

Nakagin Capsule Tower and the Metabolist Movement Revisited

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INTRODUCTION

In April 2007, a brief report on *Architectural Record's* online journal drew worldwide attention back to a building in Tokyo: Kisho Kurokawa's Nakagin Capsule Tower will be demolished.¹ This news astonished many readers because Nakagin building is not only an iconic work of Kurokawa and one of the masterpieces of postwar modern architecture in Japan, but more significantly, it represents a rare and arguably the finest built work resulting from the historic Metabolist movement. Completed in 1972, the building consists of two towers at eleven and thirteen stories respectively as well as 144 capsules. Each capsule, in the size and shape of a shipping container, houses a residential unit that is clipped on the towers with flexible joints, showcasing the essential Metabolist idea of adaptability and replaceability. [Fig. 1]

Nakagin Capsule Tower has been listed as an architectural heritage by DoCoMoMo since 2006. Due to the lack of maintenance, however, the interior of the building is falling into disrepair. There is also growing concerns among residents about the healthy issue of asbestos used on the capsules as well as the building's ability to withstand earthquake. Under such circumstance, the association of residents at Nakagin Capsule Tower voted to tear it down for a new fourteen-story tower despite a popular campaign launched by Kurokawa to save this building.

Kurokawa's attempt to save Nakagin Capsule Tower coincides with a renewed interest in studying the postwar avant-garde movements. That the building



Fig. 1 Nakagin Capsule Tower, K. Kurokawa, 1972

is at risk of being erased reminds architects and historians that it is an important part of the history of modern architecture, and evokes appreciation of its futuristic design concept and dynamic form. The Metabolists' work, as well as megastructural projects in the West between the mid 1950s and early 1970s, was documented in the 1976 *Megastructure* by Reyner Banham, who called these radical visions – somewhat ironically – “the urban future of the recent past.”² Although the Metabolists' heroic megastructural concept has never been carried out successfully in building a city, they influenced the approach to large-scale urban design as well as the attitude to urbanism in general in the past a few

decades. A case study of Nakagin Capsule Tower thus provides a unique opportunity to reexamine Metabolism's historical role in postwar modernism and its impact on contemporary architecture, and to reconsider its potential as an inspirational model for the future city.

Particularly, the issue of Nakagin Capsule Tower betrays the dilemma of architectural development and conservation in the context of Japanese urbanization. In fact, Nakagin building is not an isolated case in which modern architectural landmarks in Japan are jeopardized. Should it be demolished, it would join a few other buildings by Metabolist architects, including Sony Tower in Osaka, another famous capsule building by Kurokawa, and Kiyonori Kikutake's Sofitel Tokyo, in an array of significant buildings demolished in recent years. One of the prominent factors contributing to these "tragedies" is the notoriously high land price in major Japanese cities and thus the property owners' desire to maximize the land value. On a more fundamental level, however, the intensified conflict between redevelopment and conservation is emblematic of a particular pattern of urban transformation and regeneration characteristic of contemporary Japanese cities, and must be examined in its specific architectural and cultural context. This pattern of urban transformation and regeneration, paradoxically, has been foreshadowed by the Metabolist urban theory. A revisit of Kurokawa's Nakagin Capsule Tower and a discussion of the controversy around its demolition therefore shed a new light on the understanding of architectural culture and urbanism in contemporary Japan.

THE METABOLIST MOVEMENT

The Metabolist movement was launched in 1960, when a group of young architects and designers published their radical manifesto *Metabolism: the Proposals for New Urbanism* at the World Design Conference in Tokyo.³ Besides Kurokawa and Kikutake, the founding members included architects Masato Otaka and Fumihiko Maki, architectural critic Noboru Kawazoe, industrial designer Ekuon Kenji, and graphic designer Kiyoshi Awazu. The name of the group, metabolism, indicated the idea of city shared among these architects and designers – a particular biotechnical notion of the "city as an organic process" which stood in opposition to the modernist paradigm of city design. This attitude was made clear in the introductory statement of the manifesto:

Metabolism is the name of the group, in which each member proposes future designs of our coming world through his concrete designs and illustrations. We regard human society as a vital process – a continuous development from atom to nebula. The reason why we use such a biological word, metabolism, is that we believe design and technology should be a denotation of human society. We are not going to accept metabolism as a natural historical process, but try to encourage active metabolic development of our society through our proposals.⁴

In their theoretical urban projects, the Metabolists often envisioned the sea and the sky as human habitats of the future, and proposed that a city would grow, transform, and die in the way like an organism. In order to accommodate the growth and regeneration of the modern city, they called for establishing a system of urban design distinguishing elements of different scales and durations, namely, the "permanent element" such as urban infrastructure versus the "transient element" like individual houses. Responding to such different "metabolic cycles" in the city, the Metabolist designs were often characterized by the combination of a megastructure, serving as the permanent base, and numerous individual units attached to the megastructure and subject to more frequent replacement. For instance, Kikutake's Marine City featured numerous standardized housing units clipped on a few enormous ferroconcrete cylindrical towers. The towers serving as the main structure of the city would grow as population increased, and the individual living pods would conduct periodical self-renewal. [Fig. 2] Such combination of megastructure and cell, as a dramatic representation of the Metabolists' concept of city as process, became the trademark of their architecture.

