

Role of Landscape Architectural Space in Urban Culture

- Perception of Mountains among Residents in Kohoku New Town in Japan -

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ABSTRACT

Mountains have been playing an important role in the Japanese culture. It is important from landscape planning perspectives to maintain mountains in the proximity of cities. In this thesis, the geographical perception of residents in Kohoku New Town has been studied. Geographical changes before and after the Kohoku New Town development were clarified first. Following these clarifications, interviews with residents who moved into the area before and after the development were conducted. In this investigation, the interviewees were asked about mountains, valleys, hills, and slopes; and the areas that they recognize on the map were then specified.

From these results, the mountain area which residents recognize and the actual geographical features were compared. The geographical characteristics of the mountains that the residents recognize were revealed, and the perception of mountains was defined. Not only did geographical features and vegetation affect the perception of mountains, but also residents' personal experiences were important. As a result, new information for future geographical landscape planning has been obtained.

Key Words: Kohoku New Town, Mountain, Interview, Landscape, Personal Experience

I. Preface

Yokohama City geographically consists of complex hills. Kohoku New Town is located in the northern part of the city, and it was developed by Housing and Urban Development Corporation and Yokohama City in 1965. The objective of the development of Kohoku New Town was to preserve green areas and to build a town where people feel at home. As one of the solutions, parks and green areas were planned out by taking advantage of the original geography and vegetation. As mountains are deeply involved in the Japanese spiritual culture and lifestyle, it was important to preserve such 'mountains' in urban areas in order to develop towns where Japanese people feel truly at home.

Therefore, the geographical perception of residents in Kohoku New Town has been clarified, and so has the key recognition factors of mountains, which is an important factor

for the residents to feel at home. The definition of "mountains" in this thesis does not relate to those that are high and challenging for mountain climbing but rather lower ones that residents can emotionally enjoy the view in their close proximity.

1. Study Method

First of all, the green area preservation and development plans of Kohoku New Town were investigated from documents. The documents used for this investigation are listed in the Reference Section. Next, distribution of slopes and woods before and after the development was studied from topographical maps and aerial photographs. A 1:25,000-scale topographical map published in 1967 (published by Geographical Survey Institute) and aerial photographs in that year were used for the study of the pre-development state. As for post-development geography, Tsuzuki Ward White Map com-

Table 1. Study Summary

	Existing Kohoku New Town Residents	New Kohoku New Town Residents
Timing	End of October to beginning of December, 2006	End of October to beginning of December, 2006
Methodology	Interview	Interview
Sample Number	10	12
Occupation	Farming(4), Unemployed/Retired(3), Construction(1), Real Estate(1), and Self-Employed(1)	Homemaker(6), Office Worker(2), Part-time worker(2), and Unemployed/Retired(2)
Study Items	Demographics(Age, Gender, Occupation, Address) Recognition of geography before development Recognition of geography after development Places to have recognized as mountains, valleys, slopes, and hills before development Places to recognize as mountains, valleys, slopes, and hills now Image of mountains, valleys, slopes, and hills Facilities, parks, and roads that are frequently utilized Pros and cons of geography of Kohoku New Town	Demographics(Age, Gender, Occupation, Address, History of Residency, Hometown) Recognition of geography Places to recognize as mountains, valleys, slopes, and hills Image of mountains, valleys, slopes, and hills Facilities, parks, and roads that are frequently utilized Pros and cons of geography of Kohoku New Town

piled in 2006(published by Yokohama City) and aerial photographs were studied. Interviews were also conducted in order to understand the residents' geographical recognition and key factors in Kohoku New Town. The total sample size was 22 residents, and it included 10 residents who moved in before the development and 12 who moved in after the development(Table 1). In this study, an assumption was made that different experiences before and after the development would affect the results. "Existing Kohoku New Town Residents" in Table 1 refers to residents who moved into the area before the development. With regards to the study of existing residents, ones that were 60 years of age and above were studied due to their solid knowledge of the pre-development environment. The investigation with new residents was conducted through street interviews with eight respondents. The other four respondents were residents involved in green area preservation activities. In addition, geography of mountains and vegetation conditions that residents recognize were studied.

The summary of Kohoku New Town is as follows. Kohoku New Town is located on top of the hilly area: where the altitude ranges from 10 to 80 meters. Development in this area was quickly sprawling around 1960; and Yokohama City hence started the Kohoku New Town Project in order to prevent randomly sprawling developments in the area and to organize well planned development. The objective of Housing and Urban Development Corporation was 'to create towns where people feel at home by preserving a green environment with best efforts'. Consequently, in Kohoku New Town, existing natural geography and woods have been well pre-

served and are utilized as parks and green pathways.

