

Shinkenchiu Residential Design Competition 2006

THE PLAN-LESS HOUSE

THEME DESCRIPTION:

It is generally thought that the plan is a means for describing lifestyle. The fundamental principle of this descriptive technique is division. It is thought that the lifestyle inside a house is divided with the device of "walls." Therefore, if only the elements called "walls" are picked out, and given an expression in which they are emphasized, people may understand the lines on a drawing that indicate the "walls" as describing the essence of a house.

Yet should a house be "walls"? Why can we not describe a house just by furniture? Why can we not describe a house just by tableware? Or what about a descriptive method using only floor textures? As the floor is the only component that the human body directly touches (actually, there are also doorknobs and toilet seats), if we were to describe a house by a technique of scanning with the body, the house would be described as a collection of textured floors. Or it would also be possible to describe a house in terms of air temperature, or in terms of malodorous places due to wind flows.

Why have I become so skeptical with regard to the descriptive method of walls? It is because I feel a sense of unease with the division of lifestyle, and the corresponding methods of spatial division. The cause might lie in devices such as mobile phones, which invalidate spatial divisions, and might also lie in the transformation (the becoming-amorphous) of interpersonal relationships and family relationships. Or, perhaps the "lifestyle" of the person that was the initial premise for the "division of lifestyle" disappears during the era of building a house. Because a person perhaps builds a house for somewhat distinct purposes, if this is investigated more thoroughly, the house including every "thing," rather than being something made for some particular purpose could also be said to somehow become a manifestation of its era. Taking a broad view of all of this, I am interested in a plan-less condition.

(Kengo Kuma, judge of the competition)

RESEARCH THEME:

"The works of the past always influence us, whether or not we care to admit it, or to structure an understanding of how that influence occurs. The past is not just that which we know, it is that which we use, in a variety of ways, in the making of new work... The typology argument today asserts that despite the diversity of our culture there are still roots of this kind which allow us to speak of the idea of a library, a museum, a city hall or a house. The continuity of these ideas of type, such as they are, and the esteemed examples which have established their identity and assured their continued cultural resonance, constitute an established line of inquiry in which new work may be effectively grounded."

(The Harvard Architectural Review. Volume 5. Precedent and Invention. Between History and Tradition: Notes Toward a Theory of Precedent. John E. Hancock)

Arch 384:

Competition elective (research component)

Professor:

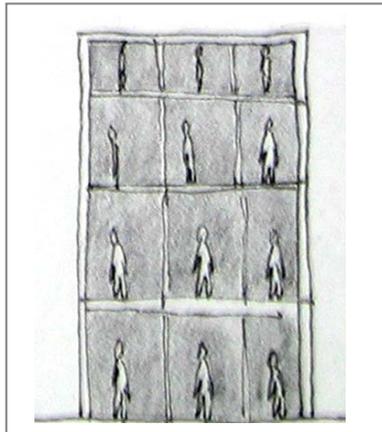
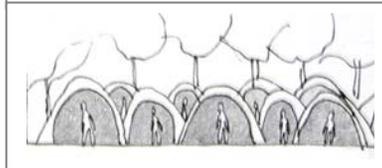
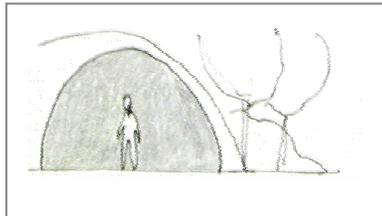
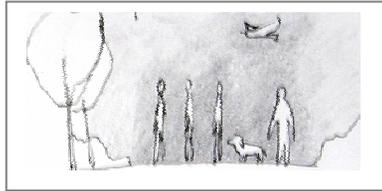
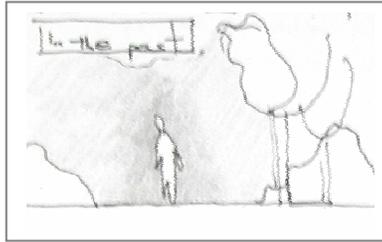
Terri Meyer Boake

Competition entry deadline:

