HILLSIDE ARCHITECTURE IN CHINA:

Inspiration of Taoism in the Design of Mountain Resort

By

Yi Xiong, B. Arch.

A thesis submitted to the

Faculty of Graduate Studies and Research

In the partial fulfillment of the requirements

For the degree of

Master of Architecture

Carleton University School of Architecture

Ottawa, Ontario, Canada

© 2003, Yi Xiong

National Library
of Canada

Bibliothèque nationale
du Canada

Acquisitions and
Bibliographic Services

Acquisitions et
services bibliographiques

395 Wellington Street
Ottawa ON K1A 0N4
Canada

395, rue Wellington
Ottawa ON K1A 0N4
Canada

Your file Votre référence

ISBN: 0-612-89873-3

Our file Notre référence

ISBN: 0-612-89873-3

The author has granted a non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of this thesis in microform, paper or electronic formats.

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de cette thèse sous la forme de microfiche/film, de reproduction sur papier ou sur format électronique.

The author retains ownership of the copyright in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

L'auteur conserve la propriété du droit d'auteur qui protège cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

In compliance with the Canadian Privacy Act some supporting forms may have been removed from this dissertation.

Conformément à la loi canadienne sur la protection de la vie privée, quelques formulaires secondaires ont été enlevés de ce manuscrit.

While these forms may be included in the document page count, their removal does not represent any loss of content from the dissertation.

Bien que ces formulaires aient inclus dans la pagination, il n'y aura aucun contenu manquant.

Canada

Abstract

With the increasing speed in globalization, the issue of architectural identity has been attracting more attention. The struggle between modernism and tradition has been evident throughout Chinese architecture since the beginning of the last century. Today, a new version of traditionalism is evolving in support of the commercial activity of tourism. Unfortunately, most of the architectural solutions have responded by mimicking traditional style or appropriating traditional elements in modern buildings without any respect for the natural or cultural environment. This thesis discusses that how designers could rise above superficial forms by including the inherent qualities and spatial characteristics of traditional Chinese architecture in contemporary design and planning.

Such designs would attempt to respect particularity of site, reinterpretation of tradition, and cultural context. Taoism, which has had fundamental influence on Chinese perception of the universe, would be a key to understanding the relationship of man and nature in general, and space and time in particular.

Acknowledgments

This investigation of hillside architecture and the development of a responsible design proposal for the scenic zone in Szechwan province has been a long one. Encouragement and support has come from many sides. I would especially like to thank my supervisor Greg Andonian, who helped me through the process of this thesis and always gave me constructive opinions and thoughtful advice.

I would like to thank my previous colleagues Fan Yang, Fang Sheng and Chu Cheng without whom the practical materials would not have been possible.

Finally, I would like to express my deepest appreciation to my husband for always being there, no matter how long it took, and for his loving support and inspiration.

Table of Contents

Abstract	iii
Acknowledgments	iv
Table of Contents	v
List of Figures	vii
Glossary	ix

Chapter1: Introduction 1

- 1.1 Preamble
- 1.2 Area of Inquiry
- 1.3 Hypothesis
- 1.4 Methodology

Chapter 2: Historical Patterns and Attitudes..... 8

- 2.1 About Hillside Architecture
- 2.2 Hillside Resort in China Today
 - 2.2.1 Debate of Architectural Tradition and Modernism in China
 - 2.2.2 Architectural Traditionalism in Tourism

Chapter 3: About Taoism 30

- 3.1 Taoism's Relationship with Confucianism and Buddhism
- 3.2 Principles of Taoism
 - 3.2.1 Tao and Ch'i
 - 3.2.2 Yin and Yang
 - 3.2.3 Five Elements
- 3.3 Taoist Principles and Traditional Chinese Architectural Concepts
 - 3.3.1 Corresponded with Surroundings
 - 3.3.2 Flow of Internal and External Space
 - 3.3.3 Consistency of Form, Color and Material
 - 3.3.4 Movement, Sequence and Experience

Chapter 4: Taoist principles and Hillside Architecture 53

- 4.1 People in Mountain Environment

4.2 Inspiration in Chinese Painting, Chinese Garden and Traditional Hillside Architecture	
4.2.1 Subordinate to Nature	
4.2.2 Sequence of Spatial Experience	
4.2.3 Symbolism	
4.2.4 Dynamic balance	
4.3 Wu Wei (non-action) in Vernacular Hillside Architecture	
4.4.1 Siting: Clues from Nature	
4.4.2 Mass and Texture	
Chapter 5: Feng-Shui, Position and Orientation	95
5.1 About Feng-Shui	
5.1.1 Feng-Shui: Past and present	
5.1.2 Two Schools of Feng-Shui	
5.2 Basic Principles of Feng-Shui	
5.3 Feng-Shui in Hillside Architecture	
5.3.1 Shape, Position and Orientation	
5.3.2 Feng-Shui in Traditional Hillside Towns	
Chapter 6: Prototype Design.....	111
6.1 Site Description: Topography, Climate, Culture and Social Pattern	
6.2 Design Objectives of Peach Spring Villa	
6.3 Design Proposal	
6.3.1 Using Feng-Shui in Siting	
6.3.2 Subordinate to Nature	
6.3.3 Respond to Surroundings	
6.3.4 Sequence, Movement and Spatial Experience	
Chapter 7: Conclusion	125
Bibliography	131

List of Figures

Chapter 2: Historical Patterns and Attitudes

Figure 2-1	Great Wall in China	Page 12
Figure 2-2	Machu-Picchu in Peru	Page 12
Figure 2-3	Acropolis in Greece	Page 12
Figure 2-4	Potala Palace in Tibetan	Page 12
Figure 2-5	Mountain Lu, Jianxi Province, Chinese famous mountain resort	Page 13
Figure 2-6	Golden Lade Vilas, Shenzhen, China	Page 14
Figure 2-7	The Conference Center of Bank of Communication, Wuxi, China	Page 15
Figure 2-8	Mountain Qingcheng, Chengdu, Szechwan, China	Page 16
Figure 2-9	Dr. Sun Yat-sen's Mausoleum	Page 19
Figure 2-10	The National Gallery of Art, Beijing	Page 20
Figure 2-11	West Railway Station of Beijing	Page 20
Figure 2-12	Top: Imitation of traditional architecture is under painting Bottom: Drum Building Street under construction, Tianjin, China	Page 23
Figure 2-13	Fengmao Street in the old town, Luohu District, Shenzhen	Page 24
Figure 2-14	Tai Lake Resort of Xinjian Oil Co., Wuxi, China	Page 25
Figure 2-15	Bird eye view, Katsura	Page 27
Figure 2-16	View of the Main House	Page 27
Figure 2-17	The New Palace and lawn	Page 28
Figure 2-18	The Kagawa Prefectural Office	Page 28
Figure 2-19	Tsukuba Center Building Tsukuba, Japan	Page 29

Chapter 3: About Taoism

Figure 3-1	The artificial "river" surrounding Forbidden City	Page 34
Figure 3-2	Forbidden City, Beijing	Page 34
Figure 3-3	Chinese courtyard dwelling	Page 38
Figure 3-4	Chinese courtyard plan	Page 38
Figure 3-5	Chinese calligraphy	Page 39
Figure 3-6	Chinese ink painting	Page 39
Figure 3-7	Symbol of Yin and Yang, Diagram of "Taichi"	Page 40
Figure 3-8	Yin and Yang, Earth and Heaven	Page 41
Figure 3-9	Generating and Destructing system of five elements	Page 42
Figure 3-10	Contributes of Five Elements	Page 42
Figure 3-11	Courtyard in residential building	Page 45
Figure 3-12	Jianguo Hotel, Beijing, China	Page 46
Figure 3-13	Xian Garden Hotel, Xian, China	Page 47
Figure 3-14	Forbidden City, Beijing, China	Page 48
Figure 3-15	China-Europe International Business School Shanghai, China	Page 51
Figure 3-16	Views of China-Europe International Business School in Shanghai	Page 52

Chapter 4: Taoist principles and Hillside Architecture

Figure 4-1	Monasteries of Wu Tai Shan Mountain, China	Page 54
Figure 4-2	Tai Mountain (left) and Qingcheng Mountain (right), China	Page 57
Figure 4-3	“Fishing in a Mountain Stream,” in the William Rockhill Nelson Gallery and Atkins Museum of Fine Arts, Kansas City, Missouri.	Page 59
Figure 4-4	Human’s place in mountain landscape	Page 60
Figure 4-5	The relationship of man, architecture and nature in Chinese painting	Page 61
Figure 4-6	The Fragrant Hill Hotel, Beijing, China	Page 62
Figure 4-7	Views of Fragrant Hill Hotel	Page 63
Figure 4-8	Views of Fragrant Hill Hotel	Page 64
Figure 4-9	Chinese ink painting,	Page 65
Figure 4-10	Fuhu Temple, Szechwan, China	Page 66
Figure 4-11	Fulong Temple, Guan County, Szechwan, China	Page 67
Figure 4-12	Golden Mountain Temple, Zhengjian, China	Page 68
Figure 4-13	Yuanmingyuan, Beijing, China	Page 70
Figure 4-14	Balance in Chinese Garden	Page 71
Figure 4-15	Sequence in Chinese Garden	Page 72
Figure 4-16	Plan of the Erwang Temple, Guan County, Szechwan	Page 73
Figure 4-17	Sequence of space of the Erwang Temple Guan County, Szechwan	Page 74
Figure 4-18	A sketch by I.M. Pei shows of the Miho Musuem, Shigaraki, shiga, Japan	Page 76
Figure 4-19	Plan of Miho Museum in Shigaraki, shiga, Japan	Page 77
Figure 4-20	Sequence in Tiantan (Celestial Altar), Beijing and Sequence in Miho Museum	Page 78
Figure 4-21	Top: The entrance and steps lead to Miho Museum Bottom: The bird eye view of Miho Museum	Page 79
Figure 4-22	Flow of internal and external space	Page 80
Figure 4-23	A view through the framed glass	Page 80
Figure 4-24	Moon entrance in Liuyuan (Liu Garden), Shuzhou and patter on the door of the museum	Page 81
Figure.4-25	Bolar house, Fujian, China	Page 83
Figure.4-26	Cave dwelling, Northwest, China	Page 83
Figure.4-27	Structure boundaries join with natural edge	Page 85
Figure 4-28	Luocheng, Jianwei county, Szechwan Province	Page 86
Figure 4-29	Oil miller, Zhong County, Szechwan	Page 87
Figure 4-30	Water Fall House by Frank Lloyd Wright	Page 88
Figure 4-31	Xituo town, Shizhu County, Szechwan	Page 90
Figure 4-32	Wuyi Mountain Villa, Fujian Province, China	Page 92
Figure 4-33	Facades and Plan of Wuyi Mountain Villa	Page 92
Figure 4-34	Folk dwelling on the bank of Lingchang River	Page 93

Chapter 5: Feng-Shui: Position and Orientation

Figure 5-1	Mountains' shapes based on the theory of the five elements	Page 102
Figure.5-2	Village embraced in hills	Page 104
Figure 5-3	Diagram of mountains in ideal Feng-Shui site	Page 104
Figure 5-4	Water in an auspicious Feng-Shui site	Page 106
Figure 5-5	Langzhong, Szechwan	Page 107
Figure 5-6	Zhaohua Town, Szechwan	Page 108

Chapter 6: Prototype Design

Figure 6-1	Map of China	Page 112
Figure 6-2	Yangtze River	Page 114
Figure 6-3	Location of site	Page 116
Figure 6-4	The original site	Page 119
Figure 6-5	Modification of site	Page 119
Figure 6-6	Axiality (north-south axis) and definition of site	Page 122
Figure 6-7	Hierarchy and sequence of Space	Page 123
Figure 6-8	Place making based on events, the expression of certain action	Page 124

Glossary

Analects: the collection of Confucius' sayings.

Ch'i: the energy force that creates all life and flows throughout the Universe. It is found in the environment, under the ground and within us.

Chuang Tzu: next to Lao Tzu, the most significant Taoist sage. He lived from 369-286 B.C.. His writings extend and develop the Tao-te Ching, providing important ideas that were later developed into Religious Taoism,

Compass School: the Compass or Fukien School of Feng-Shui uses a compass or Luopan to find the most auspicious location and orientation for a home or dwelling.

Confucius: a Chinese teacher and scholar, most aptly thought of as a wise man or sage. He was born about 551 B.C.E. and died around 479. He taught a system of behavior (ethics) and belief which drew upon and transformed Chinese social tradition.

Confucianism: a religion based on the teachings of Confucius which seeks to delineate the nature of a life-worth-living. It emphasizes the importance of human relationships/those within the family, between friends, and those between governments and their citizens.

Feng-Shui: literally, wind water; modifications of environment to improve well-being. It is the art of balancing and harmonizing in the environment.

Five Elements: Five Elements theory is central to Chinese philosophy and medicine and to the understanding and the practice of Feng-Shui. The Chinese believe that everything in the Universe consists of Yin and Yang and everything can be placed into five basic elements - wood, fire, earth, metal and water.

Form School: the first school of Feng-Shui that developed. It looks at the landscape, the mountains, valley and plains, rivers and seas, external building environments, internal building environments, interior design, colour, light and sound.

Luopan: a compass with Chinese characters in concentric circles, used in analyzing the Feng-Shui of a site.

I-Ching: in Chinese, the "Book of Changes," a book used in divination.

Lao Tzu: the supposed founder of Taoism, possibly born about 604 B.C.. Little is known about him and he may even be mythical. He is credited with writing the Tao Te Ching.

Taichi: the beginning of the physical universe and the interaction of Yin and Yang

Tao (or Dao): in Chinese, Tao means “way” or “path” and forms the basis for Taoism. It is a philosophical concept which describes the source of all creation.

Taoism: a religious and philosophical system, also known as 'the way', which was established in China more than 3,000 years ago, and emphasized the importance of nature in dictating the laws of man.

Tao-te Ching: the book written by the philosopher Lao Tzu, the definitive guide to the union of Heaven and man.

Wuchi: means “no-time and no-dimension”—the invisible vital force which is the essence of beings.

Wu-Wei: although this Taoist term is literally translated as “inaction,” the concept actually emphasizes the notion of accomplishing things by a natural way.

Yang: equated with sky or heaven, and balanced with yin. Qualities traditionally ascribed to Yang are the active, the positive and the masculine. Yang may be applied to character, occupation, and environment.

Yin: equated with earth or creation, and inextricably linked with yang. Qualities traditionally ascribed to yin are the restful, the negative, and the feminine. Yin may be applied to character, occupation and environment.

Yin / Yang: The Chinese believe that everything that exists has Ch'i, and in turn everything that has chi has yin and yang qualities. Yin and Yang are opposites and complimentary - one cannot exist without the other, Yin qualities are dark, feminine, passive, and cold and Yang qualities are light, masculine, active and hot.

Chapter 1: Introduction

1.1 Preamble

The assertion of an identity, which is essential to the development of endogenous architecture, should be an architecture which finds its inspiration in the cultural past and in the ecological reality of a specific region, should not be viewed as a romantic attachment to a vanishing or extinct past, but rather it should be regarded as a necessary phase in the reappraisal process of the form of culture. (Suha, 1985)

The current epoch, more so than any other, is a period of profound and accelerated transformation. The revolution of information technology and market-oriented economic values and concepts lead to an ever-increasing pace of globalization. They are shaping and changing the built environment as well as affecting the individual's perception, recognition and valuation of architectural works. Reasserting local identity has become a matter of great importance especially since the Second World War, and it is the subject of increasing attention in recent decades, exemplified in such concepts as "pluralism", "regionalism" and "critical regionalism". As Alexander Tzonis and Liane Lefaivre put it:

Next to the great ideological struggle between modernism and traditionalism, the conflict between regionalism and globalization has shaped most social, political, economic and cultural debates of the past century. It continues to dominate today in almost every field. The conflict has also marked architectural and urban planning debates. (Tzonis and Liane Lefaivre, 2001)

Globalization has completely changed the built environment. Developing countries, especially since the end of the 1960s, have been experiencing a rapid transformation of architectural expression as a result of the influences of the economic growth of developed countries, modern technology and mass media. As the Singapore architect, Hock Beng Tan discussed:

In the fact of globalization and the transcending power of media, the role of architecture in place-making and in the evocation of special traditions has been questioned.... Today, issues concerning the growing ecological consciousness as well as the ideological quest of national roots are extensively debated and inherent prejudices are examined dispassionately. ... In Asia, quite a number of architects of opposing persuasions have felt the urgent and irrepressible need for previously neglected culture introspection and for the formulation of national or even regional identity in design. (Tan, 2001)

In developing countries, especially in the biggest of them, China, the rapid rate of development following industrialization and opening policy accelerated the importation of modern architecture to meet the growing demand for contemporary amenities and the expression of national identity. Meanwhile, Western models conveying the desired modern image were readily available. Thus architectural development mainly followed the prevailing international trends without addressing the Chinese tradition. "The last few decades have rightly witnessed a growing debate about 'modernism versus traditionalism' among the developing countries," (Powell, 1985) particularly those countries like China with centuries-old and abundant cultural heritages that had not been colonized completely. The imports of modern Western models of architecture and urban planning lead to the loss of cultural identity, authenticity and diversity in design concept. This subject is explored by Peter G. Rowe and Seng Kuan in their book entitled *Architectural Encounters with Essence and Form in Modern China*. This book discusses the concepts of *ti* and *yong*, or "essence" and "form" (Chinese characters that are used to define the proper arrangement of what should be considered modern and essentially Chinese). *Ti* and *yong* have gone through various transformations, from "Chinese learning for essential principles and Western learning for practical applications" to "socialist essence and cultural form" then back to

“modern essence and Chinese form.” Finally, it looks at the present socialist market economy and Chinese architecture during the still incomplete process of modernization. The authors argued that: “As recurrent debates and much practice made obvious, both tradition and modern architecture were poorly or superficially understood. China was certainly not alone in this difficulty” (Rowe and Kuan, 2002). Architects in many other places in the world, mostly in developing countries, have constantly struggled to meet commercial needs, while maintaining traditional continuity and a “broader critical and disciplinary basis for contemporary architecture” (Rowe and Kuan, 2002) .

