

Feng Shui: A Chinese approach to integrated design

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ABSTRACT

Feng Shui is a body of ancient Chinese knowledge that aims at creating a harmony between environment, buildings and people. It has influenced most traditional building design in China for thousands of years. With a desire to improve the relationship between human and the environment, there is an increasing interest for architects and other building professionals to apply the concepts of Feng Shui in building design and the built environment. However, the development of Feng Shui principles and practices are complicated and there is little research into the application of Feng Shui knowledge to the built environment and architectural design. It is suggested that interpreting Feng Shui knowledge would enable the development of a design tool from this Chinese architectural discipline. In particular, the Form School of the Feng Shui knowledge provided a holistic approach that allows integrated components and elements to be considered for the built environment. This paper investigates the principles and practice of Feng Shui and its knowledge structure to provide a broad understanding of the Feng Shui knowledge. A hierarchical structure of Feng Shui knowledge is presented which would form a useful basis for integrated design.

KEYWORDS

Feng Shui, Chinese approach, Form School, integrated design

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1. INTRODUCTION

Building design is complex. A building is viewed as an interdependent system, as opposed to an aggregation of its separate components (site, structure, and services). Integrated design is a collaborative method for designing buildings which emphasizes the development of a holistic design. The goal of looking at all the systems together is to make sure they work in harmony rather than against each other. This integrative design process is similar to the Chinese holistic view and the Feng Shui approach to the built environment (Humphreys, 1976).

Feng Shui is a body of ancient Chinese wisdom in knowledge and experience related to the built environment that has been accumulated for more than three thousand years. It is founded from the earliest and greatest philosophy document of Chinese, *Yi Jing* (The Book of Changes) that developed ca. 800 B.C. The primitive knowledge of Feng Shui was based on the observation from three sources: astronomical phenomena, natural phenomena and human behaviour (Feuchtwang, 1974).

The principles and practices of Feng Shui aimed at creating a harmonised built environment for people to live in, and it represents a traditional Chinese architectural theory for selecting favourable sites as well as a theory for designing cities and buildings (Lee, 1986). There are two main schools of thought and practice in Feng Shui: the Compass School and the Form School (Mak and So, 2009). The Form School approach has been well recognized and widely accepted by Feng Shui researchers as comprising the scientific bases in the analysis of built environment (He, 1990; Cheng and Kong, 1993). The Form school established a holistic approach that allows integrated components and elements to be considered for the built environment (Mak and Ng, 2008).

Since the late 1960's the impact of western civilisation and technology has grown to global proportions, more western scholars became aware of the limitations of the modern scientific paradigms that failed to explain the whole realm of natural phenomena and began to recognize that there are similarities between modern science and eastern philosophy (Capra, 1975). Lee (1986) recognized that traditional interpretations based on the formal, spatial and technical data of architecture cannot adequately explain the context and meaning of this Feng Shui architecture. He suggested that interpreting Feng Shui would enable the development of architecture theories from this Chinese architectural discipline.

Nowadays, as many researchers seek to establish a deeper understanding of these relationships between the human and natural environments, architects begin to recognize Feng Shui as a broad ecologically and architecturally connected paradigm. Hwangbo (1999) believed that the practice of Feng Shui is an intuitive matter involving site selection and spatial organization, and it has strong parallels with the western concept of geometry in architectural design.

This paper investigates this Chinese approach for integrated building design derived from the principles and practice of Feng Shui. Firstly, the principles and practices of Form School approach are briefly explained and hence the four fundamental concepts are derived. Finally, a hierarchical structure of Feng Shui knowledge is presented which would form a useful basis for integrated design.

2. FORM SCHOOL APPROACH

There are two main schools of thought and practice in Feng Shui: the Compass School and the Form School. The Compass School is based on metaphysical speculations of cosmology, in particular by analysing the directional aspects in terms of the relationship between the five elements, eight trigrams, heavenly stems, earthly branches and constellations. Practice in the Compass School uses primarily the *Luopan* (Feng Shui compass) and the composed elements of time in space (Skinner, 1982; Chiou and Krishnamurti, 1997). The Form School is primarily based on the verification of the physical configuration of mountains and watercourses surrounding sites and buildings. Its theory was built upon an understanding of the landscape: the profiles of the land, the sources of rivers and the terrain. The practice of the Form School first observes the land formation and terrain, and then determines the location and orientation of buildings.

