

Comparative Analysis of Traditional Building Concepts – the Ideal Feng Shui Model of the Form School and the Typical Pastrovska House

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Abstract:

Feng Shui is an ancient Chinese discipline that tends to harmonize the relationship between humans and their environment. As one of its representative branches, the Form School observes geographical features to determine an auspicious location for a settlement. The most often representation of the Form School in literature is the Ideal Feng Shui model. Although an original Chinese creation, the Ideal Feng Shui model shares similar views with many traditional housing concepts worldwide on communication with their surroundings. This paper compares the Form School's Ideal Feng Shui model with an idealized model of typical traditional Montenegrin house so-called Pastrovska house to discover and understand the extent of similarity among them. The information gathered from academic works on conceptual models and personal experience of both cultural circumstances defines the comparative points. It may be concluded that traditional Pastrovska house shares numerous similar ideas with the Ideal Feng Shui model even though there is no historical or cultural connection between them, which speaks for their universal characters. It is also noted that both sides of the comparative analysis contain a high degree of sustainability and have the potential as reference models for environmentally friendly architectural undertakings.

Keywords:

Ideal Feng Shui Model, Pastrovska House, Traditional Building, Environment, Sustainability, Ecology

1. Introduction

Feng Shui is often referred to as the art of harmonious living, ancient Chinese wisdom, a modifier of luck and prosperity, a practice for achieving balance with surrounding [1,2,3]. Yu and Yang's definition describes Feng Shui as a complex mixture of disciplines such as geography, ecology, hydrology, landscape, geology, architectonics, and psychology, among others, gathered in one encompassing

theoretical approach, with a practical application in urban planning and architecture [4].

Feng Shui can be practiced in various ways due to its composite nature. As a result, quite a few Feng Shui schools, different in methods and observations, emerged. The Form School analyzes the geographical features to find an appropriate place for a house or a family tomb [5] by generally relying on scientifically comprehensible methods [4,6].

Traditional building concepts outside China share many common ideas with Feng Shui. For this paper, the Pastrovska house, a jam of Montenegrin cultural heritage, will be taken as an example. The typical Pastrovska house is a traditional architecture that developed to respond to the climate conditions of the coastal area of Montenegro [7].

In academic works, the Ideal Feng Shui model was often used to demonstrate the ecological and scientific aspects of Feng Shui [4,8,9,10]. Simultaneously, several academic papers have been written on the Pastrovska house, usually presenting it as an inspirational point for contemporary architecture or a valuable cultural heritage [11,12,13]. Although ecological characteristics are attributed to Feng Shui and traditional architecture, it is still a rare occasion where the research is dedicated to the relation between the two.

This paper's primary goal is to compare the Ideal Feng Shui model and the typical Pastrovska house, two geographically and culturally very distant conceptual models related to the built environment. The significant number of similarities that appear among them demand further discovery and better understanding. The hypothesis is that the idea of harmony between man and nature regardless of place and time is universal. The emphasis is on the possibility of such universal principles existing independently of regional differences, which would signify that the knowledge of environmental issues conserved in ancient disciplines such as Feng Shui and traditional architecture has an absolute value and direct applicability to environmental problems encountered in the modern world. One of the research goals is to encourage similar research studies comparing the Ideal Feng Shui model and traditional architectural buildings outside China to obtain further proof of the presented premises.

2. Materials and Methods

An analytical method is utilized to define and better understand the comparison sides. The characteristics of the two models that appeared in a specific relation are classified into four categories. The categories are labeled according to the element they belong to or by which are directly affected. The Ideal Feng Shui model is initially observed in a broader context, as a part of the Feng Shui discipline, and later explained in detail. For more convenient observation of the Pastrovska house, the three-dimensional model with the most characteristic architectural elements is introduced.