II. Result and Considerations

1. Geographical Recognition of Residents

Existing residents commented regarding the geography of Kohoku New Town before the development: 'This area was all about mountains in the old time.' All 10 respondents recognized the geography before the development as mountains. Eight out of these ten respondents still recognize that there still partially exist mountains in the area. Among new residents, eight respondents recognized parks as mountains, and four did not recognize mountains at all. Below exhibit highlight examples of responses received.

- Existing residents' response examples regarding mountains
 - This area was all about mountains in the old time.(Male, 70s)
 - There have always been mountains in this area(Male, 70s)
 - Mountains to me are coppices and bamboo groves (Female, 70s)(Male, 60s)
- New residents' examples of responses regarding mountains
 - Large parks are considered mountains.(Female, 20s)
 - The Orita Park is a mountain.(Female, 40s)
 - The Chuo Park is like a mountain.(Male, 60s)

Next, the relationship between the residents and the mountains in Kohoku New Town was compared before and

after the development. Before the development, economic relationships were observed. For example, residents would procure firewood in mountains, which were thus supporting residents. On the other hand, after the development, their relationship turned to be mainly recreational like walking for leisure.

- Examples of responses regarding the relationship with mountains before the development
 - Went to pick firewood and bamboo shoots(an existing resident).
 - Went on a primary school excursion(an existing resident).
 - Mountains here seemed to be as high as Mount Fuji (an existing resident).
- Examples of responses regarding the relationship with mountains after the development
 - Feel changes of seasons(a new resident).
 - Walk path for leisure walks(a new resident).
 - Observe from the river(a new resident).
 - Can enjoy the view from the top(a new resident).
 - Can see mountains covered with bamboos and cedar trees(an existing resident).

General images of mountains between existing residents and new ones were then compared. For this section, rather broad and general images of mountains were questioned without limiting images of mountains within Kohoku New Town. The image of mountains among existing residents can be summarized as a place which is approximately 30 meters in altitude and covered with woods where you can climb up. New residents imagined mountains to be hundreds of meters in altitude and covered with woods, and to be a place where there is no residency. New residents were thus found to imagine mountains to be relatively high in altitude.

- Existing residents' examples of responses regarding mountain images
 - Mountains must have trees.
 - Mountains give me a feel of climbing up.
 - Mountains mean small mountains with approximately 30 meters in altitude in this area.
- New residents' examples of responses regarding mountain images
 - There are trees, woods, forests, bamboo forests and so forth.
 - Mountains should be hundreds of meters in altitude.
 - A place where there isn't much residency.

Differences in relationship between residents and mountains were also compared between existing residents and new residents. Whereas existing residents deeply associated mountains with lifestyle, for example, such as picking firewood; new residents haven't been involved as intimately. Existing residents and new residents shared a common image that mountains have woods; however, a clear difference was observed where new residents did not feel mountains to be close to their everyday lives. In addition, there is a certain altitude associated with the recognition of mountains; woodland and bamboo forests are also important factors. Another important factor was respondents' experiences with mountains, such as, 'to see', 'to feel changes of seasons', and 'to remember playing in childhood'. As a result of this study, geography, vegetation, and personal experiences were major factors that affected residents' recognition of mountains in Kohoku New Town.

- Sample responses on major recognition factors of mountains
 - Geography
 - Mountains are not just about high mountains(an existing resident).
 - Mountains should be at least 500 meters or higher in altitude(a new resident).
 - Vegetation
 - Mountains to me meant coppice(an existing resident).
 - (A mountain) is a place with green and trees(a new resident).
- Personal experiences
 - Can see mountains covered with bamboos and cedar trees(an existing resident).
 - Can see mountains when driving to go shopping(a new resident).
 - Can see from the river(a new resident).
 - Can enjoy the view from the top(a new resident).
 - Went on a school picnic in the first or second grade(an existing resident).