September 11th, 2006

Submission by:

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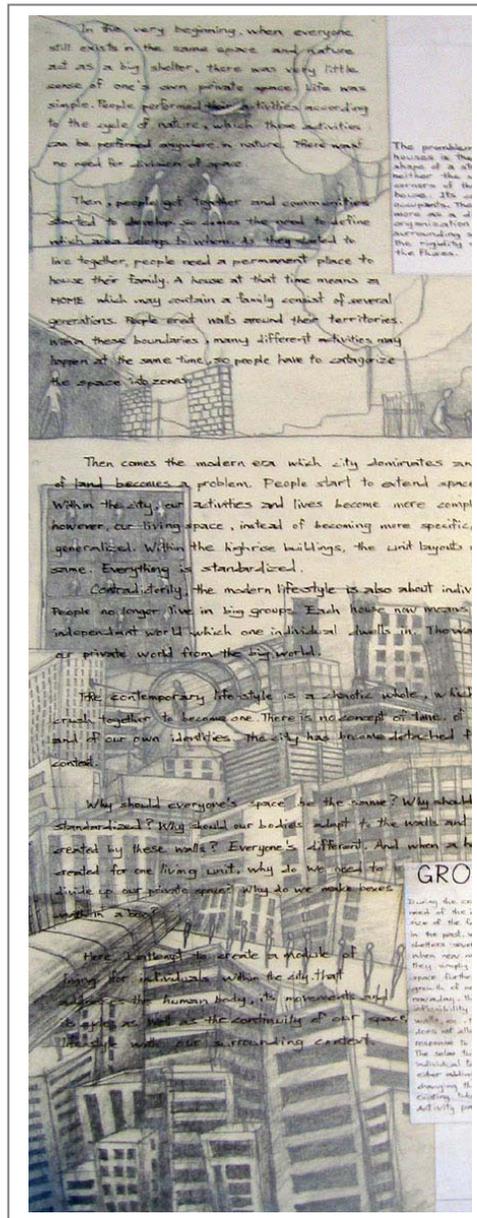


The development of division of space + the contemporary lifestyle

In nowadays' society, the general notion of a house is composed of the basic components of at least four walls and a roof. However, the definition of a house as well as the use and means of walls within the house have not always been the same. Before the use of walls as a mean of division, people used to live in the same space, and nature acted as a big shelter. The only definite boundary was the ground. At that time, there was very small sense of one's own private space. Everyone shared the same space and everything was communal. Life was simple and people would perform their activities according to the cycle of nature. Moreover, the places where the activities would be performed were not significant, for example, people would sleep in any shelter that they could find near the place where they worked and move around during the days; therefore, there was no need for a division of space or a mean for marking territories.

Then, people start to get together. The growth of population leads to the development of communities. As a result, people now need to have a permanent place for settlement and a mean to define which area belongs to whom. At that time, the house means a 'home' containing a family which may be consisted of several generations. For example, an ancient Chinese quadrangle house usually lives the grandparents, all their sons and daughters, as well as all their grandsons and granddaughters.¹ People would erect walls around their territories, and within these boundaries may hold many people who are performing different activities at the same time, or a house maybe used for different purposes, as in an ancient Japanese house, where the front is used as

¹ Wang Yu and Shen Fu Xu, *Our Sweet Homes: Ancient Chinese Private Residences* (Zhe Jiang: Zhe Jian She Ying Publisher, 2003), 12.



Graphic from presentation board

a shop and the back as a private quarter for living²; therefore, people have to organize and divide up their spaces into different zones separated by walls.

At first, it was the caves, then it was the wooden houses, the masonry houses, the concrete houses, and finally to the high-rise of the Modern era. In this modern time, cities dominate and the density of land has reached its peak in most urban areas; scarcity of land has become a big issue of our period. In order to fit the increasing number of people into a limited amount of land and with the advancement of technology, people are now capable of extending space vertically. Moreover, the space between each house and the space available for each individual have to be reduced to their minimum possible. Therefore, nowadays, people's personal spaces are being jammed side by side as well as stacked on top of each other. As the distance between our personal spaces become closer, people become more aware of their private space. And as people become more capable of shaping their surroundings, the less capable are they in shaping the condition of their own living spaces. People have become the object of their houses rather than the subject of their living spaces.

