

# Comparative Study on Path Design of Traditional Garden and Modernistic Park

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## Abstract

By Article two of a Japanese urban park law, it prescribes park facilities strictly, and one of the classifications includes "path and plaza". In addition, it is assumed that we divide several kinds different paths of width by size of the park in a path design of a park with a textbook of park design in a trunk line path, the main path, a vice-path or a branch path and design it. From such a thing, in the path of an urban park, a line consists straight of fixed width, and it is most that one pattern is considered to be. Therefore, in modern urban park, a path and division of a plaza are lucid explanation.

It is rare that the historical parks which generally former daimyo gardens are shown later, and is used as a kind of an urban park width of the path where was particularly posted in a strolling garden in that is fixed, and width waits straight for even a line and waits, and, for this, there is. As a result, it is a path and the situation that are hard to be distinguished of a plaza. Although there are a difference of design and a difference of pavement materials in modern landscape space when We watch road surface constitution of the path that We did that will let you wait, in gross We are uniform, and it is it with a result to be poor in change nature.

From such an observation, this consideration compared traditional landscape space and modern landscape space with path width about two points of road surface constitution through the trial that a graph analyzed the actual place data which measured into and lectured on an ideal method of a park path from this.

*Key Words : Park Path, Traditional Landscape Space, Modern Landscape Space, Park Design, Pavement*

## 1. BACKGROUND AND PURPOSE

The modern society is now although pedestrian priority is hung up over the big theme of a traffic plan.

It is the society of car priority. This has also affected the composition of the path. That is, the path of a modern city park is convenient for a car

passing just like the road in a city area as if fixed width ,moreover path structure a driveway ,the same flat nature, such as asphalt and concrete pavement, is strong, and is the present condition of occupying most. A path is an institution important for a park. It is because placing a viewpoint on a path, enjoying a surrounding scene, and making an excursion has the big meaning of park use. Supposing it asked the garden for the prototype of the park which makes

such excursion nature a purport, I thought the stroll garden which is one style of a Japanese garden was a valuable object which carries out investigation of the state of original of path. The path of a stroll garden is path of man priority certainly. Not car priority but a man can enjoy the whole garden freely, for the reason, path alignment changes, and scene deployment is carried out with various composition. The purpose of this research advances this awareness of the issues 1 step, and analyzes the path composition of the stroll garden in Japan from two viewpoints, change of a width member, and road surface composition, to concrete. And the framework of the indicator of a future park path design is proposed by comparing the city park designed as a modern park of this scale in accordance with this.

By the way, it is hardly related with the research on the park path of the conventional park "hoping that the width of a park path is not fixed". Witch for or the thing about the alignment of a park path to be most, and to have noted by this research. Moreover, what made reference about the relation between the width of a park path and the road surface composition of a park path is not found. That is, it was judged that there was originality of research.

## II. RESEARCH SUBJECT, OBJECT, AND METHOD

In order to attain the above-mentioned purpose, the following research subjects were set up, analysis work was done one by one, and it considered as the

procedure of considering. The investigation period measured path width for one month.

1) In order to grasp the park path present condition of a Japanese garden (stroll garden), it was distributed in Tokyo and the form-feature was analyzed by digital-data-izing change of the width of the park path of four gardens of Koishikawa Korakuen by which open use is carried out as a history park etc., Rikugien, Kiyosumi Garden, and a Kyu shiba-rikyu garden.

2) As a method of analyzing "the route of a park path" used as a means to enjoy the whole garden, the pattern of the route composition of a park path was investigated and it examined how the difference in road surface composition would have influenced the width member composition of a park path.

3) After grasping the park path characteristic in these traditional gardening space, in order to clarify the subject in a present modern city park, investigation analysis of a Sosigaya park and Nakagawa park was carried out as present age gardening space of the same scale as an object Japanese garden.