The development of the Form School was widely accepted by the upper class of the ancient Chinese society and attracted scholars and intellectuals to join its practice. The principles of the Form School were applied to design and construct castles, palaces and towns in China since ancient times (He and Luo, 1995). Lee (1986, p.367) suggested that the principles and practices of the Form School approach represent “a compendium of Chinese architectural theory”. For example, major cities in China (He and Luo, 1995), Beijing courtyard houses (Xu, 1998), and villages in Hong Kong (Mak, 2009), are all design and built according to the Form School approach.

Since the Ming Dynasty (1368-1644), these two schools of thought were not exclusively attached to their own methods for the practice of Feng Shui, but rather combined and integrated ideas from both Compass and Form schools (Lee, 1986). However, the Form School approach remained the primary consideration in Feng Shui practice (Xu, 1990; Too, 1996). Contemporarily, Form school approach has been recognized as comprising scientific basis in the analysis of the built environment (He, 1990; Wang, 1992; Cheng and Kong, 1993; Mak and Ng, 2005; Mak and Ng, 2008). For instance, research investigations carried out by Xu (1990) has compared the Feng Shui concepts using the Form School approach and the Hendler model, a well-known western model of site analysis. The results indicated that Feng Shui is a more powerful tool in site analysis than the Hendler model.

According to *Zang Shu* (the Book of Burial), the first surviving important literature on Form School was written by Guo Pu (276-324), there are five main theories in terms of Form, namely Qi, Wind-water, Four Emblems, Form and Direction theories (He, 1990). The Form School approach considers mountain ridges, surrounding hills, watercourses, locations and orientations as the most important terrestrial and celestial elements for human dwellings because these elements represent both terrestrial and celestial Qi. These elements comprised the basic terms of the Form School approach and were known as the “Five Feng Shui Geographical Secrets”, namely, dragon, sand, water, cave and direction (Lip, 1979):

- (1) **Dragon**: means the mountain ridges to be traced, and represents the topography,
- (2) **Sand**: means the enfolding hills and soil condition, and represents the surrounding environment,
- (3) **Water**: means the flow of water through or by-passing the site,
- (4) **Cave**: or “Feng Shui Spot” means the niche position, and represents the best location,
- (5) **Direction**: means the facing direction of the site and building, and represents the orientation.

These five Feng Shui Geographical Secrets are developed into the ideal Feng Shui model that recognised by most of the Feng Shui scholars (Cheng and Kong, 1993; Yi et al., 1996) as shown in Figure 1.