Although they never became formal member of the group, Kenzo Tange and Arata Isozaki were also actively involved in the Metabolist movement. Their urban projects exhibited strong proximity to the Metabolist concepts. Especially, Tange was acknowledged as the mentor of the Metabolist architects and virtually the creator of the group by chairing the programs committee of the World Design Conference, which was eventually reorganized to found the Metabolism. His Plan for Tokyo, also completed in 1960, represented a sophisticated synthesis of the Metabolist ideas on a grander scale. Featuring a linear series of interlocking loops that spanned the city across the Tokyo Bay, the plan served as a polemical alternative to the official plans of Tokyo,

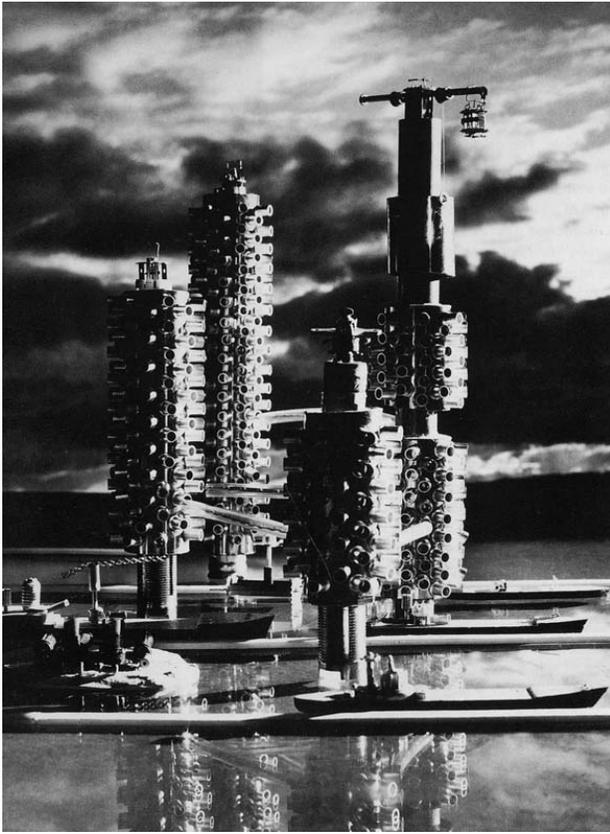


Fig. 2 Marine City, K. Kikutake, 1959

and posed itself to fundamentally transform the urban structure of this mega-city for the imminent arrival of the post-industrial age.⁵

Through their schemes, the Metabolists not only aspired to re-structure the rapidly expanding cities, but to seek an alternative social order for the world. Their design concepts were full of political implications, often based on a modern vision of collective society. With the extensive employment of megastructural strategy in architecture and city design, Metabolism was often associated with other avant-garde movements in the 1950s and 1960s, such as Team 10 and Archigram in the Great Britain, the *Groupe d'Etudes d'Architecture Mobile* (GEAM) led by Yona Friedman in France, and Superstudio in Italy. Rebelling from the *status quo* of urban reconstruction in the postwar era, these architect-urbanists shared an interest in three-dimensional urban structure as the framework of urban growth and transformation as well as an ambition of revolutionizing the way the modern city was built and op-

erated. It was not surprising that, due to their utopian nature, very few of their megastructural projects were realized. Under the attack of the energy crisis and the rise of environmental movements in the early 1970s, megastructure lost its popularity among architects, planners, and potential clients. When Reyner Banham documented these utopian movements in his 1976 *Megastructure: Urban Future of the Recent Past*, he called the megastructures "dinosaurs of the modern movement," referring not only to their enormous scale but also implying that they had by then been extinct as a "species."⁶ Metabolism was no exception. Almost all their grand urban plans remained on paper. The architects only managed to incorporate their concepts of metabolic city, somewhat symbolically, in a small number of building projects, such as Tange's Yamanashi Press and Broadcasting Center built in 1967, and Kurokawa's Nakagin Capsule Tower.

Kurokawa began his exploration of capsule architecture at the 1970 World Exposition in Osaka through the design of Takara Beutilion, which became one of the most successful architectural fantasies at the Expo. [Fig. 3] The building consisted of a three-dimensional framework made up of steel pipes, and a number of prefabricated cubic capsules clad in stainless steel installed in the framework with connectors. The capsules housed displays of Takara

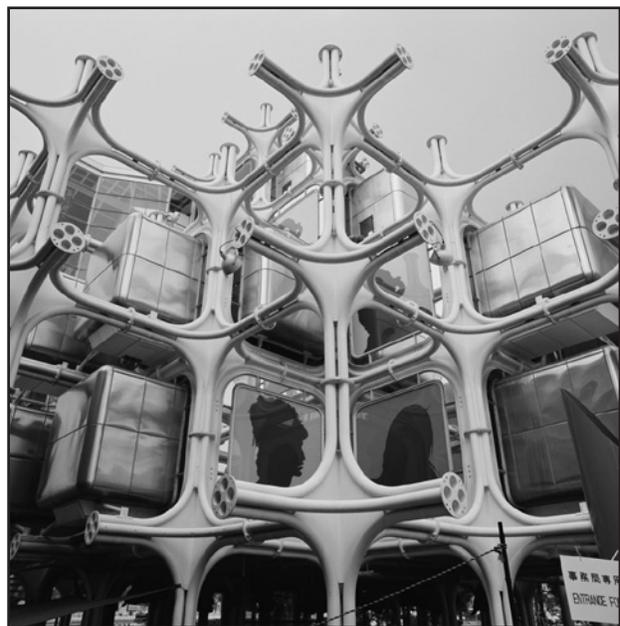


Fig. 3 Takara Beutilion, K. Kurokawa

Corporation's beauty products. The frameworks terminated at opened joints, giving the building an unusual silhouette and suggesting the incompleteness and expandability of the structure. Kurokawa extensively employed technology of prefabrication, allowing instant assembly of the structure and installation of capsules. In fact, Takara Beutilion was put together on site in only six days.

