CONSTANCY AND CHANGE IN THE JAPANESE HOUSE

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INTRODUCTION

The purpose of this paper is to discuss the change and constancy in Japanese houses under the impact of westernization and industrialization of society in the past 100 years. The discussion treats change and constancy in behavioral aspects in wider house settlement system as well as in design elements and their spatial organization within the house itself.

The basic assumption in this paper is that the characteristic pattern of behavior in houses, and the design elements or their organization which are rooted in the core part of their culture are rather constant under the impact of other cultures. Figure 1 shows a conceptual model of the assumption underlying this paper. Observation of the constancy may, in turn, help to understand the core of the culture and thus provide a guide for the direction of future change. The constancy, of course, is relative. Even the core element of culture is not permanently constant but changes very slowly. It may be more appropriate to say persistence under change rather than constancy. In this paper, however, the terms "constancy" and "change", which indicate two ends of the continuum of different degree of change, are used for the sake of simplicity.

METHOD

The question of what the Japanese house is may only be determined by comparison with houses outside Japan. In other words, unless we have a broad range of house types in mind, we cannot define the Japanese house. A Japanese house is therefore much more easily determined by the eyes of outside observers who know alternative types of houses.

As a method for investigation of constancy and change in the Japanese house, the published descriptions of the Japanese houses written by western observers at different points in time were reviewed and compared. In fact, it is hard to find a book written by a Japanese which describes dwellings for ordinary people while there are many books treating in great detail high-style architecture for people of special status.

Three books were primarily used, although some articles in periodicals like the National Geographic Magazine were also used. The books, written with nearly 50 years apart -- 1886, 1936 and 1979 -- were expected to describe different states of Japanese houses, or rather were expected to treat them differently. For example, if one element of a house which was once described as a characteristic element of Japanese house has been transformed -- westernized-- or has disappeared, it may no longer appear in the next book written 50 years later. The author of a later book, might refer to the former book, knowing what aspects of a house were selected to be described, yet neglecting some of them. This could suggest that those aspects of the house were reduced in importance as Japanese characteristic features at the time when the later author observed them.

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Figure 2 schematically shows a methodological model which is used in this paper to identify the changing elements and constant elements over the past 100 years. Representing in different points on the time scale (horizontal axis), each book shows a different section in the stage of change.

The physical elements which were regarded as characteristic features of the Japanese house were first extracted from the descriptions, plans, illustrations and photographs appearing in each of the three books. In addition to the physical or "hard" aspect of the Japanese house, the "soft" aspect of it, namely, integrated activity patterns or customs, were also extracted in connection with particular physical elements, spaces or settings. Based on their observations of both "hard" and "soft" aspects of the Japanese house, I attempted to identify related behavioral and cultural aspects namely the idea, norm, concept or perception, as well as climatic factors.

These aspects may not be separable, but for the sake of analysis and discussion, I treat them as three separate matters which are mutually related. The relation among these aspects may not be a simple one-way cause and effect relationship. The soft material (TATAMI-mat) on the floor, for instance, may be considered to have derived from the custom of sitting on the floor, but the softness of the TATAMI-mat, on which use of chairs is inconvenient, is in turn required for the sitting manner. The relation is not a one-to-one relationship. One physical element may be explained in terms of several different activity patterns or customs, and one activity pattern may be supported by several different physical elements. The following discussions on each of the features are, therefore, inevitably redundant and sometimes contradictory. It does not intended to show any "reasons" but rather help to understand the structure, or organic relationships of cultural factors in the Japanese house.

As a source of information for discussion, the following three books were selected:

1. The Japanese home and their surroundings (1886) was written by E. Morse, American zoologist, during his visits of 1887, 1878-79 and 1882-83 in Japan. At this time, westernization had not yet got a firm foothold in Japan, so that what he saw was a "purely" traditional state. He described the Japanese house with the eyes of a layman, although he had a trained scientist's good eyes for details that might have escaped a less careful observer. He tried to see and understand a dwelling in terms of the culture and tradition of the people who live in it.