1.2 Area of Inquiry

Since the beginning of the 20th century when China was compelled to open itself to the world, until the opening and reforming started in 1980s, the continuity of architectural tradition has been substantially constrained by mimicking traditional forms. During the 1990s when this subject was less of an ideological issue in China, a new version of traditionalism evolved in support of the commercial activity of tourism. Unfortunately, most of the architectural solutions have been constrained by the superficial duplication of traditional style or by the application of traditional elements to modern buildings without any respect for the natural and cultural uniqueness of the site. This is most observable in the hillside resort where the environment is more ecologically and aesthetically sensitive. At this moment, hillside design is the focus of a conflict between development and preservation, modernization and tradition. This thesis explores the following questions: What are the essentials of traditional Chinese hillside architecture? How does one approach

the juncture of modernization and tradition, or reinterpret Chinese architectural tradition in a modern hillside design?

1.3 Hypothesis

There are certainly reasons for relying on forms because they have strong symbolic links to the past and thereby convey the ever-powerful sense of architectural identity. But such reliance limits other expressions that do not suggest the tradition forms although these visions may be progressive, creative and more developed. The real need is for a different orientation, a change in direction and attitude.

First, designers can find the luminous qualities of traditional Chinese architecture which are still effective for contemporary design and planning. One of the most notable traditional Chinese fundamentals is “man, earth and heaven together” (“Taoism”, 2002) which advises the solidarity of nature and man. This is showing architecturally in the tendency of structures to respond to their environment. Like Feng-Shui, the Chinese ancient art of placement suggests a holistic consideration on keeping harmony with natural and man-made surroundings. This notion is identical with contemporary Western architectural thought. After the industrial revolution in the nineteenth and twentieth centuries, the pace of human development and the speed with which natural resources are being consumed have been accelerating. “In recent decades, however, it has become increasingly apparent that the advances that we have not come without a substantial price” (Krizek and Power, 2002). As Ian L. McHarg remarks in his book *Design with Nature*, the pattern of the planet

has been greatly changed. Humans and modern technology have been defacing the environment and lowering its habitability. "One of the essential problems is rather than realizing the fundamental links between human beings and nature on which we rely for our subsistence, we continue to think that modern technology can always free us from our dependence on nature" (McHarg, 1992). This issue of considering nature in urban planning and architectural design has been attracting more and more attention, as seen in the theories of Organic architecture, Sustainable architecture and Green architecture. Based on these ideas, the view has turned to Eastern attitudes of nature. Very different approaches are taken by the Western and Chinese philosophies. In Christianity, for example, The Bible's Old Testament conveys the notion that man has dominion over the rest of creation. As well, the 8th Psalm, echoes a similar attitude, stating that the Lord made man "a little lower than the angels," and, "Thou modest him to have dominion over the works of thy hands and has put all things under his feet" (Yang and Yi, 1992). The West treats the individual as an independent and separate entity and the Chinese treat the individual as one of many elements in an interrelated universe. (Yang and Yi, 1992)

Second, the knowledge of traditional architecture is limited by focusing on the shape and appearance and ignores its essential spatial qualities. Most attention has been place on tangible features but spatial characteristics, attentiveness of movement, change, time, sequence, invisible force and balance of energy which are also important. In Rowe and Kuan's idea of "essence and form", the "essence" could be intangible facts, like spatial characteristics, and "form" could be tangible facts, such as form, material, portion and color.

One of the aims of this thesis is to explore the spatial characteristics of Chinese traditional hillside architecture to determine its continued effectiveness for contemporary development.

Third, the issue of architectural tradition in China has been restricted to official buildings and ignored in folk or vernacular architecture. This is one of the reasons that the curved “big roof” and related details have become the only outward display of the expression of tradition. Actually, the terms “traditional and vernacular” have also been used interchangeably because the qualities associated with tradition are also found in the vernacular (Dell, 1993). As Bernard Rudofsky's *Architecture without Architects* exhibition pointed out, there is much to learn from vernacular architecture, itself an important source for the basic components of design. In the following chapters, the possibility of adopting vernacular architecture in contemporary development is discussed.

Delving deeply into the three aspects given above requires knowledge of Chinese historical cultural heritage to understand the architectural and planning practices that have evolved over centuries of adaptation and, in a few cases, adoption. Instead of simply designing a stage-set with pastiche, the designer could replace it with spiritual inspiration from traditional Chinese culture.

The Chinese traditional architectural notion that structures respond to the natural and man-made surroundings and their spatial characteristics was originally based on Chinese philosophies, especially that of Taoism. There are three types of traditional philosophy that

have shaped Chinese life for more than 2,000 years: Confucianism, Taoism and Buddhism. Although all of them share the same basic idea about the unity of man and universe, Taoism focuses more on the relationship of man to nature, the observation of nature and the understanding of its ways. In the hillside resort, the natural environment is ecologically sensitive and poses more constraints and opportunities for architectural design. Being aware of the natural environment and capitalizing on natural clues are more imperative. Employing Taoism and Feng-Shui principles would be a way to design buildings for a hillside resort conveying architectural tradition not merely by means of stylistic uniformity but by the creating of genuine spatial experience and cultural connection.

1.4 Methodology

This thesis extracts principal theoretical notions made by prominent theorists and adopts some primary concepts of Taoism concerning the relationship between human beings and nature and applies them to the domain of hillside architecture. The proposed notions and concepts are tested by the compare-and-contrast method applied to hillside case studies incorporating systematic approach and inductive reasoning.

Chapter 2: Historical Patterns and Attitudes

2.1 About Hillside Architecture

According to Encyclopædia Britannica “mountains are landforms that rises well above its surroundings, generally exhibiting steep slopes, a relatively confined summit area, and considerable local relief (inequalities of elevation)...and hills are areas of land that is higher than the land around it, like a mountain but smaller” (“mountain”, 2003) .

Hillside areas of the planet on which humans live are more extensive than plain areas.

Seventy-one percent of the surface of the earth is covered by ocean; of the rest, thirty-three percent is flat and almost seventy percent is hillside (Lu and Wang, 2000). Hillside areas, topographical constraints raise problems of design, development, construction and maintenance of dwellings. As well, it has been difficult to gain access to mountainous regions and these often remain vacant when the adjacent flat areas are developed.

From a geographical point of view, mountains and hills “are formed by the folding, faulting, or up warping of the earth's surface due to the movement of plates or by the emplacement of volcanic rock onto the surface” (“mountain”, 2003). “Hills are considered smaller than mountains, but the term has no standardized geologic meaning. There is no international standard about the amount of the inequalities of elevation” (Lu and Wang, 2000). Generally, the definition of hills and mountains is concerned with the describing of the geographical or topographical character of a land or region that has relief of unequal elevation. In this thesis, for any particular site, the concern is not whether the elevation change is 200m or

300m, nor if the site is located at the top of a hill, on the mountainside or at the foot of the mountain. For the purpose of architecture, “hillside” is a site with a unique sense of place. It is a site different from areas like the plain and the seashore which can provide a special mental feeling and physical usability. “No other type of landform so effectively communicates three-dimensionality, depth, and distance. In the visual and ecological changes that occur with increasing elevation in the mountain landscape is nature’s metaphor for sequence, progression, and transformation” (Dorward, 1990). The potential for a unique regional character and people’s special sense of place is valuable in hillside design.

For centuries, the high elevation of mountains or hills has implied stateliness. Perhaps because of their inaccessibility, they have offered strategic locations for defense and religious significance. The Great Wall in China (Figure 2-1), the MachuPicchu in Peru (Figure 2-2), the Acropolis in Greece (Figure 2-3) and the Potala Palace in Tibet, China (Figure 2-4) are notable examples. Despite the constraints, hillside areas are attractive places to live because of the view and the sense of being closer to nature. In order to enjoy the natural environment, people are showing increasing interest in developing hillside areas, “as Rouillard (1987) writes: During the nineteenth century, interest grew in the advantages of the healthy air and euphoric views offered from hillside” (Olshansky, 1996).

“The most remarkable feature of China’s relief is the vast extent of its mountain chains; the mountains, indeed, have exerted a tremendous influence on the country’s political,

economic, and cultural development. At a rough estimate, about one-third of the total area of China consists of mountains.” (“China”, 2002)

Figure 2-1 Great Wall of China

Figure 2-2 Machu Picchu in Peru

Figure 2-3 Acropolis in Greece

Figure 2-4 Potala Palace in Tibet

Chinese appreciation of mountain landscape has a long history. In Chinese, two characters “shan” (meaning mountain) “shui” (meaning water) are used to indicate the English word “landscape”. As early as the East Zhou Dynasty (770-256 BC), Confucius indicated in *Analects* (Lun Yu): *The wise find pleasure in water; the virtuous find pleasure in mountains*, which means people’s personalities can be reflected in their preferences for different natural landscapes. The appreciation of landscape with both mountains and water

has been present throughout Chinese history.

2.2 Hillside Resort in China Today

In recent times, especially after the opening and reform, with the development of China's living standard, the demand for tourist facilities in mountain resort areas is increasing.

Unfortunately, in many cases the ecological, cultural and aesthetical sensitivity of the hillside environment has been ignored. Insufficient sensitivity to natural topographical clues is the major reason that the natural landscape is being ignored (Figures 2-5 and 2-6).

Figure 2-5 Mountain Lu, Jiangxi Province, famous Chinese mountain resort. Insufficient sensitivity to natural topographical clues is the major reason that the natural landscape is ignored.

In recent decades, the situation has been getting better. "There is a growing recognition that reverence for natural landscapes provide a powerful, sustainable basis for the preservation of biological and cultural diversity." (IUCN TECHNICAL EVALUATION., 1990) But the

problem still remains, because most of the effort has been put into the superficial impersonation of traditional architectural style by either copying the past or by attaching abstracted elements to provide a “make-believe region” (Tzonis and Lefaivre, 2001). Consequently, “false antique” or haphazard “instant Chinese” structures built without

Figure 2-6 Golden Lade Villas, Shenzhen, is a luxurious villa area by Hua Yi Co.. It covers an area of 60,000 square meters, on which are dotted 110 villas, three 8-storev apartment buildings and the corresponding facilities including a swimming pool, tennis court, stores. There is no response to the uniqueness of the hillside environment.

any respect in the uniqueness of the site and real concern of cultural context are spreading through the hillside scenic spots (Figures 2-7 and 2-8).

Figure 2-7 The Conference Center of the Bank of Communication, Wuxi, China, a typical clip-on “stage-set”, a modern hillside building attempting to have response to the indigenous style.

Figure 2-8 Mountain Qingcheng, Chengdu, Szechwan, China, a “false antique” imitation of traditional style

Recently, this problem has been brought into focus by the construction of the Three Gorges Hydro Power Project. When it is completed, hundreds of historical and cultural sites will be underwater and there will be a demand for new tourist facilities. An article in the *Beijing Youth Daily* entitled as “Yangtze River, a probable cultural disaster” discussed: “For commercial purpose, there would be uniformed ‘false antique’, ‘instant Chinese’ and various uncouth and garish spurious cultural sites occupying the mountains and hills along Yangtze River. There would be a cultural disaster” (September 25, 2002).

This problem is compounded by market-oriented financial considerations which entail mass production and a preference chase for speedier construction; it is enabled by modern construction technology which permits the builder to alter landforms readily. These factors

diminish the respect for a specific site and an authentic connection with culture, but this is only part of the story. Analyzing this process necessitates the review of the struggle between architectural traditionalism and modernism in China.

2.2.1 Debate of Architectural Tradition and Modernism in China

The history of the Chinese attempt to modernize in architecture coupled with the debate between tradition and modernism started at the beginning of the last century and continues today. Beginning with opening in the 1980s and more so in the 1990s, China opened actively and forwardly to the world, and strode unhesitatingly towards modernization. There is now a stronger mix of confidence and anxiety about identity than ever before. This situation has been embraced by Peter G. Rowe and Seng Kuan. In their book, they associate the conflict between tradition and modernism in China as that between “essence” and “form”, as they discussed:

Judging from the history of Chinese struggle with modernity and modernization in architecture, it seems very unlikely that any further substantial capitulation will occur without a corresponding broad theoretical realignment of how the balance between “essence “ and “form” is to be maintained. Indeed, the consternation caused by the recent pell-mell thrust toward modernization in many parts of China suggests that this issue has become increasingly central within general as well as elite circles. (Rowe and Kuan, 2002)

Modernization of development in China has gone through three periods. Firstly, the Opium war and Republic of China (1840-1949), was marked by the political and cultural decline of the Qing dynasty and the beginning of the Republic of China. One of its noticeable features is passive and continued contact with Western countries. Modern industries and cities began to emerge, but the influence was limited only to the small number of people in

the upper social strata. “The middle class and its influence – so much a hallmark of modernization elsewhere- remained small and relatively ineffectual” (Rowe and Kuan, 2002). Foreign and native architects started their practice by expressing Chinese architectural identity in new buildings. Secondly, the People’s Republic of China (1949-1980) started with the end of civil war. The Chinese Communist Party came to power replacing the Nationalism Kuomintang and established the People’s Republic of China. In this period, socialist ideology dominated every aspect of Chinese life. The modernism-traditionalism debate was based on ideological rather than academic issues. The economy and modernization situation were grievous. Finally, reform and opening (1980 until the present) marked the beginning of expansion and opening especially to western countries. The market economy returned to China and the pace of modernization and architectural influence happened faster than ever.

Under such circumstances, modernization and modernism never have been engendered internally from Chinese society. As Peter G. Rowe and Seng Kuan put it:

Few if any countries have faced fluctuations quite so extensive during their process of modernization: as a result, modernization in China is still in its relative infancy, though it is developing quickly. Against this background, modernization is certainly not taking place as a preordained process with a given set of characteristics. On the contrary, it is self-determining and has thus far differed in certain significant respects from what many regard as the “standard model”. (Rowe and Kuan, 2002)

The retarded and perversive modernization, or to be more proper, modernity, has had its considerable influence on Chinese architecture. Examples of these are seen in the earliest Chinese architectural design competition, Dr. Sun Yat-sen’s Mausoleum in Nanjing,

designed by Lu Yanzhi in 1920s, and followed by the “Ten Grand buildings” in the 1950s and the West Railway Station of Beijing in the 1990s. The search of architectural continuity in China has been entangled in “Big Roof” (Chen, 1988) (Figures 2-9, 2-10 and 2-11). One of the primary reasons is because, as indicated above, modernization is not taking place from within China society. Hereby, “Modernism was received and subsequently deployed with little critical analysis or articulation” (Rowe and Kuan, 2002). Without the rational and critical attitude of modernity, a vital and critical viewpoint had little chance to develop.

In both the historical and theoretical study of tradition, there is a misunderstanding in architectural tradition and modernism. Until recently, few showed much interest in Chinese architectural history. Consequently, as Peter G. Rowe and Seng Kuan put it:

The approaches to traditional and modern architecture in the 1990s thus effectively blocked the opening up of avenues for exploring different versions of either. In short, as the demands of practice increased, almost no intellectual core remained to be drawn on to shape architectural ideas and to steadily guide architectural thinking on either side of the modern-traditional divide. In addition, the pursuit of architectural novelty as more or less an end in itself, a pursuit driven by the very new experience of competitive market forces, ran counter to a long tradition in which outmoded structures were often simply renovated with no attempt to change them. (Rowe and Kuan, 2002)

Since the beginning of the 1990s, the recurrent argument and practice of “big roof” in China as mentioned before is less an ideological one than before. Obviously, this approach has been used most frequently in architecture for tourism and culture.

Figure 2-9 Dr. Sun Yat-sen's Mausoleum covering an area of 130 hectares was situated on the southern slope of the Purple Hills, east of downtown Nanjing. Sun Yat-sen, the great forerunner of the Chinese democratic revolution was buried here. The design of the Mausoleum followed traditional Chinese aesthetics both superficially and spiritually. The main structures – the honorific arch, gate, stele pavilion, memorial hall and chamber – were all located on a central axis. They were linked by 392 steps. Also, in line with tradition, the chamber of the tomb was behind the memorial hall.

Figure 2-10 The National Gallery of Art, Beijing, by Dai Nianci, 1962, is a project in which the state was highly involved. Its horizontal symmetrical massing and the “big roof” climbing up in layers in the middle of the building above the entrance express both Chinese traditional form and a sense of monumentality.

Figure 2-11 West Railway Station of Beijing, by Zhu Jialu, is a recent “big roof” project which was intensely critiqued. It has exorbitant pavilions on the top of a modern railway station of enormous scale. The large opening in the middle implies a traditional gateway which has the metaphor of arrival.

2.2.2 Architectural Traditionalism in Tourism

The attempt to reinterpret traditional characteristics has emerged as an approach to bringing forth an amalgamation of heritage and tradition with contemporary functions and life. In terms of construction scales and institutional situation, an interpretation of tradition is essential for buildings whose purposes are associated with some type of culture life such as museums, libraries, hotels and other facilities for tourism. During the short period of time tourists have on their vacation; regional indigenous segments compose an integral part of the anticipated ambience. Therefore tourist developments become the most obvious examples of traditionalism or indigenous architecture. Tendencies for the establishment of cultural and architectural identities could have been a rediscovery of the moral and

intellectual traditions of the past, with the pursuit of spiritual growth and balance. However it is unfortunate that in terms of architectural manifestation, the situation leaves much to be desired. Most of the architectural solutions have responded by putting an even greater reliance on copying traditional style or by attaching traditional elements onto modern buildings without any original architectural thinking.

