I spent my boyhood by a beautiful lake surrounded by mountains in the central part of Japan. Our garden stretched toward the lake, and my days were spent watching the lake, chasing fish in the water and playing on the frozen lake in the winter.

The lake had a variety of expressions in different seasons and at different times of the day – one moment placid and tranquil as a mirror, the next splashing with leaden waves. The most breathtaking scene for me in those days was a rainbow above the lake on an early winter morning. It happened rarely, only once or twice a year, at sunrise following a night when there had been a sudden temperature drop.

When I was assigned the project for a small museum by the lake several years ago, the first thing that came to my mind was this horizontal rainbow. I wanted to create an architectural form that expressed the natural movements of the rainbow and the waves of the lake.

Whereas the natural phenomena are transient and perpetually shifting, architecture, once given a form, maintains it for hundreds of years. There lies, therefore, a fundamental paradox in creating architectural forms that are derived from the images of nature. Biological forms are defined by and undergo repeated changes because of their kinetic motions and by interaction with natural phenomena. It then transpires that architectural forms may exist following the rules of natural phenomena. The museum is sheated in aluminum panels. Aluminum is an industrial material, but it reflects the changing colors of the sky and the water of the lake. It can assimilate itself to mother nature and change with it. In the pursuit of virtual spaces in contemporary architecture, what matters more about a material is the effects it can offer such as light reflections rather than the material itself. We have another example to illustrate this point.

As we proceed into the entrance hall, there is a small light court in front of us. The light court is filled with a shallow pool of water about 5 cm deep, and an elevator shaft rises from the water. Visitors reach the exhibition hall on the second floor transported by the elevator from the entrance hall. The floor in front of the elevator on the upper level is made of translucent glass.

People alight on the glass floor and there lies the lake in front of them. The glass floor, the water pool below, and the lake in front are all merged in their mind and create an illusion that they are wading in the water. Creating such visual illusions is a challenge I take with zest in architectural planning. Urban spaces that surround us are made up with steel, concrete block and glass. But what lies underneath is the flow of nature. Water flows and wind blows along the topographical ondulations, and such movements have a great influence on how the architectural and civil engineering structures are laid out. An old map showing Tokyo in the 17th century Edo Period tells us that the city was already expanding in a dynamic spiral movement, with the castle at the core. It was at this time that the city's foundation was established.

In the course of modernization during the past hundred years, such topographical diversity and fluidity have long been lost from our vision, because homogeneous geometric grids have overtaken. In roads and buildings compose independent spaces irrespective of the topography. Now that we are at the end of the 20th century, remarkable development of electronic technology has brought a new face in this megalopolis. The urban space today is immersed in an enormous amount of energy and flow of information. Like the topographical contour lines, density distribution of information now delineates yet another transient contour lines.

As they overlap and deviate from each other here and there, these contour lines create the urban space today. How do we adjust these two kinds of contour lines in different phases and integrate them into one space? That is the question. The same inference applies to our physical body, because today, we are clad in two different natural bodies – primitive physical being and virtual being.

From ancient times, the human being searched for clear water and settled near the rivers, lakes and seas. Ever since then, we maintain a physical mechanism which, like a rivulet, ingests and excretes water. Today, we also have a physical body in which a stream of electronics runs and which is lined to the world outside through various electronic devices. This is the virtual body which is capable of interactive communication by means of mobile telephones, facsimiles or E-mail.

How we accommodate and integrate these two bodies is our challenge today. A similar challenge confronts the contemporary architecture and urban space. Why? Because we are lined with the architecture of the city via these two bodies.

Architecture and urban spaces must also accommodate themselves to these two bodies. This is only natural for the primitive body to pursue physical comfort, taking shelter from rain and wind. But what sort of space does the virtual body seek? Our physical body is continually changing, mediated by electronic technology.

Development of telephones and facsimile, for instance, has radically changed our concept of time. They invade our private time and space even in the small hours of the day. And rapid spread of mobile phones forces us to modify our concept of privacy. Our physical senses are being altered by this phenomenon. Today's children are absorbed in computer games and appear to be immersed in the sphere of visual images instead of looking at them face to face. Not that they are looking at the images or facing them, but the physical body is being existent

inside the sphere of visual images – there is a decisive difference between the two. Unless we acquire another virtual body, we cannot reside in this sphere. I have a great interest in this virtual space. There, people are liberated from all sorts of constraints of the reality and are free to seek a new way of communication. Liberated from the force of gravity as we are, we can feel the delight of space floating in the cosmos. I want to give substance to this space of virtuality, and the thought never leaves my mind. There is an abyssal gap between this virtual space and the physical space of reality, and as soon as the virtual space is given substance, it will be nothing but a reality once and for all.

