

論文の内容の要旨
ABSTRACT OF DISSERTATION

A Spatio-Historical Study of Edo and Manila Street Spaces
(江戸及びマニラ街路の歴史的空間に関する研究)

MATEO-BABIANO Iderlina Bueno
マテオーバビアーノ イデリナ ブエノ

I. INTRODUCTION

In the quest towards achieving an overall effective street space within Tokyo and Manila, the task becomes two-fold. On the one hand, it should try to discover a distinct street tradition through the identification of local street histories and how such knowledge could provide insights into user attributes; on the other hand, it should also consider the street user as the pivotal influential factor in street design and management through the examination of the two components of street user behavior, namely: movement and non-movement component. The latter has been defined as an emergent function of movement which is significantly influenced by socio-cultural factors. Thus, it is in the non-movement behavior that the salient difference in space perception and use between Asian models and its Western counterpart may be concretely differentiated. Moreover, the consideration of non-movement in the design and provision of spaces reflects a more holistic and sustainable approach towards discovering a truly distinct space and use within the two case cities. Socio-cultural history and indigenous knowledge of a group are strongly correlated with its ecological attributes such as geography, climate, ecosystem, vegetation, among others.

The rationale for choosing the two cities in the case study are as follows: both are Asian cities, have similar geographical makeup, archipelagic and with similar indigenous beliefs related to the forest. The main difference lies on the level of external (Western) influence which led to the diversity in the socio-historical conditions between the two cities. Edo was under seclusion policy for 250 years, constraining the physical development of the area to concepts developed within the country while the Philippines had been subjected to urban planning laws and regulations under Spanish colonial rule, and thus, exemplifies a colonial city.

Does ENVIRONMENT really play a role in shaping street SPACE and USE? and Should MOVEMENT be the deciding factor in the design and management of street space? What are the various INFLUENCES that shaped Edo and colonial Manila streets? What SPECIFIC CONCEPTS were derived in comparing Edo (Tokyo, 1603-1868) and Manila (1565-1898) street spaces? Are the concepts replicable on the present street space? What are the needs and prioritization of needs of contemporary street users? What is the relationship of movement and non-movement within Edo and Manila streets? How can sidewalks and spaces for pedestrians in Tokyo and Manila be effectively managed?

II. RESEARCH DESIGN

With the overall goal of developing the concept of non-movement, the study utilized two major methodologies. These are the: 1) comparative analysis of visual representations of Edo and Manila streets; and 2) AHP of street users. The former aims to determine workable concepts derived from indigenous knowledge while the latter aims to determine hierarchies of street user needs as well as emphasize elements that describe a positive walking environment. The study culminated with the development of applicable concepts for the effective design and management of streets in Tokyo and Manila.

The comparative survey validated the forest-based street culture concept by conducting a cross-case comparative analysis which examined street culture and pedestrian behavior in both Edo and colonial Manila from a spatio-historical perspective. A spatio-historical approach is one way to look at traditional, indigenous knowledge that would help us better understand street use as well as pedestrian behavior so as to define the parameters towards a more effective contemporary street space. This is based on the hypothesis that given two very different historical trends of Tokyo, under seclusion policy, and Manila, a colonial city, there exists a deep and underlying parallelism on how people utilize space, giving rise to a distinctly Asian culture of space. The aim was to search for important patterns, street cultural themes and interrelationships that may provide design clues for the improvement of Asian streets.

The thrust of the second methodology was to evaluate the needs-hierarchy concept which was derived from the cross-comparative analysis of spatio-historical spaces. This was done through the implementation of the need-hierarchy survey by utilizing Thomas Saaty's analytic hierarchy process (AHP) developed in 1971 which is a comprehensive framework that can rationalize a problem, represent and quantify elements to make decisions in situations involving multiple objectives.

III. FINDINGS

A) INFLUENCES ON SPACE AND USE

The forest-based culture strongly influenced the socio-cultural history of Asian streets served as potential window to discover the pedestrian street culture of the past wherein the latter may provide us with design recommendations on contemporary street improvement to encourage more users to utilize a given space.

Ecological Consideration: Forest-based Culture. Monsoon climate and the forest ecosystem placed a deep impact on people's way-of-life and behavior, and further influenced the ecological and biological adaptations of both cities as well as how streets are formed and used in Edo and colonial Manila. Both cities came from a forest ecology which implies a diverse environment and the availability of food and shelter for its first inhabitants. This kind of environment encourages among its settlers a healthy respect for and harmony with the natural environment; a strong belief of equality among beings; the lack of hierarchy as seen in how Asians presently utilize space treating it as an equalizer among the various classes and among transport modes. Furthermore, forest-based streets do not segregate but rather integrate its elements; the carrying capacity of a given unit of space is much higher in the forest than in the desert thus the comfort levels of entities within the forest can tolerate higher densities as compared to the desert; the flexibility of space is also dictated by a forest-based settlement since a given space may be utilized for different purposes and not necessarily just for a single activity, and may be illustrated in the attribute of verticality (temporal segregation rather than physical). The forest also influenced the morphology of settlements such as organic road systems, 2-3 storey built structures which follow the contours of the site often portraying a human scale urban form.

