Kenzo Tange (b. 1913)

-Graduate of the University of Tokyo

-Mentor of many prominent Japanese architects including Arata Isozaki, Kisho Kurokawa and Fumihiko Maki

-Tange in his late thirties was invited to attend the 1951 meeting of CIAM (Congres Internationaux d'Architecture Moderne) on the strength of his prize winning scheme for the Hiroshima Peace Center.

CIAM (1928 and 1956)
-the chief instrument for disseminating Modernist ideas on architecture and town planning.
-Its main figure is Le Corbusier.
-It emphasized functionalism and rational planning, crystallizing its urban view with the so-called ‘Athens Charter’ in 1933.
-The Athens Charter identified the primary functions of the city as ‘residential, work, recreation and traffic.’

Kenzo Tange (b. 1913)

His relationship with Le Corbusier and Walter Gropius

-In the CIAM meeting, he met Le Corbusier, Walter Gropius

-Soon, Gropius visited Japan and saw the Katsura Detached Palace

-Tange wrote a book on the Katsura Detached Palace with the introduction by Gropius

-Gropius, who was retiring from Harvard around this time also helped Tange get a visiting professor position at MIT

Kenzo Tange, Atomic Memorial Museum, 1949-55

The Hiroshima Peace Park project is a memorial based upon the experience of the atomic bombing

-World War II came to an end with the atomic bombs dropped on two Japanese cities in 1945: Hiroshima and Nagasaki
-The bomb that was dropped on Hiroshima was nicknamed Little Boy.

-This little boy killed 100,000 people on the spot and completely demolished the city into ashes.
-It resulted in chaos, homelessness, and an ever-increasing number of fatalities which were traceable to radioactive poisoning.

-in the period following World War II, Tange produced a master-plan for Hiroshima Peace Park and designed a Peace Center (1955) there on the site of the atomic bomb explosion)

Kenzo Tange, Hiroshima Peace Park, Masterplan, 1949-55

Flame of Peace

Cenotaph for the Atomic
Bomb Victims

-the site was an island sitting in the heart of a river
-Tange realize a serene axiality, while accepting the irregular topography of the site and the urban network
-he puts down a series of small pools, then Cenotaph for the Atomic Bomb Victims and Flame of Peace, then a big reflecting pool and finally the Peace memorial Museum

Kenzo Tange, Peace Memorial Museum, 1949-55

-the Peace Memorial Museum at the Center faces a large reflecting pool
-it was a long horizontal box raised on 6.5 meter pilotis, showing the influence of Le Corbusier
-the main floor was defined by vertical screens with horizontal louvers

Le Corbusier, Preliminary Sketch for National Museum of Western Art,
1957 to 1959, Tokyo

-site: a flat land in the hill of the famous Ueno Park
-the original unbuilt structures were composed of simple platonic volumes in tension with each other and with the site
-they also included an amphitheatre, whose stage was dramatized by being set amid a reflecting pool.

-the museum was originally planned as a “square spiral.”
-It was a self-encircling structure, like a ziggurat, that was to have been begun by constructing a single exhibition room reached by a tunnel.
-This idea had been greatly compromised

-the plan of the museum is determined by the standard columnar grid Le Corbusier used as an expression of structural logic from the mid-twenties onward
-The ground floor also adopts pilotis(next slide)

-the centrally-enclosed double story space lit from above through a triangular prism is the museum’s most impressive feature
-the crossing of the central beams that support the roof is exposed (sculpture of architecture)
-Le Corbusier called this “the sculpture of architecture”

-During the 1950s, there appeared a debate on how modernization might be reconciled with a respect for tradition.
-Tange adopted reinforced concrete with details reminiscent of traditional timer post-and-beam construction for Kagawa Prefectural Government Office Building (1955-58).
-The Kagawa building may seem a simplistic interpretation of tradition based on a superficial borrowing of forms
-However, it was nevertheless an early manifestation of a worldwide trend to question the relentlessly abstract, internationalist orientation of modern architecture

Kenzo Tange, Kagawa Prefectural Government Office, 1955-58

Kiyonori Kikutake, Tower City, around 1959
Presented by Kenzo Tange to the 1959 CIAM Meeting in Otterlo

-Tange also attended the 1959 CIAM Meeting held in Otterlo
-In the meeting, Tange presented Kiyonori Kikutake’s urban proposals

-Right after the event, he started his four-month tenure at MIT as a visiting professor.
-Gropius, who was retiring from Harvard around this time also helped Tange get a visiting professor position at MIT
-Here, he set a fifth-year design problem for MIT students consisting in a 25,000-person residential community

-after returning to Japan, he developed the idea for the case of the Tokyo Bay
-he introduced his scheme for the Tokyo Bay at (the last day of) the World Design Conference, that was held in Tokyo, in 1960
-his scheme proposed to extend the Japanese capital out over the adjacent bay and was a structural reorganization of a city of 10,000,000 inhabitants

Kenzo Tange, Plan for Tokyo Bay, 1960

-He rejected the existing radial transport network in the mainland as inadequate
-he organized the scheme around a linear system of highways.