Zero gravity space cannot exist on this earth as it is. If, however, you are endowed with a physical body with which you can immerse yourself in the sphere of visual images, would it not be possible then to create a space where you can physically appreciate what it is to be in zero gravity?

Granting that this is clearly a contradiction, I still want to try and combine these two kinds of spaces into one. Attempts to create a gravitational space that feels like a space of zero gravity, and a real space which seems like visual images- to me, such attempts alone can bring us a new reality. Let me introduce you a couple of primitive prototypes.

The first is a project called „Tower of Wind" in the suburban Tokyo completed 10 years ago. This could be called a sculpture rather than architecture. It measures 20 m in height and functions as a water tank and ventilation system for an underground shopping center in front of a railroad station. A square concrete tower had been standing on the site. The project was for the renovation of the tower. I proposed to cover the old tower with mirrors and then sheathe it with perforated aluminum panels. Innumerable small lamps and neon lights were placed in the gap between the tower and the sheath. It is a simple aluminum cylinder during the day, but once the light is turned on at dusk, the perforated panels undergo a transformation and look like transparent plastic film.

What is more, the rays of light from the lamps and neons shift and form a diversity of patterns in real time as various data from sensors detecting noises and winds are processed by the computer. The tower is a visual version of environmental music embodying urban rhythms.

The second example is a project called „Sendai Mediatheque" which is currently in planning phase. The project attempts to create an architectural complex that contains libraries, art galleries, audio-visual centers, and facilities for people with hearing and visual impairment. An open competition was held at the beginning of last year, and the selection committee chaired by Arata Isozaki adopted my proposal. The basic design has just been completed.

The project revolves around two main themes. One is the question of what a space should be like for people to feel comfortable when the two types of bodies I talked about earlier are combined. And the other is the concept and the form of a new library and art gallery in a society where new media technology is overwhelming.

My solution for the first question is a very simple space structured by 12 tubular columns and seven plates. It resembles the „Domino" system of Le Corbusier that can accommodate any type of functions, but the most distinctive feature lies in the use of 12 trunk-like tubes.

Each tube is made of fine steel pipes and looks like an elongated bamboo basket; it is a composite structure of H.P. shells. Inside the structure are housed the vertical transportation means (stairways, elevators), air conditioning ducts and various energy supply systems. But half the space is void, allowing for a natural flow of sky light from above and of air from underneath. The structure has organic functions like a tree trunk, or a human body. The tubes are flexible and can be of different diameters and shapes depending on the requirements of the functions inside. The seven plates are thin and strong slabs made of sandwiched steel panels, each measuring 50m to each side.

They are all of the same shape, but are capable of storing or transmitting different data in different parts. They are like floppy disks. People will stroll in the man-made wood, finding books to read and interacting with computers.

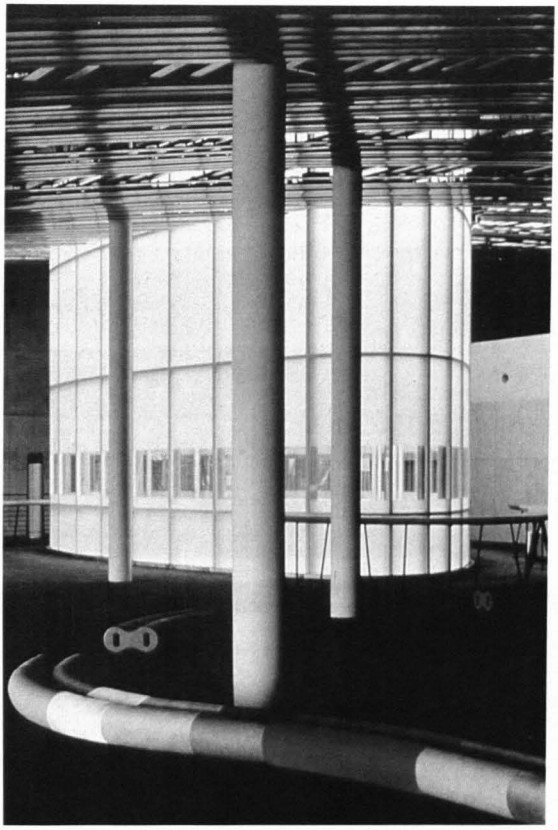
As for the second theme, all the floors in the complex are planned as medias-mix spaces. The complex as a whole combines the functions of a library as well as an art gallery.

One finds books, CDs and computers distributed everywhere inside the complex and allows access to old types of media such as books and movies, and at the same time equally allows access to a wide range of new media such as CDs and computers.