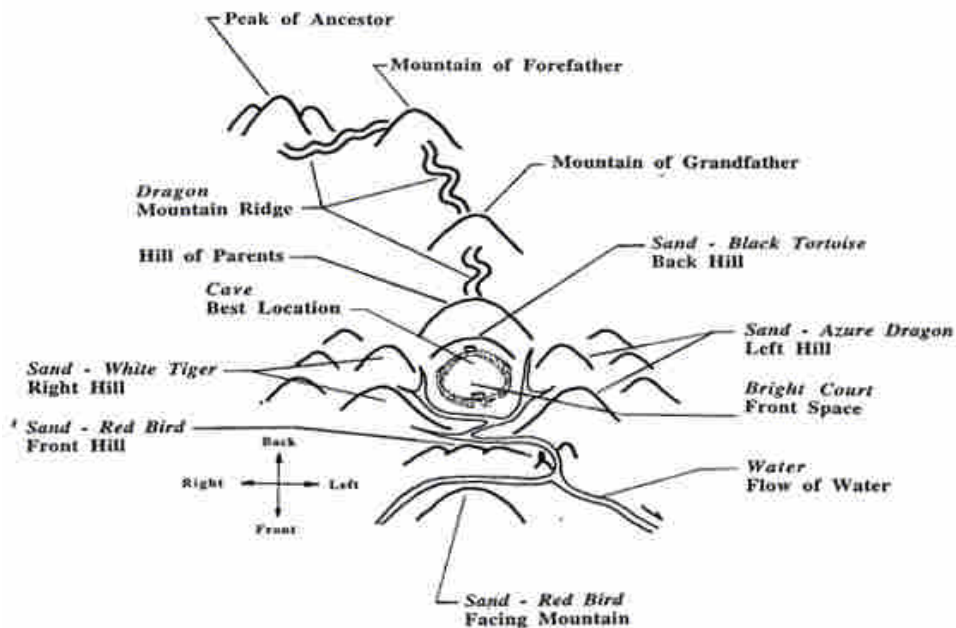


Figure 1: Ideal Feng Shui Model
Source: Yi et al. (1996)

3. FOUR FUNDAMENTAL CONCEPTS OF FORM SCHOOL APPROACH

Based on the five main theories of Form School approach and the five Feng Shui Geographical Secrets, four fundamental concepts of Form School approach to Feng Shui knowledge for building design are derived: namely, the concept of the Feng Shui model, the concept of parallelism, the concept of four design modules and the concept of Feng Shui design criteria (Mak, 2004).

3.1 Concept of the Feng Shui Model

The combination of these five Feng Shui geographical elements and the four emblems (green dragon, white tiger, black tortoise and red bird as the four cardinal directions) produced a classic Feng Shui model. This model has been interpreted in diagrams of spatial organization of auspicious mountains and watercourses in most of the ancient Feng Shui literature. Many Feng Shui researchers have summarized these diagrams into a simplified diagram of a Feng Shui model as shown in Figure 1 (Shang, 1992; Cheng and Kong, 1993; Han, 1995; Yi et al., 1996; He, 1998). This diagram illustrated the relationships between the key elements of the five Feng Shui geographical secrets being considered and how dragon vein, four emblems in sand, water feature, cave and bright court, and their directions were integrated into a simplified Feng Shui model as shown in Figure 2.

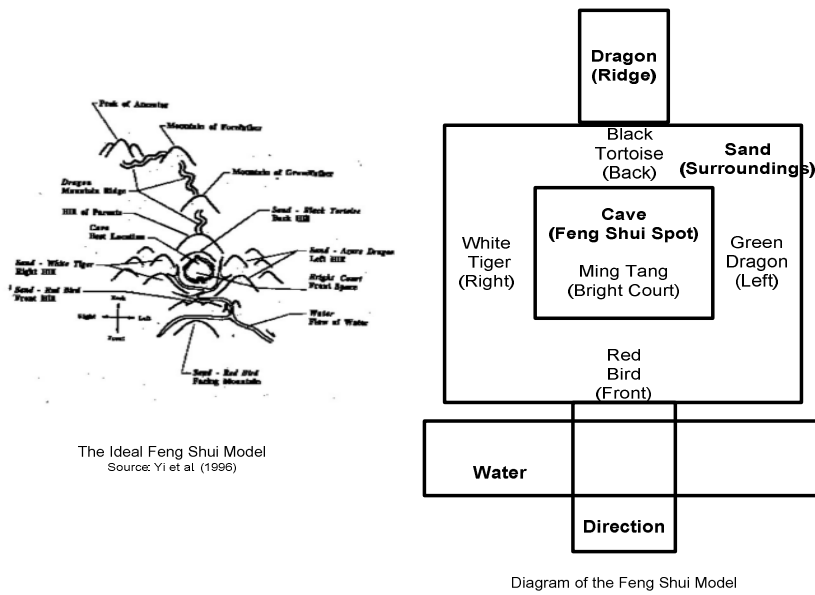


Figure 2: The Feng Shui model
Source: Yi et al. (1996) and Mak (2004)

