

LOOKING FORWARD TO ARCHITECTURE OF THE NEW MILLENNIUM¹

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In *Dao De Jing*, a classical Chinese Treatise, Lao Zi said that "Retrospect propels one on the way to truth". In other words, a deep look into history helps us to come to terms with the present and motivates us towards the future. Today, we are on the threshold of a new Century and a new Millennium. The profound changes that have occurred during the present Millennium inspires an awesome feeling in me. Let us review the development of architecture in the past century, so that we can obtain a clear idea of the past and present to recognize the road ahead. This is the mission of our Congress. Undoubtedly, an honorable as well as an arduous task.

1. AN OUTSTANDING CENTURY OF ARCHITECTURE .

The 20th century has been a magnificent age of development in human history. Architecture has played its role in a significant way. With the great wealth that has been generated by industrialization and with new building technologies and techniques, a great number of outstanding architectural works have been created. In both peace time and postwar constructions, architects have served the people and made great achievements of lasting significance.

1.1 Achievements

1.1.1 Architecture

The 20th century has seen the development of new techniques, materials and equipment. Catering to modern needs, new types of architecture have been created. The 20th century has seen architectural masters emerging in waves of succession. Creative and responsive to everything new, they have flourished in their times and brought splendor to the world. The 20th century has seen architectural masterpieces leaving milestones one after another throughout the world.

1.1.2 Urbanization

The city presents the evolution and synthesis of human culture - the highest expression of comprehensive functions and technologies. People gather in the cities to develop science and culture, improve productivity and better their lives. However, during the 19th century, cities have also become the scene of social disorder. The 20th century has nevertheless seen the brightest light of cosmopolitan life in human history. Today urban populations are growing three times faster than the world population. By the end of the century, more than half of the world's people will be living in cities.

1.2 Conceptual Advance

Modern architecture, urban planning and landscape architecture all developed their identity at the

¹ The text first was presented as keynote speech at the XX UIA Congress, Beijing 1999 and published in the proceedings of that congress.

beginning of the century.² Numerous schools of architectural thought continue to emerge with dynamic concepts and highly divergent theories that form a stimulating intellectual firmness.

In the 20th century, the Modernist movement emerged to reflect not only the emerging scientific outlook, but also the modern arts. During the first half of the century, it was allied to an era of great change.

Historically, subjective judgment has been the leading factor in architectural design and town planning. In the 20th century, however, it began to be replaced by scientific methods and rational thought. Functionalism challenged the existing classical school in architecture and urbanism. Although its flaws and limitations have been exposed, its contributions are undeniable.

Catering to contemporary social needs, the 20th century architects have developed their rational faculties in design writing and research, representing the scientific progress of our time. This has been accompanied by a continuous and significant modification of methodology and outlook. For example, *A History of Architecture* first published in 1896 has undergone continuous adaptation and expansion to the present 20th edition. Such achievements are exemplified in the tremendous volumes entitled *20 Century world Architecture: A Critical Mosaic*. Here may I congratulate Zhang Qinnan, Professor Kenneth Frampton and their colleagues for their most remarkable effort to complete the ten volumes for the occasion of the XX UIA Congress.

2. APPARENT CRISES

The world is far from utopia. Regional warfare and ecological blunders are impinging on the natural and built-environment alike, bringing the human existence to the brink of crisis.

2.1 Crises in Architecture of the late 20th Century

With the world population explosion, deforestation and farmland erosion, the environment is deteriorating day by day. What should architects do, through the construction of human settlements, to contribute to a sustainable future?

In the next century, urban population will for the first time exceed the rural population, leading to a genuine "urban age".³ However, advanced cities are both highly accomplished and highly problematic: unprecedented traffic and poor housing are becoming more and more serious. How do we cope with these urban problems? Are traditional architectural ideas still applicable to these modern trends of urban development?

The constructive and destructive powers of technology have increased simultaneously. Technology has changed human life and its relationship to nature. How do we make use of this "double-edged sword" to serve mankind?

The globalization of technology and production has alienated people from their traditional space. As regional culture fades into obscurity, standardized production has resulted in monotonous architectural environments and featureless designs. How do architects face these trends? How do we bring the soul of culture back to our cities and towns?

