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Ana Kashfi, Kasyful Azhim

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## Urban Morphology of Taiping: The British Influences and Changes in Today's Urban Structure

Ana Kashfi, Kasyful Azhim

Department of Built Environment Studies and Technology, Faculty of Architecture, Planning and Surveying, Universiti Teknologi MARA, Perak Branch, Seri Iskandar Campus, 32610 Seri Iskandar, Perak, Malaysia

### Abstract

Urban morphology deals with the spatial structure and character of a place. It was formally established as a method in 1939. Urban morphology is one of the major branches in urban design that analyses the complexities and intricacies of human settlements' development and transformation throughout the years. For many years, researchers and designers have been conducting morphological studies to better understand the spatial structure and other components that contribute to the transformation of a place. Taiping is not spared from morphological alterations either. As a post-colonial town in the northern part of Peninsular Malaysia, Taiping is blessed with a grid-iron plan and rich architectural styles, surrounded by lush greenery and a picturesque landscape. However, as centuries passed, Taiping experienced poor linkages, contested urban space, and an unpleasant urban fabric. This paper evaluates the urban morphology of Taiping using observational urbanism approach, focusing on the core area of Taiping. Findings revealed that Taiping has undergone dramatic, if not massive, changes from the pre-great fire tragedy until now, and the city needs to re-evaluate its development direction in order not to jeopardise its historic image and value. Hopefully, this research will raise public awareness and pave for future research on urban morphology, heritage value, and ultimately, good urban design practice for other historic cities in Malaysia.

**Keywords:** Urban Design, Urban Morphology, Observational Urbanism, Urban Fabric, Urban Structure

### Introduction

Urban morphology deals with the spatial structure and character of a place. First formally established as a method in 1939, urban morphology is one of the major branches of urban design that analyses the complexities and intricacies of human settlements' development and transformation throughout the years. The likes of Homer Hoyt, Lewis Mumford, and M.R.G. Conzen are among the central figures in urban morphology. For many years, researchers and designers have been conducting morphological studies to better understand the spatial structure and other components that contribute to the transformation of a place. It is no wonder that Carmona (2003) listed urban morphology as one of the six dimensions of urban

design in his book. Other dimensions include perceptual, social, visual, functional, and temporal. All these dimensions are highly effective in conducting urban design analysis.

Spatial structure transformation and modernisation are two major components that contribute to the urban morphology of a place and change the urban landscape. Taiping is not spared from morphological alterations either. As a post-colonial town in the northern part of Peninsular Malaysia, Taiping is blessed with a grid-iron plan and rich architectural styles, surrounded by lush greenery and a picturesque landscape. However, as centuries passed, Taiping experienced poor linkages, contested urban space, and an unpleasant urban fabric. As such, this study will critically explore the historical evolution of Taiping from its early days until now, as well as the gradual changes in its urban structure. For the purpose of this research, the details of urban morphology are also discussed, starting by reviewing the thoughts, principles and related components of urban morphology. It is expected that the key findings of this research will be the identification of physical changes that affect Taiping's morphology.

### **Literature Review**

Generally, the origin of morphology was initially expressed in the writings of the great poet and philosopher Goethe in 1790 (Sadeghi and Li, 2019). Recently, it has been increasingly used in geography, geology, philology, and other subject areas. Morphology requires the need to understand the spatial structure and character of a metropolitan area, city, town, or village by analysing the patterns of its components and their ownership, control and occupation. Basically, physical form analysis will be focusing on street patterns, lot patterns and building patterns. Analysis of specific settlements is usually undertaken by using cartographic sources and the process of development is deduced from the comparison of historic maps.

Morphological changes happen across the globe. One of the key factors that led to the changes is socioeconomic. This is similar to what happened in Malaya from the early period until now. Morphological studies of towns in the Malay Peninsular indicate that urban form characteristics date from 5000 BCE to the early 19<sup>th</sup> Century and the evolution can be classified into four phases of timeline, namely the ancient Malay settlements, ancient Malay port cities, early Malay towns, and old towns that can be divided into 2 groups: Malay Royal and Colonial Towns (Shukri et al., 2018 cited in Lazim and Said, 2020).