3.2 Concept of Parallelism

Most Feng Shui scholars (Skinner, 1982; Lee, 1986; Xu, 1990) recognized that the theories and practices of Feng Shui work in macrocosm and microcosm. In terms of Feng Shui, a building is considered an architectural as well as a cosmic structure (Lee, 1986). Territory on earth is organizationally analogous with the four quadrants in the celestial sphere. These four quadrants are called Azure Dragon, Red Bird, White Tiger and Black Tortoise, and are commonly known as the “Four Emblems”. Each of these heavenly quadrants is identified with the regions of East, South, West and North respectively. This relationship is recognized as the concept of parallelism in Feng Shui (Lee, 1986). The concept of a Feng Shui model not only applied to landscape and site selection, but it can also be applied to the interior layout of buildings. Therefore, whether it is dealing with physical or topographical elements, or housing structure, or the proportional relationships of the interior of a house, the same principles and relationships of the Feng Shui model are still applied as shown in Figure 3.

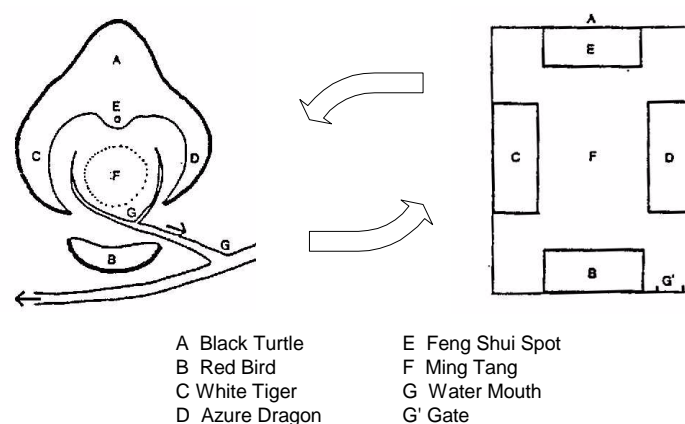


Figure 3: Correspondence of the Four Emblems in Nature and Architecture
Source: Adopted from Lee (1986)

3.3 Concept of Four Design Modules

When describing the site conditions and the design of dwellings, most of the Feng Shui texts, such as *Yang Zhai Shi Shu* (Ten Books on Dwellings of Living) categorized these aspects into Outer Form and Inner Form. According to Lee (1986), the Outer Form can be identified as the location of the site, conditions that surround the site, topographical conditions of the site and the shape of the site. The Inner Form can be identified as the layout of the building, elevations of the building, and elements of building. Feng Shui scholars, Cheng and Kong (1993) explained the application of the Form School approach to the design of dwellings and proposed a further classification into four design modules: surrounding environment, external layout, internal layout and interior arrangement as shown in Figure 4.

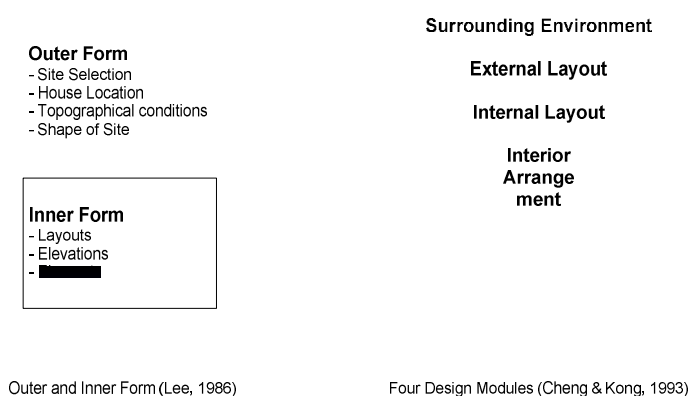


Figure 4: Four Design Modules
Source: Mak (2004)

- (1) **Surrounding Environment:** This aspect looks into the surrounding environment from a geographical point of view. This includes natural elements of topography, geographical features, mountains, watercourses, directions, views and man-made structures of roads and adjacent buildings.
- (2) **External Layout:** The external layout deals with the external shape and exterior space of a building. This includes the shape of site, geometry of the building, open space, entrances, driveways, landscaping, and plants.
- (3) **Internal Layout:** The internal layout reflects the spatial management of a building. It considers the locations and functions of rooms, circulation patterns, internal elements of structure, columns and beams, staircases, ceilings, doors and window openings (Rossbach, 1987).
- (4) **Interior Arrangement:** The interior arrangement addresses the internal room arrangement and furniture placement. It considers the size and proportion of rooms and windows and doors. Furniture placement is a major part of interior arrangement. In practice, the bed in the bedroom, the stove in the kitchen, the desk in the office etc. have substantial effects on the use of a building (Rossbach 1987).

