

ArchiSpacer: Defining Space and Space Configuration

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'ArchiSpacer' is a graphical analysis tool developed on the theory of the configurational analysis of architecture and urban space structure, known as space syntax. It is initiated by breaking down space into units, and is then subsequently represented by mathematical graph notations for calculating relational figures, such as relative connectivity, integration, and other syntactic variables. Varying computer applications based on this configurational analysis have been developed for both research and commercial purposes throughout the world.

ArchiSpacer is a PC-compatible tool used for analyzing space structure, performing the configurational analysis with axial lines and convex spaces in an integrated environment more conveniently and efficiently than other programs. Its core mechanism is that the lines or spaces are transformed into nodes and vertices in order to construct a mathematically computable graph. Once a graph for a given site, (a distance between one node and others), is built, then other calculations may be conducted to measure syntactic variables, such as depth, connectivity, integration, control values, and intelligibility, etc.

ArchiSpacer is a standalone Windows program featuring four major functions. These are : a drawing view to draw objects to represent basic units of space from the real world map, a data view to enable viewing and saving of the results of the analysis as numerical numbers into an excel loadable file format, an analyzing view to graphically reveal the results in a visualized window with color, and a statistical view to show the scatter grams between variables.

The correlation between environmental planning and the place attachment of neighborhoods' residents

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"Place attachment", a sense of adoration to a certain environment, is often used to assess the success of an environmental design. Besides, it is also known as an important drive force to promote the positive characteristics of a neighborhood such as sustainability and vitality. Regarding the influential impact of place attachment to the residential environment, this study is intended to figure out which the main factors of it onto neighborhoods are, and finally to find out the connection between residents' place attachment and environmental planning of a neighborhood.

The study adopts the point of view of environmental psychology as the theoretical fundament to illustrate the environmental cognition of the residents. According to the data from 303 questionnaires taken by this study, factor analysis and CANCORR analysis are carried out.

The essential conclusions of this study are obtained as following. There are five main factors that influence the residents' place attachment, which are "environmental satisfaction", "community participation", "neighborhood relationship", "activity frequency", and "environment experience". And 3 pairs of correlation between place attachment and environmental planning exist. They are "environmental satisfaction" with "quality of outdoor spaces", "relationship in the community" with "community planning", and "community participation" with "facilities". The outcomes of this study can be a meaningful guidance to architects and planners who want to dedicate to a high quality community design.

Characteristics of Viewing Target by Changing Access Corridor In Cheong-Ju, Korea

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In life, the human experience different landscapes in different ways. Further, we are often highly inspired by landscapes and enjoy peace of mind and relaxation. Therefore, landscapes are one of the most universal and accessible human experiences. Deterioration in the environment has become a cause for concern due to the increase in industrial development and growing economics. This has resulted in confused landscaping and haphazard planning. In particular, a major problem is that natural landscapes are destroyed and the visual cover ratio has decreased; visual spaces in an urban district comprise both urban and natural areas together. Among the various situations, when a human being uses a car, which is the most modern social means of transport, the human can experience various types of changes in landscapes while traveling. Such places can be quiet mountain paths or complicated downtowns. The road surrounding a landscape in an existing urban district is often the most troubled area. Because of the surrounding asphalt and concrete, it is difficult to define the sky ratio, since it consists of various landscape elements, and this means mutual imbalance.

In this study, based on this background, the landscape elements of Mt. Uam are analyzed. The symbolic constituent in the structure of the urban landscape and urban district formation is its embossed scale or form aspect from the landscape element.

Evaluation on the Achievement of Area Management in Yokohama Minatomirai21 - Focused on the Basic Agreement System for Town Development

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The construction of Yokohama Minatomirai21 project, planned in 1979 for regeneration of the central business district of Yokohama, started in 1983 and finished in 2006. One of the main characteristics of this project is that Basic Agreement concluded in 1988 has made it possible to create the urban space, that's characteristics are that it is beautiful and exciting. This issue is written to give useful knowledge for planners and designers to make sustainable development by good management of planned area.

This paper describes the conclusion process of the basic agreement, its management by Yokohama Minatomirai21 Corporation and the present conditions of urban space as a result of its control, and tries to evaluate it at this moment. This report has seven components. They are Introduction, Establishment of Yokohama Minatomirai21 Corporation, Conclusion of Yokohama Minatomirai21 Basic Agreement on town development, Scheme of Basic Agreement on Town Development guide plan, standards on color coordination, pedestrian decks, parking space, building sign, disaster prevention and subdivision control, Consultation Matters of Town Development Council Examples of Town Development Council and Conclusion: Evaluation of Basic Agreement.

