of the programme, probably based on a previous design. Correia juxtaposed rationalist façades to the typologies, using stylized elements of traditional construction such as flat roofs and external stairs to play with repetition and plain volumes, communicating directly with the characteristics of the historic ensemble of the village. The typology itself was created as an evolutive house plan that started with one bedroom and could be enlarged to two or three bedrooms, adapting to family growth. Circulation space was reduced to a minimum and building elements were standardized to allow for prefabrication, within the limits of an undeveloped civil construction industry.

The **Temporary Housing Estate of Quinta da Calçada** (arch. Couto Martins [1897-1970], Lisbon, 1938-39, figure 2) was a surprise investment developed by Public Works Minister Duarte Pacheco [1900-1943] to rapidly house the inhabitants of slums cleared in preparation for the Portuguese World Exhibition of 1940. With the support of Lusalite, a large fiber cement industry, the Minister and Couto Martins created a large estate of temporary housing that was quick to build, with simple wood frames lined with fiber cement boards, and were complemented, for the first time in Portugal, by an early interpretation of housing estates as neighbourhood units, served by schools, market, church and social centre, all housed in temporary buildings using the same building method.

The **Affordable Houses Estate of Alvito** (arch. Paulino Montez [1897-1988], Lisbon, 1936-44, figure 3) resorted to the same elements of the Olhão estate, with a twist; in this estate, developed for Lisbon's council employees but later bought by the central State, Montez created two typologies, one with two bedrooms and one with three bedrooms, and combined them in two-story buildings that simulated the independent family house, so dear to the regime, but with external, independent access to each floor, and in three-story buildings that became the first col-

lective housing estate with public financing built under the New State regime, that opposed that system, "birdnest of revolutions".

The **Affordable Houses Estate of Agualva-Cacém** (archs. Alberto Pessoa [1919-1985] and João Abel Manta [b. 1928], Sintra, 1965-76, figure 4) is the largest Affordable Houses estate built in Portugal, with over 2000 housing units. Unlike its predecessors, Agualva-Cacém is a new town, with a full set of public services and commercial areas, complemented by common and green areas designed by landscape architect Gonçalo Ribeiro Telles [b. 1922]. It represents a new approach to housing and urban design within the programme and is enriched by typological experimentation, such as the 8-stories high "towers" that housed the larger types.

HYPOTHESIS
This and many other examples show how modern practices in architectural design are present even in designs which do not represent canonical, iconic examples of the architecture of the Modern Movement. Bounded by political and economic limitations, Portuguese architects acknowledged the ongoing debates in modern architecture, adding their own interpretations and conjuring classical, contemporary and regionalist elements to achieve pertinent results, even in the context of an ultra-conservative, authoritarian regime.

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Sérgio Dias Silva (Porto,1982) is an Architect with a Degree in Architecture from FAUP (2007). He is a student at FAUP's PhD Programme and is currently developing a Doctoral Thesis on the Affordable Houses Programme of the Estado Novo regime in Portugal (1933-1974), under the supervision of Professor Rui Jorge Garcia Ramos and with a Studentship of the Foundation for Science and Technology (FCT). In 2013, he founded the e.studio collective with Rodrigo Cruz and Pedro Monteiro. His research interests focus mainly on the development of Portuguese architecture in the first half of the 20th century, its influences and cultural origins.



Consórcio Português de Conservas de Peixe Estate. Architect Eugénio Correia for DGEMN, 1935-38. Photography Horácio Novais. Source: Calouste Gulbenkian Foundation Art Library [CFT164.102207]



Alvito Affordable Houses Estate House Types. Architect Paulino Montez, Lisbon 1936-44. The same types are used in two-story buildings with independent access (Left) and three-story buildings with common access (Right). Redesign by MdH - Mapping Public Housing Research Project.



View of one of the two-story buildings of the Alvito Affordable Houses Estate. Architect Paulino Montez, Lisbon 1936-44. Source: Torre do Tombo Empresa Pública Jornal O Século, Albus Gerais n.º 46, doc. 2044L PT/TT/EPJS/SF/001-001/0046/2044L. Source: Arq. Nac. Torre do Tombo



Type D apartments. Affordable Houses Estate of Agualva-Cacém, archs. Alberto Pessoa and João Abel Manta, Sintra 1965-76. Redesign by MdH - Mapping Public Housing Research Project.



Temporary Housing Estate of Quinta da Calçada under construction. Architect Couto Martins, Lisbon 1938-39. Photography Horácio Novais. Source: Lisbon Municipal Archive.



Type D apartment buildings. Affordable Houses Estate of Agualva-Cacém, archs. Alberto Pessoa and João Abel Manta, Sintra 1965-76. Photo by Tiago Casanova. Copyright MdH and Tiago Casanova

Architecture as The Humanistic
Buddhism Practice



Liu, Tshinn-Hun
Wu, Kwang-Tyng Professor

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Chen Ren-He was born in the offshore island of Taiwan named Penghu on 1922, he attended the Semonbu of Waseda University during 1941-1944, he received the complete architectural teaching from Naido Tachu 、Imai Kenji and many other famous architects at that time.

Chen Ren-He might be the first and only one Taiwanese architect attempting to create the new design approach to respond the Buddhist modern movement in that era, His effort conduces to the diverse possibility to the contemporary Buddhism temple of Taiwan till nowadays, inspiring many following young architects constantly to progress the contemporary Taiwanese Buddhism architecture style.

The Architect Chen, Ren-He

Chen Ren-He was born in the offshore island of Taiwan named Penghu on 1922, he attended the Semonbu of Waseda University during 1941-1944, and started out majoring in architecture, Chen received the complete architectural teaching from Naido Tachu 、Imai Kenji and many other famous architects at that time. Because of his graduation exactly at 1945 before the end of the WWII, he came back to Taiwan and acquired the architect license in the following years. Chen was the minority of Taiwanese architects having the Japanese higher education degree before 1945. (Tshinn-Hun, 2017)

Chen’ s first classic architectural commission was the “Buddhism hall of Kaohsiung” built on 1954 while he simply set up his architectural firm one years ago. This work contributed him to become the famous young architect at that time, many Taiwanese are surprised at the extraordinary shape of this building due to the unfamiliar form even considered to evolve from Christian culture. He accomplished more than 10 various Buddhism architectural works in his entire professional life.

The Modern Movement of Buddhism

The development of Taiwanese Buddhism is quite characteristic despite its roots originated

in China from Qing dynasty, not to mention the several religious features influenced by the Taoism contributing to the notable discrepancies from the original format. However, the traditional Chinese Buddhism development has also been acrimoniously criticized by Chinese Christ in western perspective since early 1900s, especially the conservative attitude and excessively superstitious doctrines lead to public identify it as the antiquated belief, in order to retrieve this disadvantage, some visionary Buddhists dedicate to reform the Buddhism modernize movement.

The most important innovation of the Chinese Buddhism modernize movement is the Sacred space has been transferred towards disciple’ s living environment, this particular feature leads to the modern Chinese Buddhist having more intentions to become the religious lay practitioner in daily society, it means they are used to conduct the religious practicing at home, or the other private place, the modern Chinese Buddhist build the “Vihara” instead of a gorgeous monastery. Due to this distinct transition for the religious interpretation, the Chinese Buddhist are more enthusiastic about adapting a common house reused as the religious center instead of building a new palatial monastery.

Although the Chinese Buddhism culture has developed the exhaustive specification to regular the architectural form of monastery, including the clearly guideline to the building configuration and site plan, Taiwanese actually does not conform to the exact design specification to build the temple since the Qin Dynasty. It also means Taiwanese does not exactly comply with the same development process of the Chinese Buddhism, even though they have also used to conducting religious events at home, moreover Taiwanese have ever governed by Japanese more than 40 years lead to more cultural difference from Chinese. The Taiwanese Buddhism development does not equal with Chinese before 1945.

Numerous Chinese Buddhist monks retreated to Taiwan with KMT in 1949, they reformed the Taiwanese Buddhism culture immediately. In spite of the pressure of settling

in unfamiliar place, some younger or not so famous monks had an enlightened attitude to accept new possibilities, but they usually lacked the adequate sponsor and had to collaborate with their disciples to create the new design approach for the modern Buddhism temple in Taiwan, “Vihara” becomes the most common architectural form in the contemporary Taiwanese Buddhism.

Chen s Buddhist Architecture

Chen Ren-He might be the first and only one Taiwanese architect attempting to create the new design approach to respond the Buddhist modern movement in that era, He cooperated with master Hsin Yun and other Buddhism groups to achieve many Buddhist architectural commissions. Their cooperative relationship initiated the essential reformation for the Buddhism modern movement in Taiwan during 1950-1970s, and contributed to the new design strategy to the modern Buddhism architecture. His effort conduces to the diverse possibility of design concept to the contemporary Buddhism temple of Taiwan till nowadays.

Chen uses the distinctive design approach to accomplish the modern Taiwanese Buddhism architecture in spite of the apparently traditional religious function. Nevertheless, many Taiwanese consider this exclusive design pattern evolved from the western culture. Considering to Chen is the devout Buddhist, and to put this into perspective, he has more positive attempts to respond the religious requirement of the Taiwanese modern Buddhism, especially the religious ceremony has not so often been taken place in the specific Buddhism monastery. He explores the new approach for designing the field of sacred space, his foreign studying experience in Japan is the most important key to complete these religious architectural works.

Chen is used to adopt the longitudinal site plan in his early Buddhism architectures instead of the horizontal arrangement, this exclusive design strategy is apparently different from the Chinese tradition form. The

longitudinal religious interior space is very common form in the Indian Buddhism culture like stupa or caves but very scarce in the Chinese. It is not easy for the Taiwanese to learn about the knowledge of Indian Buddhism at that time, the only way Chen can know anything about the original Buddhism doctrines and transfer it into the design approach is depending on his learning experience in Japan, especially the historical theory of the Asian architecture inheriting from Ito Chuta.

“Vihara” originally means the quarter or living space for monks in ancient India Buddhism culture, usually affiliated to the great Buddhism monastery, the function of these facilities become more characteristic in the modern Buddhism development, it also gradually becomes an independent religious institution with multiples functions. Chen gradually reform his design approach to the space arrangement for the modern Vihara after 1960, because there are more common Buddhists playing the key role in the religious event, the Vihara’ s arrangement have to combine with more Secular and Divine functions in the same time.

The development of the Chen’ s Buddhism architecture almost corresponds to the Taiwanese modern movement, His foreign studying experience in Japan contributes to the its design approach can influence the development of Taiwanese modern movement, and inspire many following young architects constantly to progress the contemporary Taiwanese Buddhism architecture style.

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Fig.1. Che Ren-he’ s working photo



Fig.4. Perspective sketch of the Buddhism hall of Kaohsiung

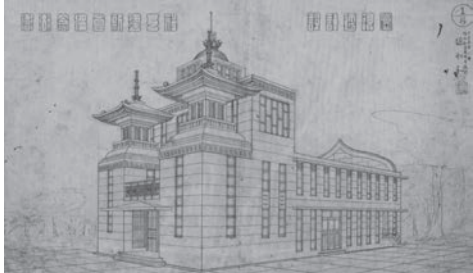


Fig.5. Perspective sketch of the Buddhism hall of Penghu

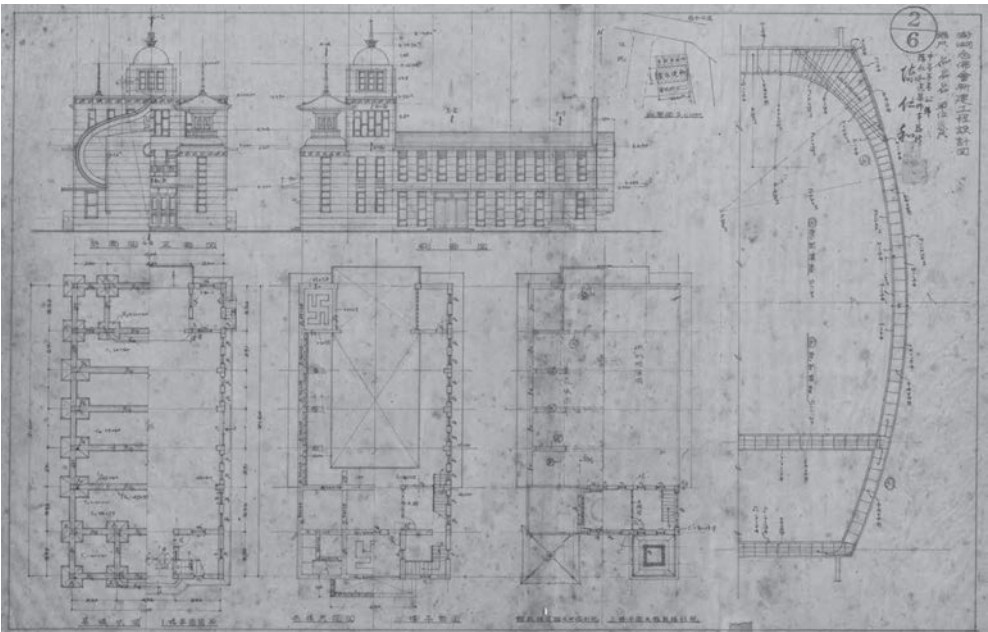


Fig.6. Site plan of the Buddhism hall of Penghu



Fig.2. Alumni Association of Waseda University in Taiwan. Chen Stands in the third row on the far left

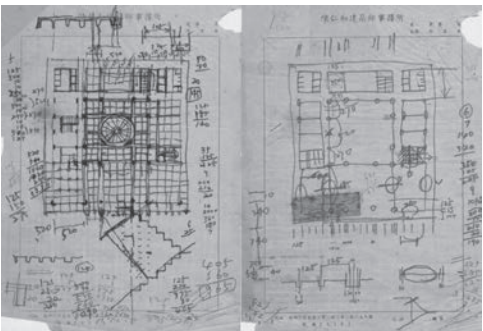


Fig.3. The design sketch of Longhu monastery

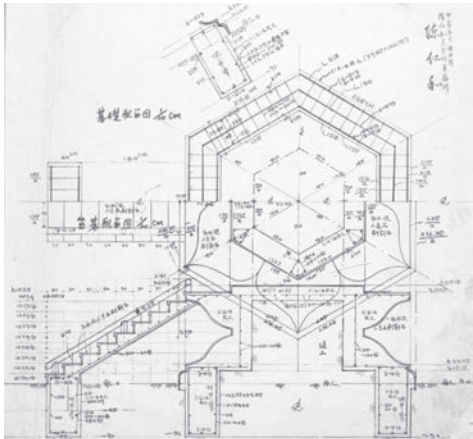


Fig.7. Section of the Haihuwei monastery

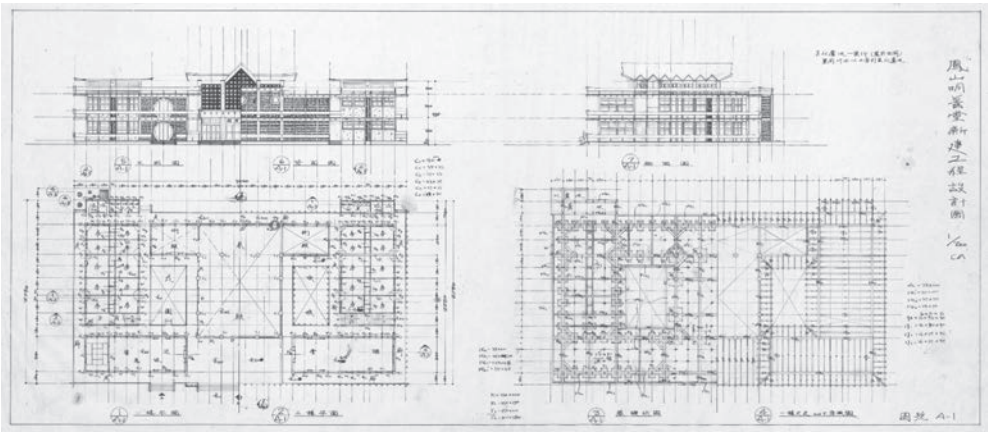


Fig.8. Longitudinal section of the Minsantung in Fengsan

BRUTAL ACT OF TIME: BRUTALISM IN JAPAN FROM WITHIN AND WITHOUT

ABSTRACT

A widespread survey on Brutalist architecture has been proceeding in recent decades for salvaging those once despised buildings of raw concrete and other exposed materials. A curious twist observed here is that, while some Japanese post-war works were surveyed and listed in accordance with this line of investigation, their categorization as “Brutalism in Japan” is only carried out by scholars outside the country [Fig. 1]. This is the aftermath of the checkered history of British New Brutalism’s development that was at once highly domestic, and then developed into a global phenomena. The so-called “influence” of Japanese architecture was one of centers of gravity.

NEW BRUTALISM AS A JAPONISM

It has been overlooked that the virtual first manifest of “The New Brutalism” by the Smithsons (*Architectural Design*, Jan. 1955; hereafter *AD*) was a call for “yardstick Japanese architecture.” But even when the interval year of 1954 was for them a “key year” when the High School in Hunstanton – “which probably owes as much to the existence of Japanese architecture as to Mies” – was completed, visual information about the former could almost only be obtained through photographs seen in Europe.