Clearly, there are educational and professional "crises" in our field.

The word crisis often used to mean "political crisis" or "economic crisis" is now being used to mean "environmental crisis" and "identity crisis". It is along with other critical issues for human society today. These are not alarmist cries, but they do reflect the seriousness of our present architectural *malaise* and the urgent need to seek solutions.

2.2 Assessing the Crises

Scanning the architectural scene indicates the following:

Firstly, architectural theories are in a state of inadequacy. They are not coping well with today's ever changing and complex situation. Conventional architectural theory and practice no longer satisfies our needs. New theories are emerging in rapid succession, which are eye dazzling, but in reality they just as mud reflect

² The American Society of Landscape was set up in 1900, and in the same year the First school for landscape architects was established at Harvard University.

³ World Commission on Environment and Development, 1987, *Our Common Future: The Challenge of Cities*.

confusion in both ideological and artistic concepts. Just as one critic has stated: "We simply cannot afford another century in which the tastes of the public and those of its aesthetic commentators are as dramatically divergent as they have been during the years of modernism".

Secondly, one model cannot solve all problems. In the European and the subsequent Euro-American dominated era, modern architecture has had a tremendous impetus resulting in great achievements. At the same time, we cannot underestimate the influence of "consumer democracy" on architecture, represented in most industrial countries by cars, skyscrapers, and sprawling suburbia; nor can we underestimate the influence of the popular real estate commerce throughout the world. These have created the illusion among laymen and professionals who believe the "symbols of modernity" are the only routes to modernization.

For historical reasons, developing countries lag behind industrial countries by one hundred years or more and have many special problems. Developing countries should explore their own path of development, learning from their own mistakes according to their own conditions, rather than copying models of the industrialized nations, their values and standards. In short, we cannot approach all problems with one method, nor should we expect that the complicated problem of human settlements can be solved purely by technological means. For instance, in China the dense urban areas along the coast are very different from that of the northwest and southwest regions in terms of economic, geographic -and cultural conditions. They all require different solutions to their unique problems. So it is in Asia, as in the rest of the world.

Thirdly, architectural construction is generally costly, resource consuming and has lasting long-term effects. Therefore, we must consider both local and overall, present and future, individual and social gains. We must not pursue short-term profit which creates long-term potential harm. The present environmental crisis is too often a result of such practices, and we are suffering all kinds of damaging consequences. Our cities, societies and nations have paid a heavy price for this. Looking back to the 20th century, we should not just focus on the architectural sparkling gems which have been created while forgetting the costly lessons of the past.

3. ROADMAP TO THE NEXT CENTURY

We must face the reality that architecture has come to a crossroad in its development. Back in 1993, at the 18th UIA Congress in Chicago, and even earlier, this issue was raised by prophetic voices. By coming to a crossroad, we mean we are facing confusion and do not have a clear orientation for the next century. But this does not mean that the future is completely unknowable. Problems do not necessitate chaos. We should be aware of the valuable ideas and thoughts that have emerged at the turn of the century.

At the present crossroad, we should try to do our best in clarifying our orientation and avoiding wrong directions. We should be encouraged to advance and to work hard with prudent optimism.

3.1 Environmental Awareness

Facing the world environmental crises, the population explosion, blind exploitation and squander of natural resources and environmental deterioration, people have gradually realized the importance of Our Common Future, and the strategy of sustainable development, which can be traced to the World Commission on Environment and Development's 1987 Report, and the UN's Environment and Development Conference in Rio de Janeiro in 1992. Of course, pioneer architects and thinkers had made earlier studies of these issues even before this.

Today sustainable development has been implemented in various fields and has achieved encouraging results. Architects have a better understanding of Nature and ecological design has changed the concept of how we make use of irreplaceable resources in the ecological system and biosphere. With this understanding, we should exert the minimum of non-renewable resources to achieve maximum benefits. For example, by taking advantage of the inexhaustible supply of solar energy or by making full use of passive natural ventilation. We should make further studies of vernacular buildings which conform to the principle of passive energy saving, and reinterpret them.

