Visual Perception of Landscape - from Kyoto city to its surrounding Mountains[1]

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This paper aims to present tools for examining the dynamic process of visual perception of landscape. Eight case studies of pathways leading from Kyoto city to its surrounding mountains were examined with the assumption that the streets and pathways of the city direct visual and spatial succession of views and motion to the vicinity of the surrounding mountains. In that sense, the pathways are set as visual corridors, conducted through Shrine and Temples compounds located on the mountain's foot. A model for for visual perception of landscape is suggesred, and after analytical process, five compositional elements were abstracted, viewpoint-goal, directionality, boundary, domain, and sequence. The elements can assist in measuring and qualifying the dynamic perception of landscape and in managing the landscape as a dynamic entity.

Keywords: *dynamic process of perceiving the visual landscape, visual corridor, elements of visual Perception of landscape, viewpoint-goal, directionality, boundary, domain, and sequence*

1. INTRODUCTION

(1) Background

A stroll along the various streets and pathways of Kyoto exhibits the complexity of its landscape. At every glance, from every spot, the appearance of the surrounding mountains is varied, affording numerous views and spaces. The layout of the city in addition to the proximity to its surrounding mountains (about 5km from the city center to the foot of the mountains) enables the observer not only to view the landscape, but a convenient access to stroll to the mountain's foot or climb to its summit. During the evolution of the Kyoto, various Temples and Shrines were constructed on the foot of the mountains. This 'ritual' zone, set on the transitional zone between natural and urban spaces, mediate between the divine and the secular realms. The passage, thus, consider as 'social-cultural-religious' as well as perceptual.

The presented research is part of a larger attempt to find ways for understanding the dynamic process of perceiving and experiencing the landscape.

On this paper, basic tools for analyzing the visual perception of landscape are presented, examined on one principle case study. In the following papers, comparison between other case studies will be presented, aiming to suggest ways for using the model for practical implications for landscape planning and management.[2]

(2) Purpose and Method

The main purpose of this paper is to present tools for examining the dynamic process of visual perception of landscape of Kyoto and its surrounding mountains.

The methodological process is first to suggest model for examining the dynamic process of perceiving the landscape. The second phase is to examine quantitatively and qualitatively the visual and spatial transition along existing pathways leading from the city to its surrounding mountains. The intention is later to abstract from the model compositional elements, and to diagnose typology of

pathways leading from the city to its surrounding mountains.

2. MODEL FOR VISUAL PERCEPTION OF LANDSCAPE

The conceptual model considers the landscape as a dynamic entity, varying according to the observer's position. The landscape primary distinguished to temporary observation position and viewpoint ("here"), and to the mountain scenery, set as a background, an object for observation, and as a terminal site for participation ("there")[3]. The model further abstracted to three compositional components, the observer's viewpoint, the mountains physical character, and the spatial configuration of the pathway, leading from the varying viewpoints to the mountains.

The values for each component were analyzed in relation to the position of the observer in visual continuum towards his terminal goal, and finally set as a matrix. The matrix attributes included the path distant and height ratio, the path pattern, direction, length and slope, and the distance and angles to the observed objects. In that sense, each key viewpoint is expected to compose attributes with various significance to the whole continuum. (**Fig.1**).

3.APPROACHES TO KYOTO MOUNTAINS

The three-sided mountain chains surrounding Kyoto define the surrounded plain as a framework for observation. Thus, in relation to a locomotive observer, the mountains set as visual boundaries in constant change. In addition, The Mountains are set as focal points and goals for participation (pilgrimage, hiking, and so on). The direction and orientation of the streets and pathways relates to the directionality of its surrounding mountains. Thus, the spatial configuration and directionality of both, city layout of streets and pathways and the surrounding mountains refer to perceptual network. The passage between the domain of the city to the domain of its enclosing mountains actualizes through a crossing of the lower and middle slopes of the mountains, composing a third domain, a ritual domain, as during the passage, the domains are gradually 'exposed' to the locomotive observer (refer again to **Fig.1**)

The main body of the research are eight examined approaches from the city to the surrounding mountains. (**Fig.2**). The main assumption is that the approaches direct visual and spatial continuity of views and movement to the vicinity of the surrounding mountains through the Shrine or Temple compounds[4]. Each approach was divided to main parts, and evaluated according to the suggested model, summarized by a chart.