While British architects’ interest in Japanese architecture had been not so tangible during the interwar period, the German-speaking world had its prehistory in introducing the notion of modernity in Japanese architecture through various architectural magazines [Fig. 2]. They would introduce the modern value of Japanese traditional architecture to German reading readers, and even to those in their home in exile, America. It is noteworthy that this knowledge production had often been done hand-in-hand with Japanese architects and critics like Tetsuro Yoshida and Shinji Koike.

Just after Smithson’s New Brutalism manifesto, the post-war English-speaking world would soon witness an intense influx of knowledge

about the traditional architecture of Japan through publications like Arthur Drexler’s *The Architecture of Japan* (1955) and Tetsuro Yoshida’s *The Japanese House and Gardens*, the first English translation of *Das japanische Wohnhaus* (1935). The latter English publication is all the more important for the history of the New Brutalism, for it would be Banham’s use in his 1966 theorization of *The New Brutalism: Ethic or Aesthetic?*, or *Brutalismus in der Architektur* [Fig. 3].

JAPANESE PRACTICES AND BRUTALISM

The first post-war overseas introduction of Japanese contemporary practices was made in 1956 by the French *L’architecture d’aujourd’hui*, connecting it with Japanese tradition [Fig. 4].

Then it is *AD* that laid the basis for the association between Japanese contemporary architecture and British New Brutalism; it occasionally featured Japan from April 1958 when Kenzo Tange’s Hiroshima Peace Center (1955) was displayed, with the cover having Japanese text on the influence of Le Corbusier in Japan. The creation of *The Japan Architect* in 1959 would become a driving force to bring Japan’s trend into the New Brutalist narrative [Fig. 5]. The magazine’s timely publication of Maekawa’s Harumi Apartment Block in March 1959 was an event; for British and Japanese models of contemporary practices was identified for the worldwide audience. In February 1961, the Smithsons were in charge of the special issue of *AD* for “The Rebirth of Japanese Architecture,” stressing that “the revival of architecture in Japan can be regarded as the direct result of Le Corbusier’s work in India” which was one of the main reference points of the Smithson’s New Brutalism as well [Fig. 6].

It is 1960 when the Smithson first visited Japan around the World Design Conference held in Tokyo, and the first detailed introduction of New Brutalism to the Japanese architectural world was made in *Kokusai-Kentiku* (Jul. 1960).

But the reviewer of the Smithson’s address made severe criticism on the too-late development of the term after LeCorbusier’s *Unité d’Habitation* in Marseilles (1952). After this initiation, Japanese criticisms on (New) Brutalism would never include their own practical paths into it.

BANHAM’S AMBIVALENCE

Architectural Review (hereafter *AR*) was rather indifferent to Japanese architecture as a source of New Brutalism, and Banham himself would tend to brush it aside. his New Brutalist theorization in *AR* in December 1955 was characterized by the total absence of Japan throughout the lengthy article, defining New Brutalism as “our first native art-movement”.

It was a nice little twist that the global turn in New Brutalism as a movement would be brought to Banham by Jürgen Joedicke, one of his collaborators in *Knaurs Lexikon der modernen Architektur* (1963) who surprised him in 1963 with the suggestion that New Brutalism was a suitable subject for a serious investigation. Banham contributed to it an entry “Brutalismus” with global perspective; although he had depicted it only as a phenomenon of the English-speaking Britain and America in his previous theorization.

Shinji Koike’s entry “Japan” in *Lexikon* signifies this country’s first enrollment to the global-oriented history of modern architecture. Photographs include works of “Mayekawa/Tange school, largely as that was to feature in the later history of Brutalism”, as Banham would call them in his *The New Brutalism* [Fig. 7].

GROUNDWORK FROM WITHOUT

Aside from British debate, Japan’s categorization under Brutalist architecture had been attempted in the hands of Robin Boyd in Australia, and Joedicke in Germany.

Boyd, in *Kenzo Tange* (1962) summarized the condition that “although much Japanese work can be, and has been, described as Bru-

talist, this term (which was always an ironic word) is not really appropriate”. But in “The Sad End of New Brutalism” (*AR*, Jul. 1967), Boyd also protested Banham’s featuring Maekawa’s Harumi and his peripheral reference to Tange, criticizing Banham’s British-centered worldview that saw that “the impact of this one regional phenomenon was world-wide”.

Boyd’s article would immediately catch Japanese eyes, and be translated twice in *Kenchiku* and *SD* next year [Fig. 8]. It was after this when a series of excerpted translations of *The New Brutalism* would appear in *Shinkenichiku* in 1970-71, without the “Manifesto” chapter where Japan was heavily referred to.

Later in the year of the Tokyo Olympics in 1964, the November issue of Swiss *Bauen+Wohnen* featured “Brutalismus in der Architektur” under the editorship of Joedicke [Fig. 9], with Tange’s Nichinan Cultural Center (1962) on its cover. Joedicke’s article took Tange’s Yoyogi National Gymnasium (1963-64) as the latest example of Brutalismus, for it offered “an unforgettable plastic entity, a memorable shape”.

CONCLUSION

Britain’s post-war commitment to the knowledge production of an enlarged modernism was the expression of a nation seeking for its own history in a global context on one hand, and asserting domestic ingenuity on the other. This was the case for Japan as well. For the latter, they would continue their practical and critical courses without seeing those histories of international information exchange over “Brutalism in Japan”, well up to the present.

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Fig. 2 (above left), *Die Form*, July 1933. Tokonoma, Soshō-kyō (1928) by Suteimi Horiguchi
Fig. 4 (above middle), *L' Architecture d' aujourd'hui*, May 1956.
Fig. 6 (above right), “The Rebirth of Japanese Architecture,” *Architectural Design*, February 1961.

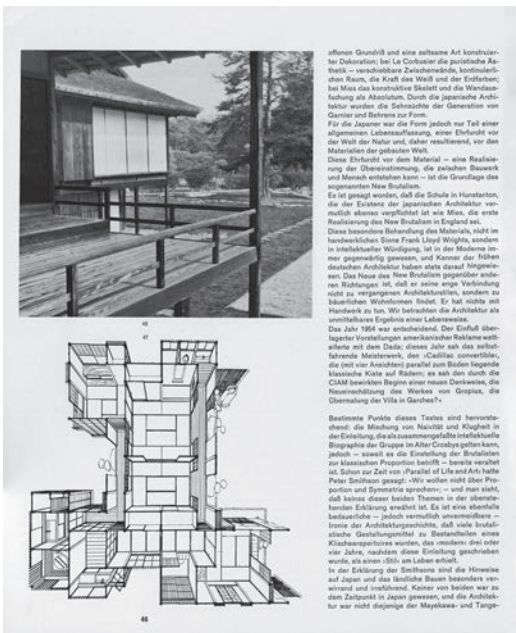
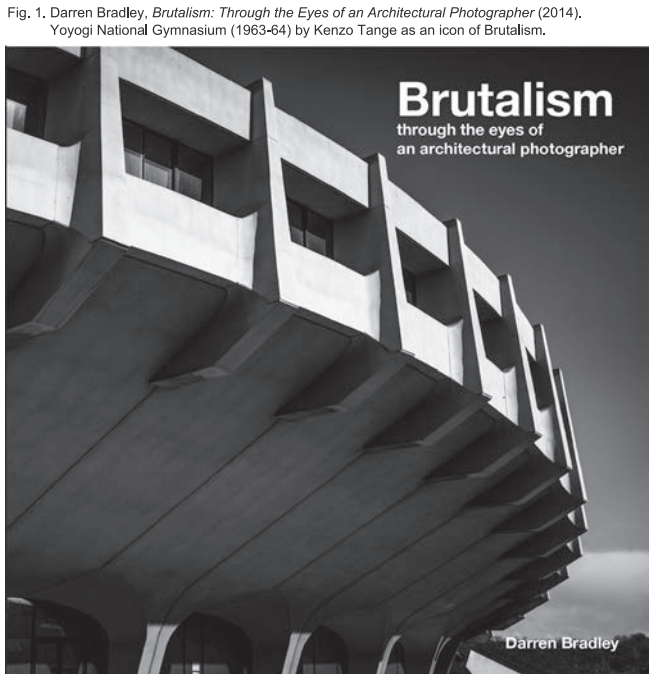


Fig. 3. Rayner Banham, *Brutalismus in der Architektur: Ethik oder Ästhetik?* (1966). Photo of Katsura Detached Palace (late 16c-mid 17c) and drawing of a Japanese style house. Both plates are taken from Tetsuro Yoshida, *The Japanese House and Garden* (1955), the post-war English translation of German *Das japanische Wohnhaus* (1935).

Fig. 5 (bottom left), *The Japan Architect*, January 1959, the detached, international version of *Shinkenichiku*. Kagawa Prefectural Hall (1955-58) by Kenzo Tange.

Fig. 7 (bottom middle), Shinji Koike, “Japan,” *Knaurs Lexikon der modernen Architektur* (1963). Harumi Apartment Block (1958) by Kunio Maekawa and Sougetsu Art Center (1958) by Kenzo Tange.

Fig. 8 (bottom right), Robin Boyd, “The Sad End of New Brutalism,” *SD (Space Design: Journal of Art and Architecture)*, May 1968. Translation by Tatsuo Nakamura.



Fig. 9. Cover of the special issue for “Brutalismus in der Architektur” of Swiss architectural magazine *Bauen+Wohnen*, November 1964. Nichinan Cultural Center (Miyazaki, Japan, 1962) by Kenzo Tange.

BIOGRAPHY OF THE AUTHOR

Hiroshi EMOTO is an Assistant Professor at Kyoto Arts and Crafts University. His research interests include the globally intertwined migration of architectural knowledge throughout the modern and contemporary world, applying current information technology to provide a more substantial and holistic outlook of this field of historical inquiry. His recent major publication is *History Builds: American Architecture and John Ruskin 1839-1968* (UTokyo Press, 2019; the 8th prizewinner of Nambara Shigeru Publication Prize), the first comprehensive historiography of approximately 130 years of architectural debates in the U.S.

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A Study in the Origin of the Nakagin Capsule Tower

One of the Earliest 'One-Room Mansions' in Japan



P2012026

Yuta Osaki
(University of Tokyo)

Abstract

'One-room mansions' emerged in Japan in the early 1970s for business users and the Nakagin Capsule Tower was one of them. The combination of the architect's idea and the client's business strategy made the building feasible.

The building has deteriorated over 48 years after the construction but almost no effective maintenance measurement has been undertaken due to lack of a consensus among the owners. The aspect of the building as a 'one-room mansion' should be considered to construct a policy for preservation.

Birth of ‘One-Room Mansions’

The first 'one-room mansion' in Japan was Akasaka Residential Hotel (1971)¹⁾. However, the term 'one-room mansion' was not used at first and people called the new type of building 'business mansions' for they were mostly used as a private hotel for busy business people or a small office. 'Business mansions' were promoted along with hotel-like services. 'The management is thorough and some "business hotels" offer services such as bed making, room clean and groceries arrangements,' says a newspaper²⁾. 'Business mansions' saw a boom in the 1970s. There could be two reasons for the popularity. One is the expansion of outskirts. 'Because houses are built suburbs, people started to seek a second house near the business district. Business mansions attracted people by not only helping avoid commuting hell but also serving as a small office²⁾. The other reason is the economic motivations. 'Business mansions' are marketed widely because 'mansions for a family

suffered from poor sales after the first oil crisis (1973) and developers tried to overcome it with business mansions³⁾. On the other hand, some owners seem to have made speculative purchase expecting an increase of value in the future¹⁾. The popularity of business mansions lasted until the second oil crisis in 1979⁴⁾.

While 'one-room mansions' was born as 'business mansions', they gradually transformed their character. Single people started to use 'one-room mansions' as their accommodation, not as a second house or a small office. 'Though the impression of "one-room mansions" used to be offices, there is an increasing number of "one-room mansions" as a shelter today⁵⁾. 'One-room mansions' for single people replaced 'business mansions' and rapidly spread across Japan. The distribution was so fast that campaigns were launched against 'one-room mansions', which eventually lead to regulations of them around 1985⁶⁾.

Afterwards

Capsule hotels can be described as a spin-off of the Nakagin Capsule Tower. The first capsule hotel is 'Capsule Inn Osaka' and was designed by Kisyo Kurokawa. The architect said, 'I once considered of piling up capsules three-dimensionally for a future urban shelter, and now I brought them into a hotel as a high-functional bed⁹⁾. Today, capsule hotels spread not only across Japan but also around the world.

Meanwhile, the Nakagin Capsule Tower itself has experienced a hard period. The lifespan of the capsules is set 25 years but there has not been any replacement of them even today. Although the management association started to function in 1995 by owners who were concerned about the deterioration of the building, they have not reached any effective measurements for improvement¹⁰⁾. In 2007, the owners agreed to redevelop the site, but the agreement was invalidated two years later. The masterpiece is on the brink of deterioration and demolition.

Introduction

Although the Nakagin Capsule Tower (1972) designed by Kisyo Kurokawa is widely known as a masterpiece from the Metabolism Movement, it is obscure that it is one of the earliest 'one-room mansions' in Japan. This research aims to place the Nakagin Capsule Tower in the context of the dawn of 'one-room mansions' and to acquire a new explanation about the building.

This research consists of literature reviews of newspapers and magazines, an interview with a former member of the stuff at Kisyo Kurokawa architect & associates (Interviewee A), and analysis of real estate registry.

Realising the Nakagin Capsule Tower

Before realising the Nakagin Capsule Tower, Kisyo Kurokawa was seeking a chance to test the possibility of capsule architecture, which he claimed in his 'Declaration of Capsule 1969'. The opportunity arrived rather soon in Japan World Exposition, Osaka 1970, for which he designed Takara Beautillion, Theme Pavilion 'Capsule House' and Toshiba IHI Pavilion. Also at the EXPO was Torizo Watanabe, the founder of Nakagin Mansion. He says 'when I saw Takara Beautillion at the EXPO, I decided to construct the Nakagin Capsule Tower⁷⁾. As a successful manager of a real estate company, he had to make the project profitable. The solution was to sell the Nakagin Capsule Tower as 'urban second house'. Watanabe says 'The usage of the urban second house was discovered on Manhattan among the urban functions and housing function in New York City. I concluded that such urban second housing could be successful in Tokyo if sold commercially⁸⁾. As a result of the combination of Kurokawa and Watanabe -or a creative architect and a skilful businessman-, the Nakagin

Capsule Tower was constructed in 1972, making the building the second earliest 'one-room mansion' in Japan.

For the sales strategy, they set businessmen as the main target. They described the Nakagin Capsule Tower as 'Business Capsule' in the pamphlet. They offered services such as bed making, rental types and calculators, and business support of 'Capsule Ladies', which resemble services in other 'business mansions'. The design of the building was largely influenced by the strategy. Interviewee A says that they never gave a thought to female users in the design process and the built-in electric appliances were chosen to attract young male customers. To install all the function, they referred to the interior of yachts. The chart table in yachts was referred to for the foldable table, the galley for the small kitchen, and the switchboard for the open deck and stereo speaker. However, interviewee A says 'the interior of yachts is almost complete. I do not think we managed to reach that refinement in the design of the capsule'.

Conclusion

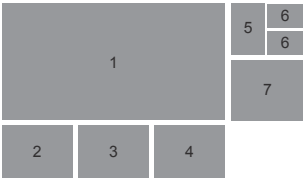
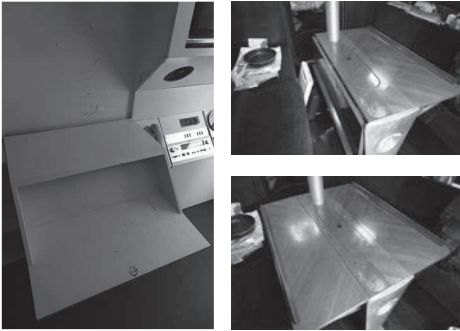
This research revealed a unique viewpoint of the Nakagin Capsule Tower as a 'one-room mansion'. In discussing the preservation of the building, not only historical and architectural features but also the fact that this building has been used as a one-room mansion should be taken into account.

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Biography of Author

Yuta Osaki is a master's student at Graduate School of Public Policy, the University of Tokyo. He was born in Nagasaki in 1997. He received his bachelor in engineering with a major in architecture from the University of Tokyo in 2020. You can reach him at yutaayutaaa@gmail.com.



1. Nakagin Capsule Tower (2018/04/22, Picture by Yuta Osaki)
2. Akasaka Residential Hotel (2019/11/03, Picture by Yuta Osaki)
3. Open deck and stereo speaker in the Nakagin Capsule Tower (2018/04/22, Picture by Yuta Osaki)
4. Switchboard of a yacht (2020/02/16, Picture by Yuta Osaki)
5. Foldable desk in the Nakagin Capsule Tower (2018/04/22, Picture by Yuta Osaki)
6. Table in a yacht (2020/02/16, Picture by Yuta Osaki)
7. Original capsule bed in Capsule Inn Osaka (2019/11/05, Picture by Toshio Otsuki)

LIVING IN COLOUR. THE MODERN INTERIOR THROUGH NEW METHODOLOGIES

Our experience of colour is spatial, and therefore complex and personal. For this reason, experimentation and observation must be part of any methodology on architectural colour, even pigment analysis, if it wants to encompass its complexity. In December 2019 the ISC Interior Design organised the event 'Living in Colour. Colour and Paint in the Modern Interior and Related Restoration Practices', hosted by the University of Antwerp (BE), with the aim to increase empirical knowledge. This poster shows the results of the event, discussing new methodologies based on a holistic and multidisciplinary approach which opens new perspectives on the reconstruction of modern architecture and interiors.