3.4 Concept of Feng Shui Design Criteria

Most contemporary Feng Shui scholars (Lip, 1979, 1986; Rossbach, 1984, 1987; Lee, 1986; Xu, 1990; Han, 1995; and Choy, 1999) have set up their own criteria for Feng Shui design. For instance, Lee (1986) outlined three-basic-criteria for architectural design; Xu (1990) derived a four-step landscape model to deal with land formations; Han (1995) used 24-major

criteria for selection of the best location; Lip (1979, 1986) listed a set of standard rules of thumb for assessment of architectural design; Choy (1999) suggested a ten-point design criteria checklist for property selection; and Rossbach (1984, 1987) provided a set of interior design diagrams for furniture placement. Although these criteria derived from various contemporary Feng Shui scholars were presented in different formats, they all follow the principles and practice of the Form School approach. Based on these contemporary practices for Feng Shui design, 24 key criteria are identified (Table 1) and grouped according to the four design modules as shown in Figure 5.

Table 1: 24 Key Feng Shui Criteria for Building Design
Source: Mak (2004)

Surrounding Environment	External Layout	Internal Layout	Interior Arrangement
◆ Topography	◆ Shape of Site	◆ Layout	◆ Door Openings
◆ Front of Site	◆ Entrance	◆ Doors	◆ Bedroom
◆ Rear of Site	◆ Shape of Building	◆ Windows	◆ Kitchen
◆ Sides of Site	◆ Orientation	◆ Shape of Rooms	◆ Living Room
◆ Street Location	◆ Trees	◆ Staircase	◆ Bathroom
◆ Water View	◆ Pond	◆ Ceiling	
◆ Wind Direction			

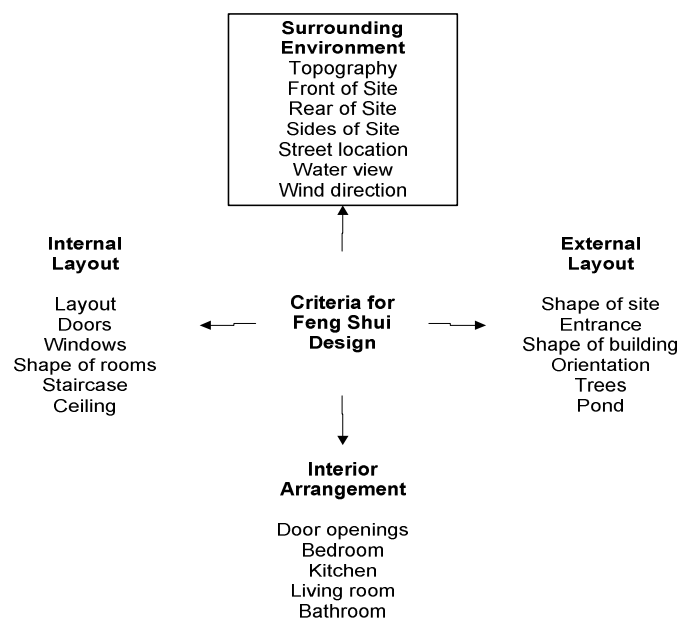


Figure 5: Feng Shui Criteria Grouped in Four Design Modules
Source: Mak (2004)

4. HIERARCHICAL STRUCTURE OF FENG SHUI KNOWLEDGE

Based on these four fundamental concepts of the Form School approach, an overall view of the Form School approach was provided. It is necessary to formulate a suitable process to integrate the four fundamental concepts of Feng Shui knowledge. It is recognised that a concept hierarchy approach provides a powerful way to represent structural knowledge (Tam, 1993).