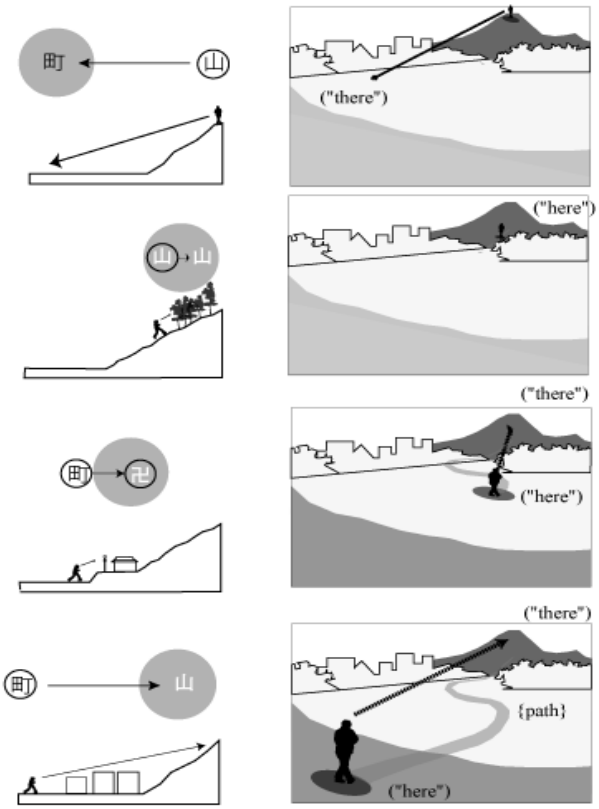

Fig.1 transition from 'city' to mountain (read up)

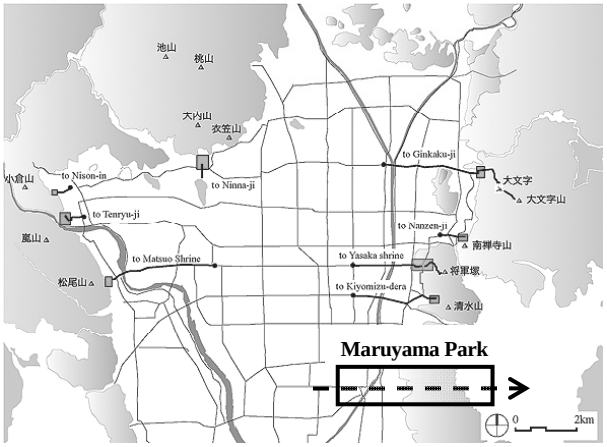

Fig.2 Eight Examined Approaches

4. RESULTS:
CASE STUDY OF MARUYAMA PARK

(1) Model components

The approach to *Yasaka* Shrine and *Maruyama* Park is an example of directionality achieved by both, natural features, and man-made objects. The spatial configuration of the path is moderate and relatively straight, perpendicular to the approached mountain. The dominant model components of this approach are the path direction, slope elevation and the angle of elevation. The components are moderate, offer continuity of space, view and motion. The dominant viewpoints are the observation points, *Shijo* Bridge, and the park's plaza, affording in addition to its scenic values, possibility to 'enter' the scene, and stroll up to the mountain. (**Fig.3, photo M6**)

The configuration enables continuous topographic sequence, directed to the vicinity of *Higashiyama* Mountains. The relatively straight street of *Shijo* is further continued to the straight axis of *Yasaka* Shrine compound, and then further continued to the path to *Maruyama* Park. (**Fig.3, photo M4**). From the park, the path meanders, further continue through a planned garden, into the domain of the forest.