By accurate application of the basic agreement on town development, the following matters have been realized. They are creation of exciting attractive pedestrian ways, arranged layout of urban functions, development of effective urban design, formation of characteristic skyline, creation of original comfortable space, producing an exciting urban atmosphere, town development with unity and efficiency, formation of excellent district image, improvement of consciousness and participation will for town development, development of promotion by collaboration(from hard to soft), improvement of developers' moral and improvement of districts' status. The members of Council have worked out activities for producing spaces with good considerations. As the result of it, Basic Agreement System has functioned efficiently for healthy development of this area. In the future, Agreement system shall be supported by legal system in some areas, and its management system will be updated for sustainable development.

Comparative Study on Removal Project of Elevated Expressway Between Seoul and Tokyo

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The Cheong Gye Cheon Restoration Project in Seoul is famous for its bold planning concept and rather quick

realization. The elevated expressway and trunk roads on the Cheong Gye Cheon have a heavy traffic volume in the heart of the metropolitan area. There were enormous problems such as structural deterioration, enormous cost for its repair or renewal and poisonous fumes generation in the underground space of the elevated expressway. The project proposal raised a lot of discussions and severe protests especially among shop owners and street vendors who were forced to move to other areas. However, the powerful leadership of the Mayor of Seoul City saw that the project was completed in a shorter period compared to recorded time periods in developed countries. The City Government had more than four thousand meetings for negotiations with citizens and opponents. Centralization of the administrative power surely contributed to its expeditious realization.

On the other hand, the removal project of the elevated expressway over the Nihonbashi in Tokyo is also proposed and many pros and cons have been expressed from every direction. The Cheong Gye Cheon Project was one of the triggers of this Nihonbashi project. Nihonbashi is located in the heart of the Tokyo Metropolitan Area and is designated as National Cultural Property. In addition, it is the origin point of the national road network system. The removal project of the elevated expressway has become a symbol of the new age in infrastructure planning and urban construction philosophy.

This paper studies the contemporary meanings of the Nihonbashi project compared to the case of the Cheong Gye Cheon and clarifies similarities and differences between both projects referring the characteristics of urban planning institutions of their countries.

A Comparative Analysis of Space Structure Characteristics for different Market Areas in new towns

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This study compared spatial characteristics in commercial areas represented in the foundation process of the Ilsan new town according to the period and market area in which the period was classified as the quickening, formative, and stabilization period, and market area was classified as neighborhood, general and central market areas.

Based on the results of the investigation and comparison of space configuration characteristics according to market areas in the Ilsan new town, scopes for the market area in commercial facilities can be proposed as follows:

First, reasonable land use is required to properly distribute land because other services (academy, beauty shop, public bath, and other related services) are lacking during the quickening period in a new town. Second, a complementary plan of the area applied in commercial areas is required in weak areas because wholesale and retail sales and lodging and food are specialized in specific areas. Third, the uniform specialization of most businesses is represented in the stabilization period except for financing and insurance services.

Although the results of the project for a new town in the target year are similar to the original plan, they are overemphasized in the early stages of the project. Therefore, it is necessary to estimate demands and plan appropriately by considering the distribution and formation of commercial facilities in the plans for a new town.

A study on operational conditions and planning notification systems in landscape ordinances -Case study of the wards in Tokyo-

Masako MUROTA/ CPIJ

Tokyo Metropolitan Government has been developing landscape political measures since 1990's, and formulated a landscape plan, a landscape ordinance, and a basic principle, etc. On the one hand, special wards in Tokyo have only limited roles in landscape policies so far, however, they will be able to play more important roles after April 2007, because of the transition in landscape policy of Tokyo. Several wards of Tokyo started landscape political measures since 1990's, and nowadays eight wards made landscape ordinances and operated them. Therefore this paper focused on

operational conditions and problems of the landscape ordinances of these eight wards to clarify the tasks in order to make use of a future landscape policy in local government.

These ordinances have three types of systems, (1) systems for the designation of specific districts and specific resources, (2) systems for landscape formation assistance, and (3) planning notification systems pertaining to specific acts including act of large-scale building.

In conclusion, we found many measures in systems not to be implemented, such as Landscape Agreements, Landscape Specific Implementation Districts, Landscape resources, Designation of Landscape Groups, Award system, and landscape Subsidies. On the other hand, planning notification system for large-scale buildings is operated in all eight wards, and play a key role in landscape ordinances. The contents and their operations are different from each ward. The targeted criteria of buildings is different from each ordinance, and in this research there are three types of notification procedures and three types of notification material types. The notification systems set the targets with elements such as the total floor area of buildings as criteria and all planning notification systems start with prior counseling, explaining Landscape master plans and Landscape Guidelines. Then consultation with wards and landscape advisors are conducted, notification forms must be submitted prior to application for building approval, and a check conducted after completion.