In daily life, we tend to take colour for granted. Yet, despite its omnipresence colour escapes a comprehensive understanding: even the most advanced colorimetric methods are unable to reflect our sensorial and mental impressions. One explanation is that our experience of colour is spatial, and therefore complex and personal. For this reason, experimentation and observation must be part of any methodology on architectural colour, even pigment analysis, if it wants to encompass its complexity.

When researching historical colour use, the problem becomes even harder, because subjective perceptions from the past are impossible to reconstruct. While we know much of the modern lifestyle through black-and-white photography, in real life, colour was crucial to its appeal and proliferation. Despite historians' efforts to elucidate the breadth of modern architecture, colour remains undervalued in conservation and restoration, although recent efforts emphasise its importance. One example is the methodology developed in Zürich's Haus der Farbe (Technical School for Design in Crafts and Architecture), a presentation technique aiming to show all dimensions of the sensory experience of a building in a holistic manner. Recent research also shows there's still much unknown about the colour concepts of figures as Le Corbusier, Theo Van Doesburg or Bruno Taut, or the theories of

Goethe or Wilhelm Ostwald. A 2019 publication, based on recent research of projects by Van Doesburg, sheds new light on the evolution of the Dutch master's colour theory by backing the art-historical discourse with a new analysis of authentic samples.

Interiors are recognised as the 'more ephemeral side of architectonic creation'. Colour is perhaps the most ephemeral of all, yet it is crucial for understanding the full aesthetic and cultural significance of a space. This led the International Scientific Committee (ISC) on Technology of Docomomo International to organise in 2002 a pioneering seminar on the technical, scientific and conservation aspects of colour restoration at the KU Leuven (BE). It produced a comprehensive cahier of contributions on decision making aspects, stating 'colour is ... as essential as construction'.

In December 2019 the ISC Interior Design organised a sequel with the event 'Living in Colour. Colour and Paint in the Modern Interior and Related Restoration Practices', hosted by the University of Antwerp (BE). Including a conference, two workshops and an exhibition, its aim was to engage wider expertise on colour and paint in modernist environments, and to discuss new tools and methods for assessing original situations. Recent multidisciplinary research – including collaborations between art historians, documentarists, architects, interior designers and heritage specialists – concentrates on applying empirical knowledge to develop new methods and technologies. Increasing empirical knowledge was the event's central thread, culminating in an exhibition of '12 encounters' showing how the visual arts and interior design interact through colour.

The workshops focused on 3D visualization by means of physical and digital modelling. It is clear that the widely used small colour samples are inadequate for representing the architectural experience of colour. Cardboard models by contrast allow to simulate the role of walls as vehicles of colour in the architectural game. The workshop 'Inside. Experimenting with Polychromy of Interior Rooms', led by architect



Zsuzsanna Böröcz

Maria Zurbuchen-Henz (CH) and dr. Mariël Polman (NL), uses models to study the relationship between volume, space, light and colour and its influence on the architectural experience. After Le Corbusier's colour palettes were explained, the workshop focused on experiments that challenge the participants to explore Le Corbusier's approach and to develop their own interpretation by applying colour to the cardboard models, resulting in a trove of colour combinations. The second workshop, entitled '3D Modelling and Colour Simulation as a Tool to Evaluate Reconstruction Possibilities of Rietveld's Unesco Press Room (1958)', suggested 3D digital modelling software to manipulate many factors in colour perception such as light source, contrast, scale, texture or point of view. The workshop first taught the elementary skills required to simulate colour and material in virtual environments, such as the Blender 2.82 freeware, discussing various techniques and the intricacies of digital colour. The participants were then challenged to replicate real materials, such as linoleum and vinyl, as accurately as possible.

A third approach was explained in the lecture 'The Aubette as a case for new research. The colour schemes by Theo van Doesburg in 1919' by Mariël Polman and Nele Bergmans from Caruso St John Architects (UK). The Aubette is an 18th-century building in the centre of Strasbourg (FR). In 1928 the three early-modernist artists Sophie Taeuber-Arp, Jean Arp and Theo van Doesburg converted the interiors into a 24/7 amusement building. Five spaces were reconstructed in the 1990s and 2000s. In 2018, the Barbican Gallery in London in collaboration with the Belvedere (Vienna) planned an exhibition on cabarets and clubs in modern art worldwide entitled 'Into the Night' (Oct 2019 – Jan 2020), intending to recreate several spaces. The presentation of the Ciné-Dancing was a multidisciplinary effort. One third of the room was rebuilt at full scale, with colours as roaring as in 1928. The final colour scheme was decided through design research, starting from 43 preselected colours, using as reference the

original colour schemes of Het Nieuwe Instituut Rotterdam (NL), the colours of the reconstructed Salle des Fêtes in Aubette and the notes of Van Doesburg.

Since the 1990's historical and technological research offered new insights in the production of modern architecture and interiors, particularly the importance of colour. More recently, its role was confirmed thanks to the focus on interiors and new methodologies, ranging from pigment research and visualising techniques to the development of multidisciplinary empirical knowledge. This evolution led the ISC-ID to organise in 2019 with Antwerp University 'Living in Colour', an event consisting of workshops, lectures and an exhibition, to explore this still often underestimated aspect and present new approaches to colour scheme reconstruction. The issue of colour does not simplify the conservation challenge of modern interiors. The mission therefore is to advance and to deepen this awareness across the world, so all regions can enjoy their modern heritage in full-colour.

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Zsuzsanna Böröcz is a musicologist and art and architectural historian. She obtained her PhD from the KU Leuven Belgium in 2004. Since then she has been teaching on art, design and architectural theory. She currently holds a position of guest-professor at the Faculty of Architecture KU Leuven, as well as being affiliated as a researcher with the University of Antwerp. She is Vice-President of Docomomo Belgium and co-chair of the Docomomo International Scientific Committee on Interior Design. Her interest fields and publication subjects are interiors and design issues in the context of heritage conservation and craftsmanship in the 19th- and 20th-century.



Fig. 1. Ciné-Dancing by Theo Van Doesburg for Aubette Strasbourg, 1926-28, reconstruction at Barbican London, 2019 © M. Polman

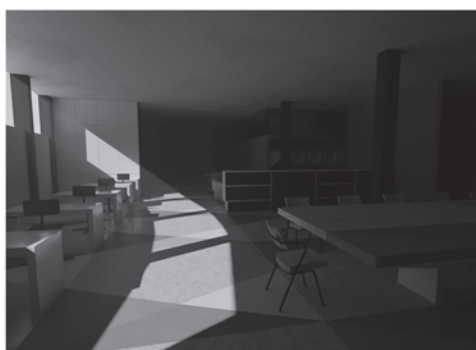


Fig. 4.1. Gerrit Rietveld, Unesco Press Room, 1958, 4D reconstruction with diverse colour measurements, 2019 © S. Pander - T. Lanjouw



Fig. 4.2. Gerrit Rietveld, Unesco Press Room, 1958, 4D reconstruction with diverse colour measurements, 2019 © S. Pander - T. Lanjouw

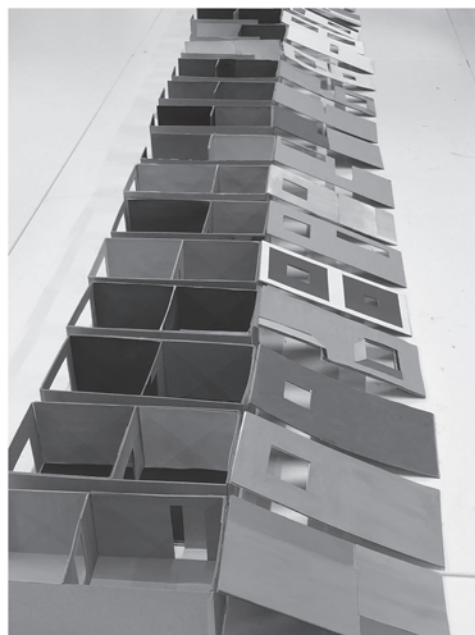


Fig. 2. Cardboard models from 'Inside. Experimenting with Polychromy of Interior Rooms', University of Antwerp, 2019 © E. Slijper

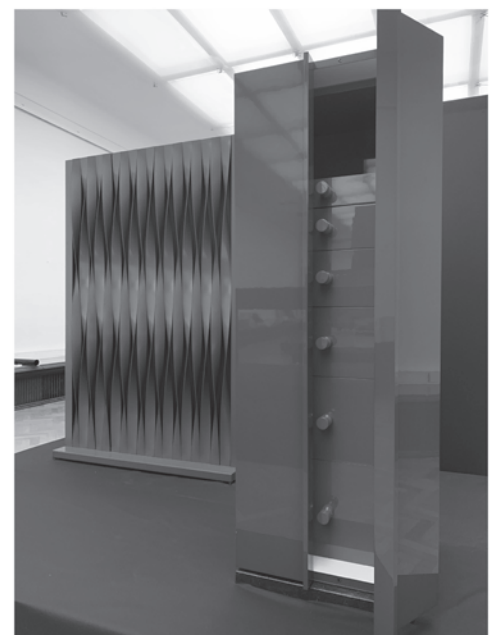


Fig. 3. Encounter W. Leblanc, Torsions, 1978 and P. De Bruyne, Jacket Cupboard, 1975, 'Living in Colour', University of Antwerp, 2019 © Zs. Böröcz



Fig. 5. Le Corbusier, Maison Blanche, La Chaux-de-Fonds (CH), 1912/2017 © M. Zurbuchen-Henz



Fig. 4.3. Gerrit Rietveld, Unesco Press Room, 1958, 4D reconstruction with diverse colour measurements, 2019 © S. Pander - T. Lanjouw

The achievements of the architects Mamoru Yamada, who introduced "International Style" to Japan



Executive director, DOCOMOMO
Japan/Daiguji Architects Office/
Katsuhiro DAIGUJI

P2012033

Mamoru Yamada (1894-1966) is one of the architects who brought "International Style" to Japan. In this poster, I would like to introduce the circumstances leading up to the later work "Nippon Budokan" and to clarify the design method that is consistently included in it.

Mamoru Yamada was a member of the group that launched Japan's first modern architecture movement, the Bunriha Kenchikukai [Secessionist Architectural Group in Japan] in 1920, with the aim of breaking away from the study of classical Western styles that had been promoted by the Japanese government since the Meiji Restoration. Yamada quickly took notice of the free sculptability of concrete and named this "free-form." He subsequently attempted new molded expressions in the Tokyo Central Telegraph Office (1925, Tokyo, Fig 1) and Hijiribashi (1927, Tokyo, Fig 2).

After traveling to Europe in 1929, he met Bruno Taut, Erich Mendelsohn, and Le Corbusier, and participated in the second CIAM, which greatly influenced him following his return to Japan.⁽¹⁾ Many of his buildings in Japan retained an International Style, such as the Tokyo Teishin Hospital (1937, Tokyo, Fig 3) and Hiroshima-Teishin Hospital⁽²⁾ (Today: The A-Bomb Archive, 1935, Hiroshima, Fig 4).

According to earlier research by Ken Tadashi Oshima⁽³⁾, the Electric Laboratory at the Ministry of Public Works (Osaka Branch) (1930, Osaka Fig 5) designed by Yamada around this time was unique in Asia for being featured in "International Style" co-authored by Hitchcock and Johnson.

Even after the war, this unique architecture remained rooted in the Modern movement while incorporating curves and a streamlined form. Futuristic buildings such as the Nagasawa Water Treatment Plant⁽⁴⁾ (1957, Kanagawa, Fig 6), the Tokai University Shonan Campus and School Buildings (1963, Kanagawa, Fig 7), and the Kyoto Tower Building⁽⁵⁾ (1964, Kyoto, Fig 8), which was featured in the SFX made-for-TV movie "Ultraman," adopted bold curves. Moreover, these could be said to precede Oscar Niemeyer in their extensive use of curved surfaces.

Incidentally, "Nippon Budokan" (1964, Tokyo, Fig 9), designed by Yamada in his final years, has a different feel from his other work. In fact, it received particularly bad reviews within architectural academism at the time. It resembled the classical architecture of "Horyuji-Yumedono,"⁽⁷⁴⁸⁾ Nara, Fig 10) a design on banknotes at the time, and so it was treated as a replica of a straightforward

classical style and labeled as being against the style of the modern movement.

Certainly, having a sloped roof with octagonal flat panels hung on a steel frame and the "*giboshi*" [ornamental railing top] atop it are reminiscent of classic Japanese architecture; moreover the eaves and vertical "lattice" attached to the horizontally running windows (Fig 11) and "*kumikoran*" railings (Fig 12) portray dominant Japanese motifs.

It is almost certain that Yamada was aiming for "Japaneseness" for Japan's Judo venue at the Olympics.

Paradoxically, however, it can be said that the Modern movement of the time had rules that elements from classical Japanese architecture should not be reconstituted. Speaking of reconstituting elements of classic architecture, this is associated with post-modernist methods but may have arrived prematurely in Japan in 1964.

During the same period, Kyoto Tower became an issue due to controversy over the landscape of the ancient city, and due to these two controversies Yamada came to be assailed on all sides. He fell ill and died two years later in 1966, amidst this headwind. Yamada himself believed that these buildings would come to be accepted by future generations.

Today, the Nippon Budokan is used not only for martial arts tournaments, but also for national events, university entrance ceremonies, and graduation ceremonies. In particular, it has maintained a high rate of usage for concerts since 1966 when the Beatles visited Japan and held a concert there it is widely familiar with the public. It is said that young musicians first aim for their "Nippon Budokan performance."

In particular, the "roof that imitates Mt. Fuji" (Fig 13) that is symbolic of the Nippon Budokan and its "giboshi" atop it are familiar from the lyrics of the popular song "Tamanegi." There is no doubt that Yamada's free molded expression is tied to the value of this building.

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Biography of author

Katsuhiro DAIGUJI
Born 1969 in Tokyo. Graduated from Tokai University Department of Architecture in 1993. Graduated from Tokai University with a master's degree in architecture in 1995. Worked in Daiguji Architects Office from 1995 to 1997. Worked in Tatsuo Iwaoka Laboratory from 1995 to 1997. Worked in Tokyo Kasei Gakuin University from 1999 to 2020. Completed PhD at Tokai University in 2008. Worked in Daiguji Architects Office from 2020. Executive director of DOCOMOMO Japan from 2019.



Fig 1 Tokyo Central Telegraph Office (1925, Tokyo)



Fig 2 Hijiribashi (1927, Tokyo)



Fig 3 Tokyo Teishin Hospital (1937, Tokyo)



Fig 4 Hiroshima-Teishin Hospital (Today: The A-Bomb Archive, 1935, Hiroshima)

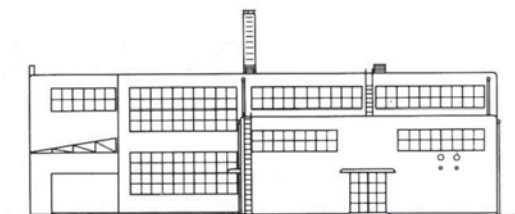


Fig 5 Electric Laboratory at the Ministry of Public Works (Osaka Branch) (1930, Osaka)

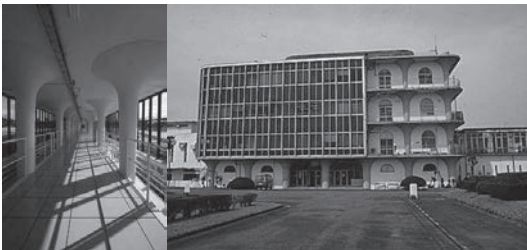


Fig 6 Nagasawa Water Treatment Plant (1957, Kanagawa)



Fig 7 Tokai University Shonan Campus and School Buildings (1963, Kanagawa)



Fig 8 Kyoto Tower Building (1964, Kyoto)



Fig 10 Horyuji-Yumedono



Fig 13 Mt Fuji



Fig 9 Nippon Budokan (1964, Tokyo)



Fig 11 lattice



Fig 12 kumikoran

Credit

Fig 1, 3, 5; "Yamada Mamoru Kenchiku sakuhinshu [Yamada Mamoru's architectural works]." University of Tokai Press, 1967
Other figure by katsuhiro DAIGUJI

INHERITABLE RESILIENCE TYPE OF THE CITY:
Re-thinking Shi-Jie(Machi) Neighbourhood Unit
for Kaohsiung City of Tomorrow

The paper sets out to discover how the education centred neighbourhood units can be reconceptualised to infrastructure nodes in response to the suburbanisation of the city. This paper also examines how this Fundamental Type can transform into the 'Education Belt' with an inverted street form in the face of tertiary education based urban transformation in Kaohsiung. The essay stems from the following design-research questions in correspondence to issues in the 'Urban Landscape' section.

1. What can we learn from the modern Kaohsiung city's Fundamental Type, through its inheritable resilience nature of evolving with the port city centre?

Theoretically, regarding literature on Kaohsiung City, it is always in the midst of the Japanese occupation period of the three-phase port construction plans based on the hygiene notion. However, the 'Japanese-style neighbourhood unit' has been overlooked with explicit spatial characters. This nature derived from its Japanese colonial modernisation reveals a cellular Shi-Jie Neighbourhood Unit model, centred on the education building (primary school) and a Shi-Jie (market street), and defined by these educational nodes within a 500 metre walking radius.