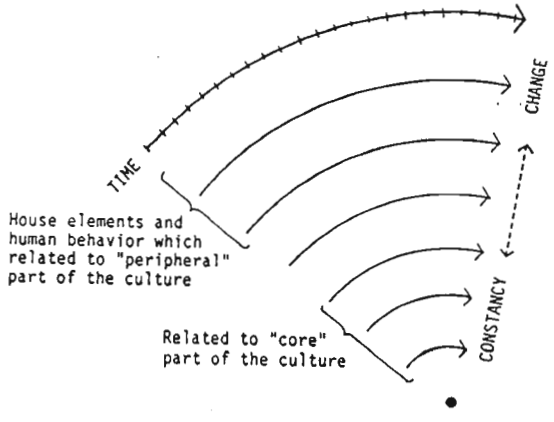

Figure 1. A conceptual model

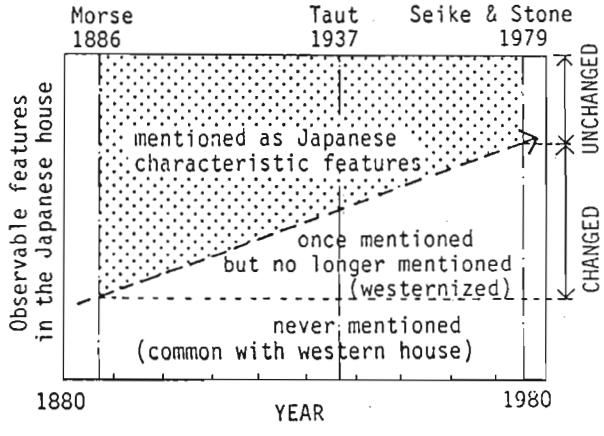

Figure 2. A methodological model

2. House and people of Japan (1936) was written by B. Taut, German architect, after his three year's residence in Japan from 1933 to 1936. By that time, Japan had a fairly well developed industry. Men working in the office or factory began to wear western-style clothes. The wave of westernization had reached to institutional and commercial buildings in the large cities. The houses, however, which are more closely related to everyday life, still retained the traditional features. Although the author was an architect and the book included occasional reference to high-style architecture, he described and discussed mostly ordinary houses made by carpenters.

3. Japanese home in transition (1979) was written by K. Seike, Japanese architect, and D. Stone, American student of architecture, who stayed in Japan for about one year. In the form of dialogue, the whole question of the Japanese house and life were raised from the viewpoint of an American observer, while the first author, who is a Japanese architect, answered the questions. In a way, the whole content is again a foreigner's view (as mentioned in the preface of the book). As the title indicates, they attempted to describe and understand "transitional" situation of a Japanese house through insight into some elements of the culture.

CONSTANCY AND CHANGE

Overview

Comparing the description of Japanese houses in three books, I noticed much fewer changes during the former 51 years (1886-1937) than the later 41 years (1937-1978). Taut's (1937) description of physical elements of houses was much the same as Morse's (1886), except for a limited part which was related to the technological aspect, namely installation of electric lights and improvements of heating systems for bath and water supply in large cities. In this period, westernization occurred in more formal and institutional settings like hospitals, offices, factories and schools, often with the support of the government, while local facilities and private houses remained in the traditional state. When considering a whole society as a system of different settings, this fact seems to suggest that settings for particular functions (services) are changeable, while symbolic settings remain constant.

Together with some of the improvements in equipment, one change -- actually an addition -- ,in relation to the space was noticed during this period. As a light translucent material, traditional Japanese houses only used thin paper. The papered sliding doors, or SHOJI, separate the interior from the veranda. Although another line of wooden sliding shutters, or AMADO, which run on the outside edge of the veranda was closed nightly, in the daytime only thin paper separated the interior from the exterior. The additional line of glass sliding doors runs inside of the AMADO. This addition may improve the poor insulation of the house, but it could weaken one of the significant features of the house its "openness", which will be discussed later.