Kenzo Tange, Plan for Tokyo Bay, 1960

-Branches extended from the system to serve huge residential buildings with curved profiles suggestive of traditional Japanese roofs
-The plan’s emphasis upon giant systems of infrastructure or megastructure was shared with other proposals for Japanese cities advanced by Metabolist architects

Kenzo Tange, Plan for Tokyo Bay, 1960

Metabolism

Metabolism

-It was launched at the World Design Conference in Tokyo (1960), the first worldly event held in post-war Japan. The conference was a five-day meeting sponsored by the Japanese Construction Industry (Paul Rudolph, Jean Prouve, Louis Kahn, B.V.Doshi and so forth)
-Its members included Kiyonori Kikutake, Kisho Kurokawa, Takashi Asada, Fumihiko Maki, Masato Otaka, Noboru Kawazoe (journalist and critic)
-Its manifesto *Metabolism 1960: Proposals for a New Urbanism* was published after the conference
-Metabolism emerged at a time when Japan was experiencing phenomenal economic growth (1964, Tokyo Olympic Games, 1970 Osaka International Exposition).
-The development of the movement was closely related to this optimistic and capitalistic development of the society.
-This great pace of social development, despite its hyperbolic scale and claim, gave the movement an aura of seriousness and possibility.

-The high point of the movement was the Osaka International Exposition in 1970
-Tange, Kurokawa and others designed pavilions upon the idea of the megastructure with plug-in capsule

-However, after 1970s, its futuristic and optimistic urban proposals faded rapidly through a combination of different factors: the social turmoil between Marxism and capitalism, generation struggles, environmental pollution caused by rapid developments of Japanese cities, enchantment with their naiveté with respect to technological development and its benefits for human life

-Regarding the last point, they were naïve about the role of technology
-They thought the operation of instrumental rationality would lead people to the world where three or four days of a week amounted to a leisure time.
-Material affluence brought about by instrumental rationality would bring us a utopia, while they overlooked the negative aspects of the same rationality.
-They were attracted by the tangibility, palpability, and sensuousness that technological imagery and products had gifted to the world.

Urban Ideas of Metabolism

-“’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, the metabolism, is that, we believe, design and technology should be a denotation of human vitality.

We are not going to accept the metabolism as a natural historical process, but we are trying to encourage active metabolic development of our society through our proposals.”

From Metabolism manifesto *Metabolism 1960: Proposals for a New Urbanism* (author unspecified)

-Metabolism emphasized that the city constantly undergoes change like an organism, hence the biological term borrowed for its name
-the aim was to give order to such transformations by allowing for the different cycles of growth and decay of urban elements.
-This perspective of life of the building and city based upon growth and decay reflected a Buddhism's perspective of life
-Elements with longer life spans were to form an infrastructure to which short-term elements were to be attached in a manner that expedited the latter's periodic replacement
-The Metabolists were also in sympathy with the ideas of mobility and association expounded by Team Ten, and they found inspiration in the works of Louis I. Kahn, notably the Richards Medical Research Laboratories (1957-61) in Philadelphia, with its clearly distinct 'served' and 'servant' spaces
-simultaneously, most of their (paper) works expand the boundary of human residence into the sea and the sky through megastructural, technological advancement.

Buddhist idea of constant change and impermanence
-Their urban ideas accepted impermanence.
-This was seen as a unique point based on Buddhism by the foreign architects who participated in the World Design Conference

“The Universe is constantly engaged in creation. Nebulae are born one after another from a tiny atom to the greatest nebula, every piece of matter is a dynamic body ever changing and developing. We are all included in the process. Life, the highest among the things made from matter, is the one which s most concerned with metabolism.
Our constructive age or tomorrow, or say, toady, will be the age of high metabolism. Order is born from chaos, and chaos from order. Extinction is at the same [time] creation. We can see the duality of the process not only now but in the history of the past. In the coming age, however, this process must be practiced systematically and rapidly, especially in cities where civilization and culture are centralized. This is where tomorrow’s city planning starts.
. . . We have distrubed the order of Nature and Nature has retaliated. In making cities, therefore, we must return Nature her original order. We should stimulate the metabolism of Nature. . . Cities should coexist with the dramatic features of Nature with mountains, lakes, rivers, plains, and oceans; with showers, typhoons, ocean currents, and volcanoes. Future cities would include Nature on a super human scale together with Nature on the human scale such as trees and streams. At the same time, individual houses must have individual shapes. If a city can be metabolized, it contain[s] various kinds of houses without losing its order.”
Noboru Kawazoe, from Metabolism manifesto *Metabolism 1960: Proposals for a New Urbanism*

Kiyonori Kikutake, Tower City or Floating City, around 1959

-In the metabolism manifest, Kikutake presented a proposal for cities built in the air or over water as a solution to the overcrowding of existing urban environments

According to him, Tokyo was sick. Indeed, she got an incurable cancer “Tokyo, a huge city, is worn out with bad sickness. She has lost the proper control of city, because of her mammoth-like scale. On the contrary, she is even trying to conceal her illness and to justify the present situation by depending on the adaptability of inhabitant. The limitation of the horizontal city has far surpassed over from the ability of function of transportation and the living standard. The new harmful tissue like cancer is spreading over the city.