2. Places that were Recognized as Mountains

Respondents recognized as mountains are shown from a to j in Figure 1. These areas are the green areas of parks. Woods on slopes other than these areas were not recognized as mountains; however, the Otsuka/Saikachido Relics Park, shown as c in Figure 1, was recognized as a mountain, inclusive

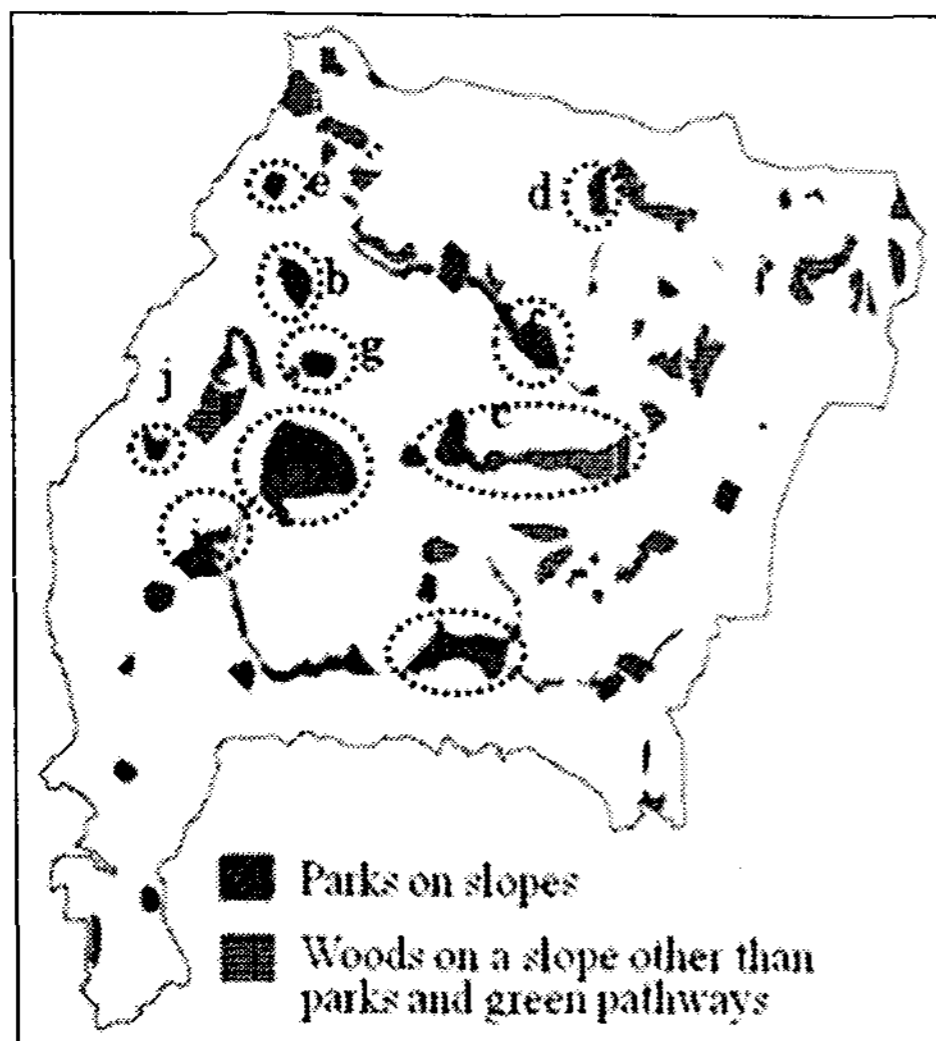


Figure 1. Parks that were recognized as mountains in Kohoku New Town

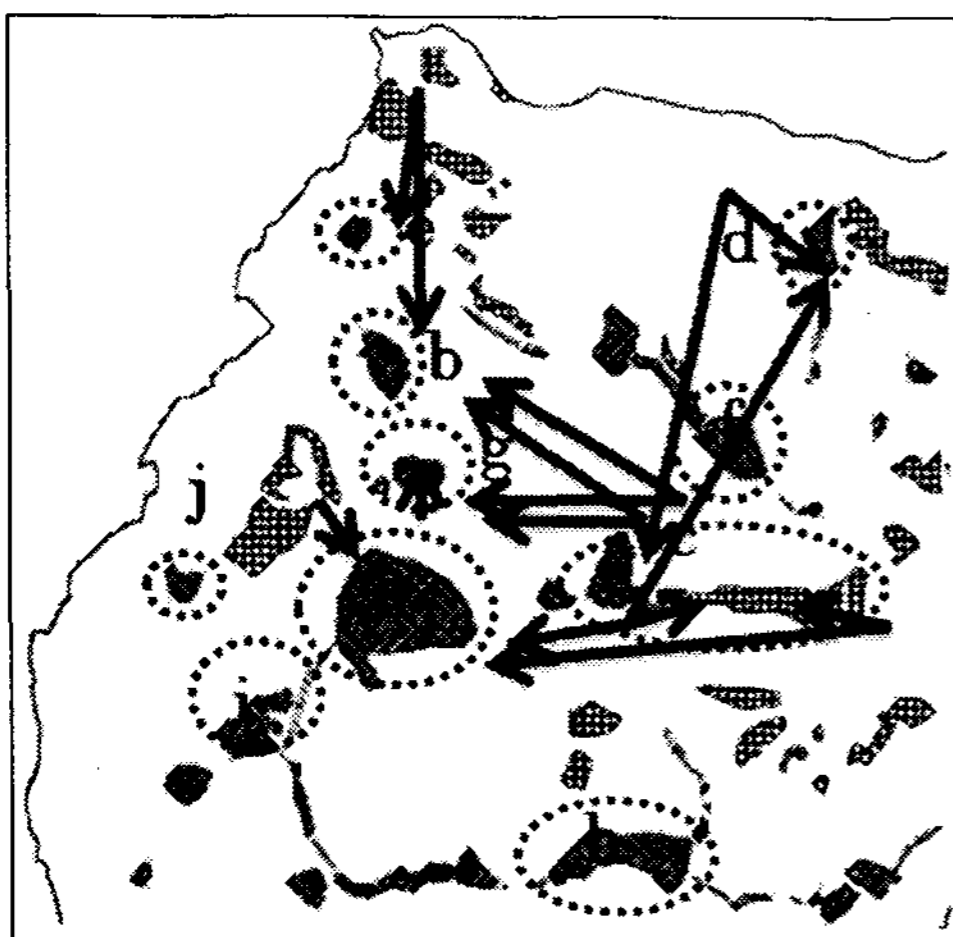


Figure 2. Position of existing residents' residences and mountains that they recognize