### **Principles of urban morphology**

In a research conducted by Conzen (1991), he addressed that a town plan can be defined as the topographical arrangement of an urban built-up area in all its man-made features. It contains three distinct complexes of plan elements:

- i. Streets and their arrangement in a street-system  
The term "streets" refers to all kinds of open space bounded by street lines and reserved for all types of surface traffic. Meanwhile, "street system" means the arrangement of contiguous and independent spaces within an urban area.
- ii. Plots and their aggregation into street blocks  
Street blocks can be defined as the areas within the town plan which are unoccupied by streets and are bounded wholly or in part by street lines. In addition, each street block represents a group of contiguous land parcels or else a single land parcel. Each parcel was originally a unit of land use, physically defined by boundaries on or above

ground, which is called a plot. These plot patterns represent the arrangement of continuous plots, which is evident from the plot boundaries and when considered separately from other elements of the town plan.

- iii. Buildings or, more precisely, their block plans  
The area occupied by a building and defined on the ground by the lines of its containing walls is called the “block plan” of a building. It is an essential element of the town plan, loosely referred to as “the building”.

Conzen’s plan elements give a good point that the principle of morphology can best be linked to Fumihiko Maki’s theory of collective form and Roger Trancik’s theory of urban form, which comprises figure-ground, linkage, and place. While figure-ground has been extensively explained as the orthogonal view of land coverage, linkage and place elucidate the connections between different aspects and the quality of urban space.

### **Urban form and its relationship with morphology**

The term “urban form” can be simply used to describe the physical characteristics of a city. At the broad city or regional scale, urban form has been defined as the spatial configuration of fixed elements. The word “form” itself refers to the shape and arrangement of settlements. On another note, “form” can also be understood as a product (state of being) or as a process (state of becoming). In a study conducted by Williams (2014), he explained the urban form as the physical characteristics that make up built-up areas, including the shape, size, density, and configuration of settlements. It can be considered on different scales, from regional to urban, neighbourhood, block, and street. This may be derived from being simply descriptive. As such, an accurate and precise description is crucial as the basis for any scientific study, especially when it comes to urban morphology.

The physical characteristics of towns or cities are naturally derived from an evolutionary process of urban activities and planning actions that took place over years, and in many ancient cities, it could have even been throughout centuries. The urban form, therefore, can best be categorised into fundamental physical elements like buildings, streets, public spaces, and physical barriers like hills or walls. This is why the urban form is an essential part of studying urban morphology.

### **Urban Fabric in Morphological Analysis**

The final component to be discussed in this literature is the urban fabric. It is an essential component in any study related to the city’s physical characteristics; hence, it is a no-brainer to say that it is one of the most discussed topics in urban design. Camillo Sitte, Gordon Cullen, Kevin Lynch, Hamid Shirvani and Cliff Moughtin are among the notable urban designers who have greatly studied urban fabric. Urban fabric refers to every element or component that shapes the cityscape. Shirvani (1985) illustrates fabric through appearance, concerning what buildings look like as well as their height and bulk, together with colours, materials, textures, and the façade forms. While Shirvani focused more on appearance and defining building form and massing, Cullen (1971), on the other hand interpreted fabric as “content”, consisting of the examination of colour, texture, scale, style, character, personality, and uniqueness

### **Methodology**

This research utilised the qualitative method of intense observation, involving a critical way of investigating what is happening in the town centre and document all the relevant data. This method is useful to obtain an in-depth appreciation of a particular phenomenon of interest and issues based on real-life context. Taiping has been chosen because this historic city has experienced transformations that have impacted its urban form and fabric. This research employed site reconnaissance and secondary data such as development plans and articles for the purpose of data collection. Among the key development plans used for this study are Larut Matang Local Plan 2035 and Perak State Structure Plan 2040.

### **Results and Discussions**

The urban morphology of Taiping can be described as heavily influenced by its socioeconomic (tin mining), physical development, and geographical setting. This was a common practise in many cities where the British once colonized. During the early British era, Taiping was left undisturbed until the great fire of 1880, which caused it to be rebuilt. After the fire, the need for better housing and shops was great, which led to the implementation of a planned rectangular gridiron layout based on ten shophouse-sized blocks with roads wide enough for the planting of raintrees along its main roads and major crossroads. The two-storey shophouses are the major components of the city blocks, with the exception of the Taiping Market, association buildings, and religious buildings that make up a small percentage of the overall composition. These block structures have influenced the urban network in Taiping. Roads 70 feet wide were introduced for the main roads leading to the Lake Gardens, and 60 feet wide for the crossroads. Wider roads acted as firebreaks, preventing fire from spreading from one block to another, with, as an added precaution, a fire station and police station located at the heart of the town. Additionally, firebreaks of 20 feet between every 200 feet of buildings were applied too, which was later adopted by Penang in 1887 (Federal Department of Town and Country Planning Peninsular Malaysia, 2005).