In any case, every change in this period was merely a partial addition which was not accompanied by any significant change in spatial organization. In fact, the plan shown by Taut is in principle the same as that shown by Morse, although Morse's example was taken from a rather higher class (see figure 3-a, 3-b).

During the later period, particularly after World War II, Japan experienced drastic changes in political, economical and educational systems. The wave of "democratization" seemed to affect even the norm of the society, e.g., the concept of family, women's status. The old Japanese order and tradition seemed to be regarded as having rules needed to be broken. Since most parts of every

large citiy were destroyed, they had to be rebuilt.

Under these situations, a radical westernization in city planning and housing could have occurred. The complete change, however, did not occur in cities, and particularly in the private houses, in which many traditional features have remained. Even in the high-rise apartments, a completely new building-type for housing, the plan and elements of the interior reflect the tradition. However, it is also true that many changes have occurred in some particular parts of the house during this period.

Characteristic features

In this section, the characteristic physical features in the Japanese house are identified according to the three books, and their change and constancy are discussed in relation to the behavioral and cultural variables.

1.Elemental features:

TATAMI-mats: TATAMI-mats were frequently cited as unique elements in the Japanese house. As already mentioned, they were obviously associated with the manner of sitting. They originated from straw mats for sitting about the size of conventional cushions. At first they served as occasional pieces in a room, placed directly on a wooden floor. Their use spread until they came to cover the entire floor space.

The mats ruled the internal order of the house in many ways. The scale of the rooms was governed by their standardized dimension. In fact, each room was called by the number of mats, and the whole floor area of a house or an apartment was sometimes measured by the number of mats for rent or sale. TATAMI-mats influenced the use of the furniture because the soft surface of the mats did not accept chairs or heavy furniture. Since they were easily damaged if people walked wearing shoes, they required the custom of removing shoes inside the house. TATAMI-mats together with TOKONOMA, an ornamental alcove, sometimes dictated the social order by defining spaces within a room. In tea ceremony or other formal meetings, TATAMI-mats marked with a hierarchical order of seating in the room. The mat fronting on the TOKONOMA, was reserved for the principal guest. Other guests formed a row beside the principal guest, the last guest sitting closest to the door.

The contribution of TATAMI-mats to the sensory experience in the interior space should be mentioned. TATAMI-mats feel cooler in summer than other flooring, and warmer in winter. They have a pleasant natural color and texture, soft but firm to the touch. New TATAMI-mats fill the room with the pleasant smell of straw.

In recent houses we do not see TATAMI-mats in every room. As the life-style has become westernized and western furniture has become popular, TATAMI-mats have been driven away from the rooms because the mats strictly require the traditional manner of living as mentioned above. The ratio of the rooms with TATAMI-mats to those without them seems to indicate the degree of westernization in the life-style of the resident.

Furniture: Morse and Taut equally pointed out the simplicity of the Japanese house. Taut noted, "Simplicity almost to the point of poverty is the essential basis of Japanese aesthetics." The impression of simplicity was partly due to the absence of furniture. Chairs were obviously useless to people who sat on the floor. The absence of furniture helped to achieve the multiple use of the rooms, and this enabled people to use the small space more efficiently. Bedding was stored in the closet during the daytime, and a room used as a

bedroom at night could be used for other functions during daytime. Even chests were often stored in the closet. The room was like a stage of a theater in which the stage properties appeared and disappeared according to the play which was taking place. Although a westerner might think differently, for Japanese, simplicity was not necessarily associated with poverty. The practice of simplicity in the house seemed to have a relation with Japanese aesthetic value which might be influenced by ZEN-Buddhism. Westernization and industrialization have weakened this feature by installing western furniture and electric appliances to most of the rooms except for some TATAMI-rooms.