There are two major tendencies in architecture for tourism in China. One of these contextualism or concern for the preservation of historic inner-city sites from destruction started in the late 1980s. Along a street named Liulichang in an old section of Beijing, several commercial blocks were planned and reconstructed primarily for tourism in the traditional style of the Ming and Qing dynasties. There are two-storey shop-houses with upturned gabled roofs using modern construction but decorated with traditional-like materials such as gray brick and glazed or gray tile. After this project, similar traditional commercial streets with buildings copying the style of Ming and Qing dynasties entitled as “Ming-Qing Street”, appeared all over the country. These buildings were constructed wherever the ambience of culture and tradition was thought to be necessary. (Rowe and Kuan, 2002) The other tendency is reflected by the abundant unimaginative and repetitious copies of traditional architecture in scenic zones. Thus, many resorts are dotted with buildings that are best called “instant Chinese” or “instant regional” (Rowe and Kuan, 2002). They are the result of the tendencies’ being adopted without any real understanding or critical analysis. They are often haphazard and unconvincing. (Figures 2-12 and 2-13). This impression is created by the mere application of certain elements onto modern

Figure 2-12 Top: Imitation of traditional architecture is under painting
Bottom: Drum Building Street under construction, Tianjin, China

buildings, as Alexander Tzonis and Liane Lefaivre critiqued: “simulacra of places, and facades permitted for a good price-effortless access to and possession of a make-believe region... it fed the most simple emotions and starved rationality” (Tzonis and Lefaivre,

2001). Little attention was given to the development of places of cultural importance and traditional heritages (Figure 2-14).

Figure 2-13 Fengmao Street in the old town, Luohu District, Shenzhen, It is located on the North Renmin Road and includes six buildings. The Southern Chinese tradition of architecture and culture are simply clip-on. Many details with typical local features of the building are applied, such as the layout on the ground floor, the tile pitched roof.

Figure 2-14 Tai Lake Resort of Xinjian Oil Co., Wuxi, China. “Instant Chinese” architecture in a hillside resort

China is certainly not the only country facing this problem. Its neighbor Japan could be an advanced exemplar. Influential Japanese architects like Kenzo Tange have been

endeavoring to draw inspiration from their tradition in modern design. He studied traditional architecture thoroughly and wrote a renowned book with Walter Gropius on the early seventeenth-century Japanese traditional architecture, Katsura Detached Palace, *Katsura: Tradition and Creation in Japanese Architecture*. (Figures 2-15, 2-16 and 2-17)

Tange's later works, such as the Kagawa Prefectural Office (1955–58), are notable for their restraint of design and the employment of the traditional Japanese aesthetic in modern technical terms (Figure 2-18). He addressed his opinion about the dialectic relationship between tradition and creation as: "The role of tradition is that of a catalyst, which furthers a chemical reaction, but is no longer detectable in the end result. Tradition can, to be sure, participate in a creation, but it can no longer be creative itself." He says "Tradition cannot be copied, only succeeded" (Pritzker Architecture Prize, 2003). He is indeed not the only one who endeavors to seek the juncture of modernity and tradition. Before Tange, early in 1934, Bruno Taut studied the Katsura Palace and praises it. After his comments, it acquired worldwide fame as an excellent example of Japanese architecture. More recently, Arata Isozaki, considered Tange's successor, is the leading creative figure in Japanese architecture equally important as a writer and theorist. He studied Katsura Detached Palace and published his book *Katsura Villa: The Ambiguity of Its Space* in 1987. He consistently acts as the leading interpreter of the following principle, "combine a traditional Japanese sensibility with Western postmodernism, wittily employing complex asymmetrical forms, innovatively juxtaposed materials" (*Columbia Encyclopedia, Sixth Edition*, 2003). The quality of Japanese architectural space can be observed markedly in his design of Tsukuba Center Building, Tsukuba, Japan (Figure 2-19). The Japanese architects mentioned above

focus on the cultural and spatial character of traditional architecture and successfully apply it in the modern context. Japanese architects' endeavor to apply tradition in the contemporary buildings ensures an essential role of architectural tradition and cultural heritage in further architectural production.

Figure 2-15 Bird's eye view of Katsura regarded as the highest achievement of traditional Japanese architecture

Figure 2-16 View of the Main House including: Middle Shoin, the Music Room and the New Palace

Figure 2-17 The New Palace and lawn
seen from the Middle Shoin
Interpenetration of interior and exterior

Figure 2-18 The Kagawa Prefectural
Office (1955–58), by Kenzo Tange,
notable for its restraint of design and
the employment of the traditional
Japanese aesthetics in modern
technical terms

Figure 2-19
Tsukuba Center
Building
Tsukuba, Japan,
By Arata Isozaki,
with eclectic
formal
borrowings from
past styles.
Traditional “dry
landscape” was
employed.

In Chinese practice in the continuity of architectural tradition, attention has largely concentrated on forms. There are certain reasons for relying on superficial details. These elements have strong symbolic associations to China’s long history, and thus suggest the eternally authoritative sense of architectural identity, but this symbolism discourages other expressions that do not appear to be traditional but are progressive, inspired and innovative attempts. As William Curist indicates:

Tradition in the obvious sense of a visible past inheritance can only be partly helpful, for

reality today is different. The architect must find what is right for the present circumstances and if he is sufficiently probing and profound he will make a valid addition to the stock of forms. There is no place for passeisme or for a bogus, revivalist sentimentality. (Curist, 1989)

The relevant guidance of this symbolic traditionalism is limited, unless a reinterpretation is made or existing thoughts are stretched. "Architecture should be more of an expression of indigenous characters of form where culture is also reduced to souvenirs and folklore" (Powell, 2001). As in any other architectural involvement, attempts have met with the varying degrees of success. Favorable outcomes to these attempts depend on the sincerity of the designers and their goals. Do they want to simply design a stage-set with pastiche or create a genuine spatial and architectural experience? In fact, space is the most important aspect of architectural history, as Nikolaus Pevsner writes in *An Outline of European architecture*:

What distinguishes architecture from painting and sculpture is its spatial quality. In this, and only in this, no other artist can emulate the architect. Thus the history of architecture is primarily a history of man shaping space, and the historian must keep spatial problems always the foreground. (Pevsner, 1960)

Space has been the focus of much Western architecture, but few examinations of Chinese architectural space have been done. To look at the spatial character of traditional hillside architecture, it is necessary to have at least a rough understanding of Taoism. This philosophy has had a fundamental influence on Chinese perception of the universe, time and space. Maybe the ancient philosophy, Taoism, has already given the suggestion, as demonstrated in *Tao-te Ching*:

Thirty spokes share the wheel's hub
It is the center hole that makes it useful
Shape clay into a vessel

It is the space within that makes it useful
Cut doors and windows for a room
It is the holes which make it useful
Therefore profit comes from what is there
Usefulness from what is not there
(Lao-tsu, 1989)

This concept demonstrates the dialectic relationship between space and the material shaping it. It also reinforces the Chinese architectural notion about the space and form, tangible and intangible elements. Space and intangible factors are essential.

Moreover, one of the most notable traditional Chinese architectural notions is the tendency of integrating structures into surroundings. This is crucial for successful hillside design.

Because the landscape's natural assets are not integrated into the design, many designs lack any spiritual connections with and sense of respect for nature. Furthermore, most modern mountain resort constructions have failed in cultural context because little attention was paid to reinterpretation of traditional heritages in order to develop places of cultural importance. How to use principles of Taoism and Feng-Shui in hillside design to approach a more responsive architecture is discussed in the following chapters.

Chapter 3: About Taoism

3.1 Taoism's Relationship with Confucianism and Buddhism

Though Chinese thought is often discussed as if it is comprised of a single approach, in fact, there are many different methods of understanding. However there are some similar basic views about man and nature. The most important concept of Chinese philosophy is the interaction between the universe and human society.

The keynote in Chinese philosophy is humanism. It must quickly be added, however, that this humanism does not imply any indifference to a supreme power or to nature. On the other hand, the general conclusion represented in Chinese philosophy is that of the unity of man and heaven ("Taoism", 2003).

There are three types of traditional philosophy that have shaped Chinese life for more than 2,000 years: Confucianism, Taoism and Buddhism. In the broadest sense, a Taoist attitude toward life can be seen in the tolerant and yielding, the joyful and carefree sides of the Chinese character. It is an attitude that offsets and complements the moral and duty-conscious, austere and purposeful character recognized in Confucianism. Generally, orthodox Confucianism has limited its field of interest to the creation of a moral and political system, where there is order for every aspect of life. It is more concerned about the relationship of man and society. One of its main approaches is establishing the Chinese social, educational and family order. Confucianism, based on the teachings and writings of the philosopher Confucius, is an ethical system that sought to teach the proper way for all people to behave in society. Each relationship, whether husband-wife, parents-children, ruler-subject involves a set of obligations which, if upheld, will lead to a just and

harmonious society, whereas Taoism, having the same world-view, represented more personal and metaphysical preoccupations. It focuses more on the observation of nature and the understanding of its way, which is the *Tao*. As Fritjof Capra indicated in his *The Tao of Physics*:

Confucianism was the philosophy of social organization, of common sense and practical knowledge. It provided Chinese society with a system of education and with strict conventions of social etiquette. One of its main purposes was to form an ethical basis for the traditional Chinese family system with its complex structure and its rituals of ancestor worship. Taoism, on the other hand, was concerned primarily with the observation of nature and the discovery of its Way or Tao. (Capra, 1975)

Actually there is no rigid line between what is called Taoist and what is called Confucian. The two traditions share many of the same ideas about man, society, the ruler, heaven, and the universe—that is the unity of heaven, earth and human. This spirit of synthesis has characterized the entire history of Chinese philosophy.

Viewed from common tradition, Taoism is characterized by a positive, active attitude toward the theories of the nature of reality. Contrast this to Buddhism, which came to China from India as early as the 1st century A.D., and was a more conventional religion. Its followers attended occasional services, practiced rituals, and supported a temple on a regular basis. Buddhism was the third tradition that influenced China. Its fundamental concepts such as the nonexistence of the individual ego and the illusory nature of the physical world are completely different from Taoism. In terms of overt individual and collective practices, however, competition between these two religions for influence among the people resulted in mutual borrowings and numerous superficial similarities. During its

entire history, Taoism has also coexisted alongside the Confucian tradition, which served as the ethical and religious basis of the institutions and arrangements of the Chinese authorities. In Chinese religion, the Taoist tradition often serves as a link between the Confucian tradition and folk tradition. It has generally been more popular and spontaneous than the official (Confucian) state cult, especially in the areas which are comparatively far away from the authority center, such as Szechwan province (Yang & Yi, 1992).

Taoism, while not radically subversive, offered a range of alternatives to the Confucian way of life and point of view. These alternatives, however, were not mutually exclusive. For the vast majority of Chinese, there was no question of choosing between Confucianism and Taoism. Except for a few straightlaced Confucians and a few pious Taoists, the Chinese man or woman practiced both – either at different phases of life or as different sides of personality and taste. (Berling, 1982)

Inevitably, both of these two philosophies have had their remarkable influence in traditional Chinese architecture. The order advocated by Confucianism can be observed in every aspect of Chinese architecture. For example, certain roof styles can only be used in official buildings and the yellow glazed roof can only be used in royal palace buildings. In Forbidden City Beijing, the artificial hill behind Forbidden City services to protect it and bring good luck as a product of Feng-Shui theory deriving from Taoism. The artificial “river” surrounding the city is also from the idea of keeping Ch’i in this palace (Figure 3-1). As the influence of Confucianism, important buildings are placed on the main axis and the most important building, Tai He Dian (Taihe Palace), has the biggest and the most supreme style roof (Figure 3-2).

Figure 3-1 The artificial “river” surrounding Forbidden City

Figure 3-2 Forbidden City, Beijing

Taoist thought permeates Chinese culture and life, including many aspects not usually considered Taoist. Taoism and one of its products, Feng-Shui principles, have deeply affected the shaping of Chinese people’s concept of about time, space, place and symbolism in architecture. The Taoist concept of the relationship between man and nature is the keynote of its fundamental influence in Chinese architecture. In the following

chapters, the basic principles of Taoist philosophy will be set out. Specific attention will be given to the way in which Taoist thought and Feng-Shui determine the pattern of Chinese hillside towns and buildings in which natural environment has considerable control.

3.2 Principles of Taoism

Traditional Taoist philosophy, formulated by Lao Tzu, the mysterious editor of the Tao-te Ching, and Chuang Tzu, was a reinterpretation and development of an ancient nameless tradition, worshiping both of nature and divination. The primary principle of Taoism indicated in Tao-te Ching is as follows:

The Tao of the Tao-te Ching has received a wide variety of interpretations because of its elusiveness and mystical overtones and has been a basic concept in both philosophy and religion. In essence it consists of “nonaction” (wu-wei), understood as no unnatural action, rather than complete passivity. It implies spontaneity, noninterference, letting things take their natural course: “Do nothing and everything is done.” Chaos ceases, quarrels end, and self-righteous feuding disappears because the Tao is allowed to flow unchallenged and unchallenging. Everything that is comes from the inexhaustible, effortless, invisible, and inaudible Way, which existed before Heaven and Earth. (“Tao-te Ching”, 2003)

Lao Tzu and Chuang Tzu, living at a time of social disorder and great religious skepticism, developed the notion of the Tao as the origin of all creation and the force. It is unknowable in its essence but observable in its manifestations. It lies behind the functioning and transforming of the natural world. They saw in Tao and nature the basis of a spiritual approach to living. To understand Taoism, it is necessary to have a preliminary understanding of some of its principles and concepts.

3.2.1 Tao and Ch'i

Tao-te Ching:

The Tao produces one, one produces two
 The two produce the three and the three produce all things
 All things submit to yin and embrace yang
 They soften their energy to achieve harmony
 (Lao-tsu, 1989)

The most fundamental concept of Taoism is "Tao". Principally, Tao reflects the natural way, the eternal rhythm of the universe and the role of humanity within it. As a principle, Tao is a wholeness stemming from balance, a harmonious union of interacting opposites. As a process, Tao is constant, cyclical change, with opposites spawning each other such as the yearly cycle of summer leading to winter, and returning to summer. Traditional Taoist views are based on the perception of nature as one unending and continuing stream of action rather than as a series of generally unconnected phenomena. Tao is the central concept of Eastern culture.

In Taoist thought, everything is made of Ch'i or energy. In modern terms, this is a perspective of the laws of nature which views the world as made a series of multiple energy phases or magnetic patterns. Consequently, everything has the potential to affect people's well-being. Ch'i is the energy that gives life, makes rivers flow and plants grow, which suggests harmony with nature and a positive flow of energy (Ch'i). According to Taoist belief, everything in the universe has the same inner pattern. Living creatures need to breathe Ch'i for survival and growth. The ancient Chinese regard Ch'i as the most original, fundamental raw material, in other words, the basis from which everything in the universe

is created. Ch'i is the most fundamental concept in Taoism and is so ambiguous that there are so many definitions, such as:

Air, vapor, breath, ether, energy, also "temperament, strength, atmosphere"; central concept in Taoism and Chinese medicine. In the Taoist view Ch'i is the vital energy, the life force, the cosmic spirit that pervades and enlivens all things and is therefore synonymous with primordial energy. (The *encyclopedia* of Eastern philosophy and religion, 1994)

Ch'i is the crucial rationale in traditional Chinese architecture. The attempt to harness it can clearly be seen in the Chinese dwelling architecture. The primary concern of Chinese designer's is to capture and conserve Ch'i and to allow it to flow smoothly through the site. For example, in the traditional Chinese courtyard dwelling form the emptiness in the middle was used to collect Ch'i so that the house could breathe Ch'i. The major entrance was placed in the southeast chamber and faced south to attract the living Ch'i and good luck (Figures 3-3 and 3-4). This idea can be observed in other types of architecture such as palace and religious buildings.

The concept of Ch'i also can be observed in Chinese ink paintings and calligraphy (Figures 3-5 and 3-6). In most traditional Chinese paintings, there is always space left for nothing in order to allow for the breathing of Ch'i. This white space must be arranged deliberately to let the Ch'i flow smoothly. Very clear forms are created in the emptiness of space; from the quiet inner space, the most powerful energy is expressed.

Figure 3-3 Chinese courtyard dwelling

Figure 3-4 Chinese courtyard plan

Chinese paintings are more a philosophy than a category of paintings and very much embody the influences of Taoism. There is white space, movement and then there is nothing, retreating backing into “Wuchi”, or infinity.

Figure 3-5 Chinese calligraphy

Figure 3-6 Chinese ink painting

3.2.2 Yin and Yang

According to Taoism, the universe began with infinity called “Wuchi” which means “no-time and no-dimension”—the invisible vital force which is the essence of beings.

When it acquired form, it then became “Taichi”—the beginning of the physical universe.

The absolute Taichi gained Ch’i, and created two opposite forces Yin and Yang. Yin and Yang literally mean “dark side” and “sunny side” of a hill. The Yin/Yang model symbolizes the creation process through the interaction of a bipolar force. They are not entirely opposite each other, and there is Yin in Yang; and Yang in Yin (Figure 3-7).

Figure 3-7 Symbol of Yin and Yang which is diagram of “Taichi”

The need to order perceptions and define the world is as old as humankind itself. By observation and contemplation, Taoism generated symbols that reflect existence by demystifying it and by discovering and determining how reality is organized.

According to Taoism, “Yin and Yang” is the “fundamental principle of all things, of the way of heaven and earth” (Figure 3-8), meaning that everything can be divided into the mutually opposing and independent elements. This concept is just like in the ancient Chinese cosmology; heaven is pictured as a circle ruled by Yang force and earth is conceived as square dominated by Yin. In general, Yin represents shady slopes of mountains, the female, the dark, the dead, and the still, cold rainy weather, the right hand, and all that is passive; Yang represents the sunny side of mountain, the male, the light, the living, and the moving, heat and drought, the left hand, and all that is active. Yin and Yang together form one unity.