## III. METHOD OF INVESTIGATION, ANALYSIS, AND MEASUREMENT

### 1. Measurement about Change of a Path Width Member

Measurement of a path width member used as the basis figure the plane view which came to hand from the Tokyo Construction Bureau which has managed

Table 1. The items of the object ground

Garden name	Made time	Area (ha)	The total extension (m)	The number of measurement points (part)	Maximum (m)	Average value (m)	Minimum value (m)	
Kyu Shiba-rikyu Garden	Kiyosumi Garden	Edo	3.9	527.5	211	5.0	1.8	0.9
	Koishikawa Korakuen	Edo	4.3	455.0	183	3.7	1.6	0.8
	Rikugien	Edo	7.1	460.0	181	6.4	2.1	1.1
		Edo	8.1	655.0	266	7.3	2.2	2.2
Garden name	Made time	Area (ha)	The total extension (m)	The number of measurement points (part)	Maximum (m)	Average value (m)	Minimum value (m)	
Nakagawa park	Showa	6.5	677.5	272	30	6.0	1.5	
	Sosigaya park	Showa	8.1	1077.5	425	7.5	3.4	1.5

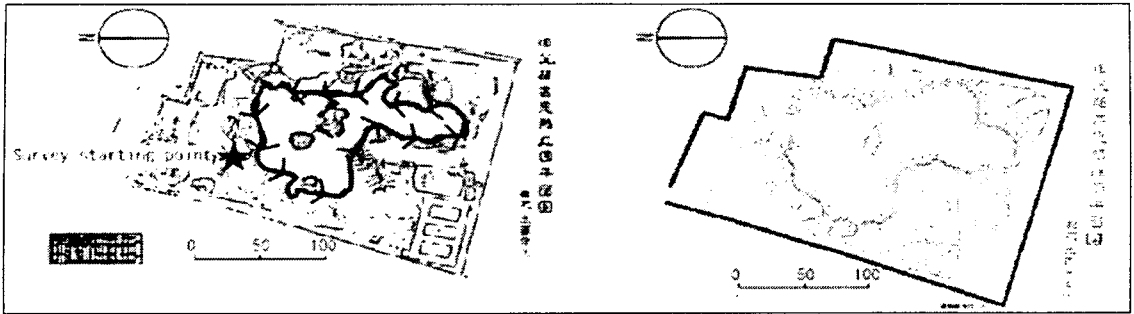


Fig. 1. The survey usual route of the Kyu Shiba-rikyu garden. Fig. 2. The survey map of the Shiba-rikyu garden.

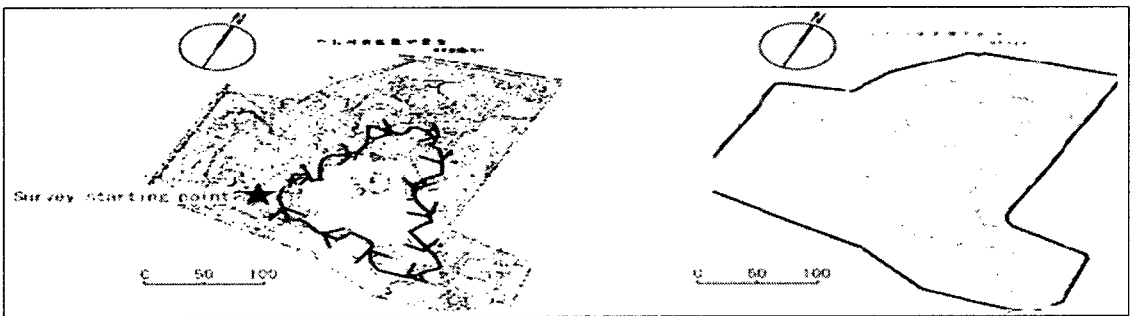


Fig. 3. The survey usual route of the Koshikawa garden. Fig. 4. The survey map of the Koshikawa garden.

