Since global-scale sustainability has become a public concern, I would like to reexamine "Metabolism," this avant-garde activities in town and architecture design which started in Japan during the 1960s. Metabolism presented an environmental device to enable a fluid city to undergo active metabolic changes. Cross-disciplinary activities to achieve this were sought not only in the architectural universe but also in the field of life science and industrial design. Under the theme "Design 2050," which is to imagine the near future, the metabolic techniques of the 1960s are at one thing of the past, from which we can learn a lot, but we should reserve a feeling of detachment toward certain parts. In such a context, I would like to translate Metabolism into a model as follows: "Metabolism Model," which is still valid today:

1. To look at a city as a liquid environment and seek to create an environment system which can accommodate the fluidity of the city;
2. To develop an environmental design as an experimental project in a cross-disciplinary collaboration.

"Design 2050" performs backcasting assuming the year 2050, focusing on environmental issues. Environmental issues should be considered not only as physical problems but also as fluid phenomena. Furthermore, they must be cross-disciplinary in nature. In this context, I would like to discuss the environment in terms of architectural and city designs. It remains to be seen how a common awareness of the issues arising from visualizing the year 2050 is shared among people who engage in activities in different areas.

Going forward, the circulates will feature the following articles mainly on the website:

1. Introduction of metabolism works
2. Cross-disciplinary projects
3. How is a common awareness of the issues arising from visualizing the year 2050 shared among people who engage in activities in different areas? We will conduct interviews with a number of experts.

The Nakagin Capsule Tower, built in 1972, is a monumental work of "Metabolism" architecture. This article describes how the avant-garde project was brought to realization, focusing on technical experts introduced in a valuable accountable context. In addition, the present status of the building is reported through interviews with parties involved. In this context, I have to take up the problem of the building's aging and possible demolition. The key Kisho Kurokawa was particularly devoted to this building and took an active interest in conservation activities in the 1990s. The Sony Tower in Osaka, which also uses capsules, was built in 1976 and was demolished in 2006, and the management association is pursuing the idea of demolishing the Nakagin Capsule Tower. In light of the movement, Kisho Kurokawa Architects & Associates and the Taisei Corporation initiated activities to preserve the "Nakagin Capsule Tower Restoration (Capsule Replacement Plan)" from 1995 to 2006. This article highlights the technical points of the Plan:

- The Japan World Exposition in 1970 was designed with Metabolism structures as the goal of "Metabolism," converting part of the city into temporary buildings.
- The Expo was held in Osaka, and represented an experimental city; thus it was natural that some hoped to put the results of the experiment to good use in the capital city of Tokyo. According to an interview, M.C. Tsurui, who was the president of Nakagin Co., at the time, was impressed by the Takanawa Bauhaus at the 1970 Japan World Expo (Osaka Expo) that he remained in charge to design a similar building.
- The Nakagin Capsule Tower Building was brought to fruition after a very tight design schedule of only four months from August to December in the same year and a rush construction period of one year. As a result, the Nakagin Capsule Tower Building made the scene as a monumental work representing the Metabolism movement. A contemporary account cannot be found in "Metabolism Magazine.

**Visiting the Capsule Tower : Jan 2017**

This building is a communal housing for business use, constructed at Ginza B-Chome, using capsules for its subsystem, i.e., individual modules. The capsules were nearly 10 meters in width, and the entire building consisted of the shape of two towers - one with 11 stories and the other with 13 - of steel-beam reinforced concrete structure including the elevator shaft and piping space. The work process consisted of forming the artificial land and providing energy supply/ handling equipment of the site as well as manufacturing and assembling the capsule parts, and doing the complicated capsules to the site for installation.

The magazine article explains that the building's location at Ginza B-Chome was also aimed at increasing sales effectiveness as the first metabolist structure and to unify the chapel of the tower building. In this context, the capsule development in terms of Kurokawa's concepts (currently, Nakagin Capsule Tower Inc.), the implementing agency for the Nakagin Capsule Tower, is a real-estate leasing company incorporated in 1957. The company development, and the "Nakagin" brand is said to have triggered the first comeback boom in Japan (their head office is still located on the second floor of the Capsule Tower building). Though there is still a tendency to open the first real-estate business in Ginza in order to establish a building block, the Capsule Tower was built at this location as part of its branding strategy to promote the new "Nakagin" housing arrangement. Regarding "mining the types of users," it should be noted that the Nakagin Capsule Tower was not intended as a condominium but rather as a new form of working space for city dwellers, which was described at the time as "a "Buisness Mansion" or an "inexpensively second house." As part of the strategy, it is targeted at business users in the metropolitan area. Ginza was a favorable location. Utilization of sales policy means increase in the ratio of people willing to share the space by partitioning the space into smaller units and thus will discover greater value in opportunities and ways to move more freely. The capsules will receive construction from the land and target in an era of movable construction. (Clara: (clara-oki))

The term "artificial land" is commonly used in Metabolism to refer to land which has been filled in with waste or industrial waste such as coal dust, sewage sludge, etc. For example of RS slabs, the term has a specialized meaning in the sense that it is used as a base for the building of capsule units. It also indicates that the capsules were nearly 100% completed before being attached. Ideally, they were fabricated in the factory and then installed on site.

The "pipe arrangement" was assembled on a rack and brought to the site for installment after testing. This construction method was chosen in order to allow these independent systems - the capsule itself, the facilities and the artificial ground - to interact with one another. Metabolism and architecture work together to create a self-contained system.