2.1. Feng Shui

Feng Shui has been practiced in China for millennia. The oldest archeological discovery suggesting Feng Shui's existence is the tomb found in Henan province in China, dating from the Neolithic period, approximately 4000 BC [1]. Feng Shui is still very present today, even rapidly gaining in popularity for the last few decades, not only in China but also in other parts of the world. One of its most important premises

is that the adequate positioning of a house in its environment can bring good luck and prosperity to its residents. The principles of positioning, defined by careful observations of the environment, tend to align Heaven, the Earth, and humans in a harmonious relationship [1,14].

During its long history, numerous Fang Shui schools and divisions have been introduced with differences in approaches to investigating the suitable environment for a settlement. Well-known among them are the Compass School and the Form School [15]. The first one is using a tool called Luopan. It combines a compass with many different applications to determine the right directions for Feng Shui design elements. The second examines mountains and watercourses' nature to find the appropriate site for a house or a tomb. The environmental analysis is a scientific side of Feng Shui, contrary to its geomantic side, which happened due to many cultural and religious elements blending with Feng Shui throughout the time.

Contemporary society is becoming more conscious of environmental issues caused by humanity, and it is now looking back to the healthier connections established with the natural world in past epochs. One of the consequences of such an approach was the increasing popularity of the Form School of Feng Shui in modern urban and architectural planning theory. It contains numerous ecological aspects:

- a. It thoroughly understands and almost worships nature;
- b. It minimally changes the surrounding by finding the already suitable location for a housing unit;
- c. It treats an artificial building element as an integral part of its environment, even with a character subordinate to nature.

2.2. The Ideal Feng Shui model of the Form School

The Ideal Feng Shui model is a classical Feng Shui pattern that vividly demonstrates the Form School's principles. It consists of several elements, such as Qi, Dragon Vein, Four Animals, Water, Cave, and Direction [1,6], that need to be introduced and further explained.

Qi is the vital energy that gives life to all living things [16] conducted by wind and water. It is not a coincidence that Feng Shui translates as wind and water: Feng is for wind, and Shui is for water. Qi can bring good fortune, health, and prosperity if adequately managed, "moving slowly, like a breeze and meandering like a valley river," and then it is called "living Qi" (Sheng Qi). Otherwise, it has a destructive character, typically moving in a straight line at high speed (Sha Qi) [2]. Sha Qi is often caused by long straight driveways in modern city planning [16].

The Form School observes mountains and watercourses to find a secure place where Qi is appropriately controlled and collected. Although it is impossible to sense Qi visually, its movement could be compared with the wind. The Dragon Vein is a symbolic representation of mountain ridges. It has the same importance for its surroundings as blood vessels and acupuncture points have for the human body [1]. The unhindered flow of Qi in both the landscape and human body is a good-health requirement. The imposing height and the mountain ridges' great length seem promising for finding the ideal location [6]. The Dragon Vein is required in the back of the considered location to provide protective conditions.

The Four Animals represent topographical features of the Ideal Feng Shui model (Figure 1). The most important among them is the Black Tortoise, the tall mountain in the back. As a part of the Dragon Vein, it stands for physical and psychological security. Azure Dragon and White Tiger are the mountainous figures on the left and right of the location. They symbolize two opposite principles, male and female. Compared with each other, Azure Dragon is more dominant and taller, while the White Tiger is subordinate and subtle. The last of the Four Animals, the Vermilion Bird, stands in front of the observed site as the smallest mountainous figure of four with an essential role in preventing the beneficial Qi from leaving the site. Another vital element of the Ideal Feng Shui model, as an addition to the Four Animals, is the Bright Hall. It represents an open space between the building and the Vermilion Bird where the Qi is collected [1].