Figure 3-8 Yin and Yang, Earth and Heaven

3.2.3 Five Elements

In Taoist thought, the two primary bipolar forces Yin and Yang interact in all things incessantly without beginning or end. The Universe is seen as an endless interplay of forces that have the capacity to transmute themselves from matter to energy and back again in an endless drama of generation and destruction.

In addition to the principles of Yin and Yang, the Five Elements theory further differentiates this dynamic into five fundamental powers, agents and movements, and postulates that everything in creation can be categorized within the parameters of “wood”, “fire”, “earth”, “metal” and “water”. These elements could give birth to or destroy each other in certain sequences. In the generation sequence, water produces wood, wood produces fire, fire produces earth; earth produces metal and metal produces water.

Figure 3-9 Generating and Destructing system of five elements

In the destruction sequence, metal cuts off wood, wood digs in soil, soil stops water, water puts out fire, fire melts down metal (Figure 3-9). As described in the Luo Book, the north was associated with water, the east with wood, the south with fire, the west with metal, and the central position with earth (Lao-tsu, 1989).

Figure 3-10 Attributes of Five Elements

The Five Elements also have attributes of seasons and colors (Figure 3-10).

The element of Wood corresponds to the direction of east, the season of spring, and the color green. It is associated with growth and awakening; therefore, it promotes moderate growth, or rise, similar to when the sun rises in the east. The element of Fire corresponds to the direction south, the season of summer, and the color red. It is associated with a soaring blaze, and prosperity, similar to when the sun is in the middle of the sky at noon. The element of Metal corresponds to the direction of west, the season of fall, and the color white. It is associated with coolness and desolation, similar to when the sun sets in the west. The element of Water corresponds to the direction of north, the season of winter, and the color black. It is associated with chill traveling downward, cold weather, the frozen earth, and long nights in the north. The element of Earth corresponds to the direction of center, the mid-summer and the color yellow. (Zi, 2002)

The Five Elements theory has its roots in the interplay of Yin and Yang. In addition, Chinese correlative thinking systematically developed. Its commentaries in *The Book of Changes (I Ching)* provide Chinese concept of cosmology that everything is in a relative network which changes continuously (The authentic I Ching, 1970). This theory has fundamental influence in Chinese architectural concepts and is also the theoretical basis of Feng-Shui, the Chinese art of placements, which will be discussed later in Chapter 5.

3.3 Taoist Principles and Traditional Chinese Architectural Concepts

3.3.1 Corresponded with Surroundings

Taoism represents the wisdom accumulated over 5,000 years of Chinese history. Together with Confucianism and Buddhism, it has continuously guided the Chinese in behavior and governance. There are some basic different philosophies in the West and in China. The West regards human beings as opposite to nature. The East considers that humans are part of the nature. The West treats the individual as an independent and separate entity. The Chinese, however, treats the individual as an element in the whole universe, which is

interrelated. The West tends to be self-centered and place blame on others instead of reflecting within. In contrast, the Chinese are taught to merge the self into the environment as a whole or there is no self at all. To understand Taoism, one has to “unlearn” or break out from one’s own paradigm to view it from a completely new angle. “Tao” means “behavior, understanding and the constant changing from and to.” Taoism is a philosophy and a belief of simplicity and the very nature of the universe. There is no absolute “stillness”.

Everything, including the universe, is changing all the time. The relative “stability” can be achieved when a harmony is reached between “Yin” and “Yang”, which are the opposite but related natural forces in the universe. With this idea, Chinese architectural manifests itself the response to nature and merging into surroundings to approach a peaceful balance.

3.3.2 Flow of Internal and External Space

The theories of Yin and Yang and the Five Elements (Wu Xing) exerted strong influences on ancient Chinese architecture. For example, the concept of Yin and Yang played a big role in the development of traditional residential architecture. The north represents the cold and shadow (Yin), preventing dwellings from facing north, but the south looks toward the sun (Yang) and light.

The Yin and Yang theory deeply influenced Chinese concepts of architectural space. The materials (solid) can be represented as Yin and the space (void) as Yang. According to Taoism thought, the Yin and Yang are bipolar elements but they are not opposite each other entirely. They rely to each other and contain each other (Figure 3-11).

Figure 3-11 Courtyard in a residential building, the flow of internal and external space

Contrary to what one may think, apparently negative aspects such as obscurity, the non-being and emptiness to name a few, perform an important role in Chinese architecture. Emptiness is the maternal seat of form; emptiness is the place where space's usefulness resides. There is no absolute boundary of space in traditional Chinese architecture but the interplay between solid and void, inner and outer and virtual and reality. There are

successful exercises of employing this quality in modern tourism design (Figures 3-12 and 3-13.)

Figure 3-12 Jianguo Hotel, Beijing, China, by Clemmt Chen and Associates, 1982. A narrative expression of courtyards in a four-rise hotel makes very abstract reference to the tradition by interpreting climate determinant like sun, air and protected space.

Figure 3-13 Xian Garden Hotel, Xian, China, by Zhangjinqiu, 1984. Combined courtyard and Chinese garden in eclectic traditional style modern design

3.3.3 Consistency of Form, Color and Material

In Taoist thought, the Yin/Yang and the Five Elements interplay in an endless circle. Every circle is self-consummate. Applied on Chinese architecture, traditional Chinese architectural space is designed as a series of overlapped squares, and the architectural space is like a series of closed worlds of completely independent, progressively smaller units and essential space, which repeat on a reduced scale to assemble the larger units. A notable example of this is the Forbidden City, a series of enclosures encasing the Taihe Palace, which is the heart of the buildings. Every enclosure has its hierarchy of spaces. This type of space organization is one of the remarkable characteristics of traditional Chinese architecture (Figure 3-14).

Figure 3-14 Forbidden City, Beijing, China, axiality, repetition of enclosures, consistency of details and sequence of spatial sequence.

3.3.4 Movement, Sequence and Experience

One of Taoist main basic thoughts is that the Universe is seen as an endless interplay of the force of two polarities Yin and Yang. The basic Five Elements have the capacity to transmute themselves from matter to energy and back again in an endless drama of generation and destruction, as addressed in the *Tao-te Ching*:

There is something formlessly created
Born before Heaven and Earth
So silent! So ethereal

Independent and changeless
Circulating and ceaseless
It can be regarded as the mother of the world
I do not know its name
Identifying it, I call it "Tao"
Forced to describe it, I call it great
Great means passing
Passing means receding
Receding means returning
(Lao-tsu, 1989)

The interplay of Yin/Yang and the Five Elements is an endless circle. Consequently, in Chinese thought, time is cyclical, not linear as in Western thinking. An individual part is not important, and every element is brought into the circularly transforming. In Chinese perception of space, spatial relations bear strong experiential senses because time is involved. Space is not conditioned by its forms and measurements; rather, the five senses are deployed in time and space perceives it (Inoue, 1985). Hereby, in Chinese spatial perceptual experience and space includes temporal inter-conflicting elements. Design is based on a human being's experience, consciousness, instead of being objective oriented.

On the contrary, in Western thought, space is dissevered into perceptive segments connected by time (Yang & Yi, 1992). Moreover, mistrust of conventional knowledge and reasoning is stronger in Taoism than in any other Eastern philosophy. Taoism is interested in intuitive wisdom, rather than in rational knowledge. Based on the firm belief that the human intellect can never comprehend the Tao, Taoists think reasoning does not make men wise (Berling, 1982). It is experiential based and this determines a concept of Chinese architecture, which is design based on the user's experience.

In architectural design, "much of modern Western architecture is finally judged by its truth to the diagram of function and environment and not by its impact on the consciousness" (Powell, 1985). A rational break up of problems, logical analysis, flow diagrams, functional charts and all those Cartesian weapons of analysis are not successful buildings. There is a growing awareness of this issue. As Christopher Alexander wrote in his *The Timeless Way of Building*:

Those of us who are concerned with building tend to forget too easily that all the life and soul of a place, all of our experiences there, depend not simply on the physical environment, but on the patterns of events which we experience there....we know, then, that what matters in a building or a town is not its outward shape, its physical geometry alone, but the events that happen there. (Alexander, 1979)

Bernard Tschumi also questioned the mode of general Western architectural representation in his book, *The Manhattan Transcripts* and discussed "order of experience, the order of time-moments, intervals, sequence for all inevitably intervene in the reading of the city." (Tschumi and Barberini, 1995)

In traditional Chinese architecture, the outward form of the building is not considered important. Design concerns do not lie in the maintenance of certain forms, but in the expression of certain action. The buildings are self-effacing, and the exterior gives no indication of the importance of the building nor its interior spatial organization. The grandeur and the beauty of a building are revealed only when you enter its portals. The holistic consideration, inward-looking character, the focus on enclosed space, and the element of surprise are used in buildings, in gardens, and are important features of city design (Inoue, 1985). These qualities of Chinese traditional architecture are still effective for modern design. A recent built China-Europe International Business School in Shanghai by Pei Cobb Freed & Partners could be an example of traditional intangible characteristics in modern design. The character of Chinese architecture can be observed: flow of external and internal space, virtual (image reflection in water) and reality, consistency of material and details, movement and sequence of space. This place-making provides a strong architectural identity (Figures 3-15 and 3-16).

Figure 3-15 China-Europe International Business School, Shanghai, China: Plan and bird's eye view, by Pei Cobb Freed & Partners

Figure 3-16 Views of China-Europe International Business School in Shanghai

Chapter 4: Taoist Principles and Hillside Architecture

“No two hills are alike, but everywhere on the earth plains are one and the same.”

Jorge Luis Borges, *Utopia of a Tired Man*. (Borges, 1977)

4.1 People in Mountain Environments

To adequately address the program, function, and purpose of new construction in the hillside scenic zone, an attempt should be made to discover why people go to the hills or mountains in the first place.

Mountains, as significant creations of nature, present unique and marvelous landscape characteristics that attract people. These qualities include their grand scale, variable colors, dynamically changing light during the day and throughout the seasons, running water, rocks with variable texture, shape and color, diversity of vegetation, clouds and mist appearing and vanishing, and views changing a sense of infinity depend on the distance and the point of view.

The appeal goes far deeper than visual attraction. The mountains' overwhelming scale, the excitement of precipitous verticality, infinite views, the expectation of what are out-of-sight, and the peaks that hide in the clouds, inspire a sense of mystique and the exhilaration of exploration. In ancient times, mountains were special objects of veneration that were thought to ensure cosmic order and permanence. Virtually every mountain was believed to have its resident mountain god. For centuries, the high altitude of mountains has been made

into a symbol of ascension and place of the dwelling for gods. Reviewing the history of human beings, this phenomenon can be found both in the East and the West. In the Bible, Mount Sinai is renowned as the principal site of divine revelation in Jewish history, where God is purported to have appeared to Moses and given him the Ten Commandments.

Figure 4-1 Monasteries of Wutai Mountain, China

In Greek myths, gods lived on Mount Olympics. In ancient China, the high altitude of mountains has been perceived as an appropinquity to heaven. Mountains are recognized as the places where one can communicate with gods (Figure 4-1). Like Tai Mountain in China, they became the sacred places for sanctified ceremonies for sacrifices held by emperors, (Figure 4-2). Both Taoism and Buddhism regard mountains as the place for the Holy Spirit and their temples. There are Taoist and Buddhist temples coexisting on many mountains, like the four famous religious mountains in China: E'mei Mountain, Jiuhua Mountain,

Wutai Mountain and Puto Mountain.

The appreciation of landscape with mountains and water has been present throughout Chinese history. From Confucius' thought about the relationship of human and landscape as previously mentioned, the Chinese view of the natural landscape as a metaphor for human virtue is prevalent because the Chinese believe that there is an interrelationship between nature and human beings.

The keen pleasure that the Chinese find in the landscape with mountains and water can be observed in the predilection of mountain landscape in Chinese literature, traditional ink painting and Chinese gardens. Numerous writers have left their masterpieces illustrating their admiration for mountain landscape. As, one of the greatest poets, Li Po, wrote in his poem:

Alone Looking at the Mountain
 All the birds have flown up and gone
 A lonely cloud floats leisurely by
 We never tire of looking at each other
 Only the mountain and I
 ("Li Po", 2003)

The Chinese intellectual interpretation of mountain landscape fostered an idealistic turn in literature and the arts. The mountain experience had been popularized throughout Chinese history. As time passed, an appreciation of mountain landscape was no longer restricted to the educated intellectuals who mentally understood its sublimity and picturesque landscape. People began to understand, the first-hand experience of experiencing, the value of contact with nature, and they sought to incorporate it into their lives. "There is no question that

now we are going to the mountains in greater numbers than ever before; but what really draws us there? Do we wish to escape an unkind society and run to its antithesis, the wilderness; or is it more positive, a desire to be surrounded by the gorgeousness of nature?" (Thomas, 1986)

"As defined today, recreation tends to mean self-indulgent amusement" (Powell, 1985). However, the Chinese tradition suggests a different connotation; instead it means a journey for refreshing or rejuvenating oneself mentally and physically. More profoundly, it is an experience of gaining self-knowledge and of removing of oneself from society for spiritual transformation.

From the perspective of Taoism, there are several Yin and Yang elements in mountain landscape. Literally, Yin and Yang are derived from mountains. Yin represents the shady slopes of mountains or hills; Yang represents the sunny sides. According to ancient Yin and Yang theory, the mountains are Yin, while water is Yang; the solid is Yin and the void is Yang; the still is Yin and the active is Yang; the silent is Yin and the noisy is Yang. In the traditional view, the mountains and water are inter-dependant, eternal Yin-Yang symbols of nature's harmony and rhythm.

Figure 4-2 Tai Mountain (left) and Qingcheng Mountain (right), China

Chinese admiration for mountains has been particularly influenced by Taoist attitudes and ideas – not the least of which is their admiration of nature and natural processes. The often deeply-eroded mountain ranges with spinning mists clearly expose the workings of the principle of change. What tourists are looking for during the journey to the mountains is an apperceiving of the rhythm of the change in nature: the interplay of the Yin and Yang. In Taoist thought, the seemingly- solid mountains represent a metaphor for the “winds of Tao”, since there are more obviously moving mists, clouds and water.

Furthermore, Taoists, who regarded the mountains as places of refuge from a mundane society, found shelter in the mountains and were content to let society go its own way. Instead of concern in the “artificial world of man”, together with social etiquette and moral

stand Taoism concentrate its attention fully on the observation of nature in order to discern the true Tao, as Judith indicated:

Throughout Chinese history, people weary of social activism and aware of the fragility of human achievements would retire from the world and turn to nature. They might retreat to a countryside or mountain setting to commune with natural beauty. They would compose or recite poetry about nature, or paint a picture of the scene, attempting to capture the creative forces at the center of nature's vitality. They might share their outing with friends or more rarely – a spouse, drinking a bit of wine, and enjoy Ying the autumn leaves or the moon. (Berling, 1982)

The interaction between humans and nature during mountain visits is a strong metaphor for the relationship between man and nature. Although mountains are solid and static, traveling through mountains reveals endless landscape. Moving up and down, mountains present views and hide themselves again. These elements evoke excitement and fascination, and force interaction between human beings and mountains. This interaction of nature and humans is thought to be the connection presumed to be existing between spiritual truth and the natural world of which man is a part. An ink drawing on silk by Hsü Tao-ning, 11th century, "Fishing in a Mountain Stream" ("Tao-te Ching", 2003) shows this in detail. This drawing suggests the Taoist concept of harmony of the universe and man's relative role in the universal order (Figure 4-3).

From the Taoist viewpoint, visiting the mountains means experiencing the eternal Tao and the ultimate reality that pervades all life. It is the journey to the mountains in which the overwhelming experience of the oneness of nature and soul can be realized. The

Figure 4-3 “Fishing in a Mountain Stream,” in the William Rockhill Nelson Gallery and Atkins Museum of Fine Arts, Kansas City, Missouri

mountain journey is regarded by most Chinese, to some degree, as a balance to civilization, a necessary counterpart to society.

4.2 Inspiration in Chinese Paintings, Gardens and Traditional Hillside Architecture

Because of the physical difficulty of taking frequent visits to the sources of such delight, the Chinese recorded them in landscape paintings and made three-dimensional imitations of them. Chinese gardens near at hand are one representation of this idea. As the garden historian Christopher Thacker says, the essence of Chinese gardens is:

...its intimate association with nature; its striving for movement; its representation of permanence; its ethical and philosophical preoccupations. Like landscape painting in China, summarized as *shan shui*, or ‘mountain’ and ‘water,’ the Chinese garden attempts to approach, to display in symbolic form, the essence of nature. Both gardening and landscape painting tend . . . to place man in a subordinate position; present, contemplative, observing yet only an insignificant part of the natural scene. And the natural scene itself in these works of art, whether paintings or gardens, is a symbolic representation, an essence, an indication, rather than an attempt at realistic re-creation. (Thacker, 1979)

4.2.1 Subordinate to Nature

The Taoist way in Chinese paintings is to gradually attune the onlooker to the particular inner rhythms of nature to the essence of the great Tao itself. It is a place for man to communicate with the universe and for contemplation and inspiration. It is a metaphorical expression of a harmony among all aspects of nature, and says “Heaven and earth and I live together.”

Landscape paintings have traditionally been China’s favorite theme as they show the poetry in nature. It is the ‘nature of nature’ that the artist tries to convey in a Chinese landscape painting. So, it is not so much a portrait of a mountain but a composite of many elements of nature that invite you to wander in imagination through the landscape. (“Chinese Painting”, 2002)

In many if not most landscape paintings, humans and their settlements have a unique role.