Within the city, our life-styles have become more distinctive and our activities more complicated; however, our living spaces have turned more generalized instead of being more specific. Everything has become standardized for mass production to accommodate the extensive amount of demands. Within the rapidly going up high-rises, all the unit layouts are the same. Before the individuals move in, everything is fixed already – the location of the walls, the number of rooms, and the openings of the house. Everybody has reduced to the level of a general definition of human being with same needs and same life-style in the big picture. Life within the contemporary city is rather a chaotic whole,

² Lee A. Makela, "Traditional Japanese Architecture," Lee A. Makela, <http://academic.csuohio.edu/makelaa/lectures/architecture/index.html>



Vertical extension of space



Shinjuku skylines

which everything crushes together to form one indifferent organism. There is no concept of time, of our surroundings, and of one's individual identity. The city is an organism that has been detached from its context, and so has the individuals who dwell within it.

Contradictory it may seem, but the contemporary life-style is also about individualism. People no longer live in big groups as in the past. Each house now means one independent world that dwells one individual. The function of the wall as a separation that alienates us from the outside world has become more prominent than ever. And with the individual's awareness of their gradual lost of self-identities within the city, stimulated their desires of making their existences and differences apparent.

Under the contraction and generalization of our personal spaces, the walls within our houses have become more as a restriction to our life-style than as a reflection of it. The problems that I see in the walls of the contemporary houses are their inflexibility, rigidity, and inefficiency. Its shape of a straight façade and four angles addresses neither the shape of our body nor its movements. The four corners of the rooms are always the unused spaces of a house. The wall in its current form is lacking communications with the occupants, and its existence in a house is functioning more as a disconnection of our spaces than an organization of our activities. Moreover, in nowadays, where a house has become so private and created for only one living unit, the appropriateness of a wall as a mean of organizing our living spaces has come into question. Furthermore, the house that has undergone the transformations through the different periods, has excluded the impact of the surroundings to the occupant and the rigidity of the walls allows the individuals to respond to the fluxes that happens in the exterior of their living space. The disharmony of the

system of walls in our house with the activities and life-styles of the individuals requires us to re-assess its appropriateness as well as to inquire for a more suitable system of living for the contemporary city. Since the contemporary walls are no longer sufficient in describing the relationship between human activities and their spaces; therefore, the foremost task is to find a new definition to describe the relationship between the individual and their living space.

Existential Space and its levels

Even though the means and role of walls in our living spaces have undergone many changes in the past, but the notion of four walls and a roof as the basics of a house, regardless of the interior content, has always been consistent. This exterior envelope not only functions as a layer of protection against the threats from outsiders and the forces of nature, but more importantly, defines a personal space that belongs solely to individual himself that he can perform his daily activities in, and provides a place for hiding and resting. Therefore, our living space can be considered as the territory that frames one's own existence in this world.³ And the walls that mark this territory signify the differentiation between our spaces and the others. Our house forms a necessary part of orientation and being in this world. We always refer to other places in relation to the place where we live. Therefore, our living space is a dimension of human existence in which we form the understanding of ourselves and of the

³ Piera Scuri, *Design of Enclosed Spaces* (New York: Chapman & Hall, 1995), 4.

world around us. This way of describing our living spaces is defined by Piera Scuri as 'existential space'⁴.

In the book, *Design of Enclosed Spaces*, Scuri defined the 'existential space' as composed of five different levels: the landscape level, the urban level, the house level, the furniture level, and the hand level. These levels went from the most general sense of man's interaction with the natural environment; to the social interaction; to the extended bodily movement and actions within the space; to the size of body in these different activities; and finally, to the most pure sense of human body.⁵

For my own purpose of understanding, I have categorized these five levels into three major levels. First of all, I combined the landscape and urban level in one that is called surrounding level. Then, it is the house level. Finally, I united the furniture level and the hand level into one that is called the individual level. As our living spaces can be categorized into different levels, a house can also be divided into different parts that correspond to these different levels.