DESIGN & CONSTRUCTION OF NAKAGIN BUILDING

Takara Beutilion, as well as most other structures at Osaka Expo, was demolished after the exposition ended in six months, but the Expo effect lingered. Torizo Watanabe, then president of the real estate firm Nakagin Co., visited Osaka Expo and was so impressed by Takara Beutilion that he decided to retain the architect to design another capsule building, for permanent use. Watanabe conceived of this development not as a conventional condominium but rather a new form of work/live space for urban dwellers. A specific sale policy was implemented to target small or medium business owners and high-level employees, who already owned a house or apartment and looked for a space in Tokyo's center city as studio or for occasional overnight stay. Kurokawa also claimed that: "The Capsules are housing for *homo movens*: people on the move."⁷ His design responded to the emergence of "urban nomads" and the increasing mobility characterizing a post-industrial city. The location of the Nakagin Building at bustling Giza central business district made it suitable for this purpose.⁸



Fig. 4 Model of Nakagin Building indicating possibility of expansion

This idea of impermanence and moveability originating from Metabolism's concept of the city influenced every step of the design and construction of Nakagin Capsule Tower. [Fig. 4] According to their different "metabolic cycles," Kurokawa naturally divided the building into three basic components: the permanent structure (two ferroconcrete shafts), the moveable element (144 capsules), and service equipment (utilities). They were designed based on different life spans. Kurokawa envisioned that the main shafts would last at least sixty years, while the capsules would be due for replacement in twenty-five to thirty-five years. He noted that the life span of the capsule was not a mechanical one, but rather a social one, implying that it is the changing human needs and social relationship that necessitates such periodic replacement.⁹ The towers, containing circulations and service spaces, are connected to each other via outdoor bridges every three floors and serve as vertical "artificial land," upon which capsules would be installed. The utility pipelines are further attached to capsules from outside. The towers rise to different heights and the capsules are arranged in a seemingly random

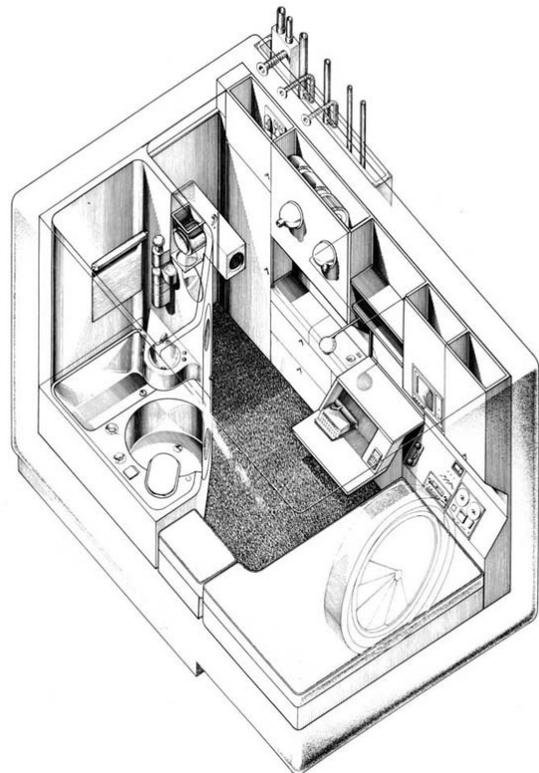


Fig. 5 Axonometric of Capsule

pattern, suggesting an on-going process: the shaft could grow, and more capsules could be piled up. Kurokawa regarded this incomplete look as the "aesthetic of time," referring to the Metabolism's central notion of the city as process.¹⁰

Each capsule is tied to one of the concrete cores with only four high-tension bolts: two each on the upper and lower sides. That means that every unit is removable and, by updating the capsules, the whole system would be renewed. The capsule measures 7.5 ft x 12.5 ft x 7 ft, and is built of welded light-weight steel frames – identical to the structure and size of a shipping container – and covered with galvanized rib-reinforced steel panels finished with a coat of Kenitex glossy spray. There is a Plexiglas porthole window on each capsule, 4- $\frac{1}{4}$ ft in diameter. Because of the capsule's distinct form, later Charles Jencks jokingly described the building as "super-imposed washing machines."¹¹ [Fig. 5]

The interior of the capsules was designed using industrial technologies. A variety of installations were built into an extremely compact space: an integrative bathroom unit at a corner, a bed underneath the window, and appliances and cabinets along the other wall including a color television set,



Fig. 6 Construction of Nakagin Capsule Tower

a refrigerator, a kitchen stove, an air conditioner, a telephone, a stereo, an air cleaner, a table light, a clock, and a desk calculator. The aim was to provide basic space and outfitting to guarantee the living condition and individual freedom of a modern man in the city. When the capsules were sold in 1972, their prices ranged from \$12,300 to \$14,600, about the cost of a luxury car of the time.[□]