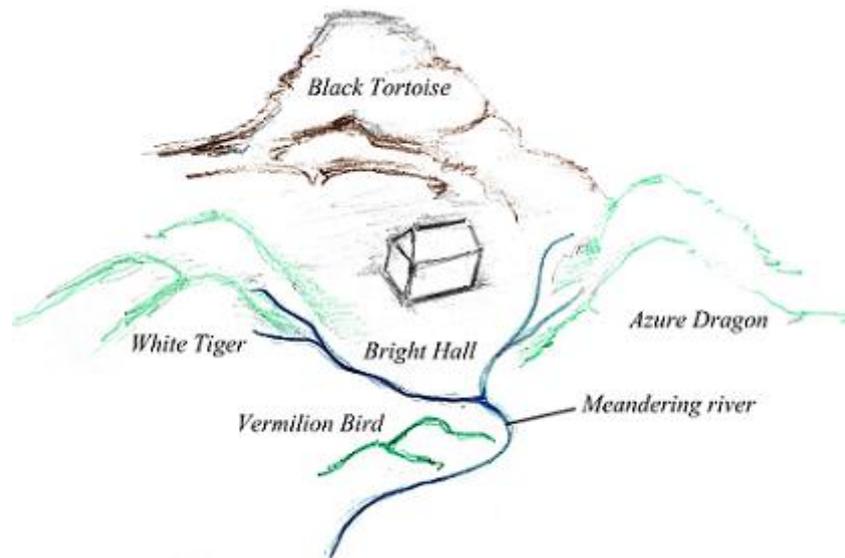


Figure 1. *The Ideal Feng Shui model with the disposition of its characteristic elements.*

The Directions in Feng Shui theory are referred to as front, back, left, and right. Scholars' views are divided on whether they coincide with compass definitions since the ancient texts do not provide precise information [17]. Still, it is a widespread opinion that back and north, front and south, left and east, right and west have synonymous meanings [4,6].

Water is an essential element for Feng Shui. In the Ideal Feng Shui model, the watercourse should be embracing the site from the front where the Qi is collected. It should move smoothly and slowly and by no means straight and fast. The water element can also appear as a crescent pond in front of the building [18]. The modern Feng Shui theory suggests that the roads and streets could replace watercourses as channels that carry Qi [16].

The Cave represents an ideal location for a house or a tomb with an abundance of living Qi. It is a well-protected and healthy site where Yin and Yang, the conceptual ideas of female and male principles, are in total harmony. Finding the Cave is the ultimate goal of a Feng Shui master [1].

2.3. The typical Pastrovska house model

The Pastrovska house is a traditional building developed in Pastrovska Gora's hinterland, above the Montenegrin coast, where its residents found a safe place to settle. By the end of the 14th century, most of the villages of the tribe Pastrovici were

already founded [19]. The most representative examples of the Pastrovska house are located at approximately three hundred meters above sea level [13] (Figure 2).

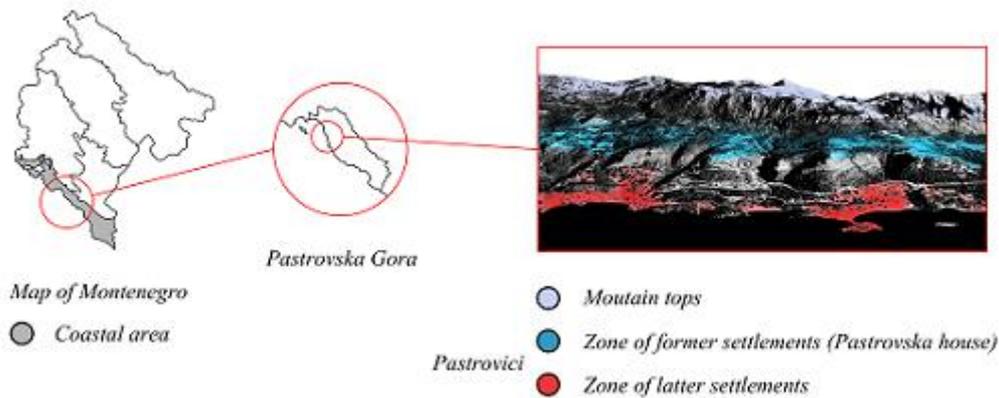


Figure 2. Pastrovska Gora, detail.