The Surrounding Level

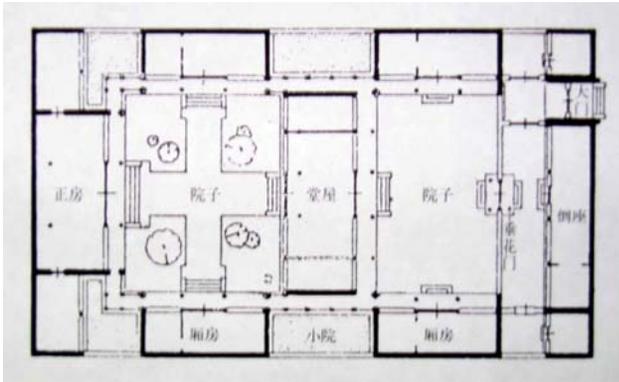
"In the medieval and Renaissance eras, the city was within reach of not only the eyes, the organ that permits space to be perceived from a distance, but also the skin, nose, and ears (bells, voices, bricks, and stones, the smell of the air)."⁶

Our life-style is not only composed of the situation of the space enclosed by the building envelope itself, but also the environment that surrounds our living spaces and our interaction with the external situations. This is only in the

⁴ Piera Scuri, *Design of Enclosed Spaces* (New York: Chapman & Hall, 1995), 7.

⁵ Piera Scuri, *Design of Enclosed Spaces* (New York: Chapman & Hall, 1995), 10 – 15.

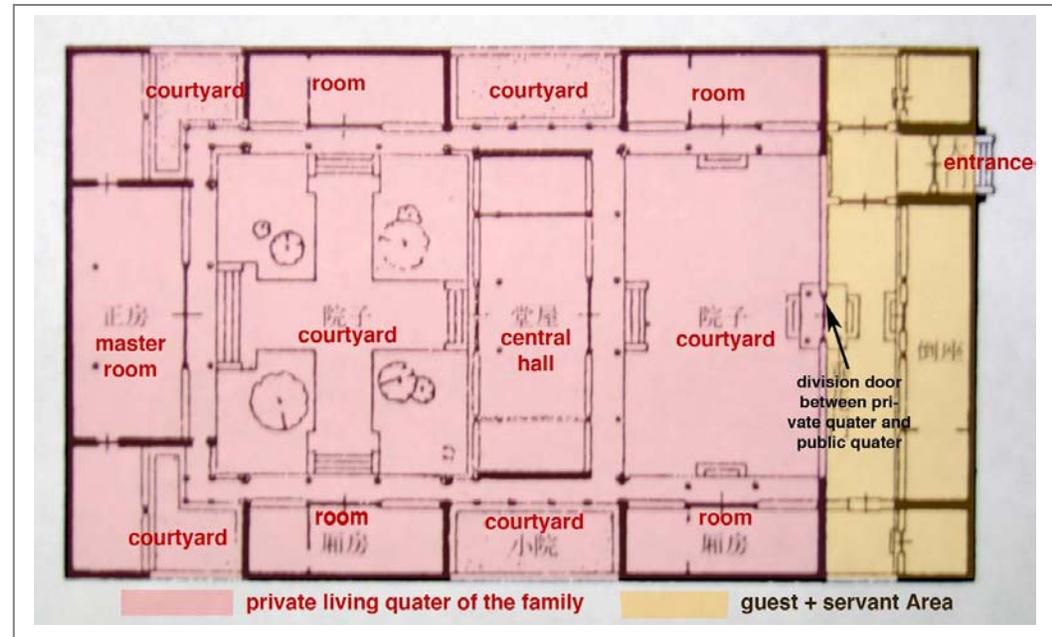
⁶ Christian Norberg-Schulz, *Existence, Space & Architecture* (New York: New York Praeger, 1972), 12.



