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The Garden of Microchips

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TOYO ITO: THE GARDEN OF MICROCHIPS

The following is excerpted from Toyo Ito, "The Visual Image of the Microelectronic Age," first published in The Japan Architect, JA Library 2, 1993.

It is easy to point out the violence done by technology and the confusion wrought by the overlapping of heterogeneous systems in Tokyo today. However, I believe it is far more meaningful to search for new ways to make today's urban space attractive than to bemoan the wretched condition of Tokyo, indulging in nostalgia for the garden city of the past.

Tokyo has lost much of the dynamic flow of greenery and water that the old city of Edo possessed. This loss has been in inverse proportion to the increase in the flow of man-made things. In central Tokyo numerous transportation networks are stacked one on top of the other, from a level several tens of meters below ground to up in the air. Each layer has an extremely complex horizontal network of its own, and these layers are linked by vertical transportation systems. Throughout the city there are spaces in which networks are layered in a way that would have been unimaginable in the Edo period.

People and cars are not the only moving objects. The flow of diverse forms of energy and information has increased at a tremendous rate, and indeed the flow of such invisible things is beginning to dominate urban space. Yet, we cannot conjure up an image of an information space because information does not give rise to a physical network. One only needs a terminal to retrieve information.

Urban space inevitably becomes phenomenal as the flow of electronic things, including information, increases. A phenomenal city of lights, sounds, and images is superimposed on the tangible urban space of buildings and civil engineering works. This city as phenomena takes many different guises, from spaces created directly by lights and images to abstract spaces woven from signs that fall into the category of the media. In any event the city as phenomena is a space of ephemeral effects born of the invisible electronic flow. It does not express itself in form. The phenomenal city alters the surface of the tangible city into a city of lights,

sounds, and images — a city of illusion enveloped in signs. If the tangible portion of the city were removed, the network of energy and electronic flow that manipulates those illusions would no doubt become apparent. Thus the spaces of the contemporary city are characterized by fluidity, multiple layers, and phenomenality. These also happen to be the characteristics of microchips.

But to call this city a garden of microchips may unduly idealize it. The presence of man-made things introduced in the process of modernization is oppressive. Like archaeologists excavating a ruin, we must now dig up the subtle network of flow that Edo possessed — the network was erased when various transportation systems that did not take into consideration the existing topography were introduced, when canals were filled in, and huge buildings that disregarded the flow of nature were constructed.

Might it not be possible to discover historical ruins and the flow of nature amid the constructs of the machine age and to effect their rebirth, at least as phenomenal space, by superimposing the network of the electronic age? This city will become a true garden of microchips only when the network of new technologies and the basic flow of nature overlap and begin to work together.

What bearing does the development of spaces in the contemporary city into gardens of microchips have on architectural design? Is it possible to translate such phenomenal spaces into actual works of architecture? I have always thought of my architecture as being inseparable from gardens. By that I mean that I have always thought of my architecture itself as being a garden, not that my aim necessarily has been to create an architecture integrated with the landscape. To be sure, in the last several years I have tried to diminish the apparent size of buildings and to establish an active relationship between buildings and exterior space by selectively removing or adding earth. I have found such work very stimulating and believe inserting an artificial "natural" environment between buildings is an effective stratagem in Japanese urban spaces where no context is easily discovered.

When I speak of architecture as a garden, the architecture I am imagining is one that is as fluid and phenomenal as urban space. It is not an architecture whose overall image is made apparent in an instant. The people who experience the architecture connect in their minds the phenomenal spaces to which the different scenes give rise, and it is only as the sum of such spaces that an overall image emerges. Instead of scenes that are clearly articulated, like rooms in a building, I am trying to create scenes that shift imperceptibly from one to the next, as in a motion picture in which fade-ins and fade-outs are repeated.

An architecture that involves such temporal sequences is not so much visual as aural. The space is close to being a space of sounds — a space in which countless sounds are afloat. These sounds of course are not the randomly transmitted sounds typical of urban noise. They are selected so that they enter into relationships, yet the whole is not governed by one form as it is in classical music or a Japanese tour-style garden. The people who experience the architecture are free to choose which sounds to connect. A musical space from which a score can be created exists, but as a sequence of sounds in time the score is different for each individual. When I refer to architecture as a garden, I am imagining such an aural space.