Generally dictated by the local conditions and the era's technical limitations, the Pastrovska house underwent many changes, gradually developing from a primitive shelter into a complex building [11]. Still, the design principles remained unchanged throughout the process (Figure 3).

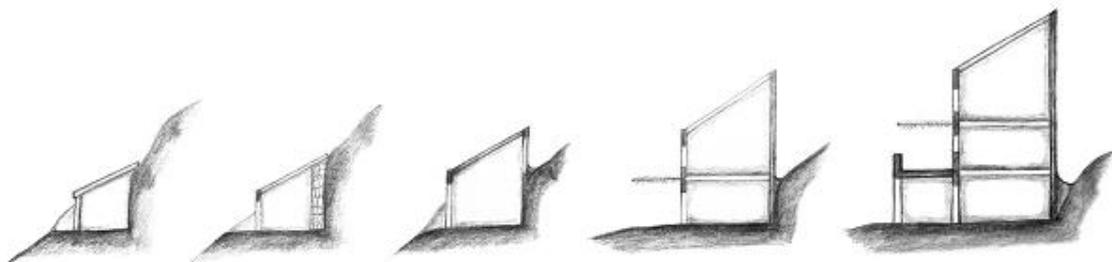


Figure 3. The developing process of the Pastrovska house.

The developed forms of Pastrovska houses appear in different variations that successfully adapt to their close surroundings. For practical reasons, here will be illustrated a representative prototype that is a synthesis of characteristic elements (Figure 4).

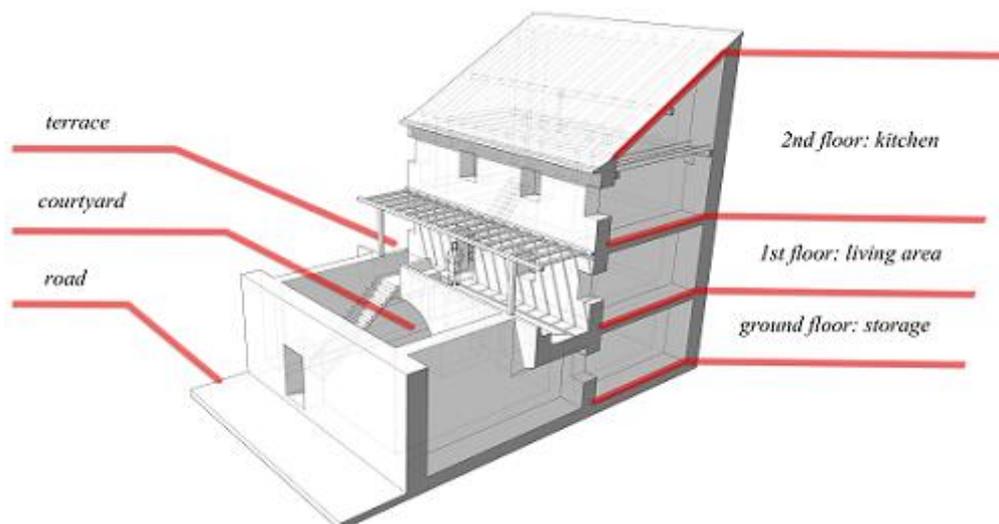


Figure 4. A 3D model of the Pastrovska house with its characteristic elements.

The typical model of the Pastrovska house has a simple cubic volume and a lean-to roof. It is a typical case that several building units are gathered under a single roof plane into a visually unique structure. With the gradual growth of building rows, it is possible to follow the genealogy of a family and number of generations, where each of the rows belonged only to members of one family [7].