Of course, this is only the beginning of the change towards sustainable development.

3.2 Awakening Regionalism

Under the strong global economic and cultural impact, the 20th century has seen a reduction of diversity in traditional cultures, an erosion of regional identity and consequently a loss of the visual anchors to the soul

of the towns and cities.

At the same time, the 20th century has also seen a regionally rooted architectural blossoming which has contributed to the richness of world architectural culture. Early in this century, accomplished architects from various countries went to North America to make their careers, including Saarinen in an earlier time and Gropius and Mies Van der Rohe in the postwar era. The new country had a lasting influence on their work. Some American architects including Wright went to Asia to receive the nurture of oriental culture, returning to create his own Usonian architecture. Concomitantly, some architects from Asia went to the West to study, and returned to their respective countries to exercise their talents, e.g., Japan's F. Maki, India's C. Correa, and China's Lu Yanzhi, Liang Sicheng, etc. All this indicates that different cultures can be absorbed to become ingredients of new regional cultures. At the same time, the masterpieces of their work also indicate that they were not isolated from their environment. The world is therefore a large garden where the blossoms may cross-fertilize to create new varieties of their time.

Thus we are realizing that globalization and regionalization are like two sides of a coin and thus are inseparable. One cannot deny the existence of the other without negative effects. Under different circumstances, the weight of globalization and localization will be different.

Various centers of architectural culture have appeared in the world with a large poly-professional talent and in some cases hyper urban development. They have an important role in stimulating and improving the architectural culture of the world. In this perspective, achievements in developing countries and regions should not be underestimated. I would like to give two examples. First, from the introductory papers on regional architectures in *20 Century World Architecture: a Critical Mosaic*, we can see colorful regional features and contributions, even under the prevalence of internationalism. Second, from the Student Design Competition held months before by UIA, we can see creative and promising work that takes full consideration of regional conditions. Asian and Latin American students appear more active. The judges especially affirmed the future significance of a regional architecture.

Valuing the existence of a global-regional architecture, we should take it as the essence of architecture and the future direction of architectural designs. Some experts call it "glocal architecture"⁴ and I agree. We should preserve regional diversity as we preserve bio-diversity. Today, many countries are seeking development under the painful suffering of financial storms, wars and social chaos. Thus we should all the more evaluate the cultural achievements of this century, accumulate mankind's wisdom without any prejudices, and explore new roads at the turn of the century.

3.3 Issues of Methodology

In the first half of the 20th century, our predecessor W. Gropius already pointed out that: "My idea of the architect as a coordinator, whose business is to unify various formal, technical, social and economic problems that arise in connection with buildings. I believe that new architecture is to dominate a far more comprehensive sphere than building means today. And from the investigation of the details, we shall advance towards an ever-wider and profounder conception of design as one great cognate whole."⁵

From my personal experience in China in the early 1980's, faced with the desolate and neglected conditions in architecture after great social chaos, I painfully realized the inadequacy of conventional architecture in satisfying the present situation, and began to develop ideas that integrates different components of architecture.⁶ In recent years, we have carried out several major research projects including the research into the "Development and Conservation of the Building Environment of the Yangtze River Delta Region amid Rapid Urbanization," which have integrated many disciplines including economics, sociology, ecology, environment, urban planning, architecture, landscape etc., in a working team consisting of some one hundred people. The research has systematically studied different topics related to cities, towns and villages, e.g., rural housing development, eco-sensitive areas among others. This approach enables us to synthesize the latest achievements in different academic and professional fields as an organic whole in a broader and more in depth manner. As a result of the research, we have concluded that the development options in the Yangtze River Delta should be explored from the perspective of an integrated regional strategy

⁴ Koichi Nagashima, *Glocal Approach Towards Architecture of the Future*, UIA Work Programme: Architecture of the Future, 1988.

⁵ W. Gropius, *The Architecture and the Bauhaus of 1935*.

⁶ Wu Liangyong, *A General Theory of Architecture*, Tsinghua University Press, Beijing 1989.

for the entire region, and architectural and urban designs were proposed with in mind the development strategies of the whole region. Today, facing the new century and millennium, I find it is increasingly important for us to adopt the approach to integral architecture.