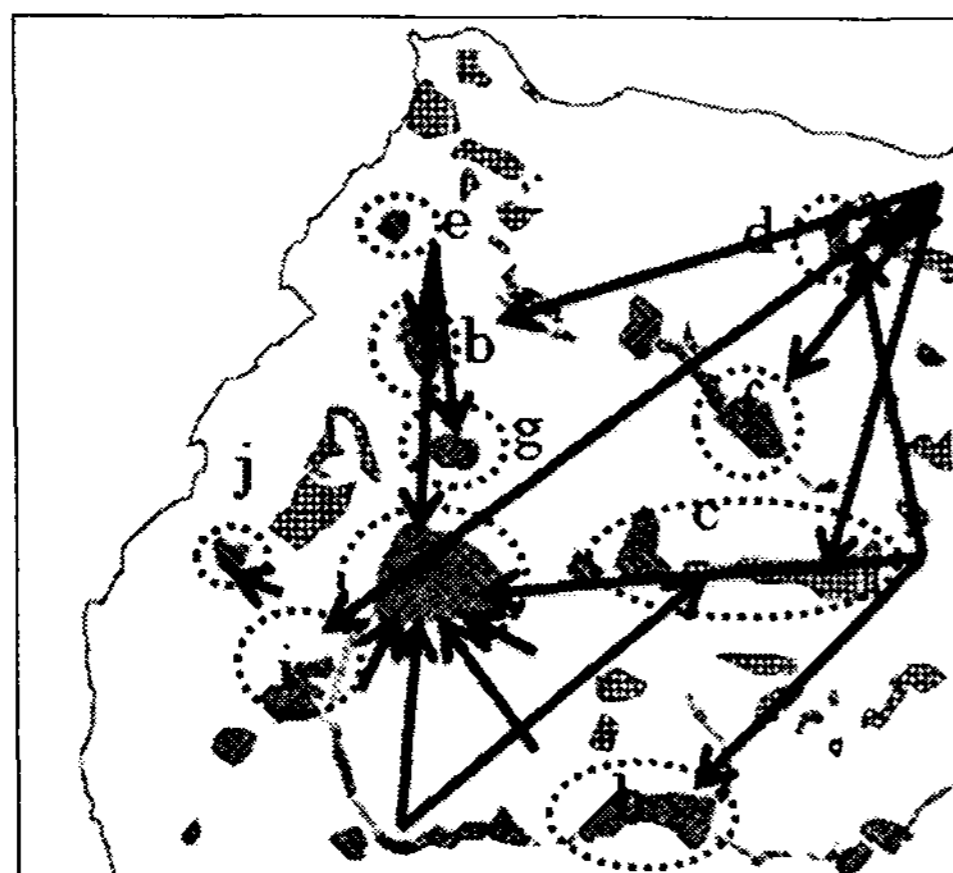


Figure 3. Position of new residents' residences and mountains that they recognize

of the continuous bamboo forest area.

Figure 2 indicates the position of existing residents' residences and mountains that they recognize, and Figure 3 that of new residents and mountains that new residents recognize. Lines in Figures were drawn from residences to mountains that residents recognize. Locations close to residences were recognized as mountains, yet ones far from residences were also recognized in some cases.