The Shi-Jie is built on the sanitary infrastructure with colonnaded space along the street, integrating the façade of the building. This model with such a cellular pattern continued to the city planning today, gradually forming the sense of school districts and nodes dotted within the city centre, perceived as Fundamental Type of the city. The model resiliently evolved with the city part-by-part to create a new town for port workers and then perceived as the Fundamental Type of this city, having created energetic live/work city parts. This eventually raises the following question: what kind of model can be created by the neighbourhood idea of the Shi-Jie in respect of education and urban corridors on different scales? The paper, therefore, scrutinises the historical development of the downtown area and how the relationship between city and urban components can be defined by multi-scalar educations.

2. How to inherit and rethink this Type when facing contemporary speculative suburbanisation developments and knowledge-based society transformation?

With coincident similarity of Clarence Perry's Neighbourhood Unit idea, these two models were somehow influenced by the ideal Garden City in the suburbs. The Shi-Jie one in the city centre was however utilised in a different way. The difference is the street element. In Perry's model, it was used as a service infrastructure, for land division and mechanical supplies. Shi-Jie Neighbourhood Unit on the other hand is a regularising tool and sanitary infrastructure, and is covered by roofs creating a market street. In the vicinity of this street, as the neighbourhood developed, with the provision of a central common space inside an urban block. Shi-Jie is therefore a type of arcade, according to its definition as an interiorised street connecting both ends of an internal block. It also connects external and internal spaces in a block, as well as private and public spaces. Hence, the centre of the block is not privately owned and enclosed, but a common space on the ground level. Shi-Jie Neighbourhood Unit is, thus, also a ground-based type derived from the sanitary infrastructure. The composition of the urban street network of the Kaohsiung City is under the structure of western grid and also presents the idea of Japanese Machi. It reflects that the planning is a hybridisation of neighbourhood unit and infrastructure.

Practically, Kaohsiung City Centre is however a metropolitan-wide suburbia. Starting with Shi-Jie Neighbourhood Unit's homogeneous cellular nature, it was for constructing an ideal new town in the city centre, leading to the suburbanisation characteristics of this city. Together with later development it has brought about the crucial problem for the larger urban territory: with scattered populations and fragmentation of public facilities, resources have become difficult to concentrate. Additionally, due to recently tertiary education transformation, developments such as the science park in Asia New Bay area have been highly dependent on the highway transportation sprawling the city towards outskirts. Zouying satellite city brought by the ideal new

Yu-Hsiang Hung

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town idea with high-speed rail infrastructure is constantly pulling the development momentum in the north. Those fragmentations challenge the traditional idea of 'A' city centre. It demands a modified Type for a highly alive, communicative-and-interlinked in the face of knowledge-based society transformation.

3. How can we propose solutions for the planning of Kaohsiung future cityscape, while inhering and transforming the resilience of this Type?

Bridging gaps between those two mentioned above leads to the proposition of this paper: if the suburbanisation and fragmentation were Kaohsiung's born nature, how can this Fundamental Type work beyond its scale and be reconceptualised as a series of hybridised Education-Infrastructural-Nodes as well as an operative framework in response to the city transformation? This paper thus investigates how the infrastructure idea can enlarge the ability of this education-based Type for working on the larger territory through a serious of typological reasoning. It thus constructs a method in search of the new Fundamental Type of the city: 'Education Belt', spreading the flow of knowledge carried into the city for Kaohsiung City of tomorrow.

'Education Belt' is considered not only as an aggregation tool, which stimulates interactions among tertiary educations (ICT and bio-technology institutes) but also a new ideal and organisational diagram for the city. This paper is meant to synthesise the educational nodes for the operative framework and the utility of the diagrams that emerge from the Shi-Jie Neighbourhood Unit. It organises the ground level by using different layered of interspaces, and the building interior is stretched onto the street with shared spaces. Thus, it concludes the 'Education Belt' with an inverted street form, which is not only formed by surrounding architectures but is the urban architecture forming the space. This design-research paper is not limited to the design outcome and provides a model of the typological potentials and urban ideas redefined by the Shi-Jie Neighbourhood Unit and further applications on similar urban conditions. Therefore, research (theory) and design (practice) ac-

tivities are inseparable, and disciplinary knowledge production is methodologically linked to the multi-scalar speculations from-and-for the city of tomorrow.

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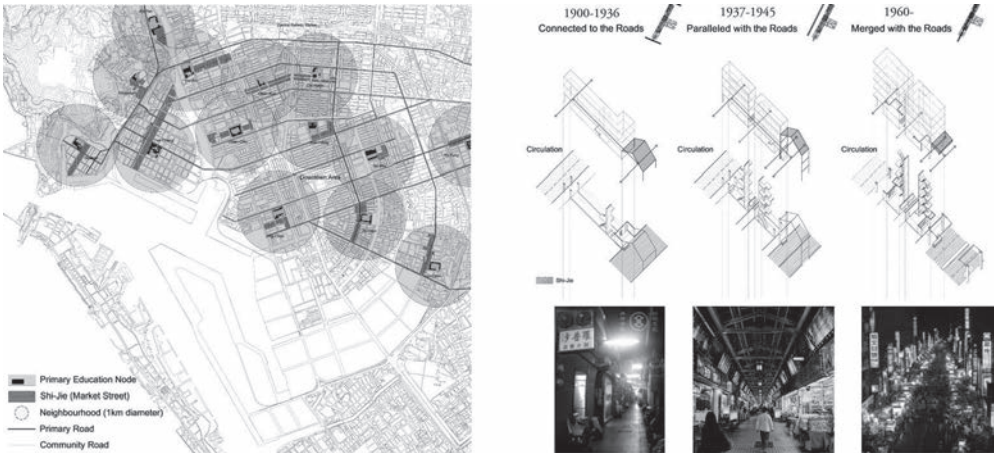
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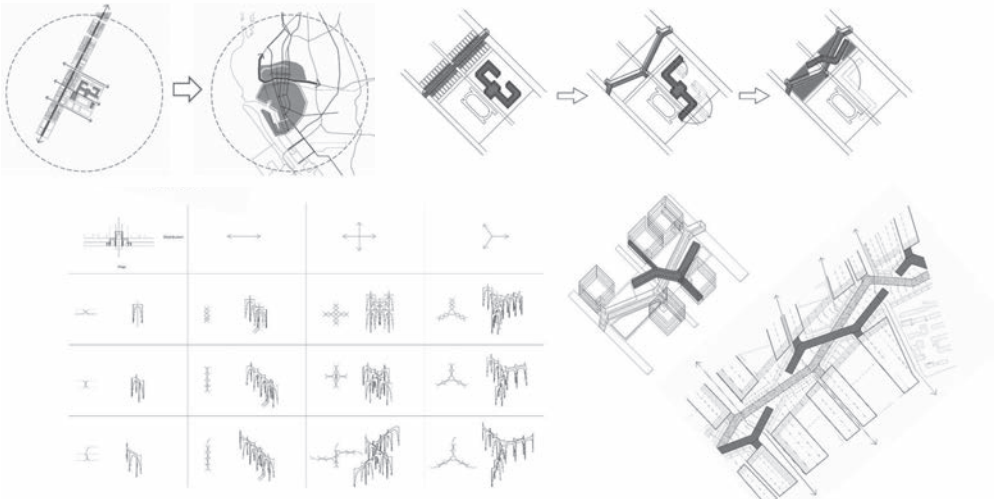
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The Timeline of Kaohsiung City Planning Development during the Japanese Colonisation. Drawing re-produced by Yu-Hsiang Hung, 2020



The Type Evolving with and Being Adapted into Various Fabrics and Parts of the City, Acting as the Repository(database) of Kaohsiung Modernity, Constructing and Forming within This Type. Drawing produced by Yu-Hsiang Hung, 2020



In order to accelerate the communication among deferent departments and social groups, these two elements are interlaced as the 'fabric ribbon' through an aggregation of small parts-one small building after another. Drawing produced by Yu-Hsiang Hung, 2020



The Intention of This Project is thus Not to Develop a Centre of the City But an Alternative for Creating Different Parts of the City Incrementally along the Central Space of the 'Education Belt', Developing Parts-by-Parts of the Architecture and the City. Drawing produced by Yu-Hsiang Hung, 2020

RESEARCH ON THE RELATIONSHIP BETWEEN THE
PLAN OF CONSTRUCTING THE JAPAN-THAILAND
CULTURE CENTER AND LUMPINI PARK

GENDA Yuta

P2012037

Biography

Genda Yuta received the Master degree in Environmental Engineering from the Kyoto University in 2006 and the Master degree in Urban Engineering from the University of Tokyo in 2017. From 2018, he is a doctoral student at the Department of Urban Engineering, the Graduate School of Engineering, the University of Tokyo. From 2006 to 2012, he worked for an architectural company whose main business was spatial design. From 2012 he has been working for the Japan Foundation and launched the mASEANa (modern ASEAN architecture) project in collaboration with the Docomomo Japan.

Abstract

The author investigates the transition of the relationship between the modern spaces that are the plan of constructing the Japan-Thailand Culture Center (JTCC) in 1942 and Lumpini Park which was scheduled to be connected to JTCC's site. By analyzing them, the site of JTCC, a Japanese cultural representation space, was expanded by setting the front yard at Lumpini Park, where Japanese troops were stationed. One of the characteristics of modern spaces is that modern spaces can be involved in the phenomena peculiar to modernization that the connected spaces have by homogenizing them.

1. Introduction

Regarding the plan of constructing JTCC, which was examined in 1943, previous other researches were focused on the analysis of the project itself. Therefore no attention was paid to its relationship with the surrounding area of the planned construction site and its mutual influence. It is the last major design competition before the end of the WWII and the most significant cultural facility planned overseas before the end of the WWII. Such an act of building its own culture's space in a different culture's city may bring about significant regional and social transformation. So, it should be re-evaluated as an essential project for city formation and cultural exchange. Therefore, in this study, the author investigates the transition of the relationship between JTCC and Lumpini Park which was scheduled to be connected to JTCC's site, or Bangkok and Thailand. The study will be obtained mainly from the primary materials and traditional materials such as the National Archives of Thailand, the Archives of the Tokyo Metropolitan Government, research papers, and books.

2. The history of the site of Lumpini Park

2.1. The plan of the Siamese Kingdom Exhibition to 1925

The plan of the Siamese Kingdom Exhibition (SKE), scheduled for 1926 in Bangkok, Thailand, was a comprehensive exhibition planned by Rama VI himself. The location was an international area in the southeast of Bangkok. (Fig.1) This area was originally

the suburban area. It was planned as a microcosm of Siamese Kingdom (the country name of Thailand at that time) and prepared. However, it was not implemented because Rama VI was destroyed in 1925. By analyzing the plan, three things become clear.¹⁾ First, urban development was made in the wake of SKE. Second, SKE demonstrated the modern national statue, which was the ideal of Siamese Kingdom. (Fig.2) Third, SKE was a space that sought to justify the political situation that would continue to be the ruler after modernization. Immediately after the destruction of Rama VI, his intention was emphasized that the venue would be a botanical garden in the city²⁾, and the procedure for building a park was proceeding.

2.2. The first amusement park in Thailand from 1929 to 1934

Lumpini Park (Photo.1) opened on the same site, but it was lent to the private sector for financial reasons and was used as the first amusement park in Thailand from 1929 to 1934. (Fig.3) Although it had been operating for a while, it began to be rough, and it was concluded in 1934 because the original purpose (Rama VI's intention) of setting the site was neglected, and it was a decline in public safety. At that time, Saint Mary School and others were set up on the planned site of JTCC. (Fig.3)

2.3. The urban park progressed from 1934 to 1941

From 1934 to 1941, the urban park progressed with the awareness of the intention of Rama VI. A plant garden was also considered, however, abandoned in terms of cost. Then Bangkok capital wanted to transfer it from the State Department because they wanted to improve the park according to Rama VI's intention and to configure space for sports and exercise in addition to walking. It can be seen that there has been changed to use by citizens of Bangkok primality. In 1938, authority was transferred from the Ministry of Home Affairs to Bangkok Capital, changing from a national park to a city park, and the value and significance were rebuilt. Even after Rama VI's destruction, Rama VI's will was always respected as the purpose of the site, and the purpose and philosophy were maintained.

2.4. The garrison of the Japanese army during the Pacific War from 1941 to 1945

In December 1941, WWII broke out. After the Japanese army commenced landing in Bangkok, the Japan-Thailand Alliance Treaty was signed on December 21, 1941. Lumpini Park was eventually used as a Japanese garrison³⁾. (Fig.4, Photo.2) This suggests that the use of civilians was restricted during the war.

3. The plan of constructing the Japan-Thailand Culture Center in 1942

3.1. Outline

In 1942, the plan of constructing JTCC, a cultural

base in Southeast Asia⁴⁾ based on the viewpoint of Japanese imperial, was promoted on the northeastern side of the northwestern intersection of Lumpini Park. (Fig.5) The central hall, the industrial hall, entertainment hall, etc. were planned to be installed. (Fig.6) In the spring of 1943, it was decided to construct a 15,000-tsubo venue on an adjacent site near the Lumpini Park⁵⁾. However, it was not built because of the worsened war situation. A design proposal awards was held in 1943. The first prize was Tange Kenzo, the second prize was Maekawa Kunio, and the third prizes were Tokunaga Shozo etc. and Osawa Hiroshi⁶⁾ (Fig.7-14)

3.2. JTCC's relationship to Thailand and Bangkok
Many Japanese related facilities were near the park. For example, the Japanese military's garrisons were stationed in Lumpini Park and Chulalongkorn University, and Embassy of Japan in Thailand were moved there. In the description of Bangkok in Design Guide of Architecture design proposal awards of JTCC⁷⁾, it only mentioned that it is a luxury residential area like Tokyo's Yamanote district. However, it is neither mentioned that it is not located in central Bangkok, nor Bangkok's unique urban characteristics and regional climate. The map written in the application guidelines was simple. (Fig.5) Also, details of Lumpini Park and the surrounding streets are not depicted in the design Guide or the perspective drawing of each submitted applicant. (Fig.6-14) In the Design Guide, "The architectural style is based on a simple and elegant Japanese traditional architectural style, as the building itself plays the most crucial role in the promotion of Japanese culture because JTCC will be constructed in Thailand. It should be worthy of being a hall of fame of Japanese culture that should be built for the first time abroad, building on the differences of each other without being imitated by the past." Thus it can be said that it aimed to create a space that represents Japanese culture.

3.3. JTCC's relationship to Lumpini Park

According to the Design Guide, the relationship between JTCC and Lumpini Park is that the building site was adjacent to the northwestern side of Lumpini Park in Bangkok. The west side is a flat area facing the road, and the front of the site was Lumpini Park. It was specified that the park is planned to be used as its front yard, facing the park. At the time, Japanese troops were stationed at Lumpini Park. (Fig.4) From this, it was possible to show the cultural representation of Imperial Japan on both sites. This relationship is reminiscent of the relationship between the National Imperial Museum and Ueno Park, one of the symbols of Japanese cultural space. (Fig.15, 16) Regarding Ueno Park, a spatial plan conscious of the Emperor's ceremony by the state has emerged as a political technique for the formation of a modern country with the Emperor, and it was a ritual stage tool to visualize the emperor.⁸⁾ As mentioned earlier, Lumpini Park was a microcosm of the Siamese

Kingdom, a place that justified the political situation that rulers could continue to rule the state. When considering the use of the Park, Rama VI's intention was respected. It is presumed that legitimacy could be given to its culture because it becomes a cultural representation space of Imperial Japan. The plan of constructing JTCC may use the image of Lumpini Park, which background relate to nationalism and the ideal image of the modern state.

4. Conclusions

By analyzing these projects, the following three points were clarified.

(1) Lumpini Park has a characteristic that maintains the intention of Rama VI while changing its use according to the times.

(2) The plan of constructing JTCC was a plan that was isolated from the region, the relationship with the region was not taking into account. This can be interpreted as a space formalized as a cultural representation space of Imperial Japan.

(3) The site of JTCC, a Japanese cultural representation space, was expanded by setting the front yard at Lumpini Park, where Japanese troops were stationed, and the legitimacy of state control of Lumpini Park could be undertaken. As a result, the plan of constructing JTCC indirectly followed the Thai national formation space.

Thus, one of the characteristics of modern space can be referred to as being involved in the phenomena peculiar to modernization that the connected space has by homogenizing the space to which space connects.