As a summery, the continuity of the moderate slope, and the direction of the path compose continual transition from the domain of the city to the domain of nature through a ritual domain. In that sense, the spatial configuration of the path with correlation to the frontal succession of viewpoints, 'invite' the observer to 'enter to the scenery', and become participant in the landscape. (Refer again to **Fig.3**)

(2) Compositional elements

The first element is *viewpoint-goal*[5] refer to the observer's position in reference to his goal (site) of observation. In that sense, the visibility from the viewpoint can prevent or encourage movement towards the terminal site. The duality of those components determine the possibilities for a view and for a movement towards an 'entrance' for that view.

The second element *directionality*, refer to the directionality of path, and the directionality of the mountain's natural feature. The case of *Maruyama* Park is an example of compose moderate slope, in addition to the relatively straight path, perpendicular to the approached mountain. The composition enable continual sequence, as all the components of the scenery are set as part of the total composition, directed to the vicinity of Higashiyama.

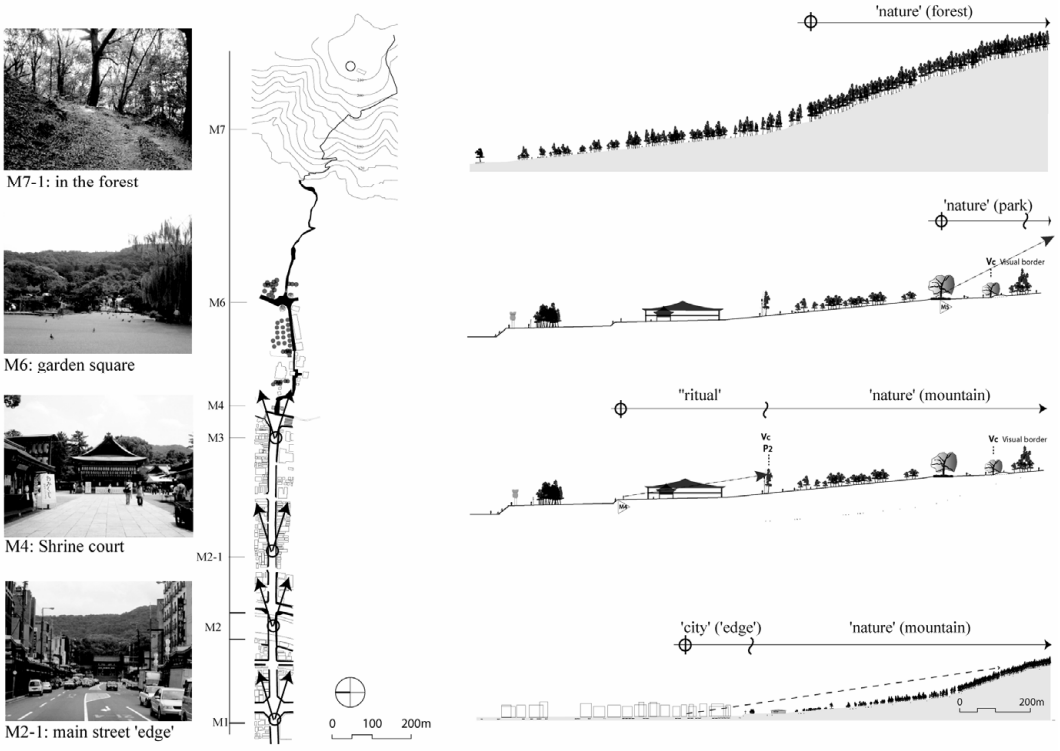

Fig.3 Visual corridor of Yasaka Shrine through Maruyama Park (read up)

The third element is sense of enclosure, or *boundary*. A boundary (man-made, or natural) is significant element determines the path as a channel of vision and movement.