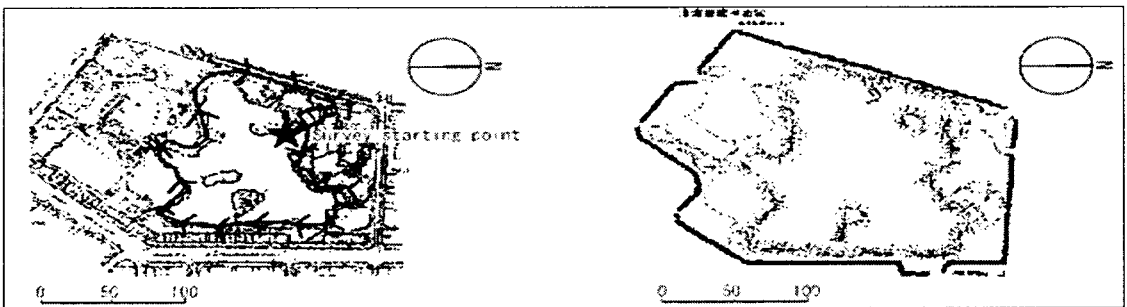


Fig. 5. The survey usual route of the Kiyosumi garden. Fig. 6. The survey map of the Kiyosumi garden.

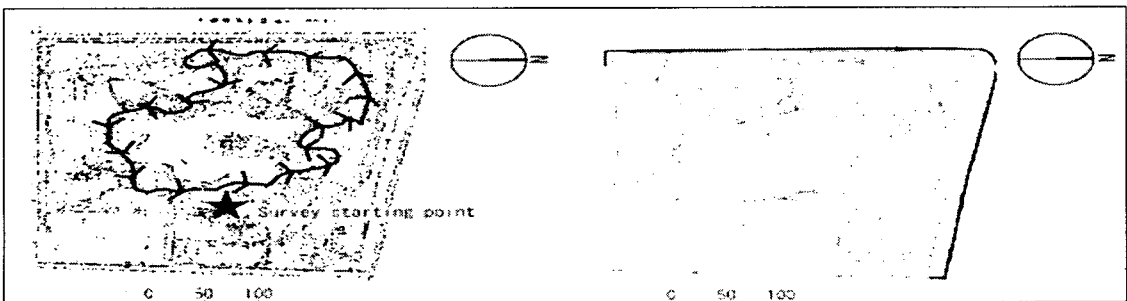


Fig. 7. The survey usual route of the Rikugien. Fig. 8. The survey map of the Rikugien.

the garden etc., it added the field survey to this, created Same Scale of four gardens, and 1/500 survey map after correction in part, and was considered as the measurement work on this figure. Along with the usual route, measure point is set up in the advance direction for the main path of each garden at intervals of 2.5m, and although it decided to measure the width member in the position, the basis of 2.5m is obtained from an extended distance with the smallest change of a path width. It is the reason which adopted the method of computing the form-feature by deposit the measured value on a path extension. Moreover, in order to make the error of the actual measurement in a spot, and the measurement-on figure ground into the minimum, it considered as the method of limiting record to a photograph. (Fig. 1~Fig. 8)

## 2. Investigation Analysis of the Road Surface Composition of a Path

In order to check the road surface composition of each garden path, at the spot, it recorded on the photograph and the pattern figure of road surface analysis was created.

## IV. RESULT OF COMPARISON / ANALYSIS WORK

### 1. The Analysis Result of Paths, such as a Garden

A graph changed into it by Fig. 1~Fig. 8. It is a figure as a result of analyzing object four gardens and two parks. As shown in Fig. 9, Fig. 10, it is clear that the path width of a Japanese garden is not fixed to all present age parks being path composition which continues by the fixed width. Moreover, when it saw in the extended direction, the path of a stroll garden