Construction took place in separate locations, on-site and off-site. On-site construction included only the two towers and space for utilities and equipment. The capsules were prefabricated and assembled by railroad vehicle and vessel manufacturers in other cities. After being transported to the building site, they were hoisted by crane and fastened to the concrete shafts starting from the bottom up. Each capsule was installed independently and cantilevered from the shaft so that ideally any capsule could be removed without affecting others. The entire construction took only a year. [Fig. 6]

SAVING THE FUTURE OF THE RECENT PAST

When Nakagin Capsule Tower was completed in 1972, it was in any sense a significant event in architecture. *Japan Architect* dedicated an entire issue in October 1972 to capsule architecture, featuring Kurokawa's building and optimistically reflecting the potential development of capsule architecture in the future. As the world's first capsule architecture put into actual use, Nakagin building in fact introduced a number of revolutionary ideas in practice. It helped create a new building type, the capsule hotel, with minimum space and supplies to provide inner-city accommodation unique to Japanese big cities. Furthermore, parts of the design of Nakagin Capsule Tower later made their way into industrial products, such as the prefabricated integrative bathroom. For the building as a whole, Kurokawa envisioned it would become a new prototype of urban architecture and stimulate mass production of prefabricated housing. This ambitious idea nevertheless did not come true. Nakagin Capsule Tower remained a monolithic statue in the bustling and fast changing Giza district, commemorating the ideal of a metabolic city.

When designing Nakagin building, Kurokawa expected that the capsules be replaced every twenty-five to thirty-five years. Ironically, contemporary cities like Tokyo is growing and transforming so

rapidly that it even outpaces the “metabolism” that the Metabolists envisioned and forces renewals on the scale of the entire building instead of individual capsules. Therefore was the plan of demolishing the Capsule Tower; and it is not an isolated case. In fact, a few significant Metabolist buildings have been torn down since the beginning of the 21st century even though these structures were still in sound condition. In 2006 Kurokawa lost his Sony Tower, Nakagin Capsule Tower’s sister building in Osaka. Kikutake’s Sofitel Tokyo, a 1994 building characterized by a dynamic form representing the architect’s concept of “Tree-shaped Community,” was torn down in 2007 after only thirteen years of service. If we move a little back, Tange’s iconic Tokyo City Hall in Marunouchi district completed in 1957 was demolished in 1992 after a new city hall – also by Tange – was built in Shinjuku, passing the site to Rafael Viñoly’s Tokyo International Forum.

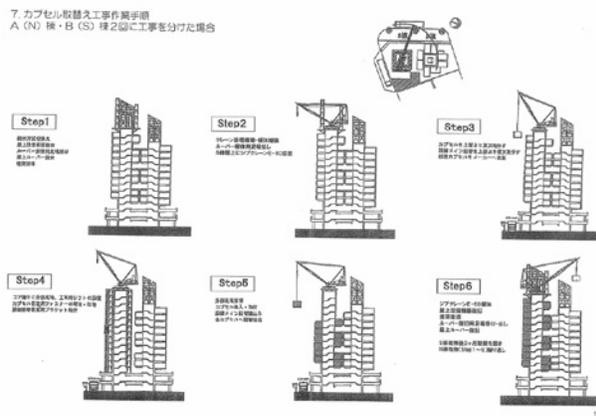


Fig. 7 Nakagin Capsule Tower Renovation Plan, Kisho Kurokawa. Steps of replacing capsules.

Underlining these demolitions was a common issue: the astonishing land price in major Japanese cities and thus the property owners’ desire to maximize the land value. According to historian Botand Bogner, the average construction cost of a building in a large city in Japan accounts for only about 10% of the land on which it sits; this results in more renovations and redevelopments in Japan than in most other nations. Even landmark buildings designed by famous architects are no exception. The Metabolist buildings were hit particularly hard. The rigorous megastructure-capsule combination offers little flexibility in terms of space usage and structural expansion. In addition, because the Metabo-

list architects were keen in the representation of individuality by giving each capsule its expression on the façade, their buildings’ floor-area ratios are often below average, meaning they are less economic. In fact, the new fourteen-story building being proposed to replace Nakagin Capsule Tower would generate 60% more floor areas. These factors have posed difficult problems to the conservation of Nakagin building.

Since 1998, Kisho Kurokawa Architects & Associates has been working on a “Nakagin Capsule Tower Renovation Plan.” The plan proposes updating service equipment and replacing capsules with new units while keeping the structural shafts intact. [Fig. 7] By so doing, the building would undergo self-renewal as the architect originally envisioned. The new capsule will be slightly larger than the existing one, but it no longer includes pre-installed furnishing except a prefabricated bath. Kurokawa argued that replacing the capsules would be more economic than tearing down the tower and building a new one. The building’s management, however, remained unconvinced and continued to pursue a complete redevelopment.

When the property owners’ intention was made public, Kurokawa launched a campaign to save Nakagin Capsule Tower. Major architectural organizations in Japan, including the Japan Institute of Architects, the Japan Federation of Architects and Building Engineers Associations, and DoCoMoMo Japan, unanimously endorsed Kurokawa’s appeal to preserve the building and his proposal of renovation. Kurokawa also received enormous support from the international community of architects and designers. According to a poll of over 10,000 architects from 100 countries by London-based *World Architecture News*, 95 percent voted to preserve the building and 75 percent voted to support Kurokawa’s idea of replacing the capsules.

