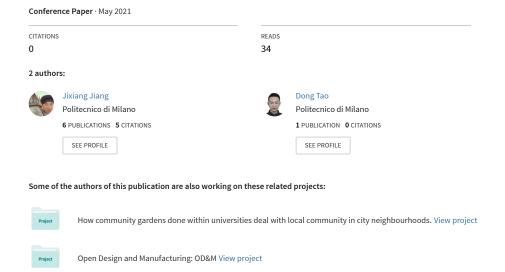
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"The Enlightenment of the Contemporary Transformation of Chinese Traditional Visual Space Perception on Cultural Sust....





"The Enlightenment of the Contemporary Transformation of Chinese Traditional Visual Space Perception on Cultural Sustainability design"

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Abstract | "Visual perception," which reflects a very complex social-cultural phenomenon. How humans percept the surrounding world through vision, also how humans express or "transfer" the visual impression into the creation of artifacts such as painting and space, is the key to creating the understanding bridge between tradition and modern, western and eastern. To achieve this research goal, author explores the commonalities between Chinese and Western visual-spatial expressions through the analogy between traditional Chinese landscape painting and Western modern art, and explores different ways of transformation the traditional visual-spatial artifact codes by exploring the common visual themes maintained between traditional landscape painting and Chinese contemporary art, so as to explore the cross-cultural elements of traditional Chinese landscape painting, which is a traditional symbolic language system, and to guide the practice of design during the process of transformation from traditional to modern. The visual identity design of Art & Media College, Tongji University, was created during this process of researching. This practical design project allows people with different cultural backgrounds to sustainably, understandably and acceptably attend to, this practical project, a sustainable transformation about design approach and tools have been built up.

KEYWORDS | VISUAL IDENTITY DESIGN, VISUAL PERCEPTION, TRANS-CULTURAL UNDERSTANDING, CULTURAL SUSTAINABLE DESIGN, EAST ASIAN ART HISTORY

1. Culture is the Source of the Sustainable Development of Design

It's the sustainable development of culture the core of the Sustainable Development Goals (SDGs) stated by the United Nations. If the SDGs take economy, society and environment as the three pillars, then culture and creativity make important contributions laterally to each pillar. "Its culture shapes the way you see the world, its language informs the way you think, its customs structure you as a social being" (Willis,2006)Culture is also a constant source of the development of design, which, on the one hand, originates from human needs and the crises and opportunities that exist in human development; on the other hand, it also exists in the understanding, interpretation, and reflection of the world by human beings. Therefore, "Design is more pervasive and profound than that generally recognized by designers, cultural theorists, philosophers, or laypeople." The sustainable development of culture brought by design is to form a consensus with an international identity by creating keywords and key propositions that belong to contemporary Chinese culture in a global coordinate system, which are transformed into theoretical basis that can be used for modern design, and integrated into the modern living system under the impetus of design practice.

2.Cultural language is the Source of Diversified Development of Design

"I've always been a student of culture-I've been thinking about the importance of culture for product design, and experimenting with cultural thinking and tracking or exploring ways to influence culture. I strongly believe the way that culture designs us, so I recommend taking cultural thinking as a framework to assist us in design. Cultural thinking is a way of actively observing the behaviour of design, its impact on our culture, and the way we think about improving human interaction with others in society. While understanding, understanding itself reshapes our perception in turn. In the process of the transformation of design discourse, it is also the recreation of design culture." (Madray, 2017)

Compared with the profound human civilization, the history of contemporary design is not long, and its development time in China is even shorter. However, the perception of the same thing by people in different regions has differences in terms of cultural thinking and cognitive understanding, the relationship between design and each cultural matrix is inextricably linked. Therefore, the diversity of culture and language also provides more possibilities for the development of design.

The design community in China is currently in the transformation stage (Lou Yongqi, 2015), in universities, this is reflected in the following two aspects, I), it introduces, studies and learns from the design education system of western universities to cover and integrate China's design education practice and the innovation strategy system of enterprises -

universities - government trinity service design, inclusive design, strategic design, social innovation and other design frontier areas from point to whole; ii) "Our thoughts shape our spaces and shape our tools, our tools and space return the favour-as Steven Johnson tells us" (Madray, 2017), While adapting to Western design theories and tools, Chinese design is also constantly looking back to sort out the long historical traditions of the past. Interdisciplinary research, such as exploring the inspiration of modern design from the cultural foundation according to the characteristics of regional culture in combination with Sociology, Art History, and Anthropology, the explorer for example: Wang Xin and Wang Shu from Chinese Academy of Fine Arts, Ji Tie from Hunan University, et al. Exploring design theories that are suitable for one's own cultural characteristics in the process of development is not only an attempt to strengthen China's discourse power in international design culture, so as to make its time-honoured and modern civilization value to spread more widely, and to achieve cultural renaissance, but also a cultural reflection on the difficulty of the common design to deal with the localized development.

3.The Carrier of Visual Perception - Chinese Traditional Landscape Painting

Chinese traditional landscape painting, as an abstract artistic expression of conscious thinking, is a good starting point for studying visual perception.

Chinese traditional painting has always been different from traditional Western one, in both development and objectives. The trend of modern design theory is going towards interdisciplinary and cross-domain development. Hence, the exploration of the traditional culture in order to trace back the source of a theoretical guidance of Chinese design development seems to be the new direction along which moving forward: a perspective that will help in shaping a modern and inclusive language of Chinese design and will offer a clear understanding of the different cultural background.

The subject of this paper is Chinese traditional landscape painting, which acts as a carrier of visual space. In the process of painting, people are also repeatedly "designing" to confirm the thinking pattern in their hearts. "Visual perception" is a very complicated social and cultural phenomenon. How to "see" and how to express "what you see" are social or cultural discourse acts. There are various forms of "seeing", and the socio-cultural connotations they include are also complex and diverse. Vision is defined as a kind of "thinking" by Rudolf Arnheim in his book "Visual Thinking: Psychology of Aesthetic Intuition"; In Gestalt psychology, visual perception is the thinking that exists in vision; Susanne K.Langer, the representative of symbol aesthetics, also stated that what we see with our eyes is a form of the joint construction of sensory and intellectual organs.

4. "Kan[seeing]" and "Guan[observing]"

4.1 Thresholds of "Kan[seeing]" and "Guan[observing]"

The author analyzed the connotations of the following verbs related to "seeing" in Chinese traditional painting theory in combination with the context of ancient Chinese writing:

kàn 看	jiàn 見	Kuī	Wàng 望	shì 視	Zhān 瞻	Zhǔ 瞩	Pàn 盼	chá 察	dǔ 睹	lǎn	Guān 觀
Look, creating visual connection with objects	See, find out, appear	To peep at, pry, look through a small hole or gap	Look into the distance	Watch,inspect	To view, Look forward or up	To gaze at, look up or look down	Look around	Watch carefully, investigate	Observe, see, undstand , to witness	In a glance, see, view, perceive	views on things, which are divided into views by mind and views by eye

Table 1. Thresholds of "Kan[seeing]" and "Guan[observing]" [_DCs Table title].

Among them, the character "Guan" is obviously more in line with the deep definition of vision given by Arnheim and Susanne K.Langer.

It's originated from Xi Ci 系辞 (I) of I Ching Yi jing 易经(Book of Changes): "Looking up to observe the phenomenons in the sky, looking down