The Plan of a Quadrangle

In a quadrangle house, courtyards are the major component ifor ventilation, traffic, as well as bringing natural light into the living space.

modern era that our living spaces have totally excluded the direct interaction between the individual and nature. For example, in both the traditional Japanese and the Chinese quadrangle houses, people would erect an exterior fence around their property to provide privacy to their house



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However, the separation between the interior and the exterior space of the house within this boundary is less definite to provide a direct relationship between the living space and nature. For example, in a Japanese traditional house, a screen made of paper or fabric on a wooden frame, called shoji, would be used as space division both inside the house and on the perimeter of the

⁷ Wang Yu and Shen Fu Xu, Our Sweet Homes: Ancient Chinese Private Residences (Zhe Jiang: Zhe Jian She Ying Publisher, 2003), 11.

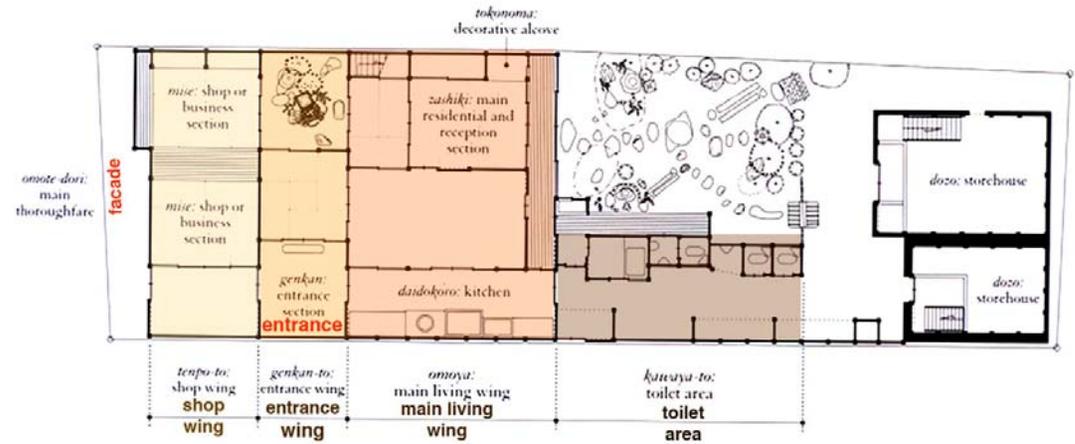
The interior courtyard of Japanese houses



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house.⁸ People can step right into the garden upon the opening of any of the ‘walls’ along the perimeter. Moreover, in both the traditional Japanese house and the Chinese quadrangle, they have incorporated many courtyards and gardens within the boundary to provide a connection between their living space and the exterior world. They can hear the sounds and the smells of the air that penetrate through the exterior fence into the personal space of the individuals.

OMOTEYA-ZUKURI (the omoteya style)



A traditional Japanese house floor plan¹⁰

The House Level

The house level has to do with the way that people organize the space within their houses. For Western people, the space within a house is divided into rooms which each of them is assigned with a specific function. In comparison,

⁸ Traditional Japanese Architectural Design, “Shoji Sets,” Sukiya Japanese Architects & Builds Inc, <http://www.japanesearchitect.com/shojiset/index.html>

⁹ Marc Keane, Japanese Garden Design (Rutland, VT.: C.E. Tuttle, 1996), 86.

¹⁰ Teiji ItoI, Traditional Domestic Architecture of Japan (New York: Weatherhill, 1972), 113.

the traditional Japanese houses and the Chinese quadrangle are both layout by zones. The layout of traditional Japanese houses emphasizes on function and the use of space based on public use and private use. On the other hand, the layout of Chinese quadrangle's layout is based on, firstly, public and private use, and then the hierarchy within the family members.¹¹ However, most important of all, is the notion that the activities of any life-style are consisted of a natural sequence and has implies a route of movement within the house. For example, the activity of inviting a guest over for a dinner or a gathering, the space that the guest will occupy is related to the activities that they will perform within the house.

