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## **Diversity as the physical correlate to open space's experience in two historical towns**

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### **Abstract**

This research studies diversity as a parameter in the built environment in two types of open spaces in colonial towns of Taiping and Georgetown. The richness of natural landscape elements, scales of spaces, distribution of activity patterns, and variety of visual stimulants in the open spaces were among the dimensions of diversity explored in this study. This paper is exploratory in nature, which applies a qualitative method. It involves descriptive and affective aspects of environmental experience of users of the two open spaces. The study suggests that diversity means socialization, which can be achieved through gradual and natural occurring assimilation.

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Keywords: Diversity; place experience; open space; historical towns

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### **1. Introduction**

Over the past 30 years, researchers have continuously accepted the idea that places affect people and the environment. Researchers explored a substantial body of knowledge in the field of urban design and the built environment focusing on the subject of *place making*, through studies on morphological, perceptual, social, visual, functional and temporal dimensions (e.g. Tibbalds, 1992; Carmona, 2003). For example, Tibbalds (1992) offers a sophisticated urban design framework that suggests the creation of

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places through good design is more important than the design of individual buildings of which they are composed. Similarly, Moughtin (2003) reemphasizes that urban design links to both architecture and planning, in which design and structuring public spaces, as places are the main concern of the study fields. Numerous researchers have noted the importance of place in our daily lives. The place is the constituting aspect of communal life (Galway and McEldowney, 2006). The significance of places and their varied meanings for people have also explored by many researchers (e.g. Relph, 1976; Tuan, 1977; Smaldone et al., 2005; Wiersma, 2008). For Tuan (1977), place is a special kind of object that defines a space with its geometric personality. It constitutes the element of the self, which is significant in all studies of social life. Relph (1976) defines a place as an existential space, which it is as the center of meaning. Parallel with Tuan (1977), Relph confers that places have meaning constructed out of living experience.

## **2. Open Space as Public Realm**

Open spaces are places that affect users and their environment. Places are sociable and lively spaces in character (Child, 2004). Open spaces are public realms that come in many shapes, sizes and uses. Studies on place making often take a broader approach in discussing the significance of place through research on a single space as a subject, for example, streets (Jacobs, 1961; Appleyard, 1980; Nursidah, 2012), squares (Child, 2004), parks and open spaces (Ward Thompson, 2002). Some researchers extend the concept and understanding of place making in bigger areas such as riversides and seafronts (e.g. Moughtin, 2003, Nurul Syala et al., 2012). These researches have a common aim that is to assist designers, planners, developers, government and the public understand the meaning and functions of the public places.

This paper offers insights into the ways that open spaces as place in urban areas can enrich people's lives and sense of self. Therefore, it explores one of the salient parameters of good public place making—diversity. This research also contends that by paying attention to the open spaces as public place and preserving it for future generation, it promotes better quality of life, provides better understanding of their significance and gives value and profound meanings to the people in urban areas.

## **3. Diversity of Open Space**

One of the joys of towns and cities is their variety. Diversity is one of the important parameters for the quality of the public realm in a town or city. The urban residents' experience of diversity in open space can happen in parks, playfields and landscape features. The experience relates to the familiarity of the physical form and pattern of spaces in the urban landscape. It maintains users' interactions and their appreciations towards the physical environment. The experience of diversity involves the use of the spaces that support activities by means of recreations and aesthetic experience. Large public open spaces such as town parks, playfields and community gardens can absorb recreational opportunities of thousands urban residents especially on weekends. Greenhalgh and Worpole (1995) found that more than 40% of people use their local park on a daily basis for various activities. This concludes that open space is a significant place in the lives of many people. The effect of open space's diversity in a town or city is the joyful experiences. This is because the open space is an arena that allows users to participate in the different active enjoyment such as walking, playing sports or doing passive or informal enjoyment such as enjoying the environment, getting away from it all, engaging in social activities such as attending events.