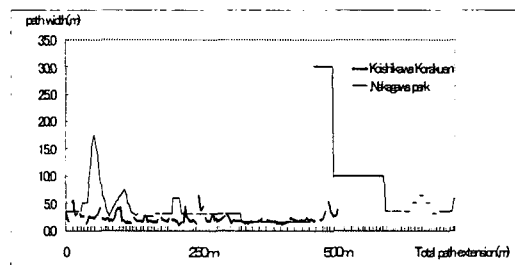


Fig. 9. A change of width by a local measurement

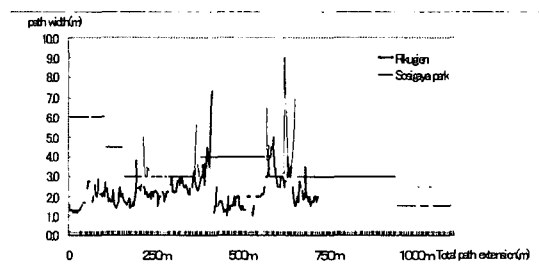


Fig. 10. A change of width by a local measurement

was not clear in the classification of the straight line section and the curvilinear section, and distinction of the path section and an open space portion was difficult for it, as the technique with which the path seen in a Japanese garden familiarizes this alignment into a garden in short although the curve of the circle from which a straight line and curvature differ is intricately grasped as union alignment "a width, it was suggested that unfixed principle" is working. Moreover, although the role of a path and an open space was clear, it turns out that the existence form is very ambiguous.

### 2. The Analysis Result of Road Surface Composition, Such as a Garden Path

As a result of investigating road surface composition with the longest extended distance in each garden etc., it was the park road of the Clay pavement in the path of a gravel and a macadam, and Rikugien, Kiyosumi Garden, KyuShiba-Rikyu

Table 2. The type of pavement

Used ranking	Koishikawa Korakuen Pavement material	Nakagawa park Pavement material
①	A gravel and a macadam	Interlocking grip
②	Random tension and a slate	Dust
③	Clay	Inquiry concrete plate
④	Stepping stone	turf
⑤	A stepping stone / gravel, and a macadam	

Table 3. The type of pavement

Used ranking	Rikugien Pavement material	Soshyogaya park Pavement material
①	Clay	Concrete
②	A stepping stone/Clay	Asphalt
③	A stepping stone/gravel	Interlocking grip
④	A log/Clay	Dust
⑤		Tree

Garden, and Koishikawa Korakuen. On the other hand, in the path of interlocking grip pavement in Nakagawa park which is a present age city park, and Sosigaya park, it was a concrete path. Next, its attention was paid about the diversity of the road surface composition of a path, and analysis was advanced. By making the kind of road surface composition in paths, such as each garden, into an appearance rate, investigation and as a result of analyzing, as for the change, many ways of a Japanese garden were seen in comparison of a Japanese garden and a present age park. Moreover, in the case of the present age park, in the Japanese garden, the actual condition that the specific pattern was introduced into a long extended distance was seen to the road surface composition of one pattern being introduction in a limited short distance. Table 2, and Table 3 arranged the investigation analysis result of the road surface composition introduced into change, each garden, etc. of the path characteristic.

It is an analysis result of Table 2 and Table 3.

- ① In a Japanese garden, it turns out that many Clay pavement paths are seen for path width in the section.
- ② It turns out that it gets down with an ascent path, and pavement material is used for a path in a short distance (length).
- ③ When using two pavement material together like

a stepping stone/Clay, and a stepping stone/gravel, it turns out that it is used in a short distance (length).

- ④ In present age gardening space, the width member of a path was fixed, and there was much road surface composition of interlocking grip pavement in the straight line section, on the path of the curvilinear section, There is much road surface composition of concrete pavement, and things were understood.

## V. CONSIDERATION

The curve of the circle from which a straight line and a curve differ is fine, and the curve of the path seen from the above result in a Japanese garden is grasped as a union thing. Path curvature becomes large calmly as the area of a garden becomes large. However, even if it is large area, when an inside is re-divided into some and has become a small garden union type, I hear that curvature does not become large and there is. On the other hand, a modern park is that the space of a park road and an open space is classified clearly, and the function and role of the space have clarified, and was understood that there is little change of path alignment. Although many gravel seldom used in a modern park, macadam, and stepping stones are used for the Japanese garden,

these are used in the accent in some places, and are considered that the impression over people's path changes from each individuality or impact. Moreover, it turns out that various pavement material currently used for the path for the alignment which is not regularity of a stroll garden is not worried so much. It is thought that the one design technique can be proposed from taking in the feature of such a Japanese garden and a modern park to a park path design.

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