The created composition follows the mountain's contour lines, making the intervention in its environment subtle and minimal. There are several reasons for grouping buildings in a row, such as protection, kinship, saving building materials. Many positive side effects with sustainable qualities occurred as a result:

- a. Rows of houses, usually composed of four to eight units [13], are positioned on one side of the road, which leaves the possibility to benefit from transversal natural ventilation, especially during the summer season [11];
- b. Simple regular building shapes and decreased number of exposed facade surfaces reduce the heat loss during the winter season;
- c. The gradual growth of rows and reduced intervention in close surroundings make artificial structures look like a part of nature.

With the mountain's protection in the back, the Pastrovska house is facing the Adriatic Sea further down. It differs the most from other traditional buildings of the Montenegrin coastal area by its roof's shape. The mass usage of lean-to roof most probably occurred to avoid northern wind Bura's destructive effects, which blows down the mountain slope towards the Sea. The roof's surface, almost parallel to the mountain slope [11,20], avoids acting as an obstacle to the wind, but instead, it functions as a directional element.

The windows and the entrance doors are always on the front facades. The first floor's terrace takes the living room's function during the warm seasons [11], enjoying the sunlight and coastal landscape's beautiful vistas. The house's orientation down the slope provides a constant vigilance of potential intruders from the lower mountain area. Village roads lead to courtyards, open spaces in front of buildings encircled by stone walls (Figure 5).

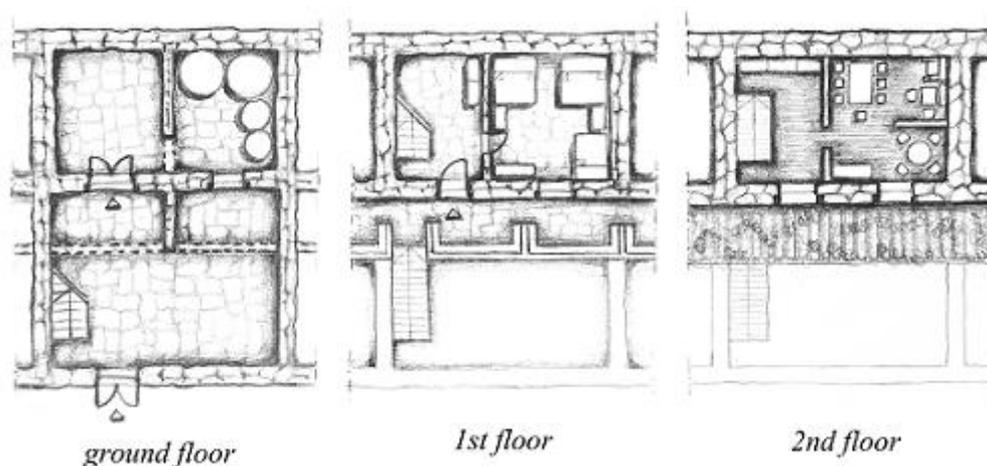


Figure 5. Floor plans of the typical Pastrovska house.

The Pastrovska house's builders used locally available materials for their houses, mostly stone, except for the roof construction made of timber. The mature forms of Pastrovska house demonstrate the existence of rules and regulations that had to be followed while constructing new houses or extending a row of buildings. The house's

position on sloped terrain was conditioned by the shortage of fields for cultivation where every inch of arable land was appreciated [21]. As a consequence, the villages of the Pastrovici tribe enjoy natural drainage.

3. Results and Discussion

The comparative analysis is presented in Table 1. The four categories - Mountain, Wind, Water, and Building, are briefly described in two columns, each belonging to the comparison models. The comparative points will be discussed in detail in this chapter.

Table 1. The comparison chart.