Reviews of the literature suggest that diversity is the experience of richness of elements in the environment that allows more experiential choice for users (Tveit *et al.*, 2006). In urban design, a town with diversity is a tight-knit urban fabric, whereby it offers diverse users, spaces and activities that reflect the joys of experiencing towns and cities (Jacobs, 1961; Tibbalds, 1992). Mixed use of areas with various activities, scale, uses and functions create lively, convivial spaces, hence vital to the environment of a

town. Diversity, according to Jacobs (1961) corresponds to physical forms and patterns that maintain human interactions—relationships and patterns of relationships. Talen (2008) classifies Jane Jacob's work as most significant to articulate the fundamental connection between place and diversity. In her work, Jacobs defines diversity as consisting of dimensions such as a mix of uses, including variety in 'cultural opportunities', the inclusion of a 'variety of scenes' and a 'great variety' in population and other users. Ward Thompson (2002) and Low et al. (2006) associate diversity with culture.

Thus, this paper defines diversity as the richness of spaces, natural features, scales of spaces, distribution of activity patterns, mixed use of areas, the inclusion of a variety of scenes as visual stimulants, various cultural and social opportunities and a great variety of users of a place. The study suggests that diversity means socialization through gradual and natural occurring assimilation. This is in line with the studies by Talen (2008) and Low et al. (2006) who posits that social-cultural, historical, economical, and physical and location factors are associated with social diversity. Hence, experiencing the diversity of open space means familiarity with the public realms that owns a range of scale, spaces and landscape features (Mazlina et al., 2012). Therefore, the quantity in terms of types of space, a range of scale of the spaces, their distribution, and richness of landscape elements afford more choices for residents to engage in and become familiar with different spaces and activities. The mixture of built land uses and the public open spaces that is diverse is enjoyable and attractive and makes for lively environment, hence attracting all spectrums of users at different times with different purposes.

## 4. Materials and Method

### 4.1. The study sites

This research explores diversity in the two open spaces in two historical towns of Taiping, Perak and Georgetown, Penang, Malaysia. The open spaces are Taiping Lake Garden in Taiping (TLG) and Padang Kota Lama (PKL) in Georgetown. Both open spaces exist since the 1880s, therefore they are historic and of cultural significance.

Taiping is located in the northern part of Peninsular Malaysia. It is a town with a population of more than 30,000 people (Taiping Municipal Council, 2004). Land uses in Taiping consist of the low-rise residential area, low-density commercial area, institutional and public districts interlaced with numerous types of green open space located within the old town and its immediate area. The open space and recreational development in Taiping cover 161 square kilometers of land. Tin mining activities have greatly modified the natural tropical landscape of the town, creating many lakes and small ponds, which become a main recreational park that is Taiping Lake Garden. Within close proximity of the park are the Esplanade (a big open playing field or *Padang*) and Larut Hill (hilly forest area). TLG is an 84-acre town park near the town center, with large rain trees and lakes, abundant natural features, recreational amenities and a zoo. It covers 17% of the town area. Naturally, it becomes the major patch as well as a major landmark for the town. The environment in the park is highly natural with meandering streets around the lakes, laced with rows of beautiful 100-year-old rain trees.

Padang Kota Lama (PKL) is located in Georgetown, a well-known vibrant city in the northern part of Peninsular Malaysia with its intact traditional architecture, street landscape and matrix of socioeconomic activities. It is a city with a history of urban growth of more than 200 years, grew as a British trading port with traders and settlers coming from Europe and other parts of Asia. Today, Georgetown is the capital of Penang, and the administrative and commercial hub of the state. Its long history and multicultural population has qualified Georgetown, to be included in UNESCO's World Cultural Heritage List. Padang Kota Lama (PKL) is one of the oldest sections of George Town and was among the earliest part of town cleared for development. The local residents refer PKL as the Esplanade or Padang. It is an important

venue for most of communal events in the city. It was the first area developed by the British (Federal Department of Town and Country Planning, 2005: Gin, 2002). PKL is a growth center from which the town developed and expanded. Following the Napoleon Wars, there was less threat to the security of the harbor. Therefore, the function of the *Padang* was not as military drills (Gin, 2002) but it is increasingly functioning as a public recreational ground.