The Individual Level

"Most of man's actions comprise a spatial aspect, in the sense that the objects of orientation are distributed according to such relations as inside and outside; far away and close by; separate and united; and continuous and discontinuous."¹³

When a man encounters an environment which are free for his own disposal and use, he will modify the environment by imposing his own structure onto it to fit his purpose. This act of the individuals' articulation of their surroundings is the way that they possess a space, and so make the space meaningful to their own existence. And all human beings activities are composed of a certain spatial shape, which implies the movement of the body as



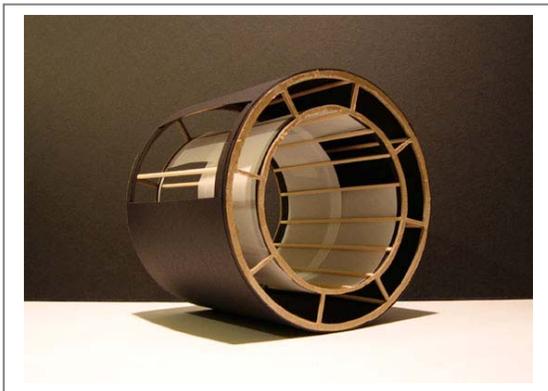
Any functional action has particular spatial implication.

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¹¹ Wang Yu and Shen Fu Xu, *Our Sweet Homes: Ancient Chinese Private Residences* (Zhe Jiang: Zhe Jian She Ying Publisher, 2003), 13.

¹² Christian Norberg-Schulz, *Existence, Space & Architecture* (New York: New York Praeger, 1972), 8

¹³ Christian Norberg-Schulz, *Existence, Space & Architecture* (New York: New York Praeger, 1972), 9.



The structure of the exterior shell

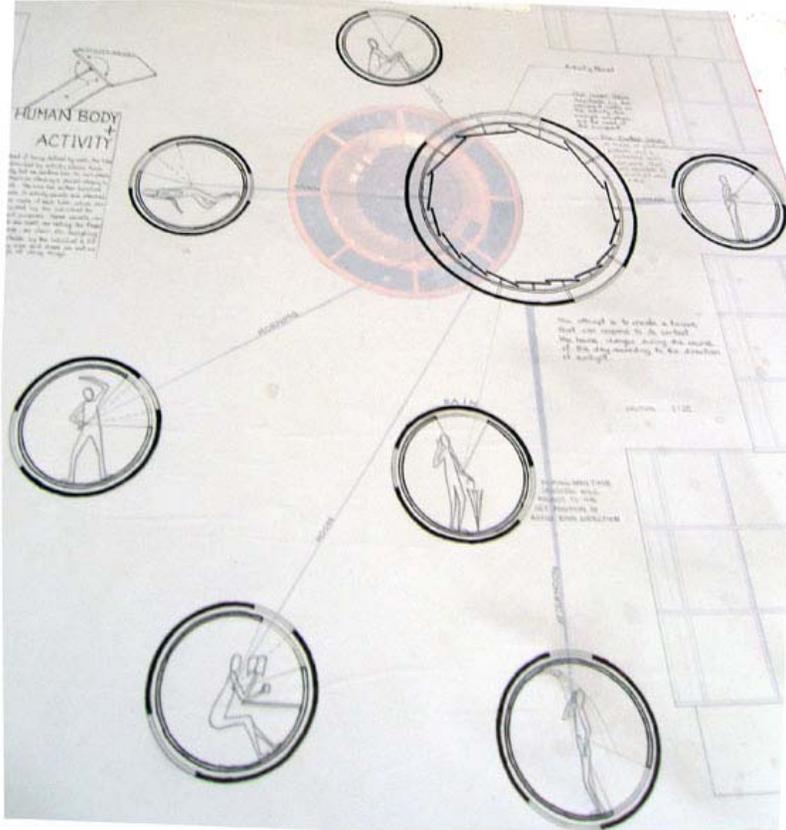
well as the relationship of the activity to the space around them. This spatial shape of each activity depends not only on the nature of the activity itself, but most of all, on the size of individual's body and his habit in performing that particular activity. Therefore, the individual level of perceiving the living space is the most personal among the others, for each person will have their own spatial shape for each activity, as a fingerprint is different for every individual.