The overwhelming support from the profession indicates a general acknowledgement of Nakagin Capsule Tower as an architectural heritage. That the building is at risk of being erased reminded architects and historians that it is an important part of history of modern architecture. Its fragility has evoked the desire to keep it. Architects also recognized the relevance of this experimental project to current architectural practice. For instance, Kurokawa’s concept of replaceability and adaptability based

on the notion of a metabolic city, to a certain extent, provides a precedent for the exploration of sustainable architecture. Although the practical issues of recycleability was not resolved in this building, the idea of distinguishing elements of different life cycles offered a diagrammatic model of construction with more conscious use of material and industrial technology. The unique idea of capsule also inspires architects in the creation and improvement of high-density living environment that remains an imposing issue in developing countries and the world's mega-cities. Architects contributing to the polls of *World Architecture News* are excited about the idea of replacing the capsules, which, for them, could test "what is possible with modularization."¹⁶

Putting it in an international academic context, the articulated support of preserving Nakagin building comes in line with a notable shift in architectural criticism. Opinions regarding architectural avant-gardes of the 1960s, including Team 10, Archigram, Super Studio, Yona Friedman, and Metabolism, have changed considerably if subtly in recent years. Megastructural projects arising from these avant-garde movements were often dismissed in the past as technological fantasies and politically naïve ideas about social progress, or, more critically, as authoritarian gestures to control the development of architecture and society with a fixed set of design concepts and to introduced urban interventions on an inhuman scale. Recent historic accounts situate these architectural and urban experiments in their respective historic contexts, and view these radical ideas and projects more as alternatives to both rigid mainstream modernism and nostalgic postmodernism and New Urbanism in architecture and urban design.¹⁷

Along with the campaign to save the building, there is also growing interest in displaying the design of Nakagin Capsule Tower and the Metabolism's work in general. In summer 2008, an exhibition called "Home Delivery: Fabricating the Modern Dwelling" was staged at the Museum of Modern Art (MoMA), which included an original model of the Capsule Tower. The model was characterized as "representing the whole world of architectural thoughts in the 1960s from the Metabolist group in Japan."¹⁸ Words also came out that Pompidou Center is preparing an exhibition on Japanese Architecture in 2010, and a real capsule from Nakagin building, should it be demolished, would be featured at the exhibi-

tion.¹⁹ Furthermore, a circular has been distributed by the Twenty-fourth World Congress of Architecture (UIA), to be held in Tokyo in 2011, calling for "reconsideration of the Metabolism Model."²⁰

RECONSIDERING METABOLISM IN JAPAN'S URBAN AND CULTURAL CONTEXT

The drastically different attitudes toward Nakagin Capsule Tower between the architectural professionals and the property owners demonstrates the contradiction between the advocacy of preserving historic landmarks and the rational of local market economy. Although one can rightly argue that such phenomenon is ubiquitous in the contemporary world, the particular urban and cultural context in Japan has intensified this contradiction, which resulted in distinct approaches to design and conservation. For instance, provided the impossibility of keeping a historic building on its original property as physical archives, an unusual solution of conservation was developed in Japan to relocate valuable historic structures to designated remote sites to create an open-air architectural museums. Meiji Village is one of such open-air museums. Located about fifteen miles outside of Nagoya, Meiji Village has gathered over sixty historic buildings from Japan's Meiji (1868-1912) and Taisho (1912-1926) periods, which are rearranged in a landscape setting. Among these buildings is the lobby of Frank Lloyd Wright's Imperial Hotel. No plan of this kind of open-air museum, however, has been developed for the conservation of post-WWII modern architecture.

Also conspicuous is the relative silence of the public sector in the heated debate regarding the future of Nakagin Capsule Tower. It is unlikely that neither government in Japan nor international agency is capable of salvaging a modern building; rather, they are not motivated enough to do so.²¹ Japan has been known for its great system of National Treasures and Important Cultural Properties, which indicates the nation's dedication to preserving cultural artifacts.²² That the value of Kurokawa's building hasn't been testified in a longer history could be a legitimate reason of the governments' indifference to it. A more fundamental factor, however, lies in the character of modern Japanese cities and the architectural culture that it is based on. Japanese cities like Tokyo are notorious for their extraordinary pace of urban renovation. As John Thackara notes, "[In Japan] buildings are designed in the ex-

pectation not that they will stand the test of time but that they will be torn down sooner rather than later and replaced by something more appropriate to the economic and technological demands of the future."²³ As a result, Tokyo remains a "brand new" city: not only have most of its buildings been constructed and/or reconstructed after World War II, but according to the statistics, it continues to renew itself at the rate that around 30% of its structures are replaced in every ten years.²⁴

Contributing to such an urban condition is a particular cultural influence, namely, a general awareness and acceptance of constant transformation of the physical environment which has been absorbed into the urban life. Japanese culture has evolved with this notion of impermanence. Such idea is represented in its ultimate form through an extraordinary practice of periodic reconstruction of Ise Shrine. Every twenty years, the main complex of this Shinto shrine is torn down and a new one is built on an immediately adjacent site in an identical form except for some minor details. This ritual reconstruction, known as *shikinen-zokan*, was initiated over 1300 years ago to express the deepest ideas of Shintoism, a faith in the necessity of periodic renewal following the law of Nature.²⁵ The historic continuity is paradoxically preserved through such symbolic rebuilding which celebrates the fundamental idea of transformation and regeneration.