#### 4.2. Data collection and analysis

This study is exploratory in nature, which applies a qualitative method. The study involves the descriptive and affective aspects of environmental experience of users in the two open spaces of the historical towns. A detailed semi-structured face-to-face interview involved the exploration with 33 numbers of users of TLG (Taiping) and 30 participants of users in PKL (Georgetown) as participants. The sampling size of the interviews is valid because the sample of 20 to 40 is satisfactory (Gillham, 2005). The interview was semi-structured, in which a basic structure of the questions was as a guide during the interview administration. The questions derived from the pilot survey interview administered earlier on the site to ensure its reliability. The interview aims to collect detailed views from the participants on various dimensions of diversity studied for both sites. A digital recorder (MP3) recorded the responses of the interviews and transcribed in a summary describing participant's answers to assist in content analysis. The dimensions of diversity explored consisted of participants' responses on their perception and feelings towards the spaces, natural features, distribution of activity patterns, and different visual elements of both study areas. The dimensions provided information on people's perceptions and cognitive feelings about diversity of experience in the two open spaces.

The final transcripts of the interviews are in English and were further edited using categorical analysis. The content analysis was due to the semi-structured manner of the interview questions in which researchers define the category headings of the questions answered. In this case, the interviews categorized what participants said of the parameters asked to the participants. Other additional responses also revealed the underlying dimensions of diversity. The results of the interview are in table format and in a narrative manner to provide more insights into the dimensions discussed.

### 5. Results and Discussion

The results suggest that various dimensions of diversity within the two types of public open space in the historic towns. TLG is an old town park whereas PKL is an open playing field or well known as *Padang* by the local people.

#### 5.1. Diversity in Taiping Lake Garden (TLG)

Using the responses from the interviews, the results show category headings for the dimensions of diversity. Table 1 shows the summary of results of three dimensions of diversity. The results suggest that the town park contains: (a) variety of natural features in the landscape, (b) variety of provided spaces and design features and, (c) a spectrum of users. Diversity of landscape features that include beautiful scenery, views of the hills, and the presence of lakes, ponds and water habitat, various types of greenery, matured rain trees and expansive lawns suggest a cool and comfortable environment for users' experience. They imply the presence of high natural quality. The others enjoyed the lakes (91%), beautiful views (85%), greenery, matured rain trees (67%) and open lawns (55%). They also appreciated the view of the hills, sky and fish in the lakes, and cool and comfortable environment most of the times that they visited the park. There are a variety of spaces and design features, which enable users to engage in activities involving

physical-kinetic, leisure and social engagements (79%). However, less than 50% of the users agreed that the park has adequate facilities and landscape elements such as parking space and shaded area (45%). They indicated that the TLG needs improvement in terms of its landscape elements such as jogging track, gazebo, playground, streets and paved areas (30%). As such, the park contains diverse landscape natural features that afford users to enjoy their recreation and leisure activities. The diverse spaces and features allow them choices of the favorite spots for different kinds of activities. The features enable them to socialize with ease. This indicates that users come to the town park to fulfill different purposes, for example, to recreate, finding solitude and socializing.

Table 1. Dimensions of diversity found in the Taiping Lake Garden

Dimensions of Diversity	Description	Participants	
		%	n=33*
Variety of Natural features	1) Beautiful scenery and view to the hills and greenery	85%	28
	2) Existence of lakes and pond with water habitat	100%	33
	3) Existence of various types of greenery and matured rain trees	67%	22
	4) Expansive and undulating lawn	55%	18
	5) Open, blue sky	15%	5
Variety of spaces and design features	6) Variety of spaces inside the park	79%	26
	7) Variety of facilities-e.g. Parking space, gazebo	45%	15
	8) Landscape features-Streets/path/jogging path/paved	30%	10
Spectrum of users	9) Variety of activities	88%	29
	10) Different groups of people	15%	5

\*Participants indicated more than one dimension

The following statements show what the participants said about their experience of diversity in TLG:

*“...I love any space in the park, especially sitting and watching children in the playground, enjoying the beautiful scenery, sitting in the gazebo and riding around the lakes on the streets. It clears my mind of problems.”*

(Malay female adult, Taman Mewah)

*“...I love it because of it has beautiful lakes and scenery. I always ride on a motorbike circling around the lakes with my friend in the afternoon when it is cool— watching the scenery and people.”*