Materials: Japanese preference for natural texture and their careful use and treatment of materials were pointed out by Morse and Taut. In the Japanese house, much was left without paint or any covering of the natural wood, sometimes with the bark retained. This way of treatment of materials in which a bit of nature was left seemed to reflect their attitude toward nature and their concern for sensory experience. In the recent house, however, natural materials have been replaced by new materials in many places. Compared with original materials, the newly developed materials are generally strong, stiff and smoothly finished, and therefore, they can be easily maintained and are functionally convenient. The bath-tub, for example, originally made of wood which is agreeable to touch has been replaced by F.R.P. or emanel steel which can be cleaned easily. But, traditional materials are still used in particular parts of the house. Even in a modern high-rise apartment we can see traditional earthen walls, paper sliding doors and natural wood columns in TATAMI-rooms.

2. Spatial features

Scale: The smallness in scale of the Japanese house, particularly in the vertical dimension, was equally mentioned by the authors of the three books. All the dimension in the house are determined by a module called KEN, which fits the Japanese body size. All the elements and materials are standardized with reference to KEN which is about six feet. TATAMI, floor mats, for instance, have a dimension of 1 KEN by 1/2 KEN (6' x 3'). This is about the area in which one Japanese person could sleep, but for western people it may be too small. The low ceiling height and door height in the Japanese house, however, is not only due to the body size but is also related to the manner of sitting on the floor.

Openness: The openness in the plan of the Japanese house was described by Taut. He said, "Both of the outer sections of the largest room had been completely opened up. But could it be called a room? It was really nothing more than an open hall, raised above the level of the ground." Since the Japanese house was designed for summer, the design was essentially based on the free movement of air in hot and humid climates.

The large openings were realized by the traditional method of construction, i.e., post-and-beam construction. In western masonry construction, such openings as windows and doors are carved out from walls by the use of lintels or arches. But in Japanese post-and-beam construction, all the area except the actual posts and beams could be openings, and builder's main concern was how to fill in openings.

Designing in this way, the house became open to other intrusions as well. The flow of unwanted information should be controlled to achieve privacy. There were two aspects of openness: one was the openness between interior space and exterior space and the other was the openness between rooms. For the first aspect, fences or walls which surrounded the house helped to preserve visual privacy. In the case of row-houses along the street which had no fence, the fine wooden gratings or reed screens played the same role while allowing the

wind go through. For the second aspect, free-standing screens, reed screen doors, sliding doors with RANMA (openings between the lintel and ceiling) were the traditional solution for visual privacy. But for the acoustic privacy, they had very poor performance. In fact, it is technically impossible to realize sound insulation and free air movement at the same time.

The openness had been realized at the sacrifice of the privacy of individual family member. In the traditional concept of family, membership in the family must come before the individual person. It was the strict order or guidelines of behavior that enabled the family members to live together, rather than the physical privacy of insulation. Since the end of World war II, the concept of the family has been transformed. Individuals in the family have began to seek their own privacy. Thus the degree of openness between rooms has become lower.

Other factors like the introduction of new materials and technical developments seem to accelerate this tendency. As already mentioned, the installation of the glass screen has reduced the openness between interior and exterior. The electric fan and air conditioner, which solve the climatic problem, allow less of an open room. Although the contemporary Japanese house has become less open than the traditional one, it is still much more open, at least visually, than the western house, particularly between interior and exterior. The persistent preference for the large openings may be explained by the manner of sitting and attitude toward nature. The sill of the window must be low so as not to disturb the views when seen from the floor. Thus people sitting in the room can feel more close to the "nature" which they always admire.