Category	The Ideal Feng Shui model	The typical Pastrovska house
Mountain	Black Tortoise, Dragon Vein	Pastrovska Gora
	Safety as a guiding principle	Protection from the northern wind Bura and potential intruders
	In the back of the location	In the back of villages
	Inspecting the mountain's configuration	Houses and villages follow the mountain contours
Wind	Sha Qi, the destructive force	Northern wind Bura
	Flow of Qi	Transversal ventilation
		Medicinal air from the Sea
Water	Meandering river or crescent pond	Road (and the Sea, far away)
	In front of the building	In front of the rows of buildings
	A small slope enough to provide natural drainage	Naturally drained sloped terrain
Building	Bright Hall	Courtyard
	Open space in front provides a free view	Open view down the slope towards the Sea
	Simple structure with a square plan	Simple cubic volume
	In harmony with Heaven and the Earth	In harmony with nature
	The model works for both a single building and a village	Spontaneously developed building standards
	A long history of Feng Shui	Inherited knowledge

3.1. Mountain

The back mountain's primary importance and protective character are noticed in the Ideal Feng Shui model's general introduction. When seeking a place for a dwelling, Feng Shui master first studies the complex system of mountains that form Dragon Vein as a potential background scenery of the location. The Black Tortoise that would appear as a final part of the mountains' composition has to emerge in the back of the site, gradually transitioning from imposing heights into a plain. It used to be examined by Feng Shui masters' free running down the slope to understand the flow of Qi and mountain's configuration [15].

The Pastrovska house builders chose the mountain Pastrovska Gora for the safety it provides and its breathtaking beauty. They took the mountain's contours as guiding lines to lay out rows of buildings and village patterns (Figure 6).

For ancient builders, safety was the primary guiding principle to choose a location to settle, as is the case with our two comparison models. Both Feng Shui masters and

the Pastrovska house builders follow the mountains' contours and build according to their understandings of the environment.

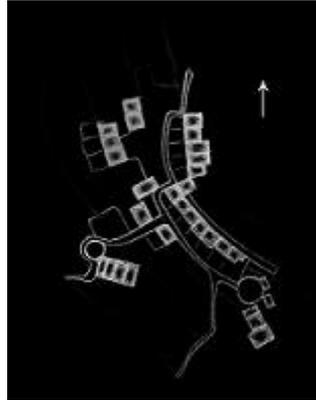


Figure 6. One of the village patterns in Pastrovska Gora.

3.2. Wind

The strong winds have always been one of the most challenging climate conditions for ancient builders. As for our comparison models, winds have an enormous impact on the overall design result. In Feng Shui's theory, they are connected with Sha Qi, the destructive force that requires avoidance. Feng Shui master is searching for a protected site from uncontrolled air movements because Qi is "dispersed by the wind," as indicated by the ancient Book of Burial. The physical protection is provided by the Black Tortoise in the back, the Azure Dragon, and the White Tiger on the left and right of the building. The northern wind Bura conditioned the tribe Pastrovici to seek protection in mountainsides and build their houses with a lean-to roof.

The Four Animals' disposition in the Ideal Feng Shui model and their physical presence create a frame to channel and manage Qi. According to the classical Feng Shui theory, Qi should be meandering and moving relatively slowly but continuously, collecting at the Bright Hall of the building's location. Such organization of the model's components suggests an adequately ventilated area with fresh air.

Pastrovici grouped their houses on the same side of the road, closer to the mountain, leaving the other side open towards the downslope, which enabled the natural transversal ventilation in the road's direction. It is a significantly positive effect on the microclimate during the summer season: it is cooling in a physical sense and pleasant in a psychological. Particularly beneficial for the residents of the villages in Pastrovska Gora is the air from the Sea rich with medicinal minerals [11].

3.3. Water

According to the Ideal Feng Shui model, the water element could appear as a river or a pond. A watercourse's meandering shape that embraces the three sides' location is desired [5]. In the case of a pond, preferred is the crescent shape, also with an embracing effect. The shapes are conditioned with the aim of transporting controlled and benevolent Qi.

The water element is required in front of the building, bringing Qi to the Bright Hall. The road in front of the Pastrovska house substitutes for a watercourse. From a more general perspective, the Adriatic Sea could represent what is called in Feng Shui "water in front."