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Figures, Photos

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- Fig.2 Edited by "Interior Ministry of Thailand: Urban Planning During the Reign of Rama VI, Seven printing group Co.Ltd., 1999 (in Thai)"
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- Fig.5, 6 Reference 7)
- Fig.7-14 Reference 6)
- Fig.15 Edited by "Army: Aerial view (taken on 06/11/1936), Eastern Tokyo, Geospatial Information Authority of Japan, <http://maps.gsi.go.jp/>, Read on June 13, 2020"
- Fig.16 Tokyo national museum (ed.): the book of 100-year history of Tokyo national museum, Tokyo national museum, 1973
- Photo.1 Edited by "google map"
- Photo.2, 3 Peter Williams Hunt: The Williams Hunt Collection, 1946 (Collection of Library, Center for Southeast Asian Studies, Kyoto University)

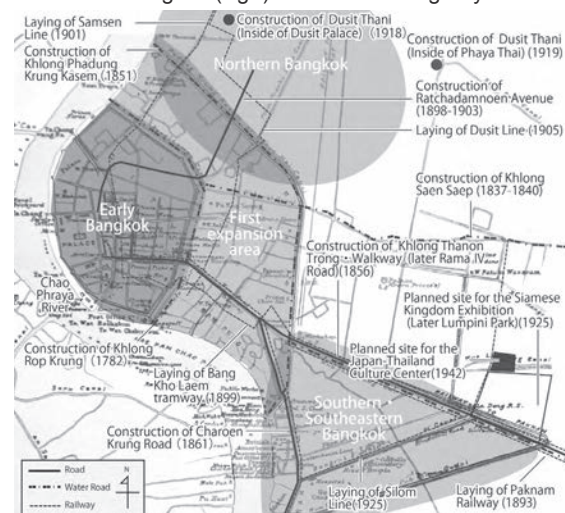


Fig.1 Map on Bangkok

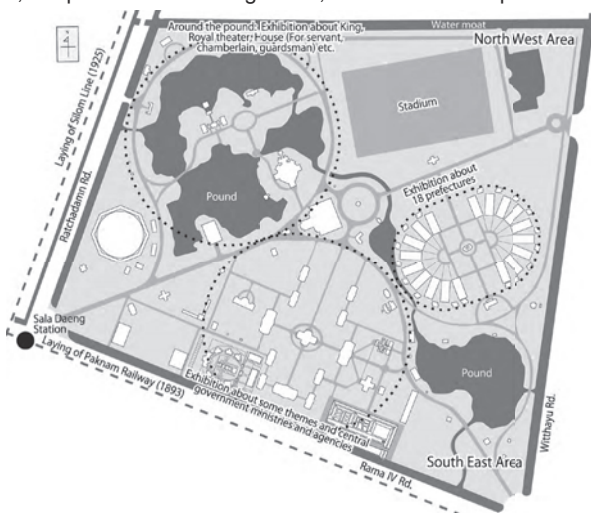


Fig.2 Plan drawing on the Siamese Kingdom Exhibition



Photo.1 Lumpini Park (Google Map)

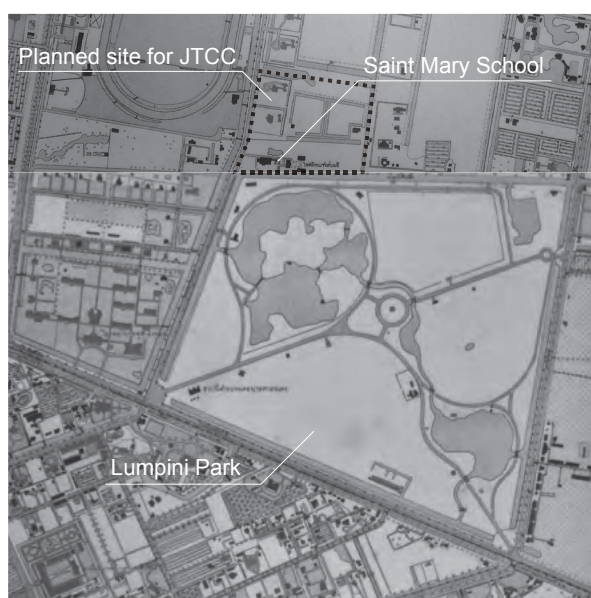


Fig.3 Area map of Lumpini park (1932)

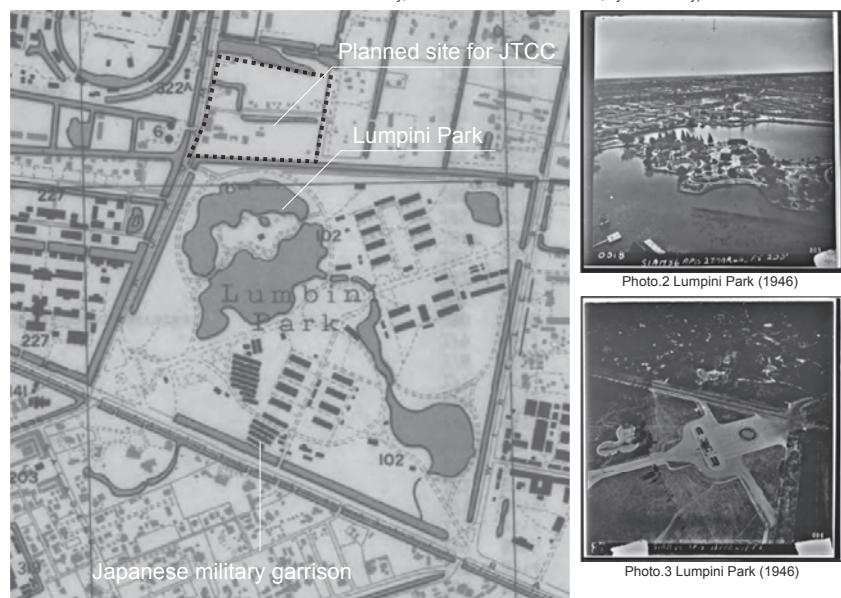


Fig.4 Plan of Lumpini Park (1945) *Black fill: Japanese military garrison



Fig.5 Area map

Fig.6 Reference layout drawing

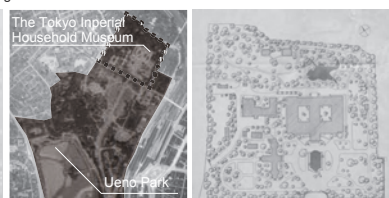


Fig.15 Map of Ueno Park (1936)

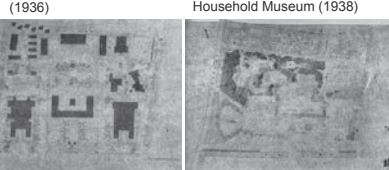


Fig.16 The Tokyo Imperial Household Museum (1936)

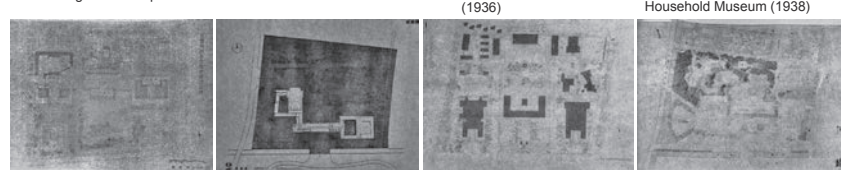


Fig.7, 8, 9, 10 Layout drawing (from left: Tange Kenzo, Maekawa Kunio, Tokunaga Shozo etc., Osawa Hiroshi)

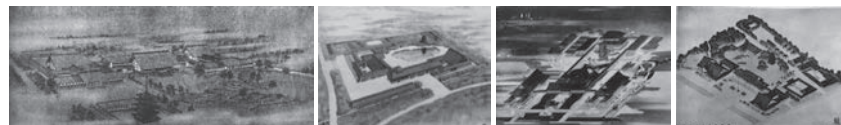


Fig.11, 12, 13, 14 Plan drawing (from left: Tange Kenzo, Maekawa Kunio, Tokunaga Shozo etc., Osawa Hiroshi)

CHANGING IMAGES IN LE CORBUSIER'S LATER YEARS:
FROM REALIZATION OF THE SINGLE AND UNIVERSAL IDEAL
TOWARD THE COEXISTENCE OF MULTIPLE VISIONS

Michio KATO

P2012029

Abstract

This poster visualizes previous studies of the author to clarify Le Corbusier's changing images from the pursuit for a universal one to coexistence with others. To fulfil the task, the author focuses three images in Poems of the Right Angle in his 60s and the epilogue text in *Between the Two* in his 70s. <Bull> devised in his 60s, literally symbolizing male, integrates his previous <object types> and <objects with poetic reactions>. Secondly <bull and female> symbolizes a synthesis or co-existence of the opposites. Finally, <fusion> represents a production of a new one from the opposites. The latter suggests a tendency that the two opposites co-exist than dialectically synthesized (one-image).

Introduction

Le Corbusier made two portfolios in his later years: *Poem of the Right Angle* made in his early 60s (1947-53) and *Between the Two* in his 70s (1957-64). The former was composed of 17 chapters with pictorial images and poetic texts arranged in a diagram called iconostasis.

The latter was composed with 17 prints and corresponding text plates. They were differently composed but both represent his thought with pictorial images and texts. To understand changing his thought in his later years, the author focused 3 pictorial mages of the first portfolio, secondly the epilogue texts of the second portfolio.

Three Pictorial Images of "Poem of the Right Angle" (see fig. 1)

1) < Bull>
<Bull> symbolizes the male opposite to the female. It was devised in his 60's when he was working on *Poem of the Right Angle*. The text suggests that <bull> contains "objects with poetic reactions" joined in his painting motifs in his 40s.

The elements of vision are summoned together. The key is a stump of dead wood and a pebble both picked up in a sunken Pyrenean lane. Ox and plough passed all day before my window. Because I drew it and redrew it the ox - pebble and root became a bull (Le Corbusier 2012, C.1 without pages).

Furthermore, he explained the sketch of a <bull> had been born in an aircraft above he Indies, with showing his sketch and the photograph of his painting rotated 90 degrees (Le Corbusier 1960, p. 232). The original picture was "Still life" (1922-1940); a composition with <object types>.

2) Image of <Bull and Female>:

An image was shown in a figure plate corresponded to "C. 4 flesh" in Poems of the Right Angle. He attached the following text to the image (Le Corbusier 2012, without pages).

...They (men) are but half, and feel life but by half And the second half comes to them and binds And good or devil come to all those who encounter each other!

3) Image of <Fusion> (see fig. 2)

A print, which shows a making a third one from the two (male and female) with a falling pervert that symbolizes the alchemy cane, was added in the section <D3 Fusion> (Fig.f). However, in the early stage, *Poem of the right angle* had not the section of <Fusion>, as his study sketches of its composition diagram:

"iconostasis" in Album Nicola 1 (Fig. d). I found a definitive sketch showing the adding process of <fusion> (Fig. e), (Paidon editors 2008, p. 620, bottom left). It was originally made on August 10th, 51 and afterwards. His comments are the followings. "August 10, 51 (from memory of 1948)/ See similar diagram + text in black Nivola sketchbook 1951/ Added E+F, August 12, 51/ Added later "fusion" between 3 and 4, then you read 2 7 4 4 2=19" (underlined author). See black sketchbook of October 29, 51 (underlined author)" .

of its composition diagram: "iconostasis" in *Album Nicola 1* (Fig. d). I found a definitive sketch showing the adding process of <fusion> (Fig. e), (Paidon editors 2008, p. 620, bottom left)). It was originally made on August 10th, 51 and afterwards. His comments are the followings. "August 10, 51 (from memory of 1948)/ See similar diagram + text in black Nivola sketchbook 1951/ Added E+F, August 12, 51/ Added later "fusion" between 3 and 4, then you read 2 7 4 4 2=19" (underlined author). See black sketchbook of October 29, 51 (underlined author)" .

After His Contact with India (see fig. 3)

Between the Two seems to be an expression of a new view of the world that he has gained through contact with the different cultures of India. In the last plate, a facade reminiscent of the Parthenon marked "no" in the theme diagram on the back of the text plate at the end and a facade thought to be the High Court of Chandigarh marked "yes" symbolize his conversion. Furthermore, he said to Balkrishna Doshi in India. "You need not go to the Acropolis any more. Because everything is here (Sarkhej Rosa)." .

Looking back, since he met on a trip to the East in 1911, he has understood the Parthenon as a universal object and has been the target to aim for. Therefore, the liberation from the Acropolis or the Parthenon also pushes for the transformation of the image of Le Corbusier, which is considered to be a modern architect aiming to centralize universality.

In 1959, during making this portfolio, he wrote as follows. "1907-08-17 L' Eplattenier, 1908-17 Perret, 1917-1921 United Atelier, Bornand, Dubois, 1921-1925 Ozenfant, 1939 Pierre Jeanneret, 1956 Wog [Wogensky] 1959, date palm [disciples : Maisonnier, Xenakis, Tobit]" "1 ([] inserted by the author, De Francieu n-58-405).

Many of the years seem to indicate his farewell. L' Eplattenier and Perret parted in 1917, the members of the United Atelier were in 1921, Ozenfant in 1925, Pierre Jeanneret in 1939 (then re-joined in India), Wogensky in 1956 (established an independent office and cooperated until 58), and the disciples of Maisonnier and others in 1959. In addition, his beloved wife Yvonne also passed away in 1957 just before his 70th birthday and his Mother in 1960.

His Experiences in India and his isolation was probably one of the triggers of his transformation. Fig. 3 visualizes his genealogy of Images after the Acropolis.

The text at the end of *Between the Two* symbolizes his change from pursuit for universal one to co-existence with others in his 70s. " We need poles. We need banks. We need the two2...All occurs between the two. Multitudes or us two or the two" (Le Corbusier, 1964, epilogue)

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Employment

2019-pres. Visiting Professor of Tokyo Science University (Emeritus Professor of the University of Tokyo)
2018-pres. Director of NPO Espace Le Corbusier
2001-2019 Professor of the University of Tokyo
1993-2001 Associate Professor of the University of Tokyo
1984-1993 Research Associate of the University of Tokyo

Education

Doctor of Engineering, The University of Tokyo (1984)
Master of Engineering, The University of Tokyo (1979)

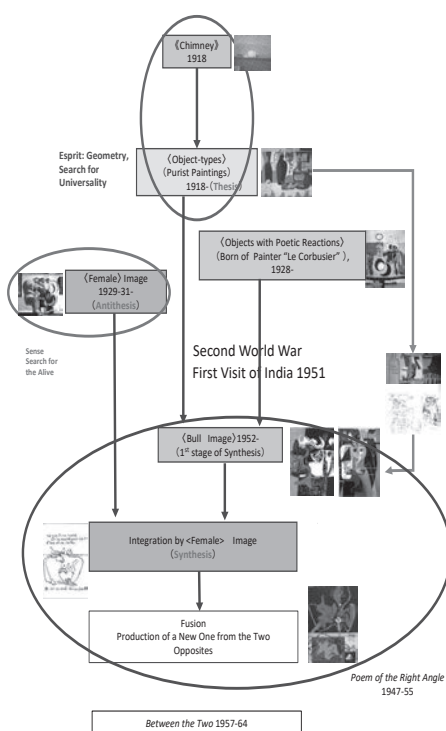


Fig. 1 Integration of the Male and the Female

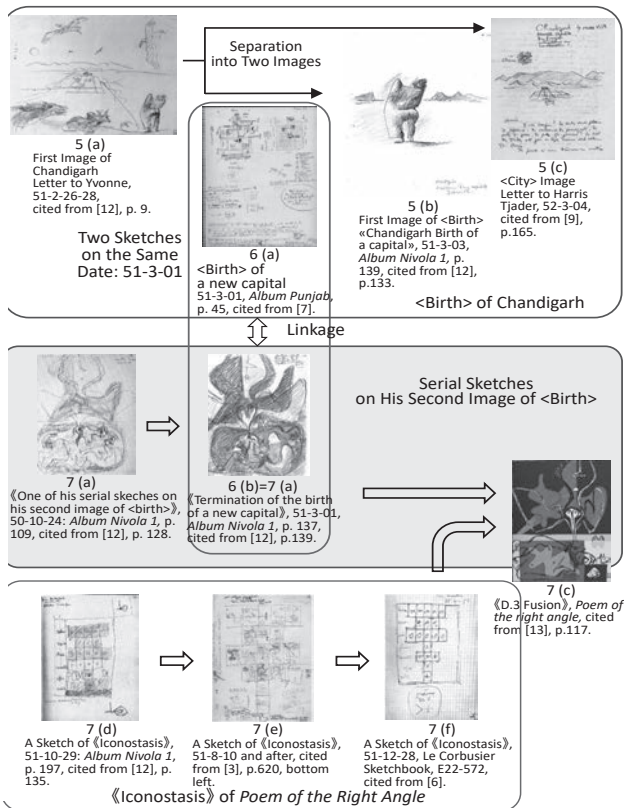


Fig. 2 image of Birth in Chandigarh

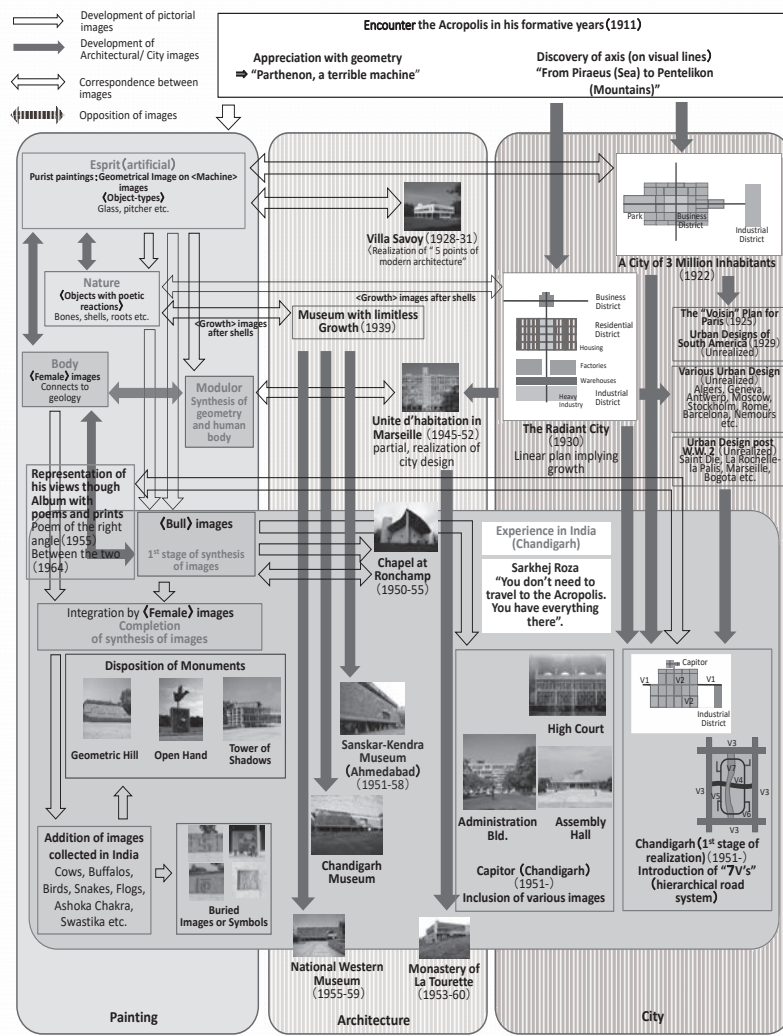


Fig. 3 Genealogy

DOCUMENTING THE FACTORY-TOWN OF TORVISCOSA (NE ITALY): 1938 - 2020

Abstract

The factory-town of Torviscosa, built on the initiative of SNIA Viscosa company and designed by the architect Giuseppe De Min, represents a relevant example of company town of the twentieth century. Since its inauguration, media documented its industry and its architecture: from the fascist propaganda of the 30s, to the SNIA company advertising of the 60s. This process of recording and sharing values continued, over years, with public initiatives of cultural enhancement, exploiting the opportunities offered by the various media. Current academic research and promotion activities have defined original paths of knowledge, disclosing and re-evaluating a modern industrial heritage of international relevance.