The awareness of dialectic relationship between transformation and continuity influenced the Metabolists as well as other Japanese architects, manifest in a book on Ise written by Tange and Kawazoe in 1962 entitled *Ise: Prototype of Japanese Architecture*, which called for reinterpretation of Ise's traditional principle in modern design. Responding to such contemporary urban conditions characterized by rapid expansion and unpredictable change, the Metabolist moved away from the Modernist approach to planning that tended to envision a physical destination of the city's development, and instead called for patterns "which can be followed consistently from present into the distant future."²⁶ In fact, the literal translation of metabolism in Japanese, *shinchin taisha*, embodies the idiomatic meaning of "out with the old, in with the new." It indicates the architects' notion that architecture and city should sustain through continuous growth and renewal – a process, they believed, as important as the natural metabolism.

The same notion of transformation/continuity also influences the attitude toward conservation. As historian Nyozeke Hasegawa argues, the importance of tradition in Japan "lies not so much in preserving the cultural properties of the past as in giving shape to contemporary culture; not in the retention of things as they were, but in the way certain ... qualities inherent in them live on in the contemporary culture."²⁷ Kurokawa's proposal of preserving Nakagin Capsule Tower speaks for this attitude. By means of the replacement of capsules, the architect challenges the prevalent concept of heritage based on the idea of monument as permanent object fixed in time and specific to site. Should Kurokawa's renovation plan be carried out and the capsules be replaced, it could disqualify the building as an architectural heritage in Western sense as it is no longer original. In Japan, however, the conception of heritage is tied to the belief that eternity can only be sustained by change, as demonstrated by the periodic rebuilding of Ise Shrine and the relocation of historic buildings in Meiji Village.

As Nakagin Capsule Tower indicates, Metabolism's megastructural approach to architecture and urbanism is less about "bigness" than about accommodating change. While most Metabolist projects adopted a megastructural strategy, two alternative paradigms of urban design also arose from the Metabolist movement: Fumihiko Maki's idea of "group form" and Arata Isozaki's concept of "ruins." Sharing the notion of the city as process instead of artifact, the ideas of megastructure, group form, and ruins address Japan's constantly changing urban environment from different perspectives, and each has its impact on contemporary urbanism.

Maki was critical of the utopian idea of megastructure and counteracted it with the concept of group form, which he articulated in his *Investigations in Collective Form* published in 1964.²⁸ In contrast to megastructure's hierarchical organization moving from a major structure to individual units, Maki suggested that order should arise from grouping individual elements together. Such order is based on the relationship between individual elements and the whole group as often seen in the formation of vernacular settlements like Italian hill towns, North African villages, and Japanese linear villages: individual units are generative elements defined by a prototype, which determines the general character of the ensemble. The group form allows the en-

semble to grow and renew itself without affecting its comprehensive image as the system maintains a dynamic equilibrium. The emphasis of design thus shifts from a physical structure to a perceptual order underlying the evolution of the city.

Maki contended that the group form would create a flexible urban system more responsive to the fluctuating conditions of contemporary society. In contrast to the conventional top-down planning, group form encourages cumulative growth that results in a non-hierarchical collective image. The Hillside Terrace, arguably the most engaging urban project in Maki's career, provides a remarkable manifestation of this idea. Commissioned by the Asakura family, the project is in fact a series consisting of mixed residential, commercial, and cultural uses that stretch down along Kyu-Yamate Avenue in Tokyo's Daikanyama district. Since the design of the first increment in 1967, the project continued to grow for thirty years, progressing through seven stages.²⁹ Each stage of the development grew out of the pattern set by previous designs but distinguished itself by reflecting revisions of planning regulations, developments of technology, changing consciousness of the architect, and the shifting character of the urban context as Daikanyama evolved from a quiet residential area to a bustling commercial district. Hillside Terrace thus constitutes a "group form at its most dynamic, growing and evolving organically over time."³⁰ An open system with a certain degree of ambiguity, the ensemble responds to uncertainty and celebrates the aesthetic of transformation. As it grows, the group form is always ready to accommodate new additions and changes, but complete in form in each stage. In Maki's point of view, such a cumulative townscape has become the essential character of Tokyo and suggests a new urbanity for the contemporary city.

A more radical response to Japan's urban and cultural context from the Metabolist movement was Isozaki's concept of "ruins," referring to the state of a city after a catastrophe. Although Isozaki shared the Metabolists' enthusiasm in megastructural form and futurist technology, he argued against their optimistic view that the development of a city is a continuous process, and urban growth and transformation is more or less predictable and thus can be planned, structured, and controlled. On the contrary, Isozaki contended that sudden catastrophic ruptures could occur in the development of an ur-

ban society. He first presented this idea of ruins in a photomontage entitled "Incubation Process" in 1962.³¹ The montage featured his 1960 Joint-Core System project, but the image of this futuristic city was superimposed on a picture of classical ruins. Fragments of giant Doric orders were recycled and became the base of a cluster of megastructures anchored by a strip of urban freeway. Through this montage, Isozaki argued that metamorphosis would be both destructive and constructive and, as a result, human society repeatedly cycled between city and ruins: "In the incubation process, ruins are the future state of our city, and the future city itself will be ruins."³² Ruins symbolize death and counteract the literal-minded manipulation of utopian strategies. Representing an ironic and somewhat pessimistic attitude toward the modern city, Isozaki's concept of city/ruins proves to be distinctively prophetic. It is particularly telling when we are confronted with the problem of death and life of Nakagin Capsule Tower and other Metabolist buildings.