(Malay female adolescent, Taman Panglima)

*“...It is so peaceful sitting here, even at any spot—near the lakes, near small ponds or under the big rain trees.”*

(Malay man, Kamunting)

*“...The hills greet people from far when they visit Taiping. Sometimes the hills are sheltered by a blanket of white clouds; at times, they have shades of blue in the sun—the view is amazing.”*

(Malay man, Kamunting)

*“...I always meet my friends here—it has so many spaces to meet them. If we want a quiet place away from the crowd, we will gather at the small ponds at Peace Walk.”*

(Male Chinese adolescent, Taman Mewah)

A variety of spaces in TGL mean more choices of the favorite spots for users to engage in kinetic activities (e.g. Walking and jogging), and perform static activities (e.g. Sitting and enjoying the scenery). It is a place of mixed-use spaces, lively with different types of activities, scale and functions happening together that generate convivial spaces. Thus, in urban design, these attributes reflect liveliness, vitality or conviviality (Jacobs, 1961; Tibbalds, 1992; Dunnett *et al.*, 2002; Shaftoe, 2008). It seems clear that the users visit the park because they are amazed by the distinct diversity in the park's environment that include greenery, flowering trees, open lawns, views of hills, sky and clouds and lakes and other habitats that go together with the landscape. The place is meaningful to them as it provides the users a place for relaxation, rest, emotional and stress relief. One resident mentioned that the Lake Gardens is the place that often comes across his mind when he is bogged down by problems therefore he always retreats to the park

for emotional relief. He seems to be able to get clarity of mind in the place to be able to handle his worries. In addition to achieving privacy, they have opportunities to observe the scenery and people. Thus, the large recreational park offers them ‘refuge’ as well as ‘prospect’ to view and observe others. As such, various small spaces in the park offer the residents' privacy, a sense of safety, relaxation and freedom. At the same time, the park provides the greatest opportunity for meeting a huge variety of people. This is because the likelihood of visiting with family and friends will allow them to encounter the whole range of people who are complete strangers from other neighborhoods within the conurbation. Thus, social benefits are dominant in large parks such as the TLG than any other types of open space in urban areas.

## 5.2. Diversity in Padang Kota Lama

Diversity was indeed a significant dimension discussed by a large number of participants of Padang Kota Lama (PKL). This parameter is in terms of a combination of activities, natural, built, historical and cultural dimensions. Participants most often claimed their visits mainly because of the convenience of PKL as a beautiful and accessible place. It becomes a suitable place for relaxation. A retired government servant from nearby residence said that he has not failed to visit the open space every day. He expressed his satisfaction and explained the diversity of PKL as:

*“Place for relaxing. A beautiful place after a tough working day before you go home you come here for relaxing. Just look at that...the oceanic look...all the beautiful trees are here. The breeze is also very nice...being just in front of the beach. Under the tree, you can relax your mind. That’s better. You see all the citizens come here...they can forget all their worries”.*

The response suggests the presence of diversity in its natural features: the oceanic look, nice breeze, the trees, the beach and the sea leading to greater awareness, which make the open space as a beautiful place. The combination of these qualities indeed has made the space afford relaxation and relieving stress. The response of a mother with two young children provided the findings that PKL is an important space for residents all year round. In fact, she is a regular visitor of the open space every week. She also emphasized that it is a place for social interactions amongst residents and a famous spot for tourists. The long establishment of PKL is particularly important in history. The variety of activities offered for all users give the flexibility for a variety of alternative lifestyles through multiple uses of its outdoor space. The sensual experience in PKL perhaps best captured in ways that it offers enjoyable and comfortable opportunities for visitors. 58 years old male trader described the importance of the intrinsic qualities of PKL as the comfortable setting for children and a variety of good foodstuffs. According to him, even though prices are slightly higher than elsewhere, but this construes as testimony to the quality of produce sold at PKL. Another important aspect of diversity is that the attraction is not only limited to residents in the city but also the outsiders from nearby states, such as Kedah and Perak. In the early stage of its establishment, the composition of its visitors was mainly amongst the British and local people. After the establishment of a ferry as transportation and the erection of Penang Bridge that connects the mainland (Seberang Perai and Butterworth) to the island, the number of visitors to PKL has gradually increased. For instance, a 60 year-old Indian resident revealed the diverse attraction of the open space to the outsiders as follows:

*“In Pulau Pinang if you ask about Padang Kota Lama, we would tell you that there are loads you could find here. Penang used to be famous as a free port because the ships would take port here without fail. The Padang played an even more important role then, but it still is important now. They (navy) would come down from their ships to this Padang to play ball. We also played cricket. Same goes for the people from Kedah, when they get off from Sg.Petani, they come here on Fridays to shop, eat, have a*

*quick stay, and then they'll be off to Kedah. So it plays a very important role to the people here. Fort Cornwallis are located behind there... Even back then this Padang was important to the residents because they would come here during the evenings to relax. This Padang is important to them because it helps them calm themselves”.*

The findings demonstrate that there the diversity of PKL stems largely from its built, natural properties and social attributes. These elements in conjunction with strong cultural and historical values provide the basis for the creation of memorable place, invigorating or relaxing space and enriching environment caters not only residents but also outsiders and tourists. For most residents, greater interest is in the diverse attributes in the present rather than its past suggesting that the open space still holds its role as a place for all that offers a variety of social and recreational needs for the residents. The findings show that a diversity of activities plays significant role in mapping its meaning as a place for relaxation, gathering, recreation, and trading. Moreover, the charm and drawing power of PKL lies not only within which it is located and diverse activities conducted, but also in the character of the visitors, vendors or traders, the quality of the product sold, the attractive way in which they are displayed and in the arrangement of the stalls and various goods sold. Hence, the study found that diversity has affected the resident's attachments as it affords various types of social interaction and various types of good selection. It was from frequent engagement with such environment and activities, feeling associated with preferences, happiness, satisfaction and fondness of place gradually developed. In this regard, findings support previous research that place attachment has many inseparable and mutually defining features, qualities and properties (Low and Altman, 1992; Kyle et al., 2004; Low et al., 2006). This is evident in the findings particularly regarding people's greater interest of the diverse attributes suggesting that PKL holds its role as a place for all that offers a large variety of resident's social and recreational needs.

## **6. Conclusion**

This paper identifies that several dimensions characterize diversity in both open spaces of the towns. In Taiping town, the diversity of TLG is a variety of natural landscape features in its environment, the existence of various spaces, mixed-use of areas and spectrum of its users. In PKL, diversity is through activities, natural, built, historical and cultural dimensions. However, both types of public realm have evolved in response to the functional, social and cultural needs of their users. Various physical attributes involve in the making of both places that create a highly comfortable and efficient public place for residents and visitors. In terms of urban design, TLG serves as a place for recreation and leisure to the town residents and visitors. It is an important place and the lung of the town. It connects other small open spaces physically and knit other land uses as urban fabric of Taiping. PKL serves to provide a space between buildings over which its physical properties necessary to sustain the city image. It also acts as a place for city inhabitant, facilitating communication and interaction. These meanings suggest the multiple nature of it, at once an open space and a public place. Thus, it is one of the most important components of the urban pattern. Both places contain diverse activities; distinct physical properties thus confirming a good public place. For urban design, both public realms suggest defining open spaces, panoramic and of pleasant qualities to create a good urban form and enjoyable spatial variety in preserving the vitality of a town. Finally, this study presents a new perspective on the significance of preservation of the historic urban public places. Both places maintain the urban fabric of the towns. The historic town park of TLG and the historic open field of PKL have preservation values. Their preservation and conservation efforts are the process or step of managing the image of the urban environment. Its place making needs a strong knowledge on how it functions as it concerns the connections among people, places, movement, urban forms, nature, the built fabric and the processes contain within its making. This is because good urban

design not only adds value by increasing the economic viability of development, but also contributes to social and environmental regeneration.