The factory-town

Torviscosa developed, from the mid-1930s onwards, in the reclaimed land of north-east Italy, on the initiative of SNIA Viscosa company, as a modern settlement for the production of rayon fibres from cellulose, according to the autarchy policy of the fascist period. The urban settlement and the buildings, designed by the architect Giuseppe De Min (1890-1962), are organised around the large industrial plant - consisting in a series of rectangular red brick buildings in a re-elaboration in the modern style of textile plants of northern Europe - and the 'metaphysical' square - fronting the town hall and the schools. The spaces of the community, consist of a series of public buildings - theatre, workers' club, and different sports facilities -, residential areas arranged by hierarchical zones - housing intended for factory workers, clerks, managers etc., and rural facilities distributed across the countryside in well-organized agricultural communities, which are characterised by a unity of design, commissioning and construction, almost preserved.



Figure 1. Inauguration of Torviscosa, 21 September 1938, view of the industrial plant © Archivio Istituto Luce



Figure 2. Short film "Sette canne, un vestito", Michelangelo Antonioni, 1948, title and aerial view of Torviscosa © Archivio SNIA Viscosa



Figure 3. Short film "La SNIA Viscosa presenta: Torviscosa", 1963, view of the factory entrance, office building and sculptures © Archivio SNIA Viscosa

From fascist propaganda to company advertising

Since its foundation, publishing, photography and cinema have documented the factory-town of Torviscosa, its industrial processes and its estate. Starting from the reportages of the visit of Mussolini on the 21th September 1938¹, for its inauguration, up to industry magazines and company publications² and architectural journals³, media initially celebrated the model factory-town and the primacy of the Italian chemical industry.

Since then, up to its bankruptcy, in the 80s, the SNIA Viscosa company itself carefully documented the constructions and developments of Torviscosa, even with the collaboration of notable photography firms⁴.

The celebration of the industry and its factory-town, gets, after the Second World War (1948), to the clip "Sette canne e un vestito"⁵ by a young director Michelangelo Antonioni, a different epic narrative still closed to the regime ties and foreign investments that marked the history of the SNIA Viscosa⁶.

During the 60s and 70s national filmmakers⁷ and SNIA⁸ produced promotional materials, presenting Torviscosa as a model modern settlement through different forms of media, mainly documentary-films, nowadays an important witness of the evolution of the urban and architectural heritage.

Documentation and contemporary media

From the 80s, the value of the factory-town of Torviscosa as industrial heritage of the Modern Movement began to be appreciated and the process of documenting and disseminating turned into activities of heritage documentation and cultural enhancement, exploiting the opportunities offered by the various media. As a result, the values of the factory-town, initially recorded and represented in literature

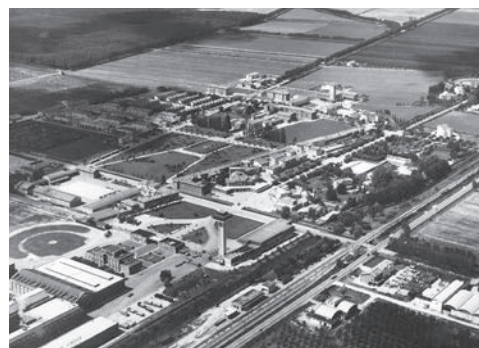


Figure 4. Aerial view of the factory-town of Torviscosa, 1965 © Archivio SNIA Viscosa (FFSC_A11-050)



Figure 5. Central square of Torviscosa with the Town hall, photographer Aragazzini V., 1940 © Archivio SNIA Viscosa (FFSC_A25-37)



Figure 6. Workers' houses "type 4 and 4bis", Torviscosa, 1948 © Archivio SNIA Viscosa (FFSC_TV-0643)



Maria Vittoria Santi
Anna Frangipane

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and cinema, were driven on digital platforms and virtual systems.

Communication materials, such as photographic and video reportage, were produced in the 90s and 2000s⁹ and Torviscosa become an example of a modern company town in various national documentaries¹⁰.

The most remarkable activity of documentation and dissemination has been the inventory and digitalisation of the extended SNIA Viscosa archive, today available online to the public through the website of the CID-Information and Documentation Centre¹¹.

The digital archive present thousands of documents, drawings and photos about the company town and its architectural heritage, including the various phases of construction and transformation of the public and residential spaces from the late 30s to the 80s.

Dissemination and Heritage enhancement today

Recent research and promotion initiatives, thanks to the considerable digital documentation availability and the new recording and dissemination technologies, are aimed at disclosing and re-evaluating the features and qualities of this modern industrial heritage for its international relevance.

Since 2009, the Municipal administration has supported and coordinated the cultural initiatives of the CID Information and Documentation Centre with events, exhibitions, and publishing. In the last years, research and didactic experimentation are carried on by the University of Udine¹², addressed at the knowledge, protection and enhancement of Torviscosa architectural heritage.

This activity, based on the study of sources and supported by direct surveys, led to definition of new paths of knowledge, focused on the built heritage, starting from an exhibition on workers' houses, lectures, talks, students involvement,

cultural tours and envisaging new initiatives of dissemination -, in a network of relationships and references, with the aim to turn Torviscosa into a place of thematic experiences about the values of built heritage of the Modern Movement.

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10. "Abitare in età industriale: i villaggi operai", 2016, by Alessandra Conforti and Lucrezia Lo Bianco, RAI Storia; "Propagande: città nuove", 2018, by Antonio Carbone and Enzo Antonio, RAI 3, <https://www.raiplay.it/video/>
11. CID-Centro Informazione Documentazione "Franco Marinotti", <http://cid.comune.torviscosa.ud.it/>; the digital archive is the result of the project "City of autarky and cellulose" (2009-2016, funded by the POR FESR 2007-2013 European programme) and the collaboration with Bracco Foundation.
12. Research and educational activity started in 2014 with a collaboration agreement between the University of Udine (professor Anna Frangipane, Department of Polytechnic Engineering and Architecture) and the Superintendence of Friuli Venezia Giulia (arch. Stefania Casucci and dr. Annamaria Nicastro); the workshop activity was carried out by the students of the MSc degree in Civil Engineering, academic years 2014-2015, 2015-2016 and 2016-2017; more research was carried out under the grant funded in 2018 by the Friuli Venezia Giulia Region "Knowledge and enhancement of the settlement of Torviscosa (Udine)", holder Maria Vittoria Santi.

Authors

Maria Vittoria Santi (1985), Architect PhD, research fellow at University of Udine (Italy).

Her research activity is carried on in the field of history of construction, materials and building techniques, preservation and reuse, and environmental sustainability. Her main areas of interest are industrial heritage and modern architecture, as presented in recent publications and conferences.

Anna Frangipane (1963), PhD, associate professor of Architectural Engineering at Udine University (Italy).

Her research activity is focused on materials, building techniques, preservation and retrofitting of built heritage, recently addressed Modern Movement experience. She is author of nearly one hundred of publications and tutor/co-tutor of nearly one hundred BSc/MSc/PhD thesis.

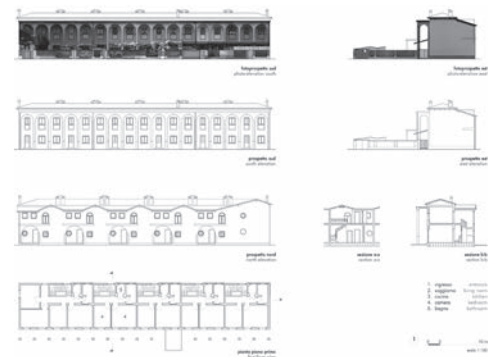


Figure 10. Workers' houses type "01M", drawings and pictures for the exhibition "The Houses of Torviscosa", 2019 © Authors



Figure 11. Architectural itinerary of Torviscosa, digital and printed maps, 2019 © Authors



Figure 12. Cultural event at the CID Information and Documentation Centre of Torviscosa, spring 2019 © Authors

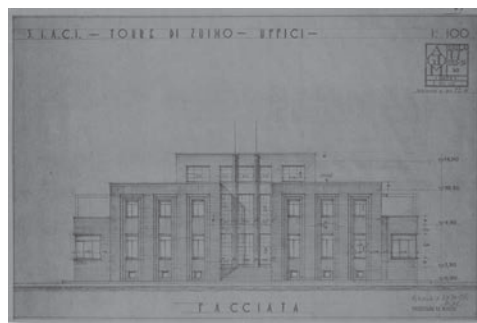


Figure 7. Giuseppe De Min, office bulging of the SNIA factory, Torviscosa, 1937 © Archivio SNIA Viscosa (FSC_001)

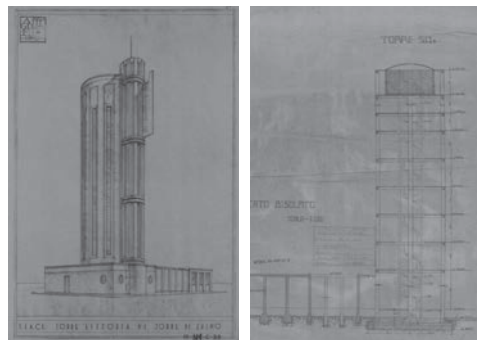


Figure 8. Giuseppe De Min, tower of of the SNIA factory, 1938, Torviscosa © Archivio SNIA Viscosa (FSC_004 and FSC_084)

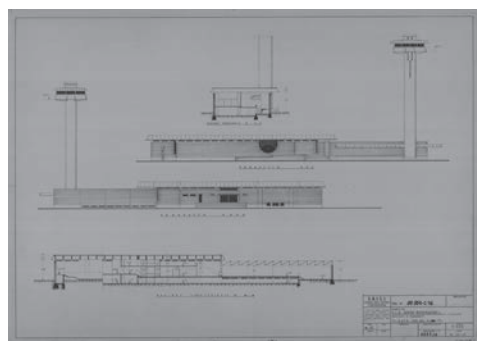


Figure 9. Cesare Pea, CID Information and Documentation Centre, 1963 © Archivio SNIA Viscosa (FSC_228)

PARALLEL NARRATIVES OF MODERNISM:
INDIA & THE WORLD

Changes in architecture are, for the most part, incremental. However, the developments that took place in the field due to the Industrial Revolution and the subsequent World Wars are nothing short of revolutionary. Architecture is a signifier of the advancement, aspirations and desires of a particular time. Industrial revolution added to it, the dimension of large scale events and exhibitions as a means of showcasing advancement and experimenting with new materials and details. The impact of these events was also the opportunity to retrospect and steer the progress in the right direction. This paper looks critically at the various changes that took place in the field of architecture in India while drawing parallels from across the world, mainly through the lens of organized public events.

The story begins with the British architects trying to understand India and its aesthetics. Architects like Samuel Swinton Jacob created works like the Jeypore portfolio, and the JJ School of Arts, established in 1913, encouraged documentation through measured drawing. However, the polemic was limited to the understanding of style. Tracing forwards to Post-World War I, we start to notice an analogous movement in the region of India. The freedom struggle was at its peak and meant a rejection of anything signifying the country of the colonisers.

The 'students' went on to study and work under the masters of modern architecture across the world. They returned with a wealth of knowledge and immense curiosity to learn and understand their own country. The post-independence exercise of nation-building ensured tremendous opportunity came their way. The question of 'how can we represent ourselves as a democracy?' brought about the question of stylistic reference and the answer came in the form of Le Corbusier and Chandigarh. However, in India, there exists an idea of multiple modernities-the Gandhian era, Tagore and Shantiniketan, and then came the nation-building and post-colonial modernities. Modernity can be looked at beyond style or internationalism. It is a form of critical re-engagement with the foundational aspects within a given context. Glimpses of the progress

of Modernism in India is presented here as parallels in theoretical perspectives of the rest of the world.

THE BAUHAUS OF INDIA

In 1922 Stella Kramrisch, along with the Indian Society of Oriental Art, organised the exhibition Bauhaus in Calcutta. It was a time when Rabindranath Tagore was the most influential cultural interlocutor between India and Europe after winning the Nobel Prize for literature. Visva-Bharati, the school Tagore founded, projected a search for universal modernism beyond the rigid confines of realism propagated by Colonial academic curricula. Bauhaus too embodied the values of universal modernism and functioned as "the meeting point of the cosmopolitan avant-gardes" at the time. The Kala Bhawan at Viswabharati, established in the year 1919 did not only start along the same time as Bauhaus but also had a similar pedagogical approach of lessening the gap between the artist and the craftsman. (Image 1)

Both Bauhaus and Shantiniketan taught-design development, production and sustainability under one roof. (Image 3) They dealt with design as an extension of everyday life. (Dasgupta) In 1922, artist-educator Nandalal Bose, became the director of Kalabhawan, the art and design school. He developed unique pedagogical underpinnings at the school, as against the stereotypical 'Indian style' borrowed from the western didactic system. The initial glimpses of contextually oriented modernism evolved through the decisions that Nandalal took. By mid-1920s Kalabhawan had more or less started to resemble Bauhaus. While Bauhaus began with a planned program, Kalabhawan developed over a period of time under the guidance of Rabindranath Tagore. Tagore's direction and Nandalal's vision finally shaped the teachings at with versatility and communicational efficacy as the central ideas. Stylistic unity was considered incidental, reflecting the sensibility or the idiosyncrasy of the individual artist. (Kumar)

BAU HAUS

(Building) (House)

----- Objectives -----

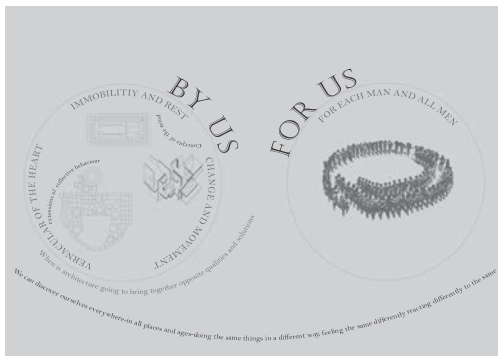
DESIGN DEVELOPMENT	PRODUCTION	SUSTAINABILITY
(BASIC DESIGN)	(MATERIAL)	(BUILDING)



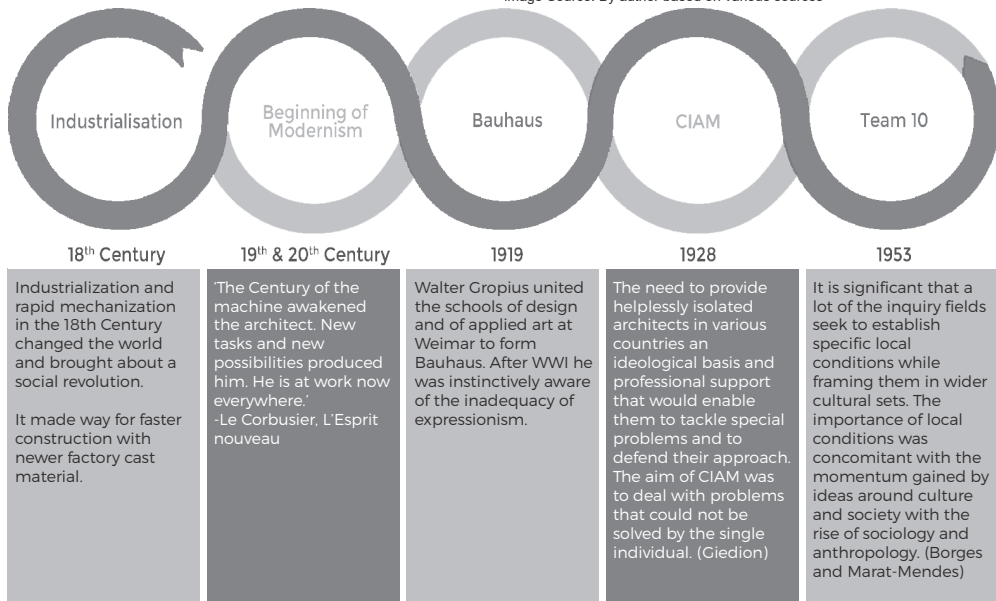
1. Bauhaus: The school and pedagogy

TEAM 10

2. Otterlo meeting of CIAM in 1959 Aldo van Eyck presented the 'Otterlo circles'. The circle summed up what architecture needs to encompass the complex dialectics of classical, vernacular and traditional architecture in order to arrive at something truly contemporary.