In order to strengthen guidance including alteration requests of buildings via notification systems, it is important to set precise and easy to understand criteria, and to provide detailed procedures such as procedures that differ by scale and zone type. It would appropriate to add the procedure to the process of exchange opinions with surrounding residents. Besides, it is important to utilize the system of Specific Implementation Districts much more to form good landscapes and prevent conflicts over construction in specific districts. This can be achieved by utilizing totally all landscape formation assistance systems which are not enforced actively now.

Landscape Color Assessment of newtowns in the Seoul Metropolitan Area based on a theory of color harmony

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With increasing interest in a higher quality of life in Korea, qualitative improvement of the urban landscape has become a priority. However, by and large the policies that have been initiated focus on individual buildings and appear to have been created without proper consideration to other aspects. In this regard, objective assessments are needed.

An aesthetic yet fully functional landscape can be achieved when harmony is established between unity and diversity. To achieve this end, this study defined the urban landscape through the classification of formation elements; form, line, color, and texture, focusing particularly on color (which is the most readily recognized). Furthermore, case studies were conducted on the residential areas of newtowns in the Seoul Metropolitan Area to determine the level of color harmony, based on Moon and Spencer's Color Harmony Theory. For the case studies, images simulating various different colors of the landscape were created and subsequently preference surveys were conducted using the images.

As a result, the range of harmonizing colors in the newtown landscape was determined using a combination of preference survey results, which suggested the probable application of Moon and Spencer's Color Harmony Theory to the urban landscape. The preference of landscape color was measured high when similar as well as contrasting colors were used. Furthermore, the basis of fundamental landscape assessment, which can be used to evaluate the impact of new developments in the urban landscape, can be established by determining areas of disharmony.

Although there were limits to this research, the conclusions drawn can be developed further into more concrete assessments using objective physical indices of each element, continuous visual preference surveys, and various simulations. This study is expected to effectively contribute to the area of landscape control system.

A Study on Designing of Public Space and Public Life: Case study of Copenhagen, Denmark

Ai FUKUDA & Dongyun KWAK/ CPIJ

This paper is a study to examine approach to create public space for Japan by using case study of Copenhagen.

In recent years, there are many experiments for promoting activities in public spaces by different ways in Japanese cities. People try to change the spaces to improve some problem or to create more attractive spaces for quality of life. However the rule needed to use public space is not provided for people in current systems and restrictions, because they have not have attention to public space which people can use for their life or activities. Now it is a stage to rethink about public space for people use through experiments and some questions come out in the process at the same time. It is mainly about how to create public space and what is quality of the space. Section 2, some activities and some issues about use of public space are raised in Japanese situation in order to clear the discuss points.

In Copenhagen, Denmark, they have many public spaces to attract people and many activities and people use are seen in many places. It surely gives the city vitality. They have developed their own ways to create attractive public spaces by themselves and people know how to use spaces in their life. In Copenhagen, there are some previous researches, which have been done by Jan Gehl and Center for Public Space Research (1) for many years. It mainly deals with relation between people activities and urban quality. Section 3, this paper reviews the previous research of Copenhagen in order to understand their experiences, techniques and approaches to evaluate their public spaces, because people activities and quality of public space is also theme in Japan now. Section 4, these Copenhagen study are analyzed at the point of how it becomes usable for Japanese cities. It also discusses how these Copenhagen experiences, methods and approaches can be adapted to create public space in Japan and how Japanese cities can develop their own ways for the future.

A Study on the Tourist Evacuation Behavior under a Large-scale Disaster – Case of Typhoon-Debris Flow Vulnerable Area in Taiwan

Wann-Ming Wey, Jen-Te Pai & Chien-Yuan Lin

This paper intends to establish a descriptive model to analyze the tourist behavior under a large-scale typhoon-debris flow disaster in Taiwan. Protection of the public/tourists in a typhoon-debris flow emergency requires decision-makers to balance the time requirements from two chains of events: the events associated with a typhoon-debris flow disaster release and the events involved with the response to that release. The management of these events is distributed among personnel at the government sectors, in the local area community, and in county and city agencies. All of these parties must coordinate their response to the emergency of disaster to assure that timely and effective protective response can be made by the typhoon-debris flow vulnerable risk area population. This research proposes the process by which protective action recommendations are developed in a large-scale typhoon-debris flow disaster emergency exercise and provides recommendations from research on disaster response of potential tourists.

In order to find the factors affecting tourist's decision making under different types of evacuation, the questionnaire/interviews are utilized widely and in depth in this research. Followed by that process, this research also develops models to analyze the large-scale typhoon-debris flow disaster evacuation decision-making behavior to study the evacuation decision needs and supports for the tourists. In addition, the traffic-related characteristics, such as the starting evacuation time, evacuation point and its distribution, evacuation modes, and routes are also studied in this research. Finally, the key conclusion is that the tourist industry must have improvements that could be made to increase the adequacy of mitigation and preparedness measures and in turn increase the sustainability of the tourism industry on Taiwan.

