

FIBERCITY AS A PARADIGM SHIFT OF URBAN DESIGN

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Fibercity is a proposal aiming at a paradigm shift of urban planning and architectural design away from their modernist thinking. Although many criticisms and proposals have been made against the modernism of the early 20th century, it has still been held as the major principle in society and economy, as well as in the field of art. It is still convincing that the role of modernism has not yet been fulfilled since the idea of freedom or equality which formed the basis of modernism has not yet been realized in a perfect manner in the world. However, environmental problems, the decrease of population in some countries, and the credit crunch of the last year have aroused mistrust in the concept of growth which has been the backbone of modernism. It is my understanding that modernism cannot resolve all of the problems in the 'real world' with only partial fine-tuning.

A. SHRINKAGE APPEARS IN THE LIMELIGHT

I understand shrinkage as a central feature in contemporary social issues.

I will show two representative phenomena of shrinkage. One is the decrease in population and the other is the environmental issue.

In the example of Japan, the population makeup will undergo a long-term change, due to a low birthrate and the ensuing population decline, as well as the increased life-expectancy simultaneously creating an aging population. As a result, by the year 2055, the population will decrease to three-quarters of what it is today, and the population of elderly will grow twofold to make up 40% of the total population. This situation is expected to continue for some time. The change in the population makeup will bring about the shrinkage of a large part of the city's activities as well as a decline in production capacity, which will directly influence pensions and the workforce. If the population shrinks, not only will there be an excess of housing, but an excess of city infrastructure as well, which will, over time, become inferior stock. In this way, Japanese cities will bear the brunt of the change in population makeup.

Population decline is evident not only in Japan but in much of the developed world; one-third of the world's countries are said to not meet the birthrate necessary to sustain their populations.

The decrease in population is therefore a global issue, rather than a local one. This is because declining birthrates are often associated with a rise in living standards, which in turn may result in longer life expectancy and the equal opportunity for social participation by both sexes. In short, it is possible to observe that there is a zero-sum game phenomena that the more satisfaction in self-realization there is, the lower the birth-rate becomes.

Environmental problems—another cause of shrinkage—has also become more serious over the past years. It has come to be internationally recognized that the global climate will surely change if no valid measures are implemented, and that the advanced countries above all ought to impose rigid regulations about the emission of green house gasses. The origin of environmental problems lies in the facts that there is a limit in the quantity of mineral resources, water and grain that the earth can provide as well as in the capacity of waste that it can absorb and dispose of, and in the demand of the contemporary industries for massive production and consumption.

On top of the rapid rise in living standards, the explosive increase of population in underdeveloped countries adds to the reasons for this miserable situation. The population is decreasing in developed countries, whilst it is still growing in the underdeveloped countries. Thus, while the total population continues to increase, the quantity of usable natural resources per capita continues to decrease. Environmental problems are not limited to the boundaries of one country, but are connected to any place on the globe. Here again, we find that shrinkage and growth appear in relation to each other.

Such linkage also occurs in the metaphysical sphere. Contemporary society has grown much smaller due to progressions in information technology. The popularization of air travel has also decreased distance in time. Thus, uncivilized areas are disappearing and each region is easily and strongly becoming affected by each other, thereby losing the uniqueness which it used to have before. We are facing another example of growth bringing about shrinkage, in this case where the increase in speed results in a decrease in diversity.

The dominance of a small number of principles in the world may bring about an excessive burden on economically weak people. Furthermore, as the problem is generated by global origin, it is difficult to resolve such problems within a small region. This dominance of a small number of principles can be observed even in the appearance of the city – in the reduction of diversity in the city. If we are to admit that each person has a desire to acquire more knowledge and that each person in each region would like to become richer, we must accept that the different regions in the world will inevitably become similar to each other. I would like to attribute the complaint that every city looks alike to the travelers' egoism. However, urban development, promoted universally regardless of the latent capacity of the place, is possible only when the most important principle for designing the living environment in the shrinking age—'to make the best use of existing things'—is neglected. Existing things should include artificial structures as well as topography and climate. When a city is formed by making the best use of existing things, it will surely be unique.

B. NEW CHALLENGES

When "shrinkage" becomes unavoidable and becomes one of the biggest challenges for the city, would we be able to respond to this change within the current concepts of city planning?

If we look back at city planning and management in Japan up til now, it is evident that they are based on the premise of economic growth and massive consumption. The representative reorganisational techniques of city planning, land readjustment system or town redevelopment system, are both based on the premise that the spatial demands of the city are infinite and that land values can be increased by reorganising irrational land uses and city form into rational ones. However, as we enter the age of shrinkage, if there exists only those concepts and technologies based on growth, our cities will be faced with a miserable predicament. A new way of thinking and new forms of technology are necessary in order to overcome the crisis of shrinkage and make it our friend as opposed to our foe.