### **Poor Urban Linkages**

Data from site reconnaissance revealed Taiping still maintains the original layout and most of the roads are connected to each other, forming a grid pattern. Jalan Stesen, Jalan Barrack, Jalan Taming Sari, Jalan Pasar, Jalan Kota, Jalan Chung Thye Pin, and Jalan Panggung Wayang are some of the original roads that remained until today. All these 60-foot roads have the same two-way road circulation except for Jalan Panggung Wayang, which consists of one way and two ways. Most of the pedestrian walkways can be found at SK King Edward VII (1), around Hospital Taiping, from Jalan Kota to Jalan Masjid, along Jalan Panggung Wayang and from Jalan Sultan Abdullah to Jalan Maharajalela. Figure 2 displays the street network and pedestrian walkways in Taiping.





Figure 2: Street Network in Taiping  
Source: Author, 2022

Despite the advantage of having a well-oriented street design, nevertheless, it is still quite difficult to experience the town by foot and bicycle due to poor linkages from one block to another. The domination of motor vehicles makes it even more dangerous for pedestrians and cyclists. The pedestrian walkway is also poorly connected and some of it is poorly maintained. Not only that, crossing points are also not strategically placed, making it even more difficult for people to cross the street to get to their destination.

### Contested Urban Spaces

Urban spaces play a significant role in making a city well connected, vibrant and meaningful, derived from the block system and plot patterns' arrangement. Taiping's layout is designed in a way so that buildings and spaces are arranged in accordance with the grid-iron system. It was originally compact and well connected for people to move around and socialize. All of these physical built forms and spaces are closely connected to the street. Hence, the space articulation in Taiping town centre is cohesive with building plots (lots) and the street layout. Figure 3 shows some of the common spaces within the town centre, comprising public fields, streets, parking areas, backlanes, square, and vacant plots. However, with all these advantages, the increasing dependence on automobiles has contributed more spaces being surrendered to accommodate cars and for parking purposes, thus inviting more cars to hegemonize and control the town. Ultimately, this has changed the fine grain of Taiping. These occurrences not only contribute to the loss of urban space in the core area, but also to the near-absence of edge activities.



Figure 3: Urban Spaces in Taiping  
Source: Author, 2022

### Unpleasant Urban Fabric

The existence of the British in Taiping makes it no surprise that Taiping is rich with English-influenced fabric, obviously seen through the architectural style and façade. The large government buildings with an awe-inspiring architectural style symbolise the ruler's power (Harun and Jalil, 2012). This historic town is home to a number of heritage buildings, made up of 83 shophouses and 34 public buildings, including the 33 first heritage structures, the first of their kind in Malaysian history (Taiping Municipal Council, 2015; Kumaran, 2018). All these contribute to the coarse grain of the town, especially within the town centre. Figure 4 presents the distribution of historic buildings and significant objects within the town centre.

Although Taiping has a rich historical variety, there are also important buildings that are left abandoned and badly damaged, such as the Old Public Works Department and the Town Rest House. These buildings are in poor condition and require serious conservation works. In terms of height, buildings in the town centre are generally harmoniously in-sync with an average height of 2-3 storeys, except for The Store which has 5 storeys, and Taiping Mall with 9 storeys. Obviously, the Taiping Mall can be seen towering over the surrounding buildings, creating a striking contrast with its surroundings. This uncontrolled height and the deterioration of the aesthetic value of buildings could jeopardize the historic image of Taiping.



Figure 4: Urban Fabric in Taiping

Source: Author, 2022

### Conclusion

The booming of the tin industry and the great fire were both the instrumental factors that transformed Taiping. It clearly demonstrates the diffusion of design concepts and British town planning influences such as grid layout, interesting architectural styles and facades, and the provision of open space. It would be such a great loss if the rich heritage were forgotten and replaced with unpleasant building styles and heights, car-oriented streets, contested urban spaces, poor linkages between buildings and plots, abandoned heritage buildings, lack of edge activities, and very minimal softscape elements. Taiping needs to aggressively continue to preserve its heritage, improve micro-mobility, and quality of life.

This study could raise public awareness and pave for future research on urban morphology, heritage value, and ultimately, good urban design practice for other historic cities in Malaysia. It is essential for urban designers to understand contextual history to understand how places are created and the changes they have gone through. This research enlightens the importance of observational urbanism in documenting urban fabric that is often overlooked or forgotten.

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### Corresponding Author

Ana Kashfi

Department of Built Environment Studies and Technology, Faculty of Architecture, Planning and Surveying, Universiti Teknologi MARA, Perak Branch, Seri Iskandar Campus, 32610 Seri Iskandar, Perak, Malaysia

Email: anakashfi@uitm.edu.my.



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