Kiyonori Kikutake, Tower City, around 1959

“The new order of city will grow from the point that each of all inhabitants has become conscious of the community. . .
The 1,250 living units, as a mass produced [in] cylindrical shape, will be installed alternately [alternatelly] in the 157 m high cylinder. . .
In this point, the problem[s] on the location in the city will be taken up importantly. The location (address) will be classified and be named by the most effective and most understandable means, so the old city map like a labyrinth will be of no use anymore.”

Kiyonori Kikutake, from Metabolism manifesto
*Metabolism 1960: Proposals for a New Urbanism*

Kiyonori Kikutake, Skyhouse, 1958

-The construction of the basic reinforced concrete structure and the insertion of the living units: Kitchen unit, Bath unit, Container unit.
-The units are supposed to be replaced by newer and more advanced ones as time passes

-an urban unit with a structure reminiscent of Kahn’s City Tower project of 1957 (next slide)
-The structure is also suggestive of the DNA double helix
-a biological analogy reflecting the biological nature of the name ‘metabolism’
-However, its relevance is questionable

Kisho Kurokawa, Helix City, 1961

*Philadelphia City Tower*
*structural Model*

*1952-3*

Arata Isozaki, City in the Air, 1961 or 1962

-Isozaki was a collaborating member of the Tange Studio Team at the University of Tokyo
-He finished a series of Metabolist-related sketches and models in the early 1960s
-”City in the Air” utilizes the void as the site
-The City is landed through the giant core shafts
-From the shafts, arms spread out
-From the arms, individual units spread out
-Highways are also combined at the base of the shaft, but above the existing city

Arata Isozaki, Joint Core System, 1960

-The cores are joined with another to raise structural stability
-This was also for efficiency, as common elements such as elevators could be shared
-At the base is a network of highways
-Parking structures are located at the base and they can be accessed from the highways directly
-The units are suspended in the air with steel frame structure with diagonal bracings
-The gardens in the air are connected from one tower to another, creating a continuous green strip in the city

How can we criticize Metabolism

-Metabolism was critical of orthodox modernism as represented by CIAM.

-It advocated instead a more dynamic approach to the problems of architectural design and urban planning.

-However, Despite their criticisms of modern architecture and CIAM urbanism, they believed in sweeping-away the messy existing city and building anew in a pristine environment.

-Their positivism was naive.

-Despite their rhetoric, their projects succumbed to the power of the imagery of exchangeability and growth, rather than the actualization of changeability and growth.

-Most of their realized structures were no more flexible than conventional buildings and the possibility of expansion was offset by redundancies in the original system

-Unlike his first two metabolist-schemes, his third scheme–Future City–was a photomontage of apocalyptic prophecy
-the vertical shafts derive from a gigantic and metamorphosed version of some ruined proto-Doric structure long ago abandoned to the ravages of an urban freeway
-however, these ruined column shafts have been spliced and recycled as joint-core analogues with the help of modern materials
-however, these ruined column shafts have been spliced and recycled as joint-core analogues with the help of modern materials
-one portion of the added trussing is already crashed to the ground
-Populated with antlike human figures as well as cars, the city promises nevertheless to function in spite of isolated disasters

Arata Isozaki, Future City, 1964-66

“The incubation process. Ruins are the future state of our city, and the future city itself will be ruins.”

Arata Isozaki, from caption for Future City, 1964-66

-ruinization of the metabolist ideal
-sporadic destructions of whole districts–if not entire cities–were a familiar occurrence in Japanese life, due to the vagaries of fire, typhoon, earthquake and war
-As a result, attitudes towards the natural and the man-made environment have long been characterized by an acceptance of the precariousness of human life
-transience, ephemerality, even its aestheticization and justification for the adoption of the ephemeral system

-the most complete realization of Metabolist ideas
-the development of capsule buildings in Japan has been assisted by the fact that Japanese cement, glass and steel production was one of the largest in the world, and the nation ranks high in design, construction and industrial skills
-The design of the tower comprises three levels: the design of the capsule unit itself, the design of the shaft, and the assembly of the units
-140 capsules were attached to the double-shafted ‘man-made land’

Kisho Kurokawa, The Nakagin Capsule Tower, Tokyo, 1972

-the 4 m by 2.5 m capsule unit contains everything from bed and bath, to audio television and table computer (but no kitchen).
-All furniture is firmly fitted
-a mechanized interior with an opening like that of a submarine or a spaceship