Flexibility: Morse pointed out the flexibility of spatial organization in the Japanese house by saying, "The three rooms bordering the verandah and facing the garden are readily thrown into one, and thus a continuous apartment is secured,..." (see figure 3-a). Such flexibility was convenient for the occasional ceremonies which required a large room. On the occasion of a funeral, for instance, the house was turned as far as possible into a large open hall in which all night long relatives and friends sat up drinking and eating. The flexibility was achieved by FUSUMA, easily removable light-weight sliding partitions. There was no corridor between rooms. Therefore when the sliding partitions were closed, some of the rooms did not have any direct access. People had to go through other rooms to get such rooms. This caused the problem of privacy. Thus the transformation of the concept of family affected again this feature of planning. The Japanese house has become less flexible in room size because of the need for privacy of the individual of the family members and has been transformed from the loosely divided whole to the assembly of clearly defined rooms. Because of this transformation, the house has lost one of its functions as a place for occasional ceremonies. These kinds of social activities have begun to take place in such specialized facilities as hotels, restaurants, wedding halls, funeral halls, temples, or shrines. In other words, the house has lost a part of its role within the whole settlement system.

Unreasonable planning: Morse and Taut equally pointed out the unreasonable planning of the Japanese house due to KASO, or superstition. Taut noted with surprise how this superstition was strictly obeyed even in the modern home at that time. He said, "With a few rare exceptions, we encounter this remarkable fear of offence, a fear of a misfortune that might smite the inhabitant." KASO made some sense in ancient China as a result of geological and climatic conditions, probably following the doctrine known as "Feng shuei". But when it was applied to the Japanese house in quite different conditions, it obviously lost reasonableness. Nevertheless, even today, it seems to be believed many people. People tend to avoid offending the rule if the situation allows them to do so. It is probably because KASO is related to the Japanese attitude toward nature,

namely the fear and respect for the power of nature which is symbolized by Shinto, the indigenous religion of Japan.

3. Features of rooms

Entrance hall: In Japan, shoes are removed before entering the house and the entrance hall is so designed as to accomodate for this custom. The floor of all parts of the traditional house was raised a foot and a half or more from the ground. The custom of removing shoes and the raised floor caused an essential difference from the western house in using the entrance hall and the whole interior space. A clear boundary between exterior space and interior space was unmistakably perceived through the visual and kinesthetic experiences caused by the level change, and, moreover, the action for removing shoes provide the psychological boundary. Visitors to a house often stayed in the entrance hall. Since the privacy between rooms in the traditional house was small, once the visitors entered beyond the entrance hall, they inevitably intruded into a highly private area. Thus the entrance hall was a place for casual social interaction, and it played a role in maintaining the internal order. Because of this important function, it was a clearly defined room occupying a relatively large area in the house. As mentioned above, since the privacy insulation between rooms in the recent house has become greater, the function of the entrance hall as a casual sitting-room has been reduced in importance; thus the entrance hall has become smaller in size.

Bathroom: The bathroom in the Japanese house is a good example of how activity patterns affect the spatial organization. Morse described the "strange" Japanese way of taking a bath. He noted, "These people do not wash in the baths, but boil or soak in them for a while, and then upon a platform, with an extra bucket of water and a towel, wash and dry themselves." This manner of taking bath has not changed to this day. Although the materials and mechanical equipments used in the recent bathroom have been well modernized, the layout of the elements is quite different from that of the western bathroom. Because of the manner of taking a bath, the whole bathroom becomes wet and humid after use. The toilet stool, therefore, is not in the bathroom but always separate from the bathroom. Another difference is the location of the bathroom in the house. The bathroom is usually planned to be located near the living room rather than the bedroom. For the Japanese, taking bath is not merely the private business of washing oneself, but it is a kind of enjoyable recreation and is associated more closely with the public domain.

Public baths still serve many neighborhoods, although they have become less popular than before. The public baths facilitate not merely the hygiene of the neighborhoods but also social interaction between users. People talk each other while soaking themselves in the hot bath, and while drying themselves in the veranda facing the garden. The lack of sex segregation in the public baths, which was once a subject of western curiosity, has been disappeared.