Quantitative and qualitative characteristics of greenery in suburban residential districts of Metro Manila

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This case study was conducted to better understand the present situation of urban greenery in Marikina City, in the suburbs of metropolitan Manila, a typical large Asian city. A vegetation survey was conducted in residential districts of Marikina City, and the quantitative and qualitative characteristics of trees were analyzed. Lot size had some influence on the quantity of greenery in residential lots. In smaller lots, however, quantity did not increase in proportion to lot size. It appears, then, that the land-use controls for individual lots did not function effectively. Quantitative differences of greenery were related to qualitative differences, depending on the year or period of development of the residential area. In the newly developed residential lots, the greenery is comprised mostly of ornamental trees. Under the present circumstances, there is no assurance of sustaining the desired quantity of greenery in smaller residential lots. From these results, we proposed that regulations on lot size/coverage and promotion of tree planting involving local residents are needed to sustain urban greenery in residential districts.

A Study on the Evaluation of the Various Functions of Parks designated by the City Planning Law in the Tokyo 23 wards

Tomoko TAKEUCHI & Mikiko ISHIKAWA

This paper analyzes the large city parks in the Tokyo 23 wards, most of which were designated by the city planning law before the 1950's, but are not opened yet. From the perspective of recent urban renovation, these parks need to be reviewed. In this paper, the technical term is described as follows. 'The city planning park' is the area designated by the city planning law, which is the ideal area in park planning standards and should be a city park in future. Within this area, the building construction can be controlled, and the governments can gradually purchase the land. It takes very long time to complete a park thus causing the uncontrolled build-up within the city planning parks. We evaluate these city planning parks from various viewpoints and propose a priority strategic plan in order to effectively complete these parks.

We set up two different aspects for the evaluation. The first is the evaluation of the necessity of parks from the surrounding environmental conditions, such as the lack of open spaces. The second is the evaluation of natural resources which each park possesses. We evaluated 51 large city planning parks in the Tokyo 23wards, that were planned by the city planning law and which have still unopened areas, by creating 11 indexes based on the 7 main functions of city parks ; Disaster Prevention, Quality of life, Global environmental protection, Biodiversity, Water circulation, Landscape, and History and Culture. These indexes were chosen with the emphasis on the function of solving recent urban problems in Tokyo.

The major findings are as follows; 1) The parks which were planned along a river or including a river are evaluated the most important to help solve the urban problems such as heat-island effects, and special floods in urban areas. Many of them also have historical landscape resources, e.g. old gardens, temples and ancient sites. 2) Under the natural landscape oriented planning policy of park systems before the 1950's, most of the large parks which were over 10 ha were planned and they have still important roles, not only to preserve historic and natural landscapes, but to resolve the current urban environmental problems. 3) Most of the parks planned after the 1970's are located in the relocation site of old factories and public institutions, and reclamation sites, etc. The functions which those parks possess are less than the parks planned before the 1950's.

The Evaluation of the Historic Garden by the Analysis on Residents' Consciousness: A Case Study of the Historic Garden Located at the Residential District of Suzhou, China

Jianbing Sun

The aim of this study is to argue expressively the evaluation of residents to a historical garden named

Master-of-Nets, which is located at the residential district of Suzhou, China. This paper clarifies the garden's value to the residents and mutual relationship between WTP (willingness to pay) for using the garden and the attribution of the respondents.

The value of the garden to residents comes from the results of the survey concerning the residents' attitude to preserve the status of the garden. Respondents who showed an agreement with the preservation of the garden were asked to choose the reasons that reflected their attitudes to the garden. The reasons illustrate the possible values of the garden, such as direct use value, indirect use value, etc..

The WTP associated with policy proposals for improving the utility of the garden as one of the open-spaces in the district is assessed with the contingent value method. As a World Cultural Heritage, this garden's function tends to attract tourists rather than the residents. Regarding this circumstances, in order to argue the possibility of improving the residents' usage of the garden, a contingent market for utility to the residents was constructed. This survey instrument constructed market institutions such as the payment rule and policy implementation.

In order to obtain measures of behavior, this survey also incorporated several questions about respondents' age, family members, visit frequency, etc..

As a result, it was found that the value of the garden to the residents includes three aspects to the residents: the value of the heritage, the value as a tourist attraction and the value to the district. The market purchase reflects that the benefit of the open space attributed to the garden can be expected. A negative relationship between the WTP and the value factor of the heritage was observed. The respondents who have a positive respect to the heritage value would be negatively participating in the contingent market, while The respondents who have a family member in primary school or who have a higher degree of satisfaction with the open-space would be more positive to participating in the contingent market, and have a higher expect to use the garden as the open space in the living environment.