However, White U, which was my first attempt to create a work of architecture as a garden, did possess a space similar to that of a tour-style garden. A garden of light was created between two walls curved to form a U. A space of variegated light was produced by introducing natural light from the top and the side of this pure white tubular form. The phenomenon of light was used to give birth to a space that flows and eddies. People within the space may linger here and there, but they have no choice with respect to their path. They can only circle the central courtyard. The space is powerful because the scheme is clear and simple, but like a tour-style garden it is a world that is complete in itself.

The recently completed ITM Building in Matsuyama might also be called a garden of light. Whereas the space of White U is enclosed in concrete, in this project a space filled with soft light has been created by means of translucent glass on which

a film has been applied to control the amount of light. The various architectural elements arranged within this volume of soft light are loosely related like sounds that drift in the air, and they suggest horizontal and vertical extensions.

Though the horizontal and vertical relationships are maintained, *up* and *down* have practically no meaning here. Architectural features that derive their significance from their relationship to gravity — floors, walls, and ceilings — have disappeared. If this space were flipped 180 degrees, its meaning would change very little. Architectural elements like slabs, stairs, and partitions are designed with translucent panels so that light will penetrate everywhere. Not bound by gravity, people stroll through this new garden of light, free to select sounds (i.e., architectural elements) and put together their own scores.

If White U and the ITM Building in Matsuyama are gardens of light, then Silver Hut and the Yatsushiro Municipal Museum are gardens of wind. In these two projects the roofs are composed of a series of thin, lightweight vaults of steel-frame truss supported on freestanding columns, around which are open spaces. The spaces are a garden through which air flows as in the woods. In the case of Yatsushiro, there is a continual change of scene: from the curved bridge built over the green berm, to the space under the vaults that affords a hilltop view, to the exhibition space whose supports suggest a grove of trees growing randomly, to the open-air exhibition area that offers a space completely different in character from the main approach to the museum. This building is ostensibly a museum, yet a garden that includes both outdoor and indoor spaces has been created above the exhibition space. Visitors sense the air flowing and eddying. They stroll and linger, weaving a garden of wind. I began to take an interest in electronic phenomena with the Tower of Winds in Yokohama in 1986. That project is not truly a work of architecture, but it anticipated a series of works in which lights and images are used. The intention was to extract the flow of air (wind) and noise (sound) from the general flow of things in the environment of the project and to transform them into light signals,

i.e., visual information. Simply put, it was an attempt to convert the environment into information.

How can information be converted into an environment in order to create an architecture that is a garden of microchips? An act of architecture represents the creation of a new environment that is both physical and phenomenal through the introduction of information into an existing environment.

Architecture becomes a device for both the transmission and the retention of information. Rather than being an assertive physical form, architecture ought to be a device for producing a phenomenal form, that is, an environment.

In the project for a library at the University of Paris, the goal was to make architecture a device for controlling the environment. First a large oval place (center) was established in an open area surrounded by three buildings. This place is a center of information that will join the three buildings and convert what has been a negative space into a positive space. Specifically, it is a space whose main function is to serve as the reading area for the library; that is, it is a device for the retention and transmission of information as well as a domain of highly concentrated information, serving as a center of communication for students and faculty. Next, two layers of striped slabs were introduced in this oval space. These are not only floor and roof elements but also environmental control devices for regulating light, sound, and heat. It is by means of these two layers of horizontally arranged louvers that a pleasant, artificially controlled place for reading is created inside the oval. These louvers allow light and air to pass in controlled amounts. The two layers of slabs are intended not to separate the outdoors from the indoors but to produce an outdoorlike environment that is more comfortable than the outdoors. Thus the concept of a facade is irrelevant to this building. The outdoors and the indoors are given equal weight in this project; although separated by glass, visitors feel them as one continuous space. On the one hand, this is a device for the retention and transmission of information, a place that the electronic flow eddies; on the other hand, it is a filtering device for light, heat (air), and sound, a place where

the natural flow undergoes conversion. These two aspects of the project are represented respectively by the oval and the stripes, which are superimposed to form a layered space. This project is the realization in architecture of a garden of microchips in that it is characterized by fluidity, multiple layers, and phenomenality. Moreover, these attributes are embodied in architectural elements, namely the slabs and screens.

In any case, visualizing an image for the microelectronic age is a task consistent with trying to achieve a garden of microchips. It is an attempt to create an electronic eddy in the electronic flow, that is, an attempt to give rise to a place of information where in the past there was a *genius loci*.

Toyo Ito is an architect in Tokyo.

Top and middle: Toyo Ito, ITM Building, Matsuyama, Japan, 1993; bottom: Toyo Ito, White U, Nakano, Tokyo, 1976. Photos of ITM Building: Naoya Hatakeyama.