2. Otterlo Circles by Aldo van Eyck
Image Source: By author based on various sources



5. Modernism across the western world



Chaitra Sharad

P2012051

SEMINAR ON ARCHITECTURE

Post-war reconstruction brought about some unease and questioning of the modernist mechanistic rhetoric. In 1954, Doorn Manifesto overwhelmingly underlined the need for local discussion to supersede pre-war functionalist methodologies as the human complexity of cities seemed incompatible with the rigidity of the CIAM Charter of Athens, Urbanism (1931)

In India, the 'Seminar on Architecture' was held at Lalit Kala Akedemy, New Delhi in 1959. The seminar was one of the most represented ones, attended by architects from all walks. It asserted the role of architects in nation-building. The decisions made underlined that architecture should be 'socially acceptable, functionally sound and economically feasible' realised by creative architecture, conscientiously working in an atmosphere of freedom. The seminar was the first step towards the professional organization of architecture in India.

ALDO VAN EYCK, CHARLES CORREA AND HUMANISM

In 1959, CIAM was declared dead by rebel architects that called themselves Team 10. They talked of the need for architecture to move from the puritan functionalist approach to a more Humanist one. Humanism to Team 10 was community-centric design, the architecture of the community. Team 10 talked about the human element that seemed to have been lost within modernism and mechanistic architecture. In his diagram 'Otterlo Circles' Van Eyck represented that the complex and changing human realities needed to be dealt with equally complex dialectics of vernacular, classical and traditional in order to form something truly contemporary. (Image 2)

In the introduction to the 1986 exhibition Vistara, Charles Correa spoke about the unchanging man in his varying contexts. He placed a large scale replica of the 'Purusha' at the centre of the exhibition, signifying the man and the cosmos (Image 4). Correa describes that the universal need for shelter is transcended by a set of

SANTI NIKETAN

(Peace) (House)

----- Objectives -----

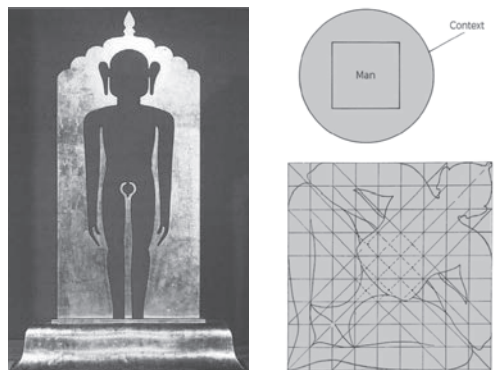
DESIGN CREATION	PRODUCTION LINE	SUSTAINABILITY TO ARTISTS
(KALA BHAVAN)	(SRI NIKETAN)	(KARU SANCHI)



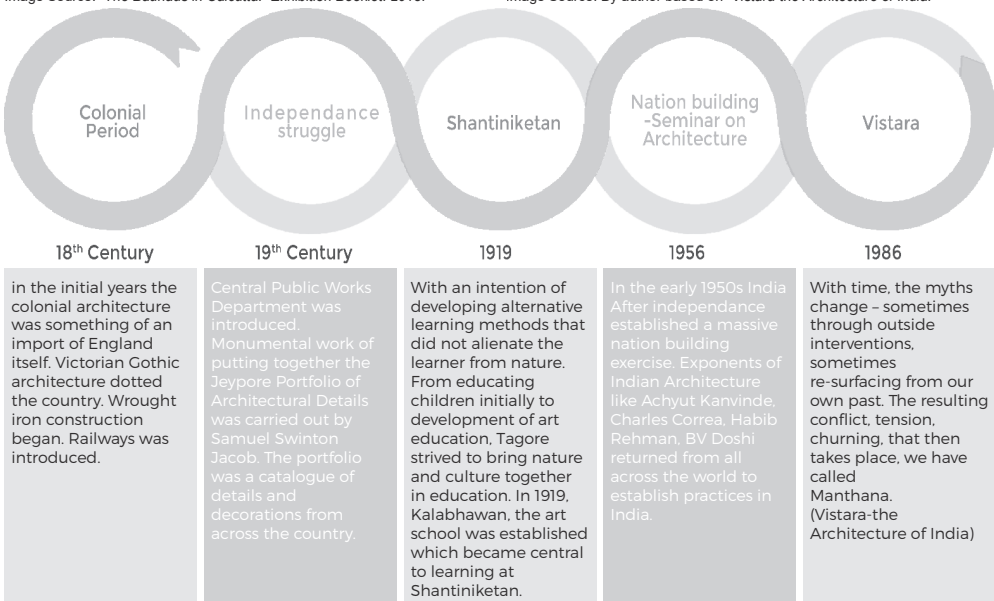
3. Shantiniketan: The school and pedagogy
Image Source: "The Bauhaus in Calcutta." Exhibition Booklet. 2013.

VISTARA

Charles Correa (particularly about Aldo van Eyck) declared, "...one can no more be avant-gardist today than one can engage in antiquarianism...one has to start with timeless unchanging condition of man: that is to say, one needs to recognise that the occidental project of enlightenment has reached its historic dead end. The great task which confronts us all today, East and West alike, is to accept that progress has its limits, while still attempting to maintain and improve the general quality of life." (Kenneth Frampton, Mimar 26, 1987)



4. Vistara: Architecture of India
Image Source: By author based on "Vistara-the Architecture of India."



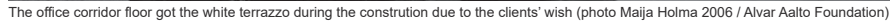
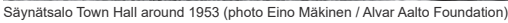
6. Modernism in India

Alvar Aalto and the International Style (1978) by Paul Pearson was one of the earliest ones to launch the boom of wide publications after Aalto had passed away. While reading Pearson's relatively limited statements of the Town Hall one should note the context and the focus. It is to discuss Aalto's position within the early modern movement. *Sources of Modern Eclecticism – Studies on Alvar Aalto* (1982) by Demetri Porphyrios is a relatively complicated text and somewhat arbitrary in the methodology in which various features of the different buildings are highlighted. *Alvar Aalto – A critical study* (1983) by Malcolm Quantrill gave a full and balanced spectrum of Aalto's long career, including furniture design. "Alvar Aalto and the Nordic Tradition" (1985) by Kenneth Frampton assets Aalto in the international context and it was linked to his earlier text "Towards a Critical Regionalism: Six Points for an Architecture of Resistance", in which the Town Hall was a key

It is important to understand the context of the small industrial community having 3000 people and built the Town Hall. One relatively seldom discussed aspect is the wish of the client. The power of the manager of the timber factory was strong in every economical intervention

Jonas Malmberg (b.1974, Finland) is an architect (M.Sc. Arch.) at the Oulu University 2002 and an art historian (M.A.) at the University of Helsinki 2012. Since 2012 he has been supervising restorations and preparing surveys of the Alvar Aalto Foundation. He is a member of the board of the DOCOMOMO Finland since 2014 and a voting member of ICOMOS ISC20C in 2018–2023. He was the main author of the *Palmo Sanatorium Conservation Management Plan 2015* and participated the *Sevan Writers' House CMP* (Armenia 2019), both within the Getty Foundation's KIM initiative.

He has lectured various universities in Finland and abroad and co-edited the book *DOCOMOMO Suomi Finland – Register Selection* (2018). His previous places of employment include the National Board of Antiquities, the Finnish Architectural Review, various architectural offices and the construction site of the Museum of Contemporary art by Steven Holl in Helsinki.



ALVAR AALTO	ARNE KORSMO	REYNER BANHAM	FREDERICK GUTHEIM	LEONARDO MOSSO	SIGFRIED GIEDEON	GEORGE BAIRD	DAVID PEARSON	DEMETRI PORPHYRIOS	MALCOLM QUANTRILL	KENNETH FRAMPTON	RICHARD WESTON
Akkitehti (1-2/1953)	Byggkunst (1/1954)	Architectural Review (April 1957)	Masters of World Architecture. Alvar Aalto (1960)	Alvar Aalto (1962)	Raum, Zeit, Architecture (1965)	Alvar Aalto (1968 / 1970)	Alvar Aalto and the International Style (1978)	Sources of Modern Eclecticism – Studies on Alvar Aalto (1982)	Alvar Aalto – A critical study (1983)	Alvar Aalto and the Nordic tradition (1985)	Town Hall, Säynätsalo (1993)
landscape (steep contour shapes, "Tahiti of Päijänne")				landscape (views from the library)					landscape (courtyard link to surroundings)		
town plan	Aalto's town plan context	Aalto's town plan context	Aalto's town plan context	Aalto's town plan context				fore court (European tradition, nb. Säynätsalo not as an example)			Aalto's town plan context
courtyard (artificial mound)	courtyard (artificial mound)	courtyard (central theme)	courtyard (own atmosphere differs from outside)	courtyard (European tradition)	courtyard (artificial mound)	courtyard (vegetation, also inside)		courtyard (European tradition)	Aalto's town plan context		
levels (shops on the ground floor)	levels (shops on the ground floor)	levels (shops on the ground floor)	levels (shops on the ground floor)		levels (shops on the ground floor)	levels (steps and inner routes, complicated massing)		courtyard (contemporary urbanism)	levels (steps and inner and outer routes)	courtyard (U-shape, two elements)	courtyard (vegetation)
brick (context of the factory building)	brick	brick (rough use of the material)	brick (rough use of the material)	brick (Aalto's red brick period, floor brick reduced by the client)		brick (rough use of the material, ready aged building like ruin)		brick (ageing material, reference to European context)	levels (steps and inner and outer routes)	levels (complicated massing, "head and a tail", paths)	levels (various uses, inner and outer routes)
timber (context of the local production)	timmer (context of local production)	timber (roof trusses)	timber (rough use of the material)	timber (roof trusses, "mysterious Gothic trick")		timber (rough use of the material, ready aged building like ruin)		timber (roof trusses as symbols of a hand)	brick (Aalto's red brick period)	brick (modelling of brick work, secular brick floors)	brick (natural material, roughness, standardization)
art in everyday life	art in everyday life (Legér)		timber (roof trusses)	timber (roof trusses)		timber (roof trusses)		timber (roof trusses as symbols of an umbrella)	timber (roof trusses as symbols of an umbrella)	timber (roof trusses "obvious reference to medieval practice")	brick (natural material, roughness, standardization)
	influence of the mediterrain		influence of the mediterrain	influence of the mediterrain				art in everyday life		timber (natural material, roof trusses)	art in everyday life (Legér and others)
		orientation and directions of the sun					mediterrain influence	complicated massing (heterotopia)		mediterrain influence (acropolis, rusticity)	mediterrain influence (Italy, Bergamo and San Gimignano)
		beginning of the new era in Aalto's architecture	beginning of the new era in Aalto's architecture		beginning of the new era in Aalto's architecture		beginning of the new era, romantic architecture		the new era ("confirmed his position" in architecture)	beginning of the new era in Aalto's architecture	beginning of the new era, "Aalto's most perfect building"
			Aalto's first community building, "res publica in sensitive way"	communal building (democracy), "idea of a town hall"	Aalto's first community building	communal building (symbol of democracy)		communal symbol (European tradition, unmodernist "city crown")			communal building (symbol of democracy)
				solitaire character							solitaire character
						detailing (particularly railings, nb. for handes don't refer Säynätsalo)			detailing ("disproportionate" to building's volume)		detailing (identity for each space, doorhandles etc.)
							beginning of new phase in Aalto's personal life		beginning of new phase in Aalto's personal life		
										experiences (visual and tactile architecture)	experiences (personal approach)

Innovation and Tradition through ‘Minimum Space’: Capsule and Tea House by Kisho Kurokawa



Nahoko WADA

P2012058

This article will illustrate the architect Kisho Kurokawa's attempt, not as a Metabolist, but as a translator of Japanese tradition analyzing several tea houses designed by the architect himself. His own summer house “Capsule K” was designed in Karuizawa as an experimental house in 1972. One of capsules was used as a tea room consisting of 4.5 tatami mats typically adopted as a traditional tea house. He often described his memory during the second world war spending time at a tea room owned by his grandfather. His sense of minimalism for the space was developed under its experiences.

Aim of Research

According to the interview of Kurokawa, the reason why he owned tea houses is because only “Sukiya” architecture including tea room would be regarded as a truly original of Japan even though temple and shrine coming from China have firmly established in Japan. He had deep knowledge of tea ceremony and in the minimum space, likewise tea room, he was convinced that people would like to feel the infinite universe and the legacy of invisible.

Nakagin Capsule Tower is an iconic building of Metabolism architecture with high technology to realize 140 capsules. But each of them is a tiny space, just 10 square meters (2.5 meters x 4 meters). The resident might feel microcosm in the capsule despite the fact that it was designed as an expression of living cell. The aim of this research is to clarify Kurokawa's attempt to tradition and innovation. As an event of architectural tour last year, the author held tea ceremonies at the Nakagin Capsule Tower introducing another face of Kurokawa based on this research.

1. First tea room in his young ages

Kurokawa moved into his grandfather's house in the country side of Aichi Prefecture to escape the fires of war when he was a student of junior high school. He was greatly influenced by his grandfather who was “sukisha” which

means collector specialized tea house. His private room was “Yoshitsu-an” which was just 1.75 tatami mats tea room connected to the main residence. He spent there for 6 years and the view from the window of the teahouse remained as a strong impression. His grandfather also had another tea house “Mushin-an” which was just 3.5 tatami mats in the garden. The roots of Kurokawa's symbiotic theory were also under his school days in Tokai Gakuen which run by the “Judo.”

2. Capsule and Tea room

Kurokawa realized Nakagin Capsule Tower in 1972. The capsule was a strong iconic element to express his concept; that metabolism architecture should be sustainable by using the system of recycling. The capsule was regarded as a cell that is replaceable, at the same time a unit of mass production by prefabrication system using industrial materials. However, in reality, nobody had the opportunity to change and replace the units.

His summer house named “Capsule K” using capsules of the same dimension was completed in 1973. Nakagin Capsule is designed as an apartment unit for the single man to spend his private time after work or holiday alone. “Capsule K” was for his family or friends, consists of 4 capsules which are kitchen, 2 bedrooms and tea room. He attempted to show the diversity of the usage of capsules through his experimental summer house. The size of capsule just fits for the standard tea room consisting of 4.5 tatami mats which was portrayed in the tea house by Kobori Enshu in the 17th century. The round-shape window is also an expression of futuristic design, at the same time it has often been seen at a traditional Japanese tea room.

3. Quotation of Traditional Tea house

Like other architects, such as Togo Murano, Isoya Yoshida, and Yoshiro Taniguchi, Kurokawa has indulged on occasion in the

Sukiya architecture which was first employed by the Zen Buddhist Sen Rikyu and Kobori Enshu. In 1980, he built Sukiya house “Kyoju-so” and Tea house “Ritsumei-an” for the director of a hospital in Hachioji. “Kyoju-so” was integrated from the tea room of “Osaka House” by Sen Rikyu. In 1985, he designed his own tea room “Yuishiki-an” on the roof terrace of an apartment. It was a reproduction of the tea room “Kanun-ken” in the Iwashimizu Hachimangu. Originally, it was a replication of “Shosui-tei” of Fushimi house designed by Kobori Enshu. Kurokawa preferred bright space named “Hana-suki” by himself which means flowery. Sen Rikyu appreciated dark and shadow space named “Wabi-Sabi”. Although Kobori Enshu was a disciple of Sen Rikyu's disciples, he developed the space of tea room wider and brighter beyond the concept of “Wabi-Sabi”. Moreover, Kurokawa selected the specific layout for tea master to become a main actor of the stage which the sunlight from the windows focus on the position of tea master.

4. Innovative Tea house “Takimino-seki” in O house

In 1980's Kurokawa designed several tea houses such as “Juando” in the Dogokan based on the traditional tea house. Unlike the short term of the Metabolism movement, he continued to design tea house and developed it through his whole carrier. For example, “Takimino-seki” in O house was completed in 2000 collaborating with falling water drawings by the artist Hiroshi Senju. This tea room is not constructed of wood, a traditional material, but by the concrete box. Despite of the contemporary material and innovation, the square layout of tatami mat is the quotation of traditional tea room of the Koho-an in Daitokuji temple by Kobori Enshu.