3. Key Recognition Factors of Mountains

Respondents in Kohoku New Town area were found to have always recognized hills as mountains, and this recognition still remains the same. In addition, the important factor for residents to recognize mountains was to have woods on a slope and its surrounding area designed as a park. This result is assumed that the fact that the area is designed as a park allows respondents to have easy access, and subsequently recognize the area as mountainous. Therefore, the precondition for mountain recognition is natural conditions, such as geography and vegetation. Moreover, the addition of personal experiences is identified to trigger recognition of mountains.

On-site surveys, the study of aerial photographs, and topographical map analysis were conducted to study geography and vegetation conditions of the areas that were recognized as mountains. As a result, the main vegetation was found to be broadleaf trees and bamboo forests. Altitude was found to be 20 to 40 meters (Table 2).

Experiences in the mountains in Kohoku New Town included: 'feel change of seasons', 'enjoy good scenery', 'see from a road', 'see from a river' and 'see when driving'. Experiences of seeing mountains thus seemed to especially affect the recognition of mountains. Therefore, relationships between positions of mountains and angles from which residents see mountains were then analyzed. Positions of roads and rivers that would be the main view points of mountains, and green areas that were also recognized as mountains are shown in Figure 4. Many of those areas were found to be facing a road and/or a river. Especially a and c are facing both a road and a river. Next, mountains were classified according to different angles from which residents see them. This classification was a result of the on-site survey of angles, and the view of these mountains from roads and rivers that are main view points. Two groups were found: 1) the mountains residents see from a distance, and 2) ones they view

Table 2. Places Where Residents Recognize as Mountains

	Name	Existing	New	Major vegetation	Highest Altitude	Height (Height Gap)
a	Tsuzuki-Cyuou Park	4	6	Broad-leaf trees, Bamboos	56m	36m
b	Yamazaki Park	4	2	Broad-leaf trees	64m	40m
c	Otsuka/Saikachido Relics Park	3	3	Bamboos	50m	35m
d	Yamadafuji Park	2	2	Broad-leaf trees, Bamboos	42m	22m
e	Karasuyama Park	1	0	Broad-leaf trees	47m	24m
f	Tokusyou Park	0	1	Broad-leaf trees, Bamboos	58m	20m
g	Nakagawa-Hachimanyama Park	0	1	Broad-leaf trees, Bamboos	60m	30m
h	Chigasaki Park	0	1	Broad-leaf trees, Bamboos	48m	20m
i	Kamoike Park	0	1	Broad-leaf trees	38m	20m
j	Orita-Fudo Park	0	1	Broad-leaf trees, Bamboos	50m	26m

from up close(Figure 4).

The mountains residents see from a distance were a, b, c, and g. They were observed because they were facing a river. Also, the entire figure of these mountains can be observed, since their locations are far enough from the view points. Moreover, a, b and c, were all higher than 35 meters, and that altitude made it easy for residents to recognize them from a distance. d, f and j were the mountains that residents would view up close. These are approximately 25 meters in altitude and hence it is hard to see the entire mountain from a distance. However, these mountains are facing a road, and thus residents would easily see them in their daily lives. This would make these mountains difficult to overlook and easy to recognize.

III. Conclusion

Kohoku New Town was located on a complex hill. At present, mountains from the pre-development period remain only in parks, green walk paths, and undeveloped districts.

Residents who moved in before the development and after the development had different recognition of mountains; however, existing residents and new residents shared many of the same views on mountain recognition. Two common factors are that the mountains have vegetation and that respondents have personal experiences with the mountains. The main vegetation in the areas which were recognized as mountains were broadleaf trees and bamboo forests; the altitude was 20 to 40 meters. Therefore, the following complex factors affect the recognition of mountains in Kohoku New Town:

- Geography: 20 meters or higher in altitude. Vegetation gives feel of higher altitude.
- Vegetation: Covered with woods and bamboo trees.
- Personal experiences: view closely looking up and view from a distance.

Kohoku New Town intentionally preserved the original geography in order for residents to feel at home. As seen in this study, residents in Kohoku New Town still recognize mountains even now. Moreover, this recognition of mountains is considered effective for residents to feel nature. As a result of the investigation of Kohoku New Town, highlighted below are four significant factors that would materialize mountain recognition upon landscape planning of another 'New Town'. Also, these findings are important for maintenance and management as well as the future redevelopment of Kohoku New Town.

- ① Design parks by preserving existing geography and woods.
- ② Consider positions from view points, such as roads and rivers.
- ③ Consider distant views from open areas, such as rivers.
- ④ Consider views to closely look up.

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