These three Metabolist paradigms, the megastructure, the group form, and the ruins, are still playing different roles in shaping the contemporary urban landscape. Tange's and Metabolists' magnificent megastructural projects have inspired large-scale urban developments, such as the massive reclamation and creation of new urban areas on the Tokyo Bay like Tokyo Teleport Town and Yokohama Minato Mirai 21.³³ The articulated idea of urban metabolism and its spectacular imageries have not only gained credibility for such large-scale urban interventions, but also provided a model of systems approach to planning focusing on establishing infrastructure and general spatial pattern to allow the city to grow. Maki's theory of group form has led to a contextual and situational attitude toward architecture and city. Instead of imposing a comprehensive framework to regulate urban expansion and transformation, this approach calls for recognizing and respecting pre-existing urban texture and stresses a city's inherent process of natural renewal, upon which a new design should be based. Lastly, the notion of ruins reminds architects the ephemeral character of contemporary city, advocating an attitude that sees the city more as a process or event than as an artifact. As a result, many recent designs are characterized by "lightness, surface, fragmentation, and dissolution, often with a 'ruinous' quality."³⁴ This "dematerialized" quality, as demonstrated in such concepts as Maki's "cloud-like formations," Toyo Ito's "spaces

of flows," and Shigeru Ban's "paper architecture," comes in line with the growing influence of new electronic and digital technologies in urban life, which continues to melt down the boundary between the real and the virtual.

In fact, the urban landscapes of Tokyo, as well as many other Asian cities of the present day, are shaped by these competing urban ideas and design strategies that reflect the conceptions of megastucture, group form, and ruins. As a result, cities can no longer be identified as coherent entities. They often appear chaotic, but never lack vitality. In fact, the chaos is a reflection of urban vitality as the cities are engaged in continuous transformation and regeneration like an organism. In this sense, "metabolism" remains a provocative term to describe the current urban condition, especially when its Japanese meaning is considered – "out with the old, in with the new." What is happening to Nakagin Capsule Tower is a circumstantial evidence.

CONCLUSION

Nakagin Capsule Tower is an ongoing history. The battle over its future is not yet settled. However, the controversy surrounding its scheduled demolition affords a revisit of the history and design ideas of Nakagin building as well as the Metabolist movement at large. It provides a unique perspective to examine a few critical issues of contemporary architecture and urbanism, from reevaluation of history and preservation of modern architectural heritage to the contemporary urban culture in Japan and its impact on architectural practice of the present day.

The Metabolists' ambitious urban projects, when they were proposed, had limited influence in physical planning. They were essentially utopian speculations and polemical schemes against the official master plans of reconstruction. These utopian projects nevertheless represented a body of powerful urban ideals that continued to stimulate bold visions of modern city. Similarly, the Metabolists' buildings were idealistic in nature. Nakagin Capsule Tower represented an attempt to invent a new prototype of architecture responding to the rapid change and transformation of modern society and the continuing growth of modern metropolis. The solution coming out from this architectural experiment was problematic, but the notion of transformation and regeneration connects it to contempo-

rary architectural culture, and to a possible future of architecture. It is the idea that Nakagin Capsule Tower encapsulates, more than the object itself, that makes it a true architectural heritage.

ENDNOTES

1. Yuki Solomon, "Kurokawa's Capsule Tower to be razed," *Architectural Record* 195, n.6 (June 2007), 34. The report first appeared on <http://archrecord.construction.com> on Apr. 30, 2007.
2. Reynier Banham, *Megastructure: Urban Futures of the Recent Past* (New York: Harper & Row, 1976).
3. Kiyonori Kikutake et al, *Metabolism: the Proposals for New Urbanism* (Tokyo: Bijutsu shūpansha, 1960).
4. Ibid, 3.
5. The National Capital Region Development Plan, published by Tokyo Metropolitan Government in 1958, was inspired by Patrick Abercrombie's 1944 concept for London, and proposed creating a green belt around Tokyo's center city and a number of satellite cities outside of the green belt to absorb Tokyo's population growth and industrial expansion. Tange counteracted this radiant plan with a linear concept, envisioning a megastructural city extend from the existing urban core across the entire Tokyo Bay to reach Chiba prefecture on the opposite side. For details see Zhongjie Lin, "Urban Structure for the Expanding Metropolis: Kenzo Tange's 1960 Plan for Tokyo," *Journal of Architectural & Planning Research*, 24:2 (Summer 2007), 109-124.
6. Banham, 7.
7. Jin Hidaka, "Nakagin Capsule Tower Building," UIA 2011 Tokyo (International Union of Architects 2011 Congress in Tokyo) circular, 2008.
8. In fact, a surprising number of professionals, including travel agents, accountants and architects, moved in after the building was completed and used the capsule as their business space. Hiroshi Watanabe, *The Architecture of Tokyo* (Stuttgart/London: Edition Axel Menges, 2001), 148.
9. Noriaki Kurokawa, "Challenge to the Capsule: Nakagin Capsule Tower Building," *Japan Architect* 47 (Oct. 1972), 17.
10. Ibid.
11. Charles Jencks, *The Language of Post-Modern Architecture* (London: Academy Editions, 1977), 40.
12. Watanabe, Ibid.
13. Botand Bogner, "What Goes Up, Must Come Down," *Harvard Design Magazine* 3 (Fall 1997), 35.
14. Kisho Kurokawa, "Recent Situation about Nakagin Capsule Tower," in <http://www.kisho.co.jp> (May 30, 2006), accessed Aug. 9, 2009.
15. "Nakagin Tower WAN Poll Result," in <http://www.worldarchitecturenews.com> (Sep. 23, 2005), accessed Aug. 9, 2009.
16. Ibid.
17. Several recent historic accounts have demonstrated this trend, such as: Hadas Steiner, *Beyond Archigram: The Structure of Circulation* (Abingdon, UK: Routledge, 2008); Larry Busbea, *Topologies: The Urban Utopia in France, 1960-1970* (Cambridge: MIT Press, 2007); Max Risselada and Dirk van den Heuvel eds. *Team 10, 1953-81: In Search of Utopia of the Present* (Rotterdam: NAI Publishers, 2006); Simon Sadler, *Archigram:*