Using a concept hierarchy, the relationship between each piece of data can be expressed and presented allowing the data stored in the database with abstract term (Lee et al., 1997). Concept hierarchy is used to organize factual domain knowledge and symbolic structural knowledge in the form of a generalization hierarchy. It is a common approach to utilize concept hierarchy for organizing structural knowledge and constructing the knowledge base because of its efficient mechanism to store and generalize a large body of interrelated concepts (Tam, 1993).

When constructing a concept hierarchy of the Feng Shui knowledge, the four fundamental concepts are represented in a format of hierarchy and are then integrated to form a skeletal structure of the hierarchy of the Feng Shui knowledge as shown in Figure 6.

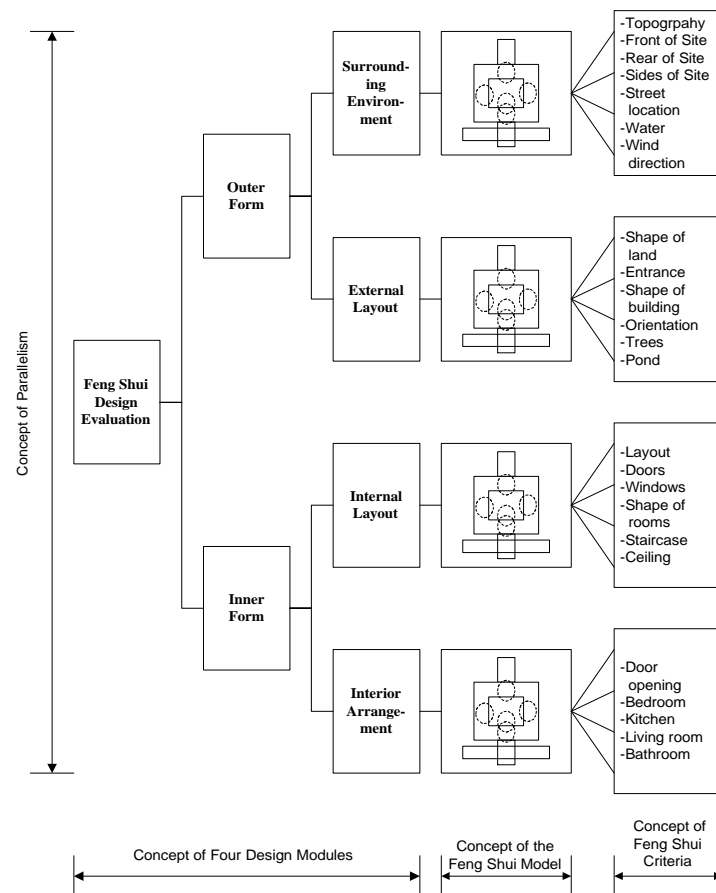


Figure 6: Hierarchical Structure of Feng Shui Knowledge
Source: Mak et al. (2005)

A questionnaire survey of architects practiced in Sydney and Hong Kong was used to evaluate the four fundamental concepts and the developed hierarchical structure of the Form School approach. These two cities are selected to explore any divergences resulting from different cultural, educational and geographical background. The results of the survey show that these fundamental concepts and the hierarchical structure are corresponding to the current work practices and knowledge of both Eastern (Hong Kong) and Western (Sydney) architects (Mak, 2004). Overall, there was very strong correlation between both groups of architects in Sydney and Hong Kong notwithstanding the fact that they have very different cultural, educational and geographical backgrounds (Mak and Ng, 2005).

5. CONCLUSIONS

Building design is a very complex process, and integrated design approach emphasizes the development of a holistic design. These characteristics are similar to Chinese philosophy of direct insight into the nature and the principles and practices of Feng Shui as applied in ancient Chinese architecture. In particular, the Form School provided a holistic approach that allows integrated components and elements to be considered for the built environment.

Although the principles and practices of the Form School approach provided a broad understanding of the Feng Shui knowledge, a systematic development of the four fundamental concepts and a hierarchical structure of Feng Shui knowledge have never been established. This paper provides a detail understanding of the Form School approach and to create a structured framework for building design, and may help improving the awareness and usage of this ancient Chinese wisdom for integrated design.

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