Figure 4-4 Human’s place in mountain landscape

There is not only amiability and attractiveness but habitability as well. People are participants in the natural scene, but they do not dominate it (Figure 4-4).

As seen in Chinese paintings, ideal hillside architecture takes a secondary place to its natural environment. It follows the principle of architecture in which buildings are small in scale, hidden, dispersed, set into the topography and unified with their landscape. Harmony is sought between the building's forms, colors, textures materials and the land. It is critical in achieving balance and enhancing the landscape.

Figure 4-5 The relationship of man, architecture and nature in Chinese painting,

The existence of architecture in natural landscape is not to demonstrate the monumentality of civilization but to be a part of the landscape (Figure 4-5). This attitude of the role of architecture in the relationship of man, architecture and nature can be observed in traditional Chinese architecture (Boyd, 1962). In contemporary achievement, this concept can be observed in the Fragrant Hill Hotel by I.M.Pei, nestled in Fragrant Hill (Figure 4-6). Nestled in Fragrant Hill, it is comprised of an enclosed garden villa and two-or four-storey buildings with single-story arcades to form about ten courtyards. "This hotel stands in a public park within the former Imperial Hunting Grounds outside Beijing, not far from the Summer Palace and other key historic sites. Balancing symmetry and asymmetry, the 325 guest rooms zigzag out from a central skylight space to preserve the site's ancient trees" (Pei Cobb Freed & Partners, 2003).

Figure 4-6 The Fragrant Hill Hotel, Beijing, China, by I.M.Pei, 1982

Figure 4-7 Views of Fragrant Hill Hotel, former Imperial Hunting Grounds was integrated into building.

Bulky masses are divided into ten large and small courtyards, and rooflines and facades are broken into smaller segments. The building itself was merged into the dramatic background including a large pond belonging to the dilapidated garden behind which is the hill. It gives an impression of great harmony and peace. It brings a contemporary existence to the traditional understanding of space and to its cultural implications (Figure 4-7). Advantaged by his Chinese culture background, Pei successfully attempted to reinterpret Chinese tradition in this modern hillside project.

Underlying the design is a strategy to provide a 'Third Way' wherein advanced Western technology is grafted onto the essence of Chinese vernacular architecture without literal imitation. The skylight was the only major imported component; everything else was constructed by local craftsmen using age-old techniques and materials. Fragrant Hill thus draws from the living roots of tradition to sow the seed of a new, distinctly Chinese form of modern architecture that can be adapted, not merely adopted, for diverse building types. (Pei Cobb Freed & Partners, 2003)

Each guest room opens onto a courtyard through a shaped "window picture" that frames the landscape and brings the outdoors inside. Building and gardens merge inseparably in an intimate reciprocal relationship (Figure 4-8).

Figure 4-8 Views of Fragrant Hill Hotel, showing the interplay of internal and external space.

4.2.2 Sequence of Spatial Experience

One of the most important insights of the Taoists was the realization that transformation and change are essential features of nature. Tao is the process, not the result, thus the expression “on the path” illustrates that Tao is the journey, not the destination. The Taoist inspired painter aims to present a view of the world that is both satisfying and spiritually refreshing. This is achieved by creating a subtle harmony of opposites, a balancing of the Yin and Yang, such things as water and mountains, trees and mist, nature and man, within the painting itself, the effect of which is beautiful, relaxing and potentially transforming. Here the landscape is exposed not in one but in a continual succession of views (Figure 4-9). In it experience and the consequence are exposed.

Figure 4-9 In Chinese ink painting, views deployed from more than one view point.

Traditional hillside architecture is exemplified in Fuhu Temple (Figure 4-10), Szechwan province. Here the sequence of space, views and sensory details, such as steps, the torii and tablets, are elaborately arranged to make the journey a more powerful and impressive experience. Serial views of what is yet to be encountered are traditional scheme that enhances the experience of sequence. Moreover, in order to establish the continuous chain of visual and physical connections between man-made and natural spaces, the respect for topography is essential. Every geographic change is integrated in the accumulation of experience. The cluster of buildings is a complex of linked and related by individual sensations, seats and shelters are situated at chosen spots so that the pleasures that had been carefully prepared could be appreciated.

Figure 4-10 Fuhu Temple, Szechwan, China, sequence of spatial experience is calling on the topography.

In Fulong Temple, Guan County, Szechwan Province, the sequence and hierarchy of space are merged in the geographic transforming. Steps start from the lowest position; the order of temples unfolds when visitors climb up to reach the highest ranked temple at the end. The axis is deflected and offset according the topography. In hillside architecture, arrangement of sequence following natural clue is the key for successful design (Figure 4-11). Golden Mountain Temple, Zhengjian, is a good example of a man-made structure responding to and enhancing natural landscape (Figure 4-12).

Figure 4-11 Fulong Temple, Guan County, Szechwan, China. The hierarchy of space was merged into topography, and the axis was offset and deflected in response to the environment.

Figure4-12 Golden Mountain Temple, Zhengjian, China. man-made structure responded and enhanced the natural landscape.

4.2.3 Symbolism

The Chinese garden represents a miniature version of the epitome of the natural mountain landscape and the expression of the ideal correspondence between the man-made world and the natural environment. Helpful instruction for designing hillside scenic zones would come from studying the way in which natural patterns are interpreted in Chinese gardens.

In Taoist thought, universal harmony is the sum of these opposites and complementary energies. The underlying assumption of Chinese philosophy is that forces that govern the cycles of change occurring in the external world are duplicated within humans' bodies and minds – the great macrocosm and microcosm. Humans are accustomed to this rhythm of nature that is in a constant state of change. Taoism teaches that one should integrate oneself

with the rhythms of life. The human space therefore should harmonize as much as possible with the rhythm of nature. Like the traditional Chinese gardens, is the expression of the pattern of natural forces, as Wing-Tsit Chan described:

The primeval pair of the Yin and Yang, of the male and the female forces, the active and the passive principles, are faithfully represented in hills and ponds, in stones and woods, and remind us of the harmony and order of the universe. The five elements of metal, wood, water, fire, and earth are deeply religious to the Chinese because they unite all forms of existence into a network of correspondences so that thunder, wind, rain, air, and cloud have direct correspondence with the five directions which in turn act on the five metals, the five colors, the five organs of the human body and all other mentionable phenomena. ...It is in the most fundamental sense that in the Chinese garden man and nature become one. (Chan, 1950)

Most of the garden elements mentioned above imply the submission of the human to the natural order. The natural forms dictate the form of the garden and the arrangement of the elements in it. No Chinese garden is complete without a body of water and stone, no matter how small. Water is the void horizontal Yang element, a counterpoint to the solid vertical Yin elements such as the monumental stones placed in Chinese gardens. The gardens were therefore representational, sometimes direct but more often designed by substitution, making use of symbolic means to recreate the emotions that natural landscapes evoked (Figure 4-13). The stones inspire the timeless awe of mountains, while their wonderfully evocative shapes of animals serve as a metaphor of spiritual forces.

Figure 4-13 Yuanmingyuan, Beijing, China. Section entitled “Quyuan Fenghe” means “winding yard with lotus in wind” symbolize the season, Summer.

4.2.4 Dynamic balance

The Chinese garden is the embodiment of these people’s fascination and adoration of natural landscape. This admiration in fact derives from the philosophy of Tao. The primary concern of this philosophy is to approach harmony with nature, as Wing-Tsit Chan expressed in *Man and Nature in the Chinese Garden*:

How is the fellowship of man and nature possible in the garden? The answer lies in the fact

that the garden is a harmonious display of very vitality of both man and nature. This is rhythm, which, to the Chinese, is the highest of all conceivable values, the quintessence of truth, beauty, and goodness of the highest levels of existence. ... Chinese religion and philosophy become unintelligible as soon as the element of rhythm is removed, for whether spoken of as the Way or Tao, it is at bottom the universal principle of the harmony of the Yin (the female) and the Yang (the male) principles, or the negative and the positive force of the universe. (Chan, 1950)

Figure 4-14 Balance in a Chinese Garden

The kind of landscape that appealed to Chinese was generally of a balanced sort. Taoism had discovered the principle of complementary forms, of male and female, of upright and recumbent, rough and smooth, mountain and plain, rocks and water, from which the classic harmonies were created (Figure 4-14). A Chinese garden is a metaphor for close to nature. It is an imaginative variety of design. Curving and forking paths, absence of walls on one or on all sides of the design and phantasmagoric water bring these structures into harmony with the natural environment around them. There are bridges copied from the most

primitive rough timber or stone-slab raised pathways and rustic representational characters of a fisherman's shelter or hermit's retreat. (Figure 4-15).

Figure 4-15 Sequence in Chinese Garden

The strong three-dimensional topography of the hillside site provides a great potential to create a dynamic experiential space, as observed in Erwang Temple in Guan County, Szechwan (Figures 4-16 and 4-17). Every turn of path and slope of ground was carefully calculated to induce a suitable attitude. It embodies complexities, contrasts, balances and dynamic qualities. Sequential experiences contribute to the perception of diversity. There is a distinguished and elaborated aestheticism in the Chinese traditional hillside architecture, which philosophy has inculcated. The design makes people to be attentive and incentive that would prepare the mind for the reception of such experiences.

Figure 4-16 Plan of the Erwang Temple, Guan County, Szechwan. A change of axis to cooperate with the topography.

People are interested in the complex space because of the hint what is to be revealed next is no longer the same. So, when the whole of an open space is revealed at once, the attraction is lost. "In places stamped with the monotony and repetition of sameness, you move, but in

moving you seem to have gotten nowhere.... These places lack natural announcement of direction and movement...and so they are deeply confusing” (Jacobs, 1961).

Figure 4-17 Sequence of space of the Erwang Temple, Guan County, Szechwan. Topographic condition provides the dynamic transforming of space.

Although harmony and balance is the imperative of Chinese architecture, based on natural scenery and the irregularity, Chinese hillside architecture avoided implicit symmetry.

Rather than dominating the landscape, the many buildings in the temple grew up as the land dictated. The geographic diversity of hillside sites gives designers the opportunity to

generate dynamic transforming in space. "The natural landscape is among the most potent place-making elements in design. When references to nature in its local forms pervade an inhabited place, they give it a distinctive identity" (Dorward, 1990). Today's hillside designers can learn from traditional hillside architecture the elaborate arrangement of space sequences to approach the dynamic balance of elements and symbolic system for nature rhythm. This scheme is determined by the visual and physical connection with the surrounding natural landscape and should contain references to the natural context in symbols, materials, forms and themes.

The recently-finished Miho Museum in Shigaraki, Shiga, Japan by I.M. Pei could be an excellent exemplar to reinterpret Chinese architectural tradition:

Delving deeply into the soil and tradition of Japan, the Miho Museum is also designed with Pei's native China in mind. He emphasizes the similarity of the site to Chinese landscape... The round opening of the entrance doors framing a beautiful pine tree on the opposite side of the building is a touch recalling Chinese architecture and painting ... No other architect of our times could bring such cultural references to bear on a museum project of this nature. (Jodidio, 1996)

Traditional characteristics still effective for modern design in a mountain environment can be observed here. In traditional Chinese perception of humans' place in mountain environment as discussed previously, man-made structures should be **subordinate to nature** (Figure 4-18).

The site is in a nature reserve; in order to minimize the impact, eighty-five percent of the structure is underground (Figure 4-19). Bulk mass was broken into small portions hidden

Figure 4-18 A sketch by I.M. Pei shows how the Miho Museum fits into its mountainous setting.

and dispersedly placed according to the topography. Roofs and walls are consistent in color, pattern, material and details for place identity to show a **holistic consideration of design**.

The dynamic and three-dimensional quality of the hillside landscape provides designers the opportunity to create **sequential space** that is bound to the natural environment. The tunnel, 200 meters long, followed a cable bridge 120 meters in length, and steps leading to the building are all organized for an emotional **experience**. Every element in this design is originally inspired by a personal experience or emotion, by the way something felt or looked or otherwise affected the senses. These sensations are organized into inseparable links. As conveyed in traditional Chinese architecture, design concerns are not embodied in the maintenance of certain forms, but in the **expression of certain actions**. When views, spaces and experiences are sequentially revealed, the senses of variety are energized. The sequence of space, views and sensory details enhancing interest makes the space a more powerful and impressive experience (Figures 4-20 and 4-21).

Figure 4-19 Plan of Miho Museum in Shigaraki, Shiga, Japan by I.M. Pei, sets in a nature reserve

Figure 4-20 Sequence in Tiantan (Celestial Altar), Beijing (above) and sequence in Miho Museum (below). Arrangement of the sequence was an elaborate response to the topography.

Figure 4-21 Top: The entrance and steps leading to Miho Museum. Steps are part of the spatial sequence which recalls the topography.

Bottom: The birds-eye view of Miho Museum. The three-dimensional design mirrors the topography. It is merged into the environment and subordinate to nature.

Figure 4-22 Flow of internal and external space. A view towards the surrounding hills, the use of a traditional courtyard, and elements of garden bring the outside to the inside.

Figure 4-23 A view through the framed glass suggests a typical Chinese ink painting.

Figure 4-24 The moon entrance in Liuyan (Liu Garden), Shuzhou, China, and the pattern on the door of the Museum. The views framed by a special-shaped entrance, suggests a connection of inside and outside. Tradition is reinterpreted in modern context.

Originally derived from Taoist philosophy, the interaction between humans and nature is essentially a concept of traditional hillside design. Architecture is not the destination. It does, however, builds a bridge between man and nature, and is an endless passage for man to commune with nature. It is considered the connection between the spiritual truth and the natural world of which man is a part. The museum is located in a nature reserve with an unspoiled countryside view. The **interpenetration between interior and exterior** offers a view towards the attractive surrounding and the connection of man between nature (Figures 4-22, 4-23 and 4-24).

In Taoist thought, “Man and nature together” is the way to re-create and rejuvenate. This cultural background determines the Chinese concept of the relationship between man,

nature and architecture in a hillside resort. Architecture is the inter-medium of man relating to nature. A modest approach is essential before a more responsible and responsive hillside architectural design can be implemented. Moreover, in hillside design, the correspondence between a three-dimensional structure and topography has a different meaning. The three-dimensionality of the hillside landscape can provide the means to build the sequence.

4.3 Wu-Wei (non-action) in Vernacular Hillside Architecture

Tao-te Ching:

The Tao is constant in non-action
 Yet there is nothing it does not do
 If the sovereign can hold on to this
 All things shall transform themselves
 Transformed, yet wishing to achieve
 I shall restrain them with the simplicity of the nameless
 The simplicity of the nameless
 They shall be without desire
 Without desire, using stillness
 The world shall steady itself
 (Lao-tsu, 1989)

At the beginning of human being's practice in hillside construction, lacking the power to alter the natural environment and the reverence of nature, hillside structures were adapted to their surrounding place and became sensitive to the landscape. This concept is advocated in the *Tao-te Ching* as Wu-Wei (non-action):

... implies spontaneity, noninterference, letting things take their natural course: "Do nothing and everything is done". Chaos ceases, quarrels end, and self-righteous feuding disappears because the Tao is allowed to flow unchallenged and unchallenging. Everything that is comes from the inexhaustible, effortless, invisible, and inaudible Way, which existed before Heaven and Earth. ("Tao-te Ching", 2003)

Most types of vernacular hillside architecture all over the world have a very sensitive correspondence with their surroundings. The fact that structures appear to be growing out of their environments is due to their topographical communication with the natural background. The congruence of the environment and buildings creates a harmony in which the construction is merged with landscape. This concept allows nature to enhance the beauty of the scene, as Bernard Rudofsky remarks in *Architecture Without Architects*:

There is much to learn from architecture before it became an expert's art. The untutored builder in space and time-the protagonists of this show-demonstrate an admirable talent for fitting their building into the natural surroundings. Instead of trying to "conquer" nature, as we do, they welcome the vagaries of climate and the challenge of topography. Whereas we find flat, featureless country most to our liking (any flaws in the terrain are easily erased by the application of a bulldozer), more sophisticated people are attracted by rugged country. In fact, they do not hesitate to seek out the most complicated configuration in the landscape. (Rudofsky, 1964)

In this respect, there are instructive conclusions to be drawn from the study of vernacular architecture (Figures 4-25 and 4-26).

Figure 4-25 Bolar house, Fujian, China

Figure 4-26 Cave dwelling, Northwest, China

4.4.1 Siting: Clues from Nature

Tao-te Ching:

Therefore the Tao is great
Heaven is great
Earth is great
The sovereign is also great
There are four greats in the universe
And the sovereign occupies one of them
Humans follow the laws of Earth
Earth follows the laws of Heaven
Heaven follows the laws of Tao
Tao follows the laws of nature
(Lao-tsu, 1989)

Most traditional towns built on flat land are compact in appearance with their limits clearly distinguished by natural boundaries, such as cliffs or roads. The villagers are fully aware of the best way to cope with nature. Pioneers placed villages where the valley flattens, widens, and meets steeper slopes, a site that seemed naturally determined. The buildings step up a gentle incline, following the shape of the valley contours in a satisfying natural way. A friendly, sensitive understanding of the spirit of the place can be perceived in the relationship of the buildings and open spaces to the topography. The most observable clue to the topographically-sensitive village or town form is the joining of structural boundaries with natural edges, and the grace with which the whole composition is distributed on the landscape. This notion is the first grade of the correspondence between the landform and the three-dimensional massing of buildings (Figure 4-27).

It is important to establish the edges of building clusters that attract visual perception and to get an initial sense of physical integrity. Giving up the resistance of initial boundaries will

attenuate the sense of place unless new limits are defined. In the construction of hillside scenic zones today, most clients attempt to create a marketable image for the site by erecting boundaries around the construction. Subsequent development pays little regard to natural restraints or the visual sense and character of the original site. Clear edges have been demolished in most modern hillside constructions. But in vernacular towns, a cohesive village form is the goal. Individual projects must then contribute by reinforcing the linkages within the village boundaries.