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## References

- Appleton, J. (1975). *The experience of landscape*. London: Wiley.
- Appleyard, D. (1980). *Liveable streets: Protected neighborhood*. Berkeley: University of California Press.
- Carmona, M., Heath, T., Oc, T., & Tiesdell, S. (2003). *Public places urban spaces: The dimensions of urban design*. Oxford: Architectural Press.
- Child, M.C. (2004) *Squares: A public place design guide for urbanists*, USA: University of New Mexico Press.
- Dunnett, N., Swanswick, C., & Woolley, H. (2002). *Improving urban parks, Play areas and green spaces*. DTLR, UK: Transport Local Government Region.
- Federal Department of Town and Country Planning Peninsula Malaysia. (2005). *Open spaces in urban Malaysia*. (pp. 15-39). Kuala Lumpur : Ministry of Housing and Local Government Malaysia.
- Galway, N. & Mceldowney, M. (2006). Place and special places: Innovations in conservation practice in Northern Ireland. *Planning Theory and Practice*. 7, 397-420.
- Gillham, B. (2005). *Research interviewing: The range of techniques*. England: Open University Press.
- Gin, O. K. (2002). From colonial out spot to cosmopolitan center: the growth and development of Georgetown, Penang from the late 18<sup>th</sup> century to late 20<sup>th</sup> century. Expanded version of paper presented at the *International Symposium on Urban And Architectural Histories Under Colonial Rule in Asia*. Goethe- Institute, 6-7 September, 2000, Taiwan.
- Greenhalgh, L. & Worpole, K. (1995). *Park life: Urban parks and social renewal*. UK: Comedia Association with Demos.
- Jacobs, J. (1961). *Death and life of great American Cities*. Toronto: Random House Inc.
- Kyle, G. T., Mowen, A. J., and Tarrant, M. (2004). Linking place preferences with place meaning: An examination of the relationship between place motivation and place attachment. *Journal of Environmental Psychology*. 24, 439-454.



- Low, S., Taplin, D., and Scheld, S. (2006). *Rethinking urban parks: Public space and cultural diversity*. Austin: University of Texas.
- Mazlina, M. Ismail, S., & Ismail, M. (2012). Experiential contacts with green infrastructure's diversity and well-being of urban community, *Procedia-Social and Behavioral Sciences*, 49, 257-267.
- Moughtin, C. (2003). *Urban design: Street and square*. London: Architectural Press.
- Norsidah U. (2012). Place attachment and continuity of urban place identity. *Procedia-Social and Behavioral Sciences*, 49, 156-167.
- Nurul Syala, A. L., Shuhana, S., & Mohd. Shahir, L. (2012). Functional dimension at 'Kuala Lumpur waterfront'. *Procedia-Social and Behavioral Sciences*, 49, 147-155.
- Relf, E. (1976). *Place and placelessness*. London: Pion
- Shaftoe, H. (2008). *Convivial urban spaces: Creating effective public places*. London: Earthscan Publishing.
- Smaldone, D. Harris, C. & Sanyal, N. (2005). An exploration of place as a process: The case of Jackson Hole, WY. *Journal of Environmental Psychology*, 25, 397-414.
- Taiping Municipal Council (2004). *Studies on local plan, Department of Town Planning Development, Taiping Municipal Council*. Taiping: Taiping Municipal Council & JPBD.
- Talen, E. (2010). *Design for diversity: Exploring socially mixed neighborhood*. USA: Architectural Press.
- Tibbalds, F. (2001). *Making people-friendly towns: Improving the public environment in towns and cities*. London: Spon Press.
- Tuan, Y. (1977). *Space and place: The perspectives of experience*. London: University of Minnesota Press.
- Tveit, M., Ode, A., & Fry, G. (2006). Key concepts in a framework for analyzing visual landscape character. *Landscape Research*, 31, 3, 229-255.
- Ward Thompson, C. (2002). Urban open space in the 21<sup>st</sup> century. *Landscape and Urban Planning*, 60, 59-72.
- Wiersma, E. C. (2008). The experiences of place: Veterans with dementia making meaning of their environments. *Health and Place*. 14, 779-794
- Wynveen, C. J., Kyle, G. T., Hammit, W. E., and Absher, J. D. (2007). Exploring the effect of experience use history and place bonding on resource substitution. *Proceedings of the 2007 Northeastern Recreation Research Symposium*.