The second thing that can be said is the idea that old ways of thinking and the products of the past are always incomplete and must therefore be modified—an idea that lies at the basis of modernist thinking—is strong in Japan. On top of this, because Japan has always been at the periphery of the major civilization in terms of cultural geopolitics, there is a tendency for the Japanese to view their own culture as inferior. These two tendencies in Japan, progressivism as well as the habit to completely reject herself, has led to the tendency of her citizens as a whole to refute all objects of the past as outdated, refute them, and to move forward towards new values and new structures without hesitation. As a result, Japan has been a country of massive environmental consumption, with the average life span of her buildings at only 30 to 40 years.

The Japanese thus became a people of enterprise, and this contributed greatly to the country's economic development. The scrap and build mode of development answered well to the demands of the immense population and rapid growth of the postwar period. However, it is evident that this mentality will not work in the age of shrinkage nor in the age of environmental concerns. In the age of shrinkage, it is necessary to develop a concept of "smart shrinkage" with a focus on how best to shrink the vessel of the city to fit the shrinking activities within it. The best option against population shrinkage and the reduction of usable energies is to make the scale of the city more compact and efficient. The major task of "smart shrinkage" is to develop how compactness can be realised and to what degree it should be realised in order to create efficiency as well as maintain the city's vitality.

While the management of growth involved managing the tyranny of the free economy, in "smart shrinkage" the issue will become how to minimize negative impacts on the inhabitants during the reorganisation process. During growth, even without much effort, shares were able to trickle down to the weaker demographic through various routes. However, because overall activity will decrease in the age of shrinkage, the weaker population will bear the brunt of this change. Thus, we must be even more conscious than we were in the period of growth towards the creation of a system which involves aid to the socially

weak. If this is not done, the reorganisation of the city itself will come to a standstill, and as a result society itself will become greatly inefficient and lose its vitality.

The basis of environmental design in the age of shrinkage is economic efficiency in the truest sense of this word. While land prices will decrease and city development will become easier on the one hand, because we cannot count on demands to meet this investment in city development, tax revenue as well as corporate revenue will also inevitably decrease. The design principle that stems from this is to “make the best use of existing things.” What is important is that this principle not only aims at economic efficiency, but also aspires to foster respect towards the existing physical environment in the city, to inherit these structures and thereby maintain a cultural continuity of traditions, and at the same time, to cultivate the uniqueness of a place. Thus, it is a way of thinking that is directly opposed to that of modernistic thought, characterised as it was by a revolutionary attitude towards clearing the slate of the past.

This is, therefore, a paradigm shift.

C. FIBERCITY AS A NEW CITY PLANNING PARADIGM

Our proposal for fibercity was thus developed towards the abovementioned new goals. The following are some of the characteristics of fibercity:

1. [Subject Cities] Fibercity provides theories and strategies for intervention in an existing city, and is not a proposal for creating a new city on a tabula rasa. The subject of this proposal is the urbanized area, because the reorganisation of the urbanized area is the basis of “smart shrinkage.” However, the term “urbanized area” should be taken as signifying the suburbs and neighboring agricultural/rural districts as well.
2. [Attitude Towards History and Creation] The basic strategy of fibercity is to make use of existing things and to create new value as well as something progressive and new from this. This kind of act can be likened more to editing than to invention.
3. [Attitude Towards the Future and Technology] Physical shrinkage does not mean retrogressive thinking. The use of the latest technology and support are necessary in order to gain the most effect from the small amount of available investment and energy.
4. [Scale of Planning] We aim at an overall strategy towards the city, focusing on various linear factors from the scale of architecture in the city to the scale of civil engineering.
5. [Purpose of Strategies 1] Linear intervention is a strategy that aims at the maximum possible effect from the least amount of necessary investment and destruction.
6. [Purpose of Strategies 2] Linear intervention is used in order not to thoughtlessly sever the character of the subject region, especially in terms of its historic continuity.
7. [Relationship Between Planning Scales] The linear factors can at times create a network, and at other times, will exist dispersed throughout the city.
8. [The Whole and the Part 1] Because the subject of this proposal is the already urbanized area, the overall image of the city cannot be immediately fixed. The city will continue to grow and change over time. Thus, the overall form will be protean and ambiguous, but at the same time, will exist in a dynamic environment of change. On the other hand, the part, while receiving the influence of the whole will be dispersed as autonomous forms.
9. [The Whole and the Part 2] Various subsystems are necessary in order to support the city. In the age of shrinkage, small systems are especially important. The keywords for smaller systems are user-friendly technology, state-of-the-art technology, and weaker energy.