The development of architecture is based both in depth on analysis and on integration. At present, it appears that people pay much more attention to the former than to the latter. Integral architecture doesn't mean that architects should be omniscient experts or Jack of all trades; it advocates a concept of methodology and a holistic way of thinking. We should overview our understanding with a broad world-view - both for solving practical problems and developing theories. Going back to the essence of architectural creation in the past especially in this century, we should take its précis as the starting point for an architecture for the new century. This integration is not a simple exercise of collection and storage, but is a process of sifting and extraction. A systematic framework of knowledge can inspire a new wave of architectural creativity in the new century.

4. TOWARDS AN INTEGRAL ARCHITECTURE

No doubt, architecture should emphasize form. However, faced with numerous different architectural styles and schools of thought, we should first restudy the' very nature of architecture. Only by considering the historical, social, economic and cultural background, employing modern materials and techniques, adopting our own understanding and our own language, can we produce original architecture. In other words, we must not be preoccupied with narrow-minded design "techniques," "styles" and "isms." Rather, we should synthesize both international and regional architecture - combining rational thinking with artistic creativity in architecture.

4.1 A Rational Framework

First, by returning to fundamental principles, the basic principles and knowledge framework of architecture in the future must be restructured by extending and deepening the academic and professional realms of architecture.

Second, by integrating architecture, landscape and city planning, integral architecture, as a discipline, means the integration of the paths of architecture, landscape and city planning into a whole through the core of urban design. This enables architects to seek answers to their design projects in a broader context. With this general framework, architecture can be developed into "city architecture," "regional architecture," where architecture and city can be viewed from a regional cultural perspective - the built environment which can be integrated into the natural landscape. Moreover, architects can also free themselves from the ego of "self expression" thereby channeling due respect to the land, nature and society.

Third, we should view human settlement development as a cyclic yet continuous process. Planning and design of new buildings and urban settlements should be considered in the context of their day to day use, maintenance, conservation, rehabilitation and renewal. In this way, sustainable development in architecture and urban settlement can start to be implemented in practice.

Fourth, in building a multi-level technological system, we should expand our scope to cover the relative fields including psychology. Due to great differences in local situations, technological levels and divergent cultural backgrounds in different regions, every design should be based on specific conditions, selecting suitable techniques - high-tech, intermediate and low-tech, appropriate-tech, etc., to seek particular ways of integration.

Fifth, in creating harmonious but divergent architectural cultures, there is a need for trans-culture studies on world architecture in order to learn all of the valuable experiences from different cultures. With the assimilation of local features, the conservation of regional cultures becomes a yet urgent task. It is important to understand the local architectural traditions comprehensively and the ultimate goal is to foster a new regional culture for the future. In short, "Regionalizing the modern and modernizing the vernacular"⁷ are actually two ways leading to the same end, promoting development and diversity.

Sixth, in carrying out multi-component professional education in architecture, we should enlarge the students' scope of vision, set up a broad and open knowledge system in which science and arts are combined.

⁷ Wu Liangyong, *Modernising the Vernacular and Regionalising the Modern*. Huazhong Architecture, 1998 (1).

In addition, education in architecture should not be restricted to professionals; we should extend the education to the whole society.

Seventh, integration into the society views the responsibility of architects, as members of society, to be duty-bound to take the whole society as their most important client and help society to provide shelter for all.

In short, the scientific nature of architecture requires rational thinking. However, as an art form, architecture must also provide artistic inspiration in design and construction.

4.2 Inspired Formal Design

The dialectical relation between architecture and the world lies in the creation of meanings and forms of architectural space. Architecture should work to incorporate social, economic and technical factors, to create suitable urban forms and spaces for the human habitat.