- Architecture without Architecture* (Cambridge: MIT Press, 2005); Peter Lang and William Menking, eds., *Superstudio: Life Without Objects* (Milan: Skira, 2003); and Cherie Wendelken, "Putting Metabolism Back in Place: The Making of a Radically Decontextualized Architecture in Japan," in Sarah Williams Goldhagen and Rejean Legault, eds., *Anxious Modernism: Experimentation in Postwar Architectural Culture* (Cambridge: MIT Press, 2000), 279-300.
18. Audio representation of the exhibition "Home Delivery: Fabricating the Modern Dwelling," Museum of Modern Art (MoMA), New York, July 20-Oct. 20, 2008.
 19. Blair McBride, "Nakagin Capsule Tower: Architecture of the Future," <http://pingmag.jp> (Dec 2008), accessed Aug. 9, 2009.
 20. Hidaka, *Ibid.*
 21. DoCoMoMo Japan pleaded for the United Nations' heritage arm to protect Nakagin building, but did not succeed.
 22. The Law for the Protection of Cultural Properties came into force in Japan in 1950. As of 2009, there are 862 National Treasures in the arts and crafts category and 210 in the structures category. In addition, there are 9,435 Important Cultural Properties in the arts and crafts category and 2,205 in the structures category. <http://www.bunka.go.jp/bsys/index.asp> (Database of National Cultural Properties), accessed Aug. 9, 2009.
 23. John Thackara, "In Tokyo they shimmer, chatter and vanish," *The Independent* (London, Sep. 25, 1991), 12.
 24. Bognar, 35.
 25. Ise Shrine's ritualistic and performative rebuilding is said to have started in 685 C.E. The period of rebuilding was a little in flux in the past. In earlier times, it was nineteen years; and due to turmoil in the middle ages, there occurred a complete interruption of more than one hundred years. Later it was officially set at 20 years. It is believed that the period of around 20 years is predicated on the life span of building. Some also say it may be the time needed for passing down the necessary carpentry techniques. The last rebuilding happened in 1993, the sixty-first on record. Arata Isozaki, *Japan-ness in Architecture* (Cambridge: MIT Press, 2006), 131, 323.
 26. Noboru Kawazoe, "City of the Future," *Zodiac* 9 (1961): 100.
 27. Nyozekean Hasegawa, *The Japanese Character*, trans. John Bestor (Tokyo: Kodansha International, 1965), 101-102.
 28. Fumihiko Maki, *Investigations in Collective Form* (St. Louis: Washing University, 1964). This book introduces three prototypes of collective urban forms: compositional form (referring to the conventional method of composition based on a two-dimensional plane), megastructure, and the group form. It is remarkable for a few reasons, first and foremost of which is its status as the first written work to define the concept of megastructure (Maki's definition is used by Reyner Banham in his book), but the emphasis of Maki's book is on the group form.
 29. The Hillside Terrace includes Hillside Stage I, 1967-69; Hillside Stage II, 1971-73; Hillside Stage III, 1975-77; Hillside Stage IV, 1985 (by Motokura Makoto, who previously worked in Maki's office); Hillside Stage V, 1987; and Hillside Stage VI, 1992. The Royal Danish Embassy that was built in 1979 on one of the parcels originally owned by as the Asakura family, also designed by Maki. In 1998, Maki designed Hillside West for a site only a short distance from Hillside Terrace. It continued the rhythm of development of the preceding series. For details see Jennifer Taylor, *The Architecture of Fumihiko Maki: Space, City, Order and Making* (Basel: Birkhäuser, 2003), 132-138.
 30. Taylor, 26.
 31. Such notion of "ruins" was also presented in Isozaki's short essay written in 1962 entitled "The City Demolisher, Inc.," taking the form of a dialogue between "Arata" and "Shin." The essay contrasted a passion for city-design and a quasi-Dadaistic desire for city demolishing. Arata Isozaki, "The City Demolisher, Inc." *Kukan he [Toward Space]* (Tokyo: Bijutsu Shuppansha, 1971), 11-20.
 32. *Ibid.*
 33. For a detailed discussion of current mega-projects in the Tokyo Bay area, see Zhongjie Lin, "From Megastructure to Megalopolis: Formation and Transformation of Mega-projects in Tokyo Bay," *Journal of Urban Design* 12 (Feb. 2007): 73-92.
 34. Bognar, 38.