Kitchen: The kitchen has changed quit a bit after World War II. In the old Japanese house, the kitchen was usually pushed to the worst position in the house, and appliances were very primitive. In the recent house, the kitchen is given a better position and is equipped with modern appliances. It looks very similar to the western kitchen, although the size of the elements is smaller.

Cooking is wives' work and they stay a long time in the kitchen. The kitchen is more than merely a work space for them. They often dislike having their "own" kitchen touched by other women. The rapid improvement of the kitchen, therefore, is related to the rise of the wife's status in the family.

Taking the kitchen as an example, Seike explained how the small Japanese house is supported by a much larger settlement system, namely neighborhood facilities. He noted, "The refrigerator and pantry are not in the house, but at the corner complex of stores where the housewife goes each day to buy the groceries for each meal."

CONCLUSION

Figure 4 summarizes the discussions in the previous section by providing a brief overview of the change and constancy in the Japanese house. In this figure, those observable features of the physical aspects and activity patterns are arranged according to the degree of change. The features of the third category, namely behavioral and cultural variables, are placed near the related observable features. The degree of change, however, cannot be judged and expressed on a single continuum because the change in the Japanese house seemed to have taken place in at least two different ways. One is the transformation of the traditional feature itself. The openness of the plan, for example, is changed by reducing the area of the openings. The second way of change has occurred by limiting the application of the traditional feature, while the feature itself fairly well preserves original characteristics. Such elements as TATAMI-mats, papered sliding doors and TOKONOMA have come to be used only on limited areas called TATAMI-rooms in the house, while each element itself is just the same as that of a hundred years ago. Thus figure 4 treats them separately.

Although the diagram in the figure is very crude in its analysis, it suggests the following general ideas:

1. There are two ways of change: some of the traditional features are melted together with western features and create new form, and some are preserved and segregated from other westernized parts of the house.

2. The change of the concept of family, particularly the wife's status, and the concept of individual privacy provided a fairly strong "moment" for the change of the house.

3. Such functional spaces as kitchen and bathroom have changed in technological aspects (materials and equipments), but spatial aspects (scale and organization) remain unchanged.

4. The custom of removing shoes in the house and the manner of sitting on the floor seem to play a central role for preserving characteristic physical features.

5. The scale and size of the house which are related to the size of human body, are fairly constant. This tendency is clear in the Japanese house because of the module, KEN, which has a close relationship to human measure.

6. Some of the functions of the house have been replaced by the specialized facilities in the large settlement system (e.g., ceremony) and, conversely, some activities have come to be facilitated by the house (e.g., public baths).

Generally, the discussions in this paper have been exploratory, and the above statements, some of which might be applicable to the house of a different culture, are hypotheses rather than conclusions, which I would like to examine in a more long-range study.