Figure 4-27 Structure boundaries join with natural edges. A perceptible hillside space has recognizable boundaries, visually defined by tangible edges such as the conjunction edge of the mountain and flat land, cliff, road, greenbelt and other natural features. A clear line of delineation with nature is a design crucial in hillside architecture.

The absence of boundary seems psychologically related to a loss of control, whether over nature or over the direction and pace of growth. Lack of boundaries means instability and imbalance between nature and construction. "Siting that ignores, obscures, or intrudes on natural edges in incompatible ways has lost an opportunity for congruence. Using edges to line up boundaries helps make a community more comprehensible" (Dorward, 1990).

Figure 4-28 Luo Cheng, Jianwei County, Szechwan Province. The axis parallel to the contours and adjust according to the topography.

The three-dimensional form of traditional hillside architecture mirrors the topography with buildings fitting the slope. For example, rows of buildings as well as the lengthwise axis of individual structures are parallel to the contours or adjusted according to the topography (Figure 4-28). Buildings usually cut into the slope at the rear; they are rarely built on fill (Figure 4-29). The oil miller, Zhong County, Szechwan is an excellent example of how buildings merge into the topography. Moreover, the process of making oil determined the selection of the site and the structure of the building. Its spontaneity and quality of

Figure 4-29 Oil miller, Zhong County, Szechwan, an excellent example of “organic architecture” sensitively responding to the natural environment.

“from inner to outer” conform to the contemporary definition of organic architecture. By definition, “organic” refers to something that has the characteristics of animals or plants. Frank Lloyd Wright, who was regarded as the “true father of organic architecture”, gave organic architecture a new meaning by defining it as “a reinterpretation of nature’s principles as they had been filtered through the intelligent minds of men and women who could then build forms which are more natural than nature itself” (Pearson, 2001). His famous masterpiece, Water Fall House, is a brilliant example for responsive architecture in

Figure 4-30 Water Fall House by Frank Lloyd Wright, an example of contextual building in a sensitive area of hillside. The form of a building should be sensitive to the characteristics of its existing surroundings, thereby reinforcing an understanding of its character.

a hillside environment (Figure 4-30). The same quality can be observed in the oil miller case mentioned above.

Obviously derived from the land, most vernacular hillside architecture appears to grow out of the environment itself. The layout, form and composition obviously refer to natural characteristics: mountains, rivers, landmarks, and important cones of views.

4.4.2 Mass and Texture

In an environment with mountainous topography like Szechwan, communication between topography and man-made constructions is foremost in the integration with the natural site. Therefore, the forms indicate both extent and mass. It is essential to consider the issues associated with siting, form, texture, and scale of individual building masses and open spaces.

In most vernacular communities, the form of a single building is not important. Individual buildings are similar to each other. Forms are consistent in shape, scale, colour, and material texture. The repetition of basic forms and highly textural materials of vernacular hillside architecture gives the appearance of a dramatic connection with the landscape and allows for visual unity. The rhythmic repetition of forms shows the richness of the town's pattern on the terrain; numerous small site-specific adaptations to the landform enhance its harmony with nature. For example, in Xituo Town, Shizhu County, Szechwan (Figure 4-31), most of the roofs have simple hip and gable forms and are tiled by similarly-coloured tiles

Figure 4-31 Xituo Town, Shizhu County, Szechwan. An example for consistency of form, texture for place-making

in uniform patterns. Usage of the same material for walls and frames of windows enhances the unity of the facades. Whether seen from a vantage point or from a road or river looking upwards, a consistent pattern on simple understated forms is immediately perceived. Set against this constant background, the variety of topography is made visible and accentuated; this element gives the place a sense of identity and also enhances the natural landscape. In this case, Wuyi Mountain Villa, Fujian Province, would be a worth contemporary attempt (Lu and Wang, 2000) (Figures 4-32 and 4-33).

Figure 4-32 Wuyi Mountain Villa, Fujian Province, China, by Qikang. Viewed from the distance, holistic impressions are affected by the distribution and scale of building masses.

Figure 4-33 Facades and Plan of Wuyi Mountain Villa. Roof line are broken into small segments, repeating similar forms of humble scale.

From a distance, the complexities of detail are subordinate to the overall form and serve only to reinforce and clarify the initial impression. A built environment may seem more compatible with its site when its surface feel is consistent with the surrounding natural character. In the past, the limitation of transportation and technical knowledge demanded

the use of simple construction methods and local materials, such as stone, mud and wood or bamboo. Texture enhances the visual cohesion of the buildings with the natural landscape and avoids a presence which adds negative visual impact to the landscape (Figure 4-34). In the Water Fall House and other villas' design, Frank Lloyd Wright used textured wall to enhance the visual consistent with the rock around. As Sherry Dorward indicated:

Finer textures conform more nearly to the mosaics of many mountain landscapes and to cultural expectations of what a village should look like. Historic mountain towns and villages are fine-grained compositions of uniformly small structures, whose fine texture at a distance conveys a sense of intimacy and scale. (Dorward, 1990)

Figure 4-34 Folk dwelling on the bank of Lingchang River. The limitation of transportation and technical knowledge demanded the use of local materials, such as stone, mud and wood or bamboo.

Indigenous hillside architecture has been successful in transmitting a perception of an intimate place. This architecture does so by emphasizing consistency in building forms to

achieve a cohesive image of buildings and a compatible match with the landscape. "The beauty of this architecture has long been dismissed as accidental, but today we should be able to recognize it as the result of rare good sense in the handling of practical problems" (Rudofsky, 1964).

The most urgent problem confronting people today is respecting ecological, topographical and climate issues while designing in modern mountain scenic zones. Because of the increased population, densities in our cities are far more intense than before and the best site may not be satisfactory for modern demands. Nevertheless, there are still instructive prototypes to be found in observing traditional villages. The placement of traditional communities is always site-specific with deliberate attention to transition, terrain- and sun-responsive gradations in height and scale, and clear definitions of edges. Masses are organized in ways that correspond to landforms, mountain shape and direction, river features, and visual highlight related to the nature landscape.

Chapter 5: Feng-Shui: Position and Orientation

5.1 About Feng-Shui

Taoism is improving very fast and much knowledge has been born. One of these concepts is Feng-Shui. The word Feng-Shui came from the Chinese character: “Feng” meaning “wind” (direction) and “Shui” meaning “water” (place). As one of the achievements of Taoism, the fundamental concept of Feng-Shui is as follow:

Feng-Shui is the study of the Heavens and the study of Earth in relation to humans. This force, alive in the Universe, was referred to as 'Tao'...Feng-Shui is also part of the Mysterious culture of China. Its purpose is to bring the two worlds (heaven and earth) together; the visible, physical world (Chinese called 'Yu') and the invisible, unseen vibration world (Chinese called 'Kan'). Feng-Shui is the edge in between these two worlds. An earlier name for Feng-Shui was 'KanYu' meaning between Heaven and Earth. (“The History of Feng-Shui”, 2002)

From the word Feng-Shui itself, this method had already existed and had been improved upon long before the Chinese knew about compasses. During that period, the determination of a good place was based on a mixture of water and wind. Developed over thousands of years ago, the ancient practice of Feng-Shui is completely involved in every aspect of traditional Chinese life, from selecting a site for a city, house, grave, or temple to choosing a day to get married or a name for a child. Feng-Shui for the Chinese was a system used to ensure good fortune, as Henry Lin says in *The Art and Science of Feng-Shui*:

Feng-Shui had been practiced in China since ancient times. Government buildings, palaces, and temples have been constructed in accordance with the principles of Feng-Shui for over 3,000 years. In addition to this type of official work, Feng-Shui practitioners were also called upon by the Chinese before they started construction of new houses or chose burial sites for the dead. As a result, Feng-Shui has underpinned the pattern of development of the entire Chinese landscape. (Lin, 2000)

The Feng-Shui concept of environment takes many elements into account, spiritual as well as physical, temporal and spatial, ranging from the sky to earth and from human life to nature. Taoism has provided the Chinese with the belief that the way to live is to unite nature and people as a whole. The major goal of Feng-Shui is to find a way to live in harmony with heaven, earth, and other people. In short, Feng-Shui is the study of the heavens and the study of earth in relation to humans.

5.1.1 Feng-Shui: Past and Present

For a subject as ancient as Feng-Shui and one handed down orally for centuries before being systematized, there will inevitably be many ambiguities and inconsistencies.

However, whatever the differences and how impossible it is for some contemporary understanding of the subject to be reconciled with ancient ways, the purpose of Feng-Shui is to enable people to live in better harmony with the natural environment and the cosmos.

As John Michell said:

...besides the palpable elements such as wind and water, certain types of energy which permeate the earth and atmosphere and animate the forms of nature; but further understanding has been blocked by the impossibility of equating these energies with phenomena recognized by modern physics.... Whereas the modern tendency is to separate these energies and concepts into different categories, the Chinese regarded the invisible side of nature as a whole, and formulate in Feng-Shui a code of practice to govern their relations to it.(Michell, 1993)

Feng-Shui has been practiced in China for centuries and is still widely accepted in Asia.

“To its practitioners in Asia, such as the builders of the towering Hong Kong and Shanghai Bank in Hong Kong, it is serious stuff” (Lin, 2000). In this modern age, Feng-Shui is still

playing a very important role in Asia. Western architects acknowledged this phenomenon when they worked there, as Philip Langdon noted:

Many designers in Asia have responded to the local culture by applying Feng-Shui, the Chinese art of placement, to the design and sitting of buildings. Feng-Shui holds that some locations and shapes are auspicious while others are likely bring misfortune.... Certain numbers, such as eight, are considered lucky; many Chinese high-rises are articulated in eight story increments. (Chatwin, 1989)

Even in Western countries, “the breeze of Feng-Shui is swaying the continent of North America with irresistible appeal” (Lin, 2000). A popular interest in Feng-Shui in Asia and Western countries started a few years ago, but hardly any of the cases made for its efficacy can be scientifically proven. People are keenly interested in finding out what humans can borrow from Feng-Shui to help them be in harmony with nature. Deeply rooted in Taoism, Feng-Shui is not simply a list of directives for building auspicious structures or arranging interiors for good luck—it is the art of reading the patterns of the universe and living in harmony with the environment, as Ian McHarg conveyed in his important book *Design With Nature*:

Clearly the problem of man in nature is not one of providing a decorative background for the human play or even ameliorating the grim city: it is the necessity of sustaining nature as a source of life, milieu, teacher, challenge and most of all of rediscovering nature's corollary of the unknown in the self, the source of meaning. (McHarg, 1992)

Today, as people become aware of the need to rediscover an intimate relationship with the earth and the ecosphere, Feng-Shui offers a set of pragmatics for choosing a home, locating a business, developing ecologically sensitive land use, and planning a harmonious neighborhood or cemetery. In this thesis, the concern is to determine if Feng-Shui

principles are helpful in hillside scenic zone designs to approach more responsible architecture.

5.1.2 Two Schools of Feng-Shui

Traditional Feng-Shui can be divided into two primary categories: form school and compass school. The form school is mostly concerned with landform and topography, especially mountains and water courses. It decides the direction, location, orientation and design according to the study of landform and surrounding environment's appearance, size and shape and physiognomy characteristics. Generally, it concerns most forms in nature including artificial or natural concepts such as roads, buildings, mountains, rivers, water flow, contours and configurations of the site. It is a system where formulae are mainly based on environment. The compass school largely uses compasses, called "Lopan", and focuses more on the aspects of time and how it affects people's fortunes. It makes a decision on the site and an arrangement of structures. This system is widely used as a predictive system in which Feng-Shui masters can predict events and outcomes of the residents through logically deductible mathematical formulae. In spite of the difference, both of them have the objective to manifest Ch'i properly in a site where the principle is the unity of man and universe. The form and compass schools are both concerned with siting and arranging structures and are keen in their response to Chinese philosophy—Taoism and their belief systems. The following will focus on the form school that concerns itself mostly with landforms and topography, especially mountains and water courses (Lip, 1995).

5.2 Basic Principles of Feng-Shui

Feng-Shui is based on a reasonable and logical concept. Implied is the Taoist concept of Yin/Yang, two contrary but complementary principles that explain all change, and Ch'i and the doctrine of the Five Elements that constitute all reality. The main concept of Feng-Shui deriving from Taoism can be shortened as follows:

Nature is a composite of one-dimensional substances and time. The latter of these always changes due to the energy that naturally binds one to another to harmony. People also have energy. If someone lives in a place that has good energy and a good balance of substance, then the person will be positively affected by the surrounding environment. This idea also works for graveyards, but what is affected from the graveyard are the person's children, who possess the same relationship and genetics. This principle of Feng-Shui was stated by Sarah Rossbach in her book *Feng-Shui: The Chinese art of placement*. She explained:

For all the mystery that surrounds it, Feng-Shui evolved from the simple observation that people are affected, for good and ill, by surroundings: the layout and orientation of workplaces and homes. In addition, the Chinese have long observed that some surroundings are better, luckier, or more blessed than others. Every hill, building, wall, window, and corner and the ways in which they face wind and water have an effect. They concluded that if you change surroundings, you can change your life. (Rossbach, 1983)

As demonstrated in Chapter 3 of this thesis, according to Taoism, Ch'i is a living form of energy that manipulates the whole universe. "The aim of Feng-Shui, then, is to change and harmonize the environment-cosmic currents known as Ch'i to improve fortunes."

(Rossbach, 1983) In this case, Feng-Shui is one of the techniques to control the flow of Ch'i by choosing an auspicious site, arranging man-made structures suitably and modifying the topography. The first step of the application of Feng-Shui is site selection. It includes

two major aspects: dealing with landforms and arranging Ch'i. This is the central concern in the art of Feng-Shui. In fact, all efforts in the Feng-Shui design can be concluded as the goal of promoting and conserving the Ch'i energy in a site. Landforms address the connection of Ch'i with mountains, surrounding hills, and water. The arrangement of Ch'i emphasizes the movement of Ch'i related to orientations and positions. Because Ch'i travels in a way that varies with the topographic situation of the ground, it is manifested by changes in topography, especially the rise and fall of mountains and hills. Most aspects of Feng-Shui, especially in the form school, are concerned with the site's variations in topography. A constructive guide for hillside architecture could be found by studying the practice of Feng-Shui in a hillside area.

5.3 Feng-Shui in Hillside Architecture

5.3.1 Shape, Position and Orientation

Mountains and hills provide two essential functions. First, mountains carry Ch'i energy underground to various land sites enabling these land sites to bring good luck to people. Second, mountains protect land sites from the attack of evil winds, which can include cyclones and storms, so that the precious Ch'i energy in the site can remain and support the land and its residents. At a site surrounded by mountains or hills, Ch'i accumulates. How well mountains can perform the first function depends largely on the length of the dragon and the shape of mountains or hills. "Dragon" refers to mountain veins, while the shape refers to individual mountains and hills. Generally, for the dragon veins of mountains, "the longer a mountain vein runs, the longer will be the good luck that the mountain vein can

bring to the residents. This theory states that the longer a mountain vein is, the more time was taken to create it, and therefore the more Ch'i energy is contained in it." (Lin, 2000)

For individual mountains' shape, there is a system that is based on the theory of the Five Elements from Taoism mentioned in the previous chapter. As Henry Lin wrote:

Another system of classification for mountains is based on the theory of the five elements. Under this system, mountains are associated with one of the five basic elements: water, fire, wood, metal, and earth. Since each of the elements has a characteristic shape and appearance, many mountains fit well into this ancient philosophical system.

Water mountains: These are somewhat wavy in appearance with a flat top (jade belt mountain).

Fire mountains: These have a broad base and a pointed peak (seal hill).

Wood mountains: These look straight, high, and slim (pen hill).

Earth mountains: These have a round body and a flat peak (drum mountain).

Metal mountains: These are round on the top and square (bell mountain). (Figure 5-1) (Lin, 2000)

Figure 5-1 Mountains' shapes based on the theory of the five elements

This classification is very helpful in hillside design, because according to the theory of the mutual generation and destruction system between the Five Elements, designers can establish the balance between man-made structure, man and nature. Besides the dragons and the shapes of mountains, mountain position and orientation are studied carefully in the Feng-Shui design. Mythological animals are metaphors in a system of siting, giving priority to proper orientation, ventilation, sun and trees. The animal names are used to indicate the shape and orientations of mountains because they are thought to possess the same power and attributes. For example, the terminology “red bird”, “black tortoise”, “green dragon” and “white tiger” are used to refer to the location and direction. These symbolic creatures are associated with the type of Ch’i emanating from the four directions: southern (heat-bright, Yang, red bird), northern (cold-dark Yin-black tortoise), eastern (left) (principal, Yang- green dragon) and western (right) direction (subdominant, Yin-white tiger). This idea of Feng-Shui derives from the Taoist theory of Yin-Yang and the Five Elements about directions, colors and properties. This metaphysical clarification has affected settlement patterns. For example, in dwelling designs, the red bird is used in Feng-Shui to enhance the activities of the more active Yang rooms such as kitchens, living rooms, balconies and social areas. It is designed to be more open (Yang), allowing the sun's vital energy into the dwelling, incorporating larger rooms, openings and windows. The opposite direction to the red bird is the black tortoise located in the north. The Feng-Shui principle used this to “close down” the area, and to design smaller windows, openings, and rooms like bedrooms, storage areas, and toilets.

The symbolic mythological animals system describing directions can be projected onto hillside Feng-Shui design. As Henry Lin indicated in his book *The Art & Science of Feng-Shui*:

Black tortoise: This is the major mountain found in the background of a site. Located at the immediate rear of a building or grave, it is supposed to be the tail of a “coming dragon.”