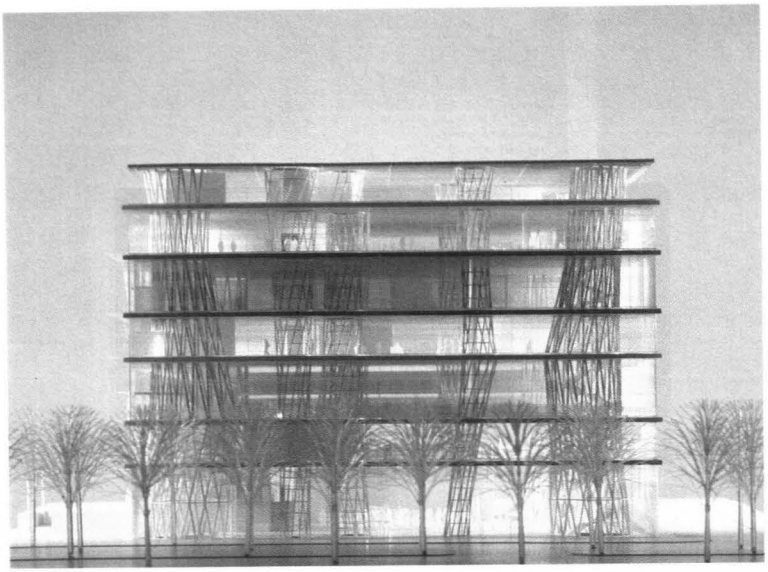
It seems an insoluble task to finalize the basic program for the facility that introduces new media. We spent the whole last year discussing the issue with citizens and experts without reaching a satisfactory solution to all the parties.

The complex is scheduled for completion in the beginning of the year 2000, but we think the discussion will have to continue till then. A public building incorporating the latest electronic technology and run by a new program must, I believe, be able to change with time instead of being bound by any definite archetype. As our physical body is born in water and is eventually reduced to water, architecture that emerges from the flow of electrons will probably be fused into the seas of information.

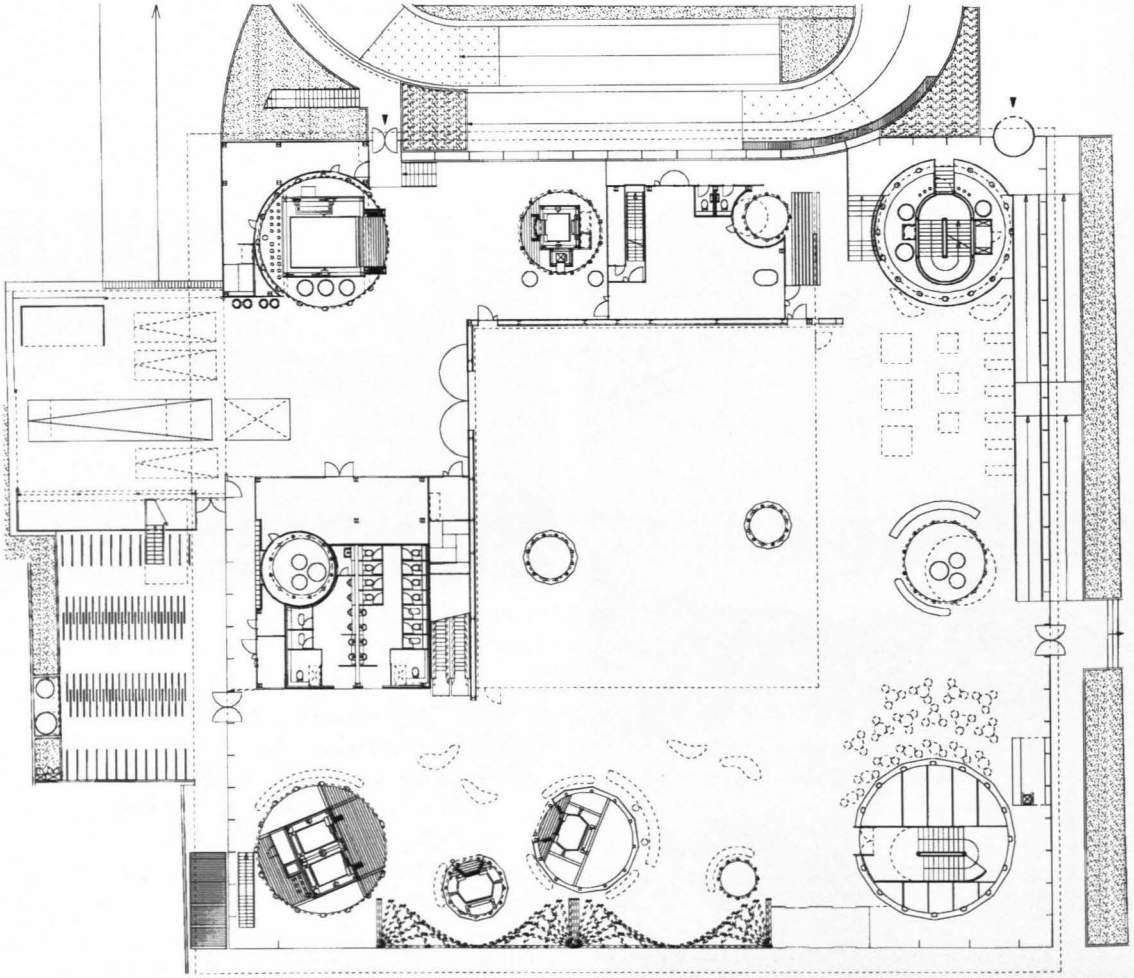
Verfasser:
M. A. Toyô Itô, Architekt
Tokio