4.2.1 A Visual Order out of Chaos

We must strengthen the visual integrity of the built environment. We should not neglect the visual order: without it human beings will be in a state of disorientation. "The question" is how to achieve order? In our age there is no place for any authoritarian ruler to impose a universal order. However, with our rapidly changing times, it is nevertheless important to exercise control on many aspects of the environment. Architects can only seek adaptability in the physical structures of cities and countries by defining the relatively permanent elements. We should break down the giant agglomerations to a more humane scale, thereby creating a new order according to a more humanly related smaller scale--system, such as community. With each smaller component, not only is rationality achieved but with it the form of the overall feature of the city and its architecture.

As a complex mega-system, cities without planning and design will result in a complete cacophony. In the past, cities were appraised as "great piece of art." The secret of these cities lay both in their order and variety. In the classical Chinese, beauty means "the unity of variety." Within the great cities of our time, variety is everywhere noticeable, but often at the expense of a greater spatial and temporal order.

4.2.2 Fitting Buildings and Cities in a Green Landscape

The relationship between architecture and nature is both an old and a new topic. The combination of the architectures of man with that of nature, which E. Saarinen saw in the western tradition, is also the fundamental planning principle of the Chinese cities in history. Planners and designers all over the world have in their various ways expressed their appreciation of site study and the architectural and environmental configurations as essential parts of city/settlement planning and garden design. Micro-climate, ventilation, sunlight are factors that were carefully considered in addition to aesthetic consideration of individual building forms.

Modern urban design should learn from this past tradition. The concentration of population has made cities more compact. Therefore, creating a livable urban environment by providing more open spaces - especially the green spaces between large cities, through urban design becomes more important. In this way, built-up areas can be separated by green spaces and cities can merge into the green landscape.

Modern architectural projects have larger scales and shorter building periods, which raises higher demands and greater possibilities for the integration of architecture, the landscape and the city. It is urgent for architects to design a total environmental image through this three-in-one principle which enhances the possibilities to create new forms.

4.2.3 Rediscovering Sense of the Place

In cities all over the world, there are always places which attract people to gather and linger. Squares, streets and alley ways in the city, as well as scenic spots in the countryside often take generations to establish their character as anchors of cultural and spiritual existence of the inhabitants, which is named "genius loci", or in Chinese terms "the artistic intention of a place," or "place of resonance." We should carefully preserve historic sites and creatively integrate them into modern development: the Chenghuang Temple area in Shanghai and the Confucianism Temple area in Nanjing are good examples in China. New area developments should make a concerted effort to create these "places".

The formation of and development of the "genius loci" is an "unfinished symphony," and its every note presents a part of the entire harmonic fabric. Within its historic context accompanied by its dominant

characteristics, "genius loci" can be said to be the soul of the city.

4.2.4 Towards a New Philosophy of Architecture for the Built Environment

Based on the above thinking, a theory of integral architecture has been developed which shares many basic ideas of "organic architecture," "regional architecture" and the "new picturesque" among others.

Modern architectural theories are so wide-ranging that no one can easily summarize them. We should seek common elements, complement and re-conciliate eastern and western architectural cultures through understanding and integration, thereby developing solutions according to specific situations. In this way, we can achieve unity-with-diversity and seek order out of chaos. We could thus unite theories like organic unity, organic architecture, organic renewal, organic growth in urban development, organic forms in architecture, etc., all of which conform to the essence of sustainable development.

Integral architecture is not to suggest a new encyclopedia of architecture (which is a valuable thing in and of itself). The point is that we need to look at problems of architecture from an entirely new time-space dimension, to bridge the gaps among the various disciplines. An old Chinese saying says "if thinking thread links up thousand years of history, visions can come thousands of miles." We should base our architecture and city planning practices on sound philosophical thinking.

Here we may draw upon the classical Chinese distinction between Fa and Dao. Fa, or techniques, is important, but only when Dao, or methodology, is right can techniques play their proper roles. Also, a correct methodology may lead to thousands of variations in techniques. These thousands of variations encourage diversity in the creation of cities and architecture on the basis of fundamental principles. Architects should not constrain themselves to chains and fences in the creative process. They should learn from all the different schools, standing high and seeing far - seeking the specific solutions to the specific problems in architecture and cities. This creative concept comes only from an unreserved openness.