The choice to build on a relatively steep mountain slope for Pastrovska house builder came as a necessity, avoiding occupying the valuable fertile land and finding a safe place from possible intruders, which positively resulted when taking advantage of naturally drained terrain. The Ideal Feng Shui model also enjoys natural drainage, with the building standing on slightly sloped terrain near the mountain base [14].

3.4. Building

The Bright Hall of the Ideal Feng Shui model is comparable to the Pastrovska house's open courtyard for a similar position and purpose. The free spaces in front of the buildings enable open views with both aesthetic and practical functions: beautiful vistas and convenient surveillance.

The Pastrovska house is a simple cubic volume, reflecting its builder's technical capabilities and rationality in the building materials used. The Feng Shui theory recommends a house with an approximately square plan, where the Compass School portrays a rectangular plan's deviation as a possible catalyst of the building's user misfortune [2,16].

The importance of a square shape may be found in Chinese philosophy, where it symbolizes the Earth, in opposition to Heaven's circular shape [22]. Since the oldest times, Feng Shui masters tried to interpret the celestial bodies' movements and their mutual relations to profoundly understand Earth's circumstances. They believed the Earth's topographic features produce benevolent settings for humans when aligned with their counterparts in Heaven.

The natural order search is also present in the Pastrovska house design, only less philosophically instigated but more practical. By appropriately using local materials and arranging their buildings along the terrain contours, traditional architecture builders only contributed to the landscape's splendor. Acting as integral parts of the natural environment, both comparison models show great sensibility and appreciation.

The houses of Pastrovici appear in very similar architectural forms in the whole region, which leads to the belief in the existence of spontaneously developed building standards, called by Vukovic as "self-regulation of autochthonous building" [23]. Feng Shui masters also follow the rules when organizing a building plan or laying out a village. The Book of Burial, the first known written classic on the Form School, already proposes the Ideal Feng Shui model for a house or a tomb, emphasizing the benefits of such design arrangements and the disadvantages when deviating the rule. Both comparison models' established regulations have applicability to a single house and a whole village setting, where the experiences are passed on to the next generations. The rich inherited knowledge contains information on solving the environmental issues that ancient builders had already encountered before.

4. Conclusions

Animals have outstanding abilities to adapt to their environment, which is above all a survival condition. They refine these skills through experience and pass them on. Yu [9] described a small mammal, the chipmunk, using every advantage of its living environment and successfully avoiding potential danger. He implied that humans once must have possessed similar skills and competencies. That may have changed due to the reduced direct dependence on near surroundings, supported by technological discoveries. The industrial age brought many conveniences to people, but it also caused alienation from nature. Considering its long historical path, Feng Shui might

have integrated the knowledge of these innate skills in its doctrines. As for traditional architecture such as the Pastrovska house, the ancient builder instinctively created his home, showing no violence towards nature.

The two compared models came from a completely different cultural background and had no joint historical involvements. Still, they demonstrate surprisingly similar approaches in establishing communication with their surroundings. The builders of the Pastrovska house, just like Feng Shui masters, had a profound understanding of the location of their choice before occupying it with houses and villages. The high degree of sustainability and implementation of ecological principles are the reason for traditional building concepts' durability.

Contemporary architecture generally develops in two different directions: understanding regional architecture and applying its wisdom or utilizing high technology in buildings [7]. The latter, so-called high-tech, detached from the inherited knowledge of the past, very often appears to dominate, or even violate, the living environment. Therefore, the number of specialists who recognize the problem and who are willing to look back to the past to find possible solutions is significantly increasing. As a result, Feng Shui is gaining in popularity worldwide, and the concepts of traditional architectures are more seriously taken into account as possible tools for reconsideration of the relationship between nature and humans. The similar characteristics that appear among the two compared concepts lead us to believe in such universal principles that define the bond between the natural and the built environment regardless of the regional differences. Their meaning and significance we could learn from the past and use for future undertakings.

Conflicts of Interest

The author declares that there is no conflict of interest regarding the publication of this article.

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