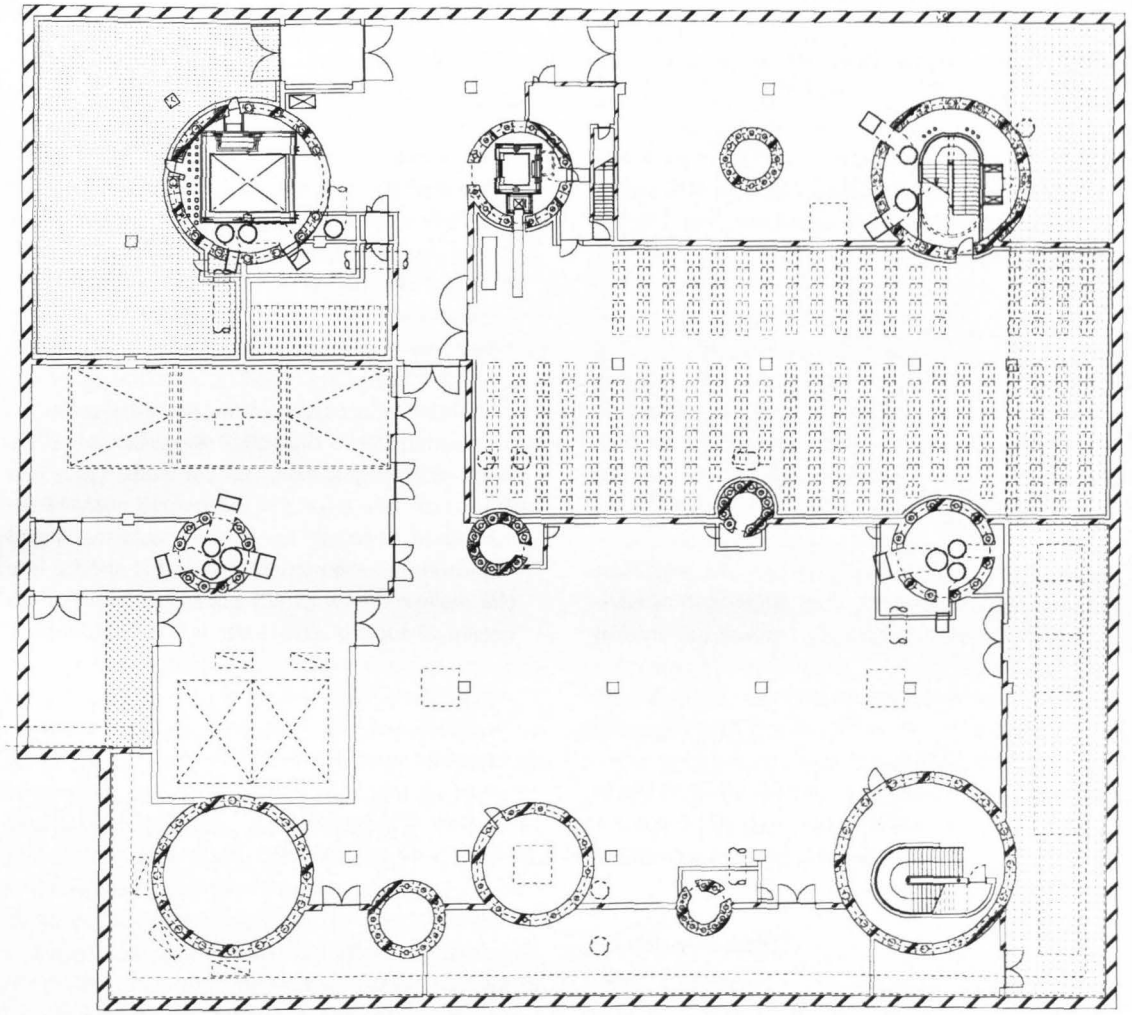
1-4| Lyrik Hall, Nagaoka, Japan (Fotos by Naoya Hatakeyama)



5| Mediatheque in Sendai, Japan



6| Mediatheque in Sendai, Japan, Entrance Space



7 *Mediatheque in Sendai, Japan, Stacks, Machinery, second floor*