The individuals' existential space cannot be understood solely through the interior space as marked out by the walls; and our life-styles cannot be expressed solely by the division of our spaces, for the formation of our living space extend from our interaction with the external environment, to the sequence of our movements and activities, down to the smallest detail of our body sizes and personal habits. Therefore, it is impossible to describe our life-style solely by either the living environment of the individual or their body, for life-style is the interactions and communications between our bodies and their surrounding. So a full understanding of the contemporary life-style has to be described through the relationships between the individuals and their surroundings; the individuals and their activities; as well as the individuals' activities and their surroundings.

The product – A Solar Tube:

After addressing the situation that I conceive as in the modern era and finding a guide towards the understanding of individual living spaces, I attempt to create a module of living for the individuals living within the conflicts formed by the situation of the city. The product will re-establish the harmony – which had existed between the traditional housings and their environments, but lost due to

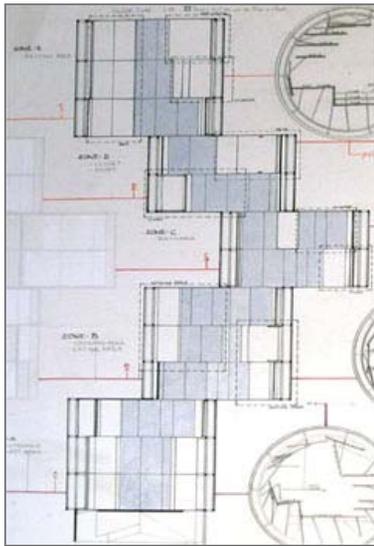
Life style can be described in terms of time.
The activities that happen within the living space are related to the cycle of time.



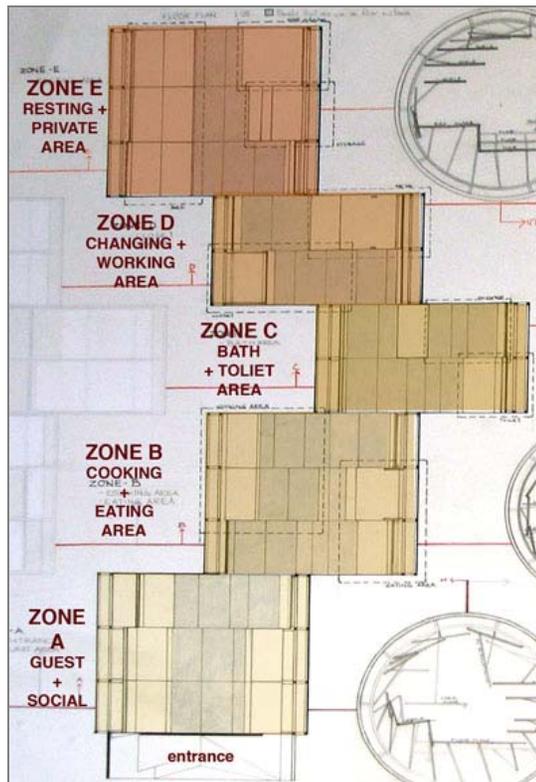
the transformation of our life-style and the situation of our time – between the world of the individuals and their surroundings, as well as the individuals' activities with their living spaces. This reconnection is to be achieved through the creation of a space that can adapt to the site, as well as to the human body, the life-styles and needs of the occupants. The result is the Solar Tube, which is a cylindrical module with the dimension of 3.5m in diameter and 1m in length as one basic unit. Several tubes can be attached together to create a continuous space for living. The Tube is composed of three major components – the outer skin, the inner skin, and the activity panels – which respond to the formation of the three levels of living spaces.