5. OUR COMMON MISSION: A BETTER HABITAT AND A BETTER SOCIETY

At the end of the 20th century, people are still longing for a world of order. Such a world cannot exist without a good architectural environment. Good environmental order is a reflection of a good social order.

We are trying our best to build and maintain a good world order. In this century, the two world wars have had a devastating impact. Huge resources and manpower were then spent on rep air and reconstruction. The memories are still fresh for the older generations. Today's world is still not that peaceful, with successive economic and political crises, which are deeply unsettling. How then should we define the role of an architect?

"In modern architecture, harmony comes from the whole society." Unfortunately, this principle has been discarded by a large number of people, and architects have become slaves to consumerism. Should we reject it as a tool for commercial exploitation? Should we accept it as a high aspiration of serving social ideals?

In the rapid process of urbanization in the 20th century, it has taken mankind more than half of a century to realize the importance of the human settlement environment. In 1976, the Vancouver Declaration was issued in UN's Habitat. In 1992, the 21st Century Agenda was issued in UN's Environment and Development Conference in Rio de Janeiro. In 1996, the Istanbul Declaration was issued in UN's Habitat. In the same conference, the resounding aims of "sustainable development for human settlement in the process of urbanization" and "adequate housing for all" were raised. Unfortunately, as the leading discipline among various fields, architecture with its designers and city planners has not played a prominent role in this process. What are the reasons?⁸

For the purpose of the survival of the whole human race, ideals and flagships are needed. A cooperating world, cooperating communities, and a united profession of architects are needed to work together for the global village.

International organizations have played a significant role. Fifty years ago, the UIA was established with the goal of turning the war ruins into a livable habitat. Since then, it has worked to unite architects all over the world.

Together with other organizations, it challenges and confronts the conflicts and problems of the times, striving towards the ideal of "home for all." One can say that this old ideal has traveled through a long,

⁸ Allen Cunningham, *A letter to Prof. Wu Liangyong: Comments to the Beijing Charter*. 14th February 1999.

rugged and tortuous road, and yet we are inspired by the success we have achieved thus far.

We architects are pursuing common dream and aspirations. These conform to the basic principles of human development in harmony with nature. Architectural forms are necessarily numerous and diverse. With the world being as broad as the sea to fish or the sky to birds, it is unnecessary and impossible to constrain oneself within a narrowly defined boundaries. A good architectural environment relies on architects, but also on the support from policy makers, from all members of society. We call on all governments of all countries to encourage and facilitate architectural research and education. These goals were restated in the Montreal Declaration issued by the 17th UIA Congress in 1990.

Finally, may I refer to my personal experience? I began to study architecture in 1940, when World War II was at its height. I noticed then that even in the middle of the war, the Western architectural journals had already begun heated discussions on reconstruction of the war-wrecked cities. In 1955, I attended the 4th Conference in The Hague in the Netherlands as a member of the Chinese Architects Delegation, where I had the honor to walk on the bank of Delft Channel talking to pioneers like Prof. Abercrombie. Later, in different times I received many other pioneers of architecture in China. Most of them have since passed away, but their enlightening ideas and imaginations are still fresh in my memory. Today, I have been commissioned to organize the draft of the "Beijing Charter;" remembering the Chinese proverb "the wood burns while the fire goes on," I feel deeply the responsibility. Seeing the progresses of more than half of a century, seeing the long road ahead and thus potential difficulties to overcome, all sorts of feelings come up to my mind. I cannot help asking myself: "What kind of world should we hand over to our later generations?" It is not only the material world, not only the well-built cities, buildings or gardens. More importantly, we should pass on the age-old ideal to do good to all human beings, and to improve people's lives. Generations of architects - known and unknown - have stored it. We should pass on the experience of both our successes and failures in our careers.

An ideal world should necessarily incorporate an ideal architectural environment. However, an ideal architectural environment depends not only on an architect's professional skills, but also on a noble mind to do good to all human beings. Let's wish the architect's spirit of human aspiration, pursuit of quality, sense of self-improvement and unceasing creation will live on forever! In short, Humanity, Quality, Ability and Creativity!

May the new century prosper!

May architectural careers of creation thrive and bloom!