The fourth element is *domain*, refer more conceptually to the domains of the 'city', 'ritual', and 'nature'. In each case, the mentioned domains traverse by distinct features. A transition between domains can be either visual (also symbolic) or a physical entry. In most of the case studies, a prominent gate distinguished between the domains. In few, the entrance area was emphasized by a staircase (*Maruyama*), grove of trees (*Maruyama*), especially significant when concerning planned transition between the city (as a secular domain) and the ritual domain.

The fifth element is *sequence*, as the totality of the dynamic experience of the observer and participant in the landscape. Sequence refers to the total experience, composed from either one of the four mentioned elements. In that sense, each type composes different sequential quality. In a case where the four elements are part of the total composition, the visual experience or perception is more vivid and rich. (*Maruyama*). (**Fig.4**).

5. CONCLUSIONS

(1) Model for dynamic visual perception of landscape

Each examined case study composed different visual and spatial attributes. In that sense, in each approach some components were more significant than the others. Nevertheless, the most prominent component considered as the observer position and angle of elevation, with relevancy to the direction of the path and the meaning or goal afforded by the mountains or ritual zones. Those components determine the fundamental relations, suggested in the model.

(2) Compositional elements for dynamic visual perception of landscape

The dynamic model for visual perception of landscape was examined according to the model components, finally abstracted to five main elements.

(3) Continuity from city to mountain

The pathways leading to the ritual compounds seen as part of the whole composition (city to mountain through ritual domain), and not merely as starting from the formal ritual entrances. The approach to *Yasaka* Shrine 'starts' when the prominent gate is visible at about 500 meters from the actual gate. Thus, the formal approaches consider as part of the passage between the city to wilderness, and not only as the terminus for the path.

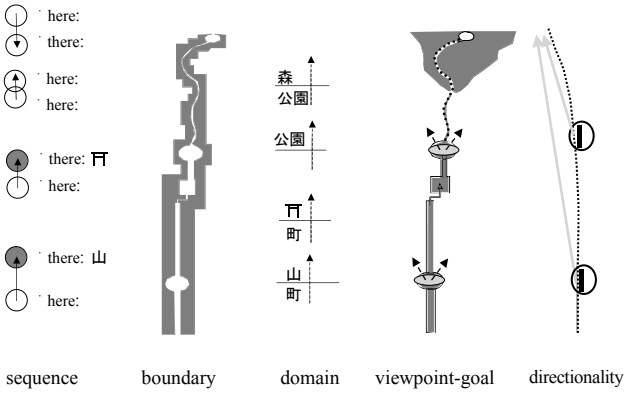

Fig.4 *Maruyama* compositional elements

(4) **Managing the landscape as dynamic entity**

Precise examination of the elements can assist in managing the landscape as a dynamic entity, not only as a 'panoramic landscape' seen from a distance, but also of a 'participatory landscape', being approached and explored from "within". Planning and management of landscape should not be considered only from a static point of view but from a viewpoint of a locomotive observer[6].

REFERENCES AND NOTES:

[1] The paper is based on Master thesis, titled in Japanese: 都市から山へ遷移する空間の構造—京都を対象として

[2] More specific, the research aims to discuss the visual interaction of 'person-landscape relations', examining the outcome of information afforded by the landscape and its effect on the perception of its observer. In this paper, the social-cultural-religious interaction discussed only in brief.

[3] From Theil, P. (1996), People, Paths and Purposes: notations for a participatory envirotecture, pp. 222-3, and Shinohara Osamu, (1998) *keikan yôgoshiten*, p.30-5

[4] Definition of the term 'visual corridor' by Jones and Jones, at Smardon, Richard, C., Palmer, James F., Felleman John P. (1986), p.314

[5] Refer to Higuchi tadahiko, The Visual and Spatial Structure of Landscape (1983), pp.182-9

[6] Methods for maintaining a participatory landscape were not presented, aimed to be examined in the next phase of research.