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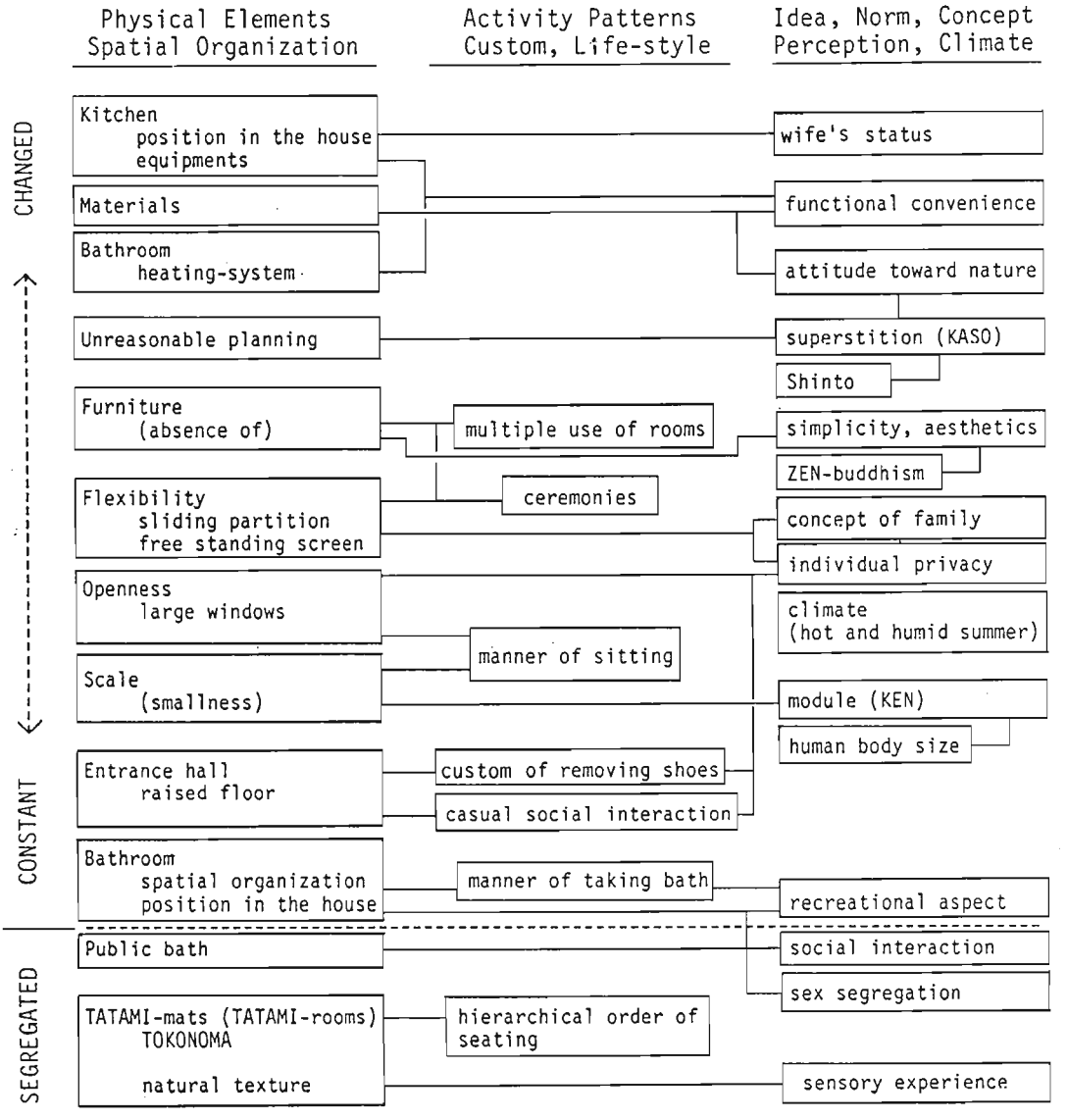

Figure 4. The constancy and change of the characteristic features in the Japanese house and their relation to the behavioral and cultural variables.