Red phoenix: Red phoenixes refer to the hills or mountains in front of a land site. These hills should assume the shape of a hovering bird with its wings fully extended.

Green dragon: This refers to the hill or mountain that lies to the left of a site. Such a hill serves to protect the site from the attack of the wind coming from the left.

White tiger: This is a mountain situated on the right side of a land site. As a counterbalance to the green dragon, the white tiger provides a shield for the house, protecting it from evil winds coming from the right. (Lin, 2000)

Figure 5-2 Village embraced by hills

According to Feng-Shui, the most favorable site should be enfolded by surrounding hills. If a village is embraced in the peaks and ridges of the mountain's body, the embodying power and unpredictability of nature can be its protector (Figure. 5-2).

Figure 5-3 Diagram of mountains in an ideal Feng-Shui site

- 1 & 2 Background Mountains.
- 3 Black Turtle (Tsu Shan)
- 4 Green Dragon
- 5 White Tiger
- 6 Protecting Hills
- 7 Red Phoenix (near front hill)
- 8 Red Phoenix (far from front hill)
- 9 Shui Kou Shan (river entering/exiting hills)
- 10 Ming Tang (central area) (Figure 5-3)

Specifically, for a black tortoise to be auspicious, it should be closer to the site and gradually slope toward the back of a land site, as if bowing to it. This is so the background mountain can transmit Ch'i to the site and benefit the residing people. There are two kinds of red phoenix; the one near the site is called a table hill; the one farther away from the site is called a worshipping mountain. The table mountain is more desirable and should be straight and well-balanced in order to be auspicious. It is relatively small since a big hill in the front will interrupt the visibility, showing lack of forethought and a restricted future. It is essential for a worshipping mountain to be big; but regardless of its distance from the site, it must still be in sight. The green dragon should be bigger and taller than the white tiger

because it has more Yang elements when compared to the white tiger (Yin). It should be located close enough to the site to be able to shield and protect it. Moreover, it should curve and gradually slope towards the land site in a responsive greeting gesture. The white tiger should be subdued to the green dragon and turn to it, representing a metaphor for the combination of Yin and Yang.

Besides the careful study of the position and shape of mountains in Feng-Shui, water is also a very important issue. According to ancient Feng-Shui texts, the mountains are the Yin, while the water is the Yang; the solid is the Yin and the void is the Yang. In the traditional view, mountains and water are interrelated, eternal Yin/Yang symbols of nature harmony and rhythm. They are the paramount topographical feature in Feng-Shui.

Figure 5-4 Water in an auspicious Feng-Shui site

The ideal Feng-Shui space is supposed to balance the Yin and Yang. This balance was thought to bring prosperity to inhabitants. In an ideal Feng-Shui site, an open space (Yang) is enfolded by surrounding mountains (Yin). Whether mountains or hills can guard a site

from an attack of bad luck efficiently depends on the distance they are from the site and on the flatness and openness of the area. Generally, an ideal Feng-Shui location has a winding inward high mountain (Yin) in the background with a winding inward river (Yang) in the foreground (Figure 5-4).

5.3.2 Feng-Shui in Traditional Hillside Towns

The principles of Feng-Shui can be observed in the development of hillside towns. For example, the planning of Langzhong County located in the North of Szechwan is famous for its perfect Feng-Shui design. The town is situated by the Daba mountain vein that stretches a long way from the north. It carries enough luck Ch'i, signifying a good "dragon vein". For the sub-environment of Feng-Shui, Panlong Mountain in the North acts as a natural barrier to protect the residents from the northern evil Ch'i. Jinpin Mountain in the south acts as a table mountain to provide a wonderful landscape; small hills in the East (left) and West (right) act as a green dragon and white tiger to achieve the Yin/Yang balance. Apart from this, Langzhong, has Jialin River winding inwards to the town and this natural features can procreate and hold the Ch'i (Figure 5-5).

After the Qing and Han Dynasties, the developed Zhongyuan (middle China) agricultural civilization penetrated Szechwan bringing an intricate cultural system, such as amenity, education systems and Feng-Shui system. Encountering with the mountainous topography of Szechwan province, Feng-Shui is developed farther forward.

Figure 5-5 Langzhong County, Szechwan, China

(图 43) 昭化城池布局图

Figure 5-6 Zhaozhua Town, Szechwan

Feng-Shui left its mark on many towns in Szechwan, such as Famous Langzhong as mentioned above, and many others like the town Shaohua established earlier. As in Langzhong, there is a dragon vein, Dajian Mountain Vein, appearing as a real dragon which is apparently better than that along Panlong mountain.

The sub-environment has Yishan Mountain as the background mountain (black tortoise) in the North, Bijia Mountain opposite the river in the South as a table mountain (red phoenix), Baiweilin Hill in the West as the green dragon and the section of Jialin River along the East as a white tiger. In Feng-Shui, water and mountains are considered equal factors generating and carrying Ch'i. More importantly, the town has Jialin River winding along three of its sides. Water running with more curves on a site enable it flow more slowly and stay more lucky Ch'i for the residents (Figure 5-6).

Feng-Shui is an ancient Chinese art of placement and environmental design that covers the placement and design of tombs, residential houses, commercial entities, towns and cities. Feng-Shui seeks to explore all interrelationships and interactions between nature, humans, time, and space. It tries to reveal the innermost secrets of relations between heaven, man, and earth, and its goal is to help people live harmoniously with nature so as to benefit from, rather than be hurt by nature. The most practical aspects designers can gain from Feng-Shui for the design of buildings in hillside areas are choosing the site, and the arrangement of position and orientation of the buildings.

Briefly put, Feng-Shui can teach the appropriate response to topography, natural landscape, climate, culture and people's work. As famous English scholar, Joseph Lee explains based on Feng-Shui theory, traditional Chinese towns perfectly integrate in their natural environment (Ji, 1996). It is a remarkable and esthetical theory, and possesses profound philosophy. It is also the combination of geography, aerography, landscape, ecology and urban planning. "Perhaps one can go a step further. Perhaps the rooted-ness of Chinese civilization, the Chinese sense of belonging to the earth, their capacity to live without friction on colossal numbers—have all, in the long run, resulted from their adherence to the principles of Feng-Shui" (Chatwin, 1989).

On the other hand, because Feng-Shui was formed more than 3,000 years ago and it has been handed down orally for centuries, there will inevitably be ambiguities and inconsistencies between accounts. As well, some of its practices and teachings will be muddled in the mires of superstition and folklore. "In this way, the knowledge of Feng-Shui deteriorated quickly and pseudo-Feng-Shui sprouted like weeds in spring" (Shah, 2000).

Modern revolutions have twisted people's peaceful subsistence into that of chaos and extreme. Feng-Shui implements the concept of Ch'i, the principles of balance of Yin and Yang, and the system of Five Elements to rectify these imperfections. It provides architectural design a holistic consideration in maintaining harmony with the surroundings. As the art and science of Feng-Shui becomes increasingly popular, the necessity of a

deeper and broader understanding of the subject, and a systematic study of it are constantly growing. As Henry Lin concluded in *The Art and Science of Feng-Shui*:

As a product of ancient Chinese civilization, Feng-Shui draws heavily upon basic principles of traditional Chinese thinking. These principles include the balance of Yin and Yang, the productive and destructive relationships among the five basic elements, the meanings of the eight trigrams, the triad of heaven-man and earth, the importance of natural harmony and balance, and the astrological and geomantic significance of timing. Anyone serious about learning and practicing Feng-Shui is strongly encouraged to familiarize him or herself with these basic theories. The time and effort spent will handsomely pay off. (Lin, 2000)

Chapter 6: Prototype Design

The unsatisfactory nature of so many recent hillside resort designs is largely due to the fact that effort and expertise is being wasted by the superficial imitation of traditional architectural style. There are certain building styles more so than others that are considered suitable for the mountain environment, but it is not a matter of style. The goal, however, is not to consent to one style over another, or revert to a nostalgic resurrection of past successful building traditions for architectural identity. It is to respect the natural and cultural uniqueness of a site.

Actually, insufficient sensitivity to natural topographical clues is the major reason that the natural landscape is being ignored. Connection with the environment is not a question of constructing similar buildings to the surrounding ones, but an understanding and expression of nature's patterns. If the connection is the purpose, there is a willingness to try to understand the natural and cultural context.

6.1 Site Description: Topography, Climate, Culture and Social Pattern

For hillside architecture, it is important to determine the whole region's character and the whole terrain system, including such elements as topography, climate and culture. In this thesis, the research focuses on the hillside architecture built in the scenic zones of Szechwan, Southwest China.

This province “is one of the most attractive geographical regions of China. The basin is surrounded by mountains... except for the Ch'eng-tu Plain, the region is very hilly. In the Eastern half of the basin, numerous folds exist, forming a series of ridges and valleys that extend northeast to southwest” (“China”, 2002) (Figure 6-1).

Figure 6-1 Map of China

With the Yangtze River crossing this region, Szechwan is also famous for its abundant lakes and rivers. “There are more than 1300 rivers in this province, and numerous rivulets, so 95% of the towns were built by the water” (Ji, 1996).

As a gift of nature, various mountains and hills, rivers and streamlets present a magnificent natural landscape. The splendor of natural landscape has been realized by the Chinese from very early times. In the Wei Jing Dynasty (220 - 420 BC), the appreciation of natural

landscape has increased in Chinese society. Especially among intellectuals, the admiration of natural landscape has become part of their identity. Throughout history, countless painters and writers have created their masterpieces describing the magnificence of the Yangtze River and the adjacent mountains, like the famous Three Gorges region before flowing into the plains of the East. The Gorges have very steep slopes composed mainly of thick limestone rocks. They rise from 1,300 to 2,000 feet above the River and give the appearance of fantastic towers, pillars, or spears (Figure 6-2). “Li, Daoyuan gave a romantic description in his *Shui Jing Zhu, River* about the scene along the Yangtze River” (Ji, 1996). The beauty of Szechwan Province was discovered as early as the East Jin (317-420) Dynasty. “Surrounded by mountains which are higher in the west and north and protected against the penetration of cold northern winds, the basin is much warmer in the winter than are the more southerly plains of southeast China” (“Szechwan,” 2003). The surrounding mountains make the mist from the rivers difficult to disperse. Thus, most of the time the scenery is covered with mist and the view is reminiscent of traditional Chinese paintings.

The complexity and diversity of the topography provide a rich and varied resource for the tourism industry, with sightseeing destinations such as E’mei Mountain, Qingcheng Mountain and Jiuzhaigou (Ji, 1996). With the development of tourism, there has been a conflict between providing the necessary facilities and preserving the natural resources. The most urgent problem confronting designers today is how to respect ecological,

topographical, climatic and cultural context in the landscape design for modern scenic zones.

Figure 6-2 Yangtze River

Szechwan is bordered on all sides by mountains. In the North, the Tsinling Mountains extend from East to West. To the northeast are the limestone Ta-pa Mountains, while the Ta-lou Mountains, a lower and less continuous range, border on the South. To the West, the Ta-hsüeh Mountains border on Tibet. To the East, the spectacular Yangtze Gorge is contained within the rugged Wu Mountains, which rise to a height of about 6,500 feet ("Szechwan", 2003).

The Yangtze has four main tributaries, the Min, T'o, Chia-ling, and Four rivers. The name Szechwan means "Four rivers". The surface of the basin, apart from the rivers, is extremely rough and appears quite mountainous. Numerous low, isolated, and rolling hills are

interspersed with well-defined high ridges, floodplains, valley flats, and small basins.

Ch'eng-tu Plain is the only large continuous tract of relatively flat land in the Province. The provincial capital of Ch'eng-tu, Szechwan's largest city, is located in the centre of the Ch'eng-tu Plain.

On Ch'eng-tu Plain, there is a famous scenic spot called Qingcheng Mountain, which is on the list of World Heritage sites by UNESCO (United Nations Educational, Scientific, and Cultural Organization). Qingchen means "green town" in Chinese to reflect the towering peaks. The Mountains are covered with a dense forest of ancient trees, thought to resemble city battlements (Figure 6-3). With an annual average temperature of 15 degrees centigrade, Mt. Qingcheng is under the heading of a humid subtropical monsoon climate. This region has cloudy and wet weather. It is green all year-round and is best known for being quiet and secluded. It is also a famous Taoist mountain and a place sacred to Taoists. At the end of the Eastern Han dynasty (25-220AD), Zhang Daolin, the patriarch of Taoism, preached here; thus, Qingcheng is considered one of the birthplaces of Taoism in China. Some of the Eastern Han structures and sites have still survived after 2,000 years. These include Jinfu Palace, Tianshi (Teacher from Heaven) Cave, Zushi (Patriarch) Hall, and Shangqing Palace, along with many other cultural relics of Taoism.

Nestled among the lofty trees are 108 monasteries, temples and pavilions. As well, this region also boasts the highest peak, Laoxiaoding (Old Heaven Top), rising 1,600 meters (5,250ft) above sea level. Ancient trees, their branches reaching towards the sky, cover countless peaks. Similar to many famous Taoist temples, Mount. Qingcheng is known in

China as “a mountain of tranquility” (Chinese Tourist Guide, 2003).

Figure 6-3 Location of site

As the architecture of the eastern Szechwan basin elsewhere, the unique form of architecture in Qingcheng Mountain area is characterized by projecting eaves, gracefully curved roofs, and rich, elaborate roof ornaments. Because there is little wind and practically no snow, these fragile and extraordinarily-beautiful structures and decorations can safely be constructed. The frequent misty rains make it necessary to project the roof eaves over the walls to protect them from the rain. The mountain consists of two parts - the anterior Mt. Qingcheng and the posterior Mt. Qingcheng. The anterior mountain is famous for its beautiful scenery and numerous cultural and historical sites, while the posterior

mountain has been compared to “paradise” with its primitive and brilliant, stunning and mysterious scenery. This beautiful spot represents the merging of the history of human culture with natural landscapes.

Like many sacred mountains on the World Heritage List, Qingcheng Mountain preserves cultural as well as natural treasures, and has played important roles in history, literature, and art, as well as religion. Mt. Qingcheng is an architectural representation of a mythical mountain at the center of the universe in Taoist cosmology. It is to receive the new designation of Associative Cultural Landscapes, whose natural elements have powerful religious, artistic, or cultural associations.

6.2 Design Objectives of Peach Spring Villa

Chinese utopian writings also often bore a Taoist stamp. Tao Qian's (Tao Ch'ien, 372?-427? A.D.) famous 'Peach Blossom Spring' told the story of a fisherman who discovered by chance an idyllic community of Chinese who centuries earlier had fled a war-torn land, and had since lived in perfect simplicity, harmony, and peace, obviously unaware of the turmoil of history beyond their grove. Although these utopians urged him to stay, the fisherman left to share his discovery with friends and a local official. He could never find his way back. He did not understand that this ideal world was to be found not by following an external path, but a spiritual path; it was a state of mind, an attitude, that comprised the utopia. (Berling, 1982)

“Peach Spring Villa” is used to the name a building that provides a cultural connection to Chinese culture. Objectives for design of the Peach Spring Lodge are listed blow:

1. Attract visitors
2. Locate the best service available at a scenic spot
3. Provide adequate facilities required for a short accommodation
4. Provide a minimum exposure of view from anterior Mt. Qingcheng

5. Enrich the natural landscape
6. Enhance visitors' experience

6.3 Design Proposal

6.3.1 Using Feng-Shui in Siting

With the development of tourism in China, density pressures are far more intense than in previous times, and the best site may not be satisfactory for modern demands. There are, however, still useful guidelines to be found in Feng-Shui. According to Feng-Shui, mountains are thought to be the main carriers of Ch'i energy of the earth. At an auspicious site, there should be a main mountain vein called "coming dragon" charring enough Ch'i. Mt. Qingcheng is in the area of the Ta-pa Mountains. This the spot where the "dragon vein" originates. There are a series of peaks and valleys, rising up and down like waves, indicating that the area must have an abundance of Ch'i energy. The second step is the examination of individual mountains. The ideal Feng-Shui site is apparently like an armchair with a mountain protecting it from behind, with a "green dragon" mountain at the left, and a "white tiger" mountain at the right. In this instance the only element that is lacking is the white tiger at the left (Figure 6-4). A small artificial hill is placed to compensate for the missing white tiger. There is a hill in front of the site that can be considered the table mountain. However, the shape of the hill leaves much to be desired, being too flat and having few trees. A pagoda is built on the top of the hill. The pagoda can subdue the possible evil effects the hill has on the environment. As well as mountains having an ideal position and shape, in Feng-Shui water is also a very important issue. According to Feng-Shui, the more curves the shoreline of a body of water has, the more

Figure 6-4 The original site

Ch'i it generates and contains. The water from the artificial waterfall winds through the site with nine turns forming a palm shape. The number "nine" is a metaphor of "many" in Chinese culture, and a body of water in the shape of a palm leaf is preferred in Feng-Shui (Figure 6-5).

Figure 6-5 Modification of site

6.3.2 Subordinate to Nature

As the analysis in Chapter 3 demonstrates, Taoist principles say that man is part of nature and is subordinate to it, as seen in Chinese traditional landscape paintings, and that man's shelter is always secondary to nature. It is principally small, hidden and scattered. In order to remain consistent in the design, rooflines and facades are broken into smaller segments. These hide taller and bulkier masses behind small-scale structures. Similar forms are repeated on a more humble scale. Building masses occur in stages going up the slope. Bulky masses in critical view lines should be avoided. The facilities are arranged with bulkier masses at inconspicuous places.

As discussed before, Wu-Wei is the primary principle of Taoism. It is neither an ideal of absolute inaction nor a mere lack of overdoing. It is an action well in accordance with the way that it occurs inherently within nature. According to Taoism, there is no true achievement without Wu-Wei because every deliberate intervention in the natural course of things will sooner or later turn into the opposite of what was intended and will result in failure.