Conclusion

Kurokawa regarded the minimum space of tea room as a microcosm to unify contemporary

and tradition, nature and human, and art and architecture. It would be also regarded as a sustainable architecture, because tea house has a possibility to be rebuilt according to the old drawing, which he realized in several tea houses. He had always insisted on the importance of Japanese tradition and its aesthetic through the text and practical architecture. Even though he had realized only a few sukiya architecture, especially tea house could be seen as his attempt to mix innovation and tradition. “Hana-suki,” the theme of his tea house, could be said in other words as “the Philosophy of Symbiosis” which is his main concept of architecture. Because the following key words, such as “Intermediate Space,” “Rikyu Grey”, “the Architecture of the Street,” “Part and Whole”, and “the Beauty of Ambiguity” are created from the tradition of Japanese culture. He found the aesthetics of Japanese culture in tea houses and saw it in his own cultural foundation the source of a larger, cosmic symbolism.

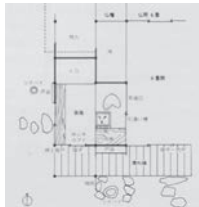
Reference

Jutaku Tokushu, Tokyo, Shinkenchikusha, winter 1985 *3 / Shozo Baba ed., The Work of Kisho Kurokawa, Tokyo, Shinkenchikusha, 1986 *2 / Kisho Kurokawa, Hana-suki, Tokyo, Shokokusha, 1991 *1 / Masao Nakamura, Gendai Chasitu no Kokoromi, Kyoto, Gakugei shuppansha, 1993 *4 / Kisho Kurokawa, Kenneth Frampton, The Japan Architect 18 Kisho Kurokawa, Tokyo, Shinkenchiku-sha, 1995-2 Summer / Kisho Kurokawa, Philosophy of Symbiosis, Tokyo, Tokumashoten, 1996 / Alain Guiheux, Kisho Kurokawa: Le Metabolisme 1960-1975, Paris, Centre Georges Pompidou, 1997 / Kurokawa Kisho, Senju Hiroshi, Ouhuku Shokan: Heisei no Chasitsusu wo Tsukuru, Tokyo, Tankosha, mag. Nagomi 1997 January-December *6 / mag. Nagomi, June 2000, Tokyo, Tankosha *5 / Jesper Wachtmeister, DVD: Kochuu, Denmark, 2003

Nahoko WADA

Ph.D / Director of Access Point: Architecture-Tokyo / Lecturer of Keio University and Chuo University
Born in Niigata. After working at Kisho Kurokawa's office as a secretary in 2000, re-entered the university and received Ph. D degree in the field of history of Japanese modern architecture at Keio University in 2007. Received scholarship from Danish Government and researched on Scandinavian modern architecture at Copenhagen University for two years. Worked at Tohoku University of Art and Design and Tokyo University of the Arts as an Associate Professor. In 2016, established “Access Point: Architecture-Tokyo.”

1. Fist Tea Room in his young age



1-1. Yoshitu-an (Ref *1, p.46)



1-2. Musin-an (*1, p.46)

2. Capsule and Tea room

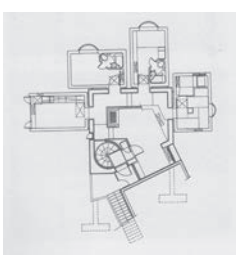
[Capsule K]



2-1. Capsule Tea Room (photo: Tomio Ohashi)(*1, p.175)



2-2. Capsule K (photo: Tomio Ohashi) (*1, p.175)



2-3. Plan (*1, p.175)

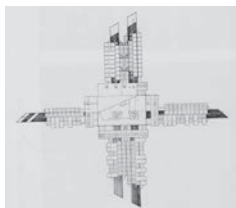
[Nakagin Capsule Tower]



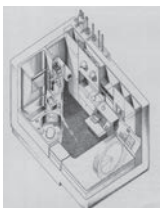
2-4. Nakagin Capsule Tower



2-5. Tea ceremony



2-6. Okozhi-zu (*2, p.168)



2-7. Axonometric (*2, p.168)

3. Quotation of Traditional Tea house

[Ritsumei-an]



3-1. Ritsumei-an (photo: Tomio Ohashi) (*2, p.83)



3-2. Tea Room of Ritsumei-an (photo: Tomio Ohashi) (*2, p.86)



3-3. Site plan (*2, p.83)



3-4. Okoshi-zu (*2, p.86)

[Yuishiki-an]



3-5. Yuishiki-an (photo: Tomio Ohashi) (*2, p.122)



3-6. Tea Room of Yuishiki-an (photo: Tomio Ohashi)(*3, p.119)



3-7. Site plan (*3, p.197)



3-8. Plan (*2, p.83)



3-9. Okozhi-zu of Kanun-ken (*2, p.118)



3-10. Okoshi-zu of Yuishiki-an (*2, p.118)

4. Innovative Tea house

[Juando]



4-1. Juando (*4, p.91)



4-2. Tea Room of Juando



4-3. Plan (*4, p.98)



4-4. East Elevation (*4, p.94)



4-5. South Elevation (*4, p.95)

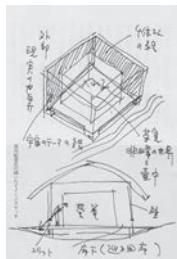
[Takimino-seki]



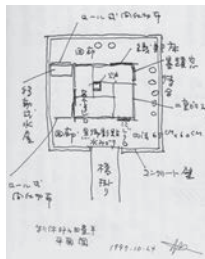
4-6. Takimino-seki (photo: Hiroshi Kobayashi) (*5, p.3)



4-7. Takimino-seki (photo: Hiroshi Kobayashi)(*5, p.5)



4-8. Sketch by Kisho Kurokawa (*6, p.11)



4-9. Sketch by Kisho Kurokawa (*6, p.48)

Plasticity and Charles-Edouard Jeanneret's
Rhetorical Domain: Dialogue and Polemics
1907-1925

This thesis is about Charles-Edouard Jeanneret's notion of Plasticity and his rhetorical domain. Its purpose is to show that Jeanneret's understanding of Plasticity was central to his argument for Modernism, that Jeanneret's understanding of Plasticity shifted within his rhetorical domain, and that through these shifts he defined a new kind of spatiality based in abstraction and non-perspectival spatial representation.

Jeanneret's rhetoric is masterful. His argument is seductive in its deployment of word, emotion, and image, all three of which he brings together in a rhetorical domain analogous to the architectural domains for which he is associated. He invites his readers in, enticing them to enter as if they were at the front door. Once inside he asks a lot of his readers provoking with word and image, teasing with aphorisms, and by prodding the reader to move through his nuanced argument for Modernism.

Between 1907 to 1925 Jeanneret's affects two changes in his rhetoric. These entail purpose; why he wrote and drew what he did

the way he did, and the second entails position; how he situates what he wrote and drew within the history of art and architecture as it was understood in the early twentieth-century architectural discourse.

As for its purpose, Jeanneret's earliest writing exists as letters to his parents and to his teacher and mentor L'Eplattenier dating from late 1907. In several steps he shifts his tone from dialogue to polemics. In 1918 he published a manifesto on painting with Amadee Ozenfant in which he argues for a new kind of painting he and Ozenfant call Purism. It is here that he introduces the term "la Plastique." Throughout the early twenties he published several articles in *L'Esprit Nouveau* in which he develops the notion of Plasticity in relation to architectural space and archetypal spatial volumes. In 1923 he published a second manifesto, *Vers Une Architecture*, exclusively on architecture.

Jeanneret's position within history is almost always studied from the outside looking in. This paper will take a different approach, asking questions of Jeanneret's view



J. Kirk Irwin, AIA, RIBA

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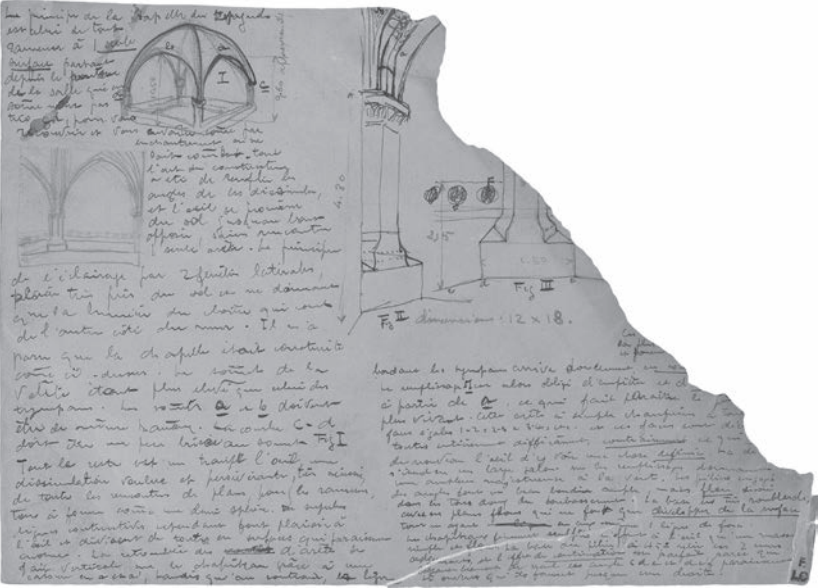
of history asking among other questions; how does Jeanneret deploy history and how does he position himself within history as he defines his identity as Le Corbusier?

By focusing on his sketches, annotations, and letters of 1907 and his later manifestos and essays of the late nineteen teens and early twenties, I show how shifts in his rhetoric indicate a movement toward Modernism even if this was not yet called the Modernist Movement. Essential to his rhetoric are shifting definitions of Plasticity or *la Plastique* through which Jeanneret is able to invent and argue for a new kind of spatiality. Part I of this thesis will identify where and when he shifts from dialogue to polemics correlating this shift to representations of architectural space in Jeanneret/ Le Corbusier's drawings and paintings. Parts II and III will look into modes of Plasticity evident in Jeanneret/Le Corbusier's early work; first, Plasticity of emotion with its antecedents in nineteenth-century notions of the Sublime, and second, the plasticity of Jeanneret's historical reach formed by Ruskin and reformed by Ozenfant.

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Author Biography:

Kirk Irwin is a licensed architect and PhD student at the University of Edinburgh in the Department of Architectural History. He is a Lecturer in the School of Architecture at Southern Illinois University at Carbondale.



Charles-Edouard Jeanneret (Le Corbusier), Spanish Chapel, Santa Maria Novella, Florence, 1907 (FLC 4932)



Charles-Edouard Jeanneret (Le Corbusier), Orsanmichele, Florence, 1907, (FLC 2265)



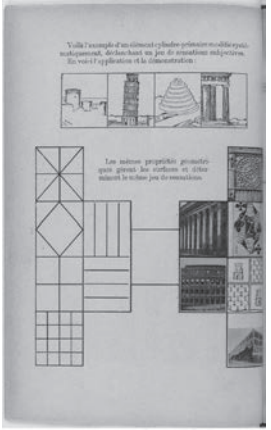
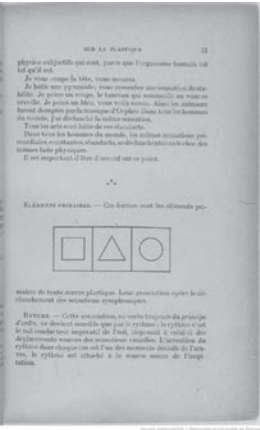
Charles-Edouard Jeanneret (Le Corbusier), Interior Study, Santa Croce, Florence, 1907 (FLC 2175)



Jeanneret et al, *L'Esprit Nouveau*, 1920-25.



Le Corbusier, *Vers Une Architecture*, 1923.



Charles-Edouard Jeanneret, "Sur la Plastique," *L'Esprit Nouveau*, 1920.

Learning and Discovery of the City Attraction: New Types of Architectural Education



Access Point: Architecture-Tokyo **P2012066**

Access Point: Architecture-Tokyo was established in 2016 in response to the growing public interest in the architecture of Tokyo, and in architecture's role as a cultural resource that unites the people in the city, both residents and visitors.

The three tiers of Access Point's activities are; **Promotion of Architecture as a Cultural Resource** including architectural tours for both foreigners and Japanese; **Development of Educational Program** including education for architectural tour guides; **Research** such as forum and symposium.

[Introduction]

The founding-members of Access Point: Architecture-Tokyo are all specialists in the field of architecture, such as architects, historians, journalists and university professors. 'Access Point' was formed in response to the growing public interest in the architecture of Tokyo, and in architecture's role as a cultural resource that unites the people in the city, both residents and visitors. We envision ourselves as an 'Access Point' that links people with the rich and valuable architectural resources in Tokyo and beyond.

[Mission]

1. Promotion of Architecture as a Cultural Resource

- Guided tours for Japanese people.
- Guided tours for foreign visitors to Tokyo.
- Consultant for overseas visitors to create specific tours.

2. Development of Educational Program

- Creation of educational programs for young people and children, that focus on the concept of architecture as a shared cultural resource.
- Internships for students of Japanese and foreign universities.
- Training of 'Concierge' tour guides with specialist expertise and abilities in international communications.

3. Research

- Research with universities and specialists, on the concept of architecture as a shared cultural resource.
- Open Research Fora and Symposia.
- Creating Architectural Map.

[Main Activities]

A: Tours for Foreigners

Access Point conducts numerous architectural tours for foreigners. Most of the tours are for foreign architectural specialists catering to their specific needs, i.e., special project types such as Olympic venues under construction, schools and educational facilities. There are prefixed tours which visitors can check the content and make reservation for. Access Point appoints experts in the field who would also consult with the visitor in planning the tours. Some of the tours held are:

1. Architectural Stroll in Ueno Park
Ueno Park situated northeast of central Tokyo was a site of Kan-eiji Temple guarding the Shogun family. Now it is a venue with representative examples of Early Modern, Modern and Contemporary architecture.
2. Bauhaus Architecture: Migishi House
A special visit to Migishi House and Atelier influenced by Bauhaus with a guided tour by an ancestor of the client.
3. Aoyama/Omotesando Architecture Promenade
A walking tour of high-end retail district which is now also famous as the concentration of renowned commercial architecture by both Japanese and foreign architects.
4. Visiting Legacy Sites for the Olympics 1964 & 2020
Visiting legacy venues of 1964 Olympic Games and the sites of the new facilities for 2020 Games.
5. Kenzo Tange's Masterpieces
Visiting the masterpieces of one of the

greatest post-war architects in Japan; i.e., Yoyogi Gymnasium for 1964 Olympics, St. Mary's Cathedral, Tokyo Metropolitan Government Office, Shizuoka Newspaper & Broadcast Co., Tokyo Office in "Metabolism" style.

6. Ginza Walking: Art & Architecture
Ginza is full of interesting architecture, from state-of-the-art retail buildings by renown Japanese and foreign architects, art gallery establishments, early 20th century apartment to Kabukiza theater and Honguanji temple nearby.

B. Tours, Lectures and Field Trips for Japanese

Access Point is conducting various events ranging from; tours to facilities of interest which is usually not open public; visits to other areas in Japan on overnight trips lodging in hotels and inns of architectural significance; overseas trips organized with specific theme. In any case, the events would have specific theme focusing on one architect or theme unique to the area and time. The events are well received by architectural students and architectural supporters who are not architectural professionals but are interested in architecture as an importance asset and resource of urban life. In 2019, Access Point conducted total of 47 events not only in Japan but also in Finland.

1. Masato Otaka's works, i.e., Chiba Prefectural Museum
2. Post Modern Architecture: Edward Suzuki's 'Anarchitecture'
3. Preservation works in Kamakura
4. Lecture and tour of Hiroshi Ohe's works
5. Churches and temples with the architect
6. World Trade Center Building, Hamamatsucho 1970
7. Togo Murano's teahouses in Grand Prince Hotel Shin-takanawa
8. Eno-ura Observatory by Hiroshi Sugimoto
9. Two Churches designed by Antonin Raymond

10. Metabolist Kiyonori Kikutake's works in Shimane Prefecture
11. Alvar Aalto's Works in Finland

C. Tours and Workshops for Children and Parents

Access Point held workshops for elementary school pupils and parents:

1. Building model towers using dry pasta and marshmallows. There were some innovative solutions that the teams of children and parents came up with.
2. Building structural models of arenas after touring the Saitama Super Arena.
3. Building gingerbread houses in holiday season.

D. Research and Open-house Events

'Shina-ken,' a short name for Shinagawa Kenchiku, or Architecture in Shinagawa, is a research program undertaken by Access Point collaborated with local government for Shinagawa Ward (borough) in Tokyo. The aim of the program is to reveal and document the hidden architectural resources in the ward. The program consists of conducting a thorough field surveys throughout the network of streets and alleys of the ward, recording known/unknown architectural points of interest and documenting them according to the seven criteria; design, character of the architect, innovation, locality, character of the time, continuity, and historical significance. Open-house events were held twice in 2019 and total of over 3,000 attendants enjoyed various programs such as walking tours for 2 days. We would like to continue this program and conclude it by documenting the architectural resources in a way that everyone interested in architecture can easily view. Also, we hope that people recognized the value of their familiar buildings, which must be preserved as a cultural heritage.

[Reference]

Official Website www.accesspoint.jp



ACCESS POINT
ARCHITECTURE-TOKYO



A: Tours for Foreigners



B. Tours, Lectures and Field Trips for Japanese



C. Tours and Workshops for Children and Parents



D. Research and Open-house Events