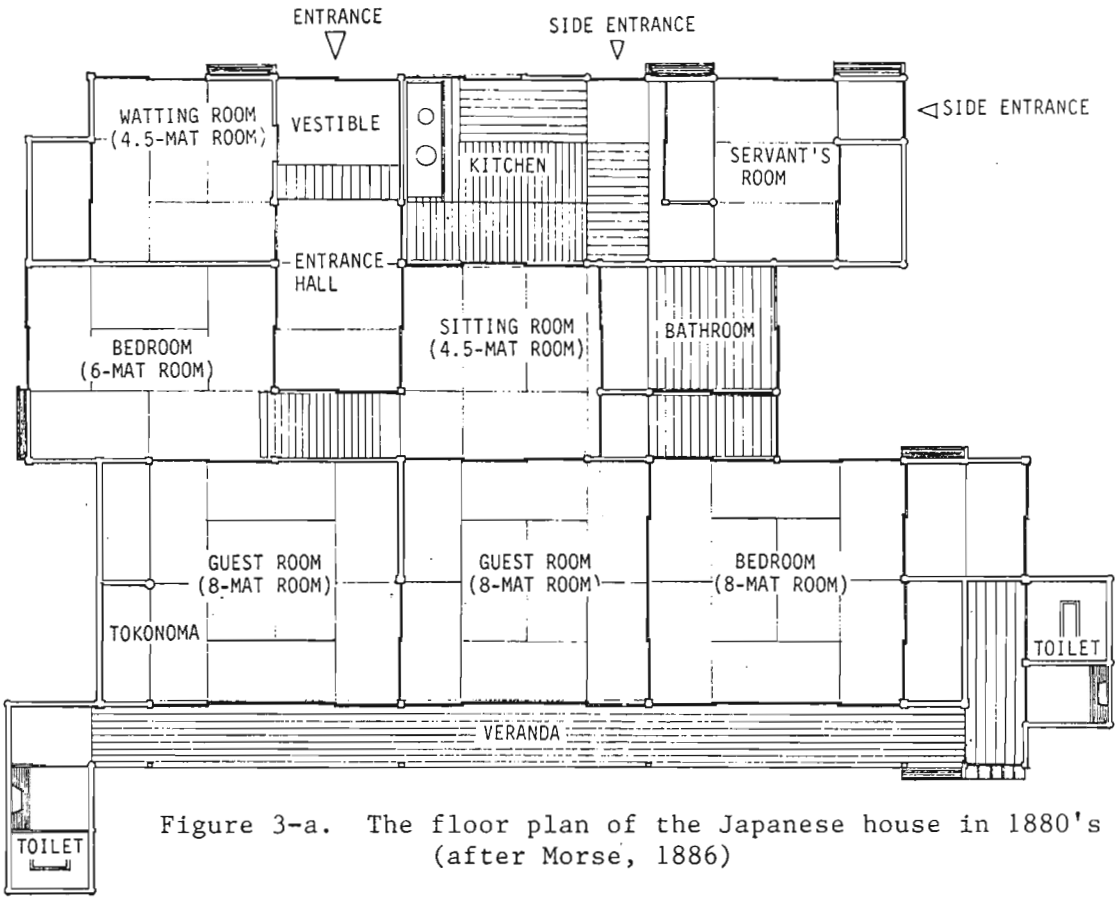

Figure 3-a. The floor plan of the Japanese house in 1880's (after Morse, 1886)

Figure 3-b. The floor plan of the Japanese house in 1930's (after Taut, 1936)

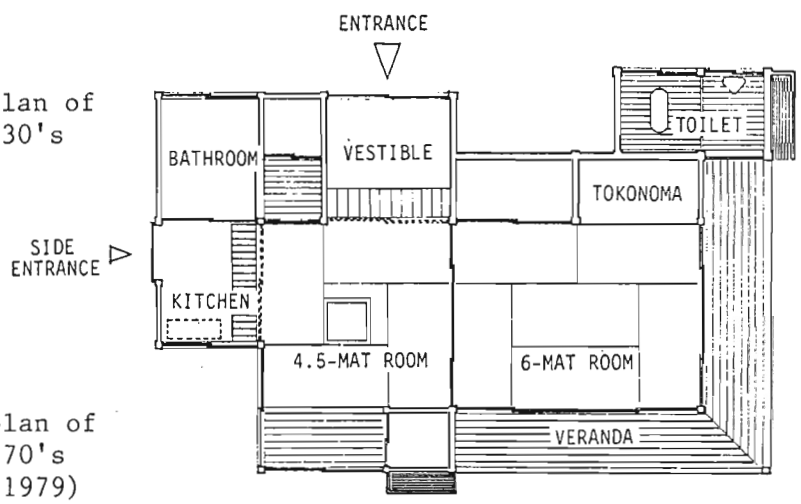

Figure 3-c. The floor plan of the Japanese house in 1970's (after Seike and Stone, 1979)