6.3.3 Response to Surroundings

In hillside architecture where natural conditions impose restrictions on the design, the natural way is followed. People can learn from paying attention to natural clues.

Setting boundaries is essential for the successful use of space where there are obvious clues in the natural environment. One must follow these clues. In their design, buildings are

oriented towards the place where the steeper gradient meets the valley bottom. This demonstrates the correlation between landform and construction boundary.

In this design, the first step is to divide the area into hierarchies of subspaces as well as to clarify the specific edges of the site. In hillside designs, the dynamic and three-dimensional quality of the hillside landscape provides the designers with the opportunity to create sequential space that is bound to the natural environment. The diversity of architecture is not the issue here. The attraction is not from the diversity of individual building patterns but from the wholeness of a sense of place. Second, the form, mass and texture represent a coherent composition inspired by topographical patterns. The villa as a whole responds to the distinct characteristics of the landscape, making it far more compatible with the structure's surroundings (Figure 6-6).

After dividing the space into subspaces defined by specific boundaries, the most important step is to assemble the spaces as a connected sequence of interesting experiences that attract people. First, using a North-South axis, the main sequence of events is located relative to the axis to agree with Taoist thought that man, earth and heaven represent a trinity. The pattern and order of heaven and earth should be reflected in the man-made world. The most important building in this project, the place of meditation and exhibition, is located at the end of the axis and at the highest point of the site. This structure, together with the opposite pagoda on the table mountain, demarcates the space.

Figure 6-6 Axiality (North-South axis) and definition of site, stage building masses up the slope, and avoid in critical view lines.

6.3.4 Sequence, Movement and Spatial Experience

It is apparent that Chinese architecture can be identified by its sloping and curving roofs, and its richly ornamented details. However, an even more important aspect of Chinese architecture is the way space is organized, emphasizing the sequence of space, which derives from the Chinese concept of space and time (Figure 6-7).

Figure 6-7 Hierarchy and sequence of space. Hillside topography provides the opportunity to create more dynamically changeable space.

The focus is on the totality of the design for user experience, and not just on form alone.

Explicit attention is paid to the flow of energy, or Ch'i, within both small and large spaces to complement the experiences of those who live within the space. The aim is to create a place and not just a room arrangement. Beyond the superficial elements such as natural colors, local material and texture, deeper attention is placed on the physical organization and size of the building. The ideal is to create a sequence of activity spaces bounded by structures, a composition deriving its vitality not only from the buildings but also from the topography, the view, the vegetation, and arrangement of the sequence of spaces. The sense of the whole would be lost if everything were revealed without a pre-arranged sequence.

Figure 6-8 Place making based on events, the expression of certain action and integrating into topography (access, arrival, public act, residence and meditation).

This concerns the sequence and variety of spaces, the rhythm of their occurrence, and the determination of how to connect and clarify the spaces and their relationship to each other. Building an unbroken chain of visual and physical connections between spaces based on people's activities and revealing successive views of what is yet to be encountered are ways to enhance the sequence of the experience. The topography, the hills, the river, trees and rocks in the site are employed to create the sensory qualities of space for a place making (Figure 6-8).

Chapter 7: Conclusion

In the present age of globalization, increasing attention is being devoted to issues of architectural identity and diversity. For China, with its long history and rich cultural heritage, there is a demand to interpret Chinese architectural tradition in a contemporary context. Instead of mimicking the traditional style, a different orientation is required, a change in direction and attitude. Designers can appropriate characteristics or inner qualities of traditional Chinese architecture into contemporary design and planning practices.

Since the last century, people have become increasingly aware of the impact modern science and technology have had on the environment and of the importance of respecting nature. The new millennium has revived an interest in increasing harmony in the world. This no doubt accounts for the renewed interest in the ancient system of Taoism the premise of which is the solidarity of man, nature and heaven. Taoism is one of the most ancient Chinese philosophies that have forged the Chinese character. It has penetrated every aspect of Chinese life. The general principles of this Chinese philosophy promote the unity of man and universe. This spirit of synthesis has characterized the entire history of Chinese philosophy. Architecturally this appears as the tendency to merge man-made structures into surroundings. Specifically in the construction of hillside resorts, the hillside topography provides the opportunity to create a dynamically changing unique space. Unfortunately, however, the complex interrelationship between man and nature is often ignored. The most urgent problem confronting designers today is to find a way to properly respect ecological, climatic, topographic and cultural elements in hillside designing.

There are many things to be learned from Taoist thought, but perhaps the first is that modern architects and designers need to adopt a more modest, more reflective and more contextual approach to designing. Sustainable architecture and Green architecture also emphasize “the response and expression of celebration of our existence and respect for the world around us ... the key to sustainable architecture is recognizing our position as ‘temporary towards of our environment’. The better we as architects understand and implement our stewardship of the built environment, the greater the quality life we, and future generations, will enjoy” (Pearson, 2001).

Second, instead of focusing on individual parts leading to an objective oriented system in architectural design and planning, it is necessary to acknowledge that each and every element and action is related. The living philosophy of Taoism states that, at every phase, one must be devoted to creating wholeness and harmony with the Universe. “The wisdom to be derived goes beyond economic and esthetic considerations, for it touches the far tougher and increasingly troublesome problem of how to live and let live, how to keep peace with one's neighbors, both in the parochial and universal sense.” (Rudofsky, 1964)

Moreover, with the greatly increased pace of modernization and globalization in China today, the role of architecture as an important cultural discipline has been ignored.

Architecture has lost its function as one of the elements of cultural tradition and the medium unifying the masses and elite culture (Wang, 1997). Using Taoist principles as inspiration for designs in hillside scenic zones, and working on the foundation of a holistic Taoist philosophical system, one can infuse his or her work with spiritual communication

and explicit meaning. There is an integration of nature into all design decisions, as well as a strong cultural understanding of its value. Taoist-inspired designs provide an illustration of the type of all-encompassing but supportive role that architecture as a form of cultural production can have in society. As an inspiration in hillside resort designs, it would lead to a more responsive architecture for nature and human beings as well.

Furthermore, generally, architectural methods rely heavily on the use of two-dimensional drawings, leading architects to assume that buildings are static geometrical objects when, in reality, they are dynamic and interactive. People use these buildings in ways that the interaction with space is not static. Hillside sites, in fact, provide a great opportunity to create more dynamically changing space, but unfortunately, the complex interrelationship between man and nature is often ignored. Most of the design process is based on the misunderstanding of translating tradition into a modern context. The reason for the disappointing nature of so many recent hillside resort designs is mainly due to effort and expertise being wasted by the superficial imitation of traditional architecture or a stylistic facsimile of indigenous building. "To manifest these qualities in a design, elements can be drawn directly from nature by using indigenous building materials, imitating natural forms, or other such devices. Of these techniques, imitation is the most limited; it provides little basis for learning or further development" (Thomas, 1986). Traditional Chinese hillside architecture exercises a great sensitivity to the natural environment. Superficial replication of this past form leads to a limitation of development, and cannot provide a genuine space experience. Instead, designers should study both inner and spatial qualities, and use

contemporary tools and technologies to re-translate them in their designs. The following are the main internal and spatial characteristics of Chinese traditional hillside architecture that have continued effectiveness for contemporary development:

- Subordinate to nature
- Holistic consideration of design: responsive with surroundings
- Consistency of form and details
- Interplay of interior and exterior
- Strong cultural connection: symbolic interpretation
- Emphasis on sequence, movement of spatial experience and integration of them with the topography

In this age where the pace of development and globalization is faster than ever before, in China there is a recurrent debate about reinterpretation of architectural tradition in the modern context and the juncture of modernity and tradition. This thesis is by no means promoting certain Chinese-style hillside architecture or demonstrating the only way to interpret tradition in a modern context. The answer is not clearly defined. What is essential is not “how it should be done”, but “to think how it should be done”. Instead of establishing a paradigm of indigenous architecture, this thesis attempts to emphasize respect for the uniqueness of a specific site, individual creativity, and personal interpretation of one’s culture.

As a result of the Chinese economy being opened up, mainly to the West, there is broad cultural contact with new cultures and opportunities. Recently Chinese architects have been free to integrate Western influences, and there is a newfound freedom of expression.

However, due to the lack of critical discussion in architecture and the absence of any real architectural discourse on contemporary Chinese architecture, many architects have not used the Western reference theoretically but have accepted it uncritically. As the result, practitioners merely pursue what seems to be fashionable and architecturally unusual. In every other respect, this style imitates buildings found all over the Western world. A reproduction of Western models and theories of architecture and urban planning would not be suitable for the Chinese people's socio-cultural well-being, and the country's resources and development (Zou, 1989).

It should be stressed and clarified here that modernism and modernization are not what should be rejected in China; it is the "McDonald-ism" or duplication of architectural forms without critical analysis that should be examined. Actually, modernism demands a respect for the inherent qualities of building materials, the expressiveness of structure, and the functional justifications for forms that constitute buildings. In essence, these abstract demands do not contradict anything done by an architect who wishes to adopt a traditional expression. On the other hand, it is modernism that provides tools for designers to cope with the problems that one finds in achieving his or her goals. In addition, it also offers a code of ethics and categories of aesthetics by which the achievements can be evaluated. Therefore, what is demanded today in China is a rational and critical attitude towards both modernism and the traditional heritage from which designers can seek inspiration for architectural identity under specific local conditions.

Bibliography

- Abbott, Derek and Kimball Pollit. 1980. *Hill Housing: A Comparative Study*. London: Granada.
- Alexander, Christopher. 1979. *The Timeless Way of Building*. New York: Oxford University Press
- 1977. *A Pattern Language*. New York: Oxford University.
- Berling, Judith A. Fall 1982. *Taoism, or the Way Article for the Asia Society's Focus on Asian Studies*, Vol. II, No. 1, Asian Religions.
- Bettels, Almut E. I. 2002. *Traditional Architecture in China*. Benteli: Verlag AG.
- Blowers, Andrew editor. "Planning for a Sustainable Environment". Published in association with Town and Country Planning Association.
- Borges, Jorge Luis. 1977. *Utopia of a Tired Man. The Book of Sand*. New York: Dutton.
- Boyd, Andrew. 1962. *Chinese Architecture & Town Planning*. London: Alec Tiranti Ltd.
- Capra, Fritjof. 1975. *The Tao of Physics: An exploration of the parallels between modern physics and Eastern mysticism*. Berkeley: Shambhala.
- Chan, Wing-Tsit. 1950. *Man and Nature in the Chinese Garden*. New York: Bonanza Books.
- Chatwin, Bruce. 1989. "The Chinese geomancer" in *What am I doing here?* New York: Viking.
- Chen, Chongqing. 1988. "Revindicating Big Roofs." *Architectural Journal*, April.
- Dell, Uoton. 1993. "The Tradition of Change", AlSayyad, Nezar, ed. *Traditional Dwellings and Settlements Review*, vol. 1.
- Dorward, Sherry. 1990. *Design for Mountain Communities: A Landscape and Architectural Guide*. New York: Van Nostrand Reinhold.

- Douglas, William Lake and Mary Forsell. 1987. *Hillside Gardening: Evaluating the Site, Designing views, Planting slopes*. Scarborough, ON.: Prentice-Hall Canada.
- Downing, A. J. and Henry Winthrop Sargent. 1977. *A Treatise on the Theory and Practice of Landscape Gardening*. Little Compton, R.I.: Theophrastus.
- Inoue, Mitsuo. 1985. *Space in Japanese Architecture*. Trans. Hiroshi Watanabe. Chicago: Weatherhill,
- Jacobs, Jane. 1961. *The Death and Life of Great American Cities*. New York: Vintage Books.
- Ji, Fuzheng. 1996. *Bashu Towns and Folk Dwellings*. Chengdu, China: South-West Communication University Press.
- Jodidio, Philip. ed. 1996. *Contemporary American Architects*. TASCHEN America Llc.
- Krizek J. Kevin and Joe Power. 1996. "A Planner Guide to Sustainable Development." *Planning Advisory Service Report*, No.466. Chicago: American Planning Association.
- Lao-tsu. 1989. *Tao-te Ching*. Trans. Ellen M. Chen. New York: Ballantine Books.
- Lin, Henry. 2000. *The Art & Science of Feng Shui*. St. Paul, Minnesota: Llewellyn Publications.
- Lip, Evelyn. 1995. *Feng shui : Environments of power : a Study of Chinese Architecture*. New York: John Wiley & Sons.
- Lu, Jiwei and Haishong Wang. 2000. *Hillside Architecture Design*. Beijing, China: Chinese Construction Industry Press.
- McHarg, Ian L. 1992. *Design with Nature*. New York: J. Wiley.
- Michell, John. Foreword. 1993. *Feng Shui*. By Ernest J. Eitel. Singapore: Graham Brash.
- Olshansky, Robert B. 1996. "Planning for Hillside Development." *Planning Advisory Service Report*, No.466. Chicago: American Planning Association.
- Pearson, David. 2001. *New Organic Architecture*. Berkeley: University of California Press.

- Powell, Robert, ed. 1985. *Regionalism in Architecture*, Published for The Aga Khan Award for Architecture. Singapore: Concept Media Pte Ltd.
- Rossbach, Sarah. 1983. *Feng shui: The Chinese Art of Placement*. New York: Arkana.
- Rowe, Peter G. and Seng Kuan. 2002. *Architectural encounters with essence and form in modern China*. Washington, DC: MIT Press.
- Rudofsky, Bernard. 1964. *Architecture without Architects: An Introduction to Non-Pedigreed Architecture*. New York: Doubleday.
- Suha Özkan. 1985. "Regionalism within Modernism", *Regionalism in Architecture*. Singapore: Concept Media Pte Ltd.
- Tan, Hock Beng. 2001. "Modernizing Appropriations/Appropriating Modernity", *Tropical architecture : critical regionalism in the age of globalization*. New York: John Wiley & Sons.
- Thacker, Christopher. 1979. *The History of Gardens*. Berkeley: University of California Press.
- Thomas P. Deering, Jr. 1986. *Mountain Architecture: An Alternative Design Proposal for the Wy'East Day Lodge, Mount Hood Oregon*. Thesis. University of Washington.
- Tschumi, Bernard and Nicoletta Barberini. 1995. *The Manhattan Transcripts: Theoretical Projects*. Expanded edition. New York: St. Martin's Press.
- Tzonis, Alexander and Liane Lefaivre. 2001. "Critical Regionalism in Architecture", *Tropical architecture : critical regionalism in the age of globalization*. New York: John Wiley & Sons.
- Wang, Minxian. 1997. "How to criticize and by who?" *Architectural Journal*. June
- Yang, Shizhong and Zhigang Yi. 1992. *The compare of eastern and western philosophy*. Peking, China: Oriental Press.
- The authentic I Ching (Yi Jing). 1970. Trans. Henry Wei. North Hollywood, CA: New Castle Press.
- The *encyclopedia* of Eastern philosophy and religion: Buddhism, Hinduism, Zen. 1994. Boston: Shambhala.

"Yangtze River, a probable cultural disaster." 2002. *Beijing Youth Daily*. September 25.

Zou, Xinggang. 1989. "Construction Booming in China." *Architectural Journal*. March.

Website Sources

"Chinese painting." The Callary of China. June 25, 2003
(<http://www.thegalleryofchina.com/landscapeinfo.htm>).

Columbia Encyclopedia, Sixth Edition. "Isozaki, Arata." July 25, 2003
(<http://www.encyclopedia.com/html/I/IsozakiA1.asp>).

Chinese Tourist Guide. "Qingcheng." May 22, 2003
(http://fpeng.peopledaily.com.cn/200011/30/eng20001130_56588.html).

Encyclopædia Britannica Premium Service. 2003 "China." *Britannica Concise Encyclopedia*. 2003. May 22, 2003
(<http://www.britannica.com/ebc/article?eu=398020>).

----- 2003. "Li Po." *Encyclopædia Britannica*. July 21, 2003
(<http://www.britannica.com/eb/article?eu=49213>).

----- 2003. "mountain." *Britannica Concise Encyclopedia*. May 22, 2003
(<http://www.britannica.com/ebc/article?eu=398020>).

----- 2003. "Szechwan." *Encyclopædia Britannica*.
May 22, 2003 (<http://www.britannica.com/ebc/article?eu=398020>).

----- 2003 "Tao-te Ching." *Encyclopædia Britannica*. July 15, 2003
(<http://www.britannica.com/eb/article?eu=73071>).

----- 2003 "Taoism" *Encyclopædia Britannica*. July 15, 2003
(<http://www.britannica.com/eb/article?eu=30918>).

Pei Cobb Freed & Partners. "Fragrant Hill Hotel." September 23, 2003
(<http://www.pcfandp.com/a/p/7905/s.html>).

IUCN TECHNICAL EVALUATION. 1990. "World Heritage Nomination. IUCN Technical Evaluation Mt. Qingcheng and Dujiangyan Irrigation System (China). " March 25, 2003 (<http://www.iucn.org/themes/wcpa/pubs/pdfs/heritage/evaluations/Mt.Qingcheng.pdf>).

Pritzker Architecture Prize. "Kenzo Tange. " - Pritzker Architecture Prize Laureate 1987.
June 25, 2003 (<http://www.pritzkerprize.com/tange.htm>).

Shah, Raajeish P. "Feng Shui: An Introduction" March 21, 2003
(<http://www.mumbai-central.com/likhaai/rps/>).

"The History of Feng-Shui." March 25, 2003
(<http://www.fengshuiseminars.com/articles/history.html>).

Zi, jing. "The Theory of the Five Elements as Applied to Color Selections in the
Forbidden City during the Ming and Qing Dynasties." March 3ed, 2003
(<http://www.pureinsight.org/pi/articles/2002/7/22/1053.html>).