The Surrounding Level – Human Cycle vs. Natural Cycle

A contemporary house alienates the individuals from the outside world by tightly concealing our spaces behind the rigidity of their walls. Thus, we have turned ignorant of the sound, the smell, and the sunlight from the exterior. With the Solar Tube, I attempt to reconnect the human cycle of the activities that we perform throughout a day with the natural cycle of the earth. The exterior shell of the Solar Tube is composed of two layers – the outer skin and the inner skin – and with an opening on both layers. The outer skin is composed of solar panels installed with sensors around its opening. And being propelled by solar energy, it can correspond to the direction of the sun, thus allowing the maximum amount of light into the interior, as well as informing the individual of the changes happening throughout the day. The inner skin is a translucent layer that is adjustable by the individual to respond to the sun based on need of the individual within the Tube. Therefore, the house is to be described in terms of time and of the activities happening inside the Tube



Floor plan of an example of a house formed by Solar Tubes



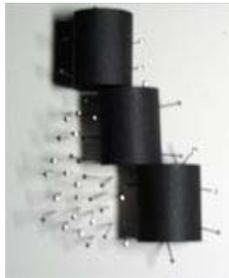
The floor plan is organized as zones serving different functions and requires different level of privacy.

The House Level – Division of Space

The space within the house is divided into zones. The arrangement of the zones goes from the ones intended for the most public activities to the most private activities. In another word, privacy of the living space increases, as one gets deeper into the tubes. However, there is no door or walls within the tubes other than the exterior shell. Division between the zones for different functions is achieved through the offsets of the tubes. When there is the presence of a guest within the house, the activities that will be performed, will be restricted in the private quarter of the house; therefore, there will be no need to separate out spaces for other activities. And the offsets of the tubes will block the view from the public area into the most private area, which the restriction of views is enough to act as an exclusion of the private space in the performance of a public activity. The offset of the tubes is intended to create continuity in our living spaces, but at the same time, satisfying the need of organizing our activities.

The Individual Level – Human Body and Activity

Instead of being defined by walls, the Tube is described by activity planes. Each activity that we perform has its own spatial factor, for example, standing is straight, and sleeping is flat. The Tube has neither furniture nor walls. Fifteen activity panels are attached to the inside of each tube, which can be adjusted by the individual for different purposes. These panels can function as wall, as ceiling, as floor, as storage, as chair, etc. Removing a panel away from its original position may reveal an opening to the exterior world, or to the inner skin of the tube. The panels have no definite



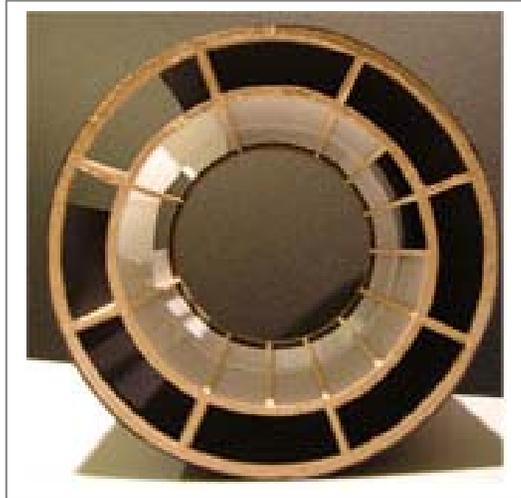
unction or position. Everything is adjustable by the individual to fit their body size and shape, as well as their ways of performing the activities.

Growth

During the course of life, the need of individuals and the size of their family will change. In the past, when a house still shelters several generations, when new members are added, they simply divide up the space further to compromise the growth of needs. However, nowadays, the rigidity and inflexibility of the contemporary walls do not allow a house to respond to the growth of needs. In order to accommodate the changes that occur all the time in the course of life, the tubes are made to be flexible for transformation and expansion, through adding another solar tube, changing the location of the existing tube, or adjusting the activity panels.

Conclusion

My focus of the solution towards the initial statement of Kengo Kuma is on the situation of the contemporary houses of rendering our life-style detached from its context of surrounding, as well as the issue of generalizing and standardizing everyone's life-style. The house is a plan-less house, for the plan would be different for each individual and in different time of the day, for everything in the house is transforming constantly base on the sun, the activity happening inside and the individual's life-style.



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*This book is published in China and does not have English translation of the bibliography info. I have provided the information that I can find from the book in Chinese, as well as my own translation of it in English.