Socio-Cultural Resources: Spatio-historical consideration. Knowing and understanding the socio-cultural history and indigenous knowledge of a group is prerequisite in improving pedestrian transport policy and provision since a different culture requires different treatment of space to be able to match it with users' needs and desires. Contextual appropriateness refers to the design of sidewalks, or pedestrian facilities for that matter, which is context-specific. It requires the knowledge of the existing culture to determine appropriateness of the measure.

Edo and Manila streets. Urban configuration of Manila resulted from strong acculturation and Castilian influence similar environmental background (forest ecosystem, monsoon climate, etc), resulted in more similar attributes than difference. Results show that both city streets accommodate low-rise structures, the use protective elements, the presence of signage, and the emergence of Non-movement pocket spaces while environmental elements are significantly present in Edo but not in Manila. Both streets reflect the following attributes: compactness, protective, social quality, intimacy, equity, and diversity. Thus, there is a need to consider their environmental origins.

B) USER-CENTERED APPROACH

One strategy to improve mobility is to encourage a user-centered space design and management. User-centered approach refers to basing management strategies on needs and desires of users and how these may be physically manifested. The focus is on the pedestrian considering its needs, discussing the spatial environment as dictated by the hierarchy of needs, the relationship of movement and non-movement within the urban street space thereby creating a unique, street culture. A user-centered approach considers the users as agents of change. Their loyalty towards a given space is manifested by their constant presence not only as passers-by but as active participants in the given space thereby reflecting the level of effectiveness of a pedestrian facility.

User Characteristics. Given that most Asian cities are agrarian-based societies, the social configuration of their streets reflect a strong sense of group belonging which strengthens the need for harmony within the community. Moreover, Asian street users reflect higher tolerance to density although at varying levels. For example, while Manila subjects tend to be mixed and diverse, and tend to move in groups, in pairs and in a number of instances as well as alone, Edo street users are more homogeneous and never alone. Personal distance is common in Edo while intimate distance is similar to both. With respect to individual behavior, in Edo, it implies a combination of movement and non-movement activities acted out in short, quick periods while in Manila it is more intimate, highly involved interaction and laid back existence. Edo individuals are portrayed to be more active, dynamic and mobile compared to their Manila counterpart, Manila street users are more involved and generally more passive because of the assimilation of Castilian culture.

User Need Need-hierarchy. The need-hierarchy concept established the street user needs which when provided, is assumed to increase their satisfaction level and increase the loyalty towards the use of a given space, thus, becoming a viable incentive in changing people's behavior in the use of the street space. Given that street users are the main consumers of space, there should be more emphasis on their needs and desires. Needs of street users include: Movement, Protection, Ease, Enjoyment and socialization, Equity, Identity. AHP street user survey determined that street users prefer a pedestrian environment that is protected, provides ease and equitable street environment. To achieve protection and ease, alternative priorities include provision of evening lighting and police presence as well as shaded walking area while to increase identity, integrating cultural elements, thematic development as well as allowing other uses in the streets.

Relationship of Movement and Non-Movement. The concept of non-movement within Asian streets grew out of the realization that in order to provide sustainable spaces, it is necessary to consider the various behaviors exhibited by the pedestrian and other street users on the streets. This means considering streets not only as distribution but more importantly as communication networks. In such a case, movement behavior is translated into non-movement space. The non-movement aspect is an important element in Edo and colonial Manila street spaces wherein such activities are conducted in pairs or group of street users, reflecting a collectivist attitude which characterizes our Agrarian antecedents.

IV. CONCLUSION

The study was able to discuss the ecological origin as potential source of generating better understanding of street culture as well as the socio-cultural underpinnings of Asian pedestrians and how these affect the use of space. At the macro-level, it compared various aspects of planning principles adopted as well as external factors (i.e. environmental conditions, social/religious beliefs) that had contributed to its present state. While at the micro-level, it analyzed emergent spaces, both functional and social purposes, and how the spaces were derived signaling the importance of pedestrian culture in developing effective spaces. Furthermore, it was able to comprehensively discuss various socio-cultural manifestations that would affect pedestrian facility design and policy development given the culturally-specific movement and non-movement behavior of Asian pedestrians. It also discussed results of surveys conducted to further evaluate the theoretical viability of the concept of the need-hierarchy. The corresponding concept, the Hierarchy of street user needs refuted the notion of pedestrians as only moving entity. Satisfaction can be contributed not by providing mobility but ensuring that streets and sidewalks are protected, provides ease and equitable.

It was able to develop the concept of movement and non-movement, further strengthening the importance of the latter towards the Asian street. It was proven that there was high occurrence of social interaction and communication as well as the presence of groupings. Non-movement activities are very prominent in both the past and contemporary Asian street space implying the social quality of Asian space. It further suggests the need to integrate the non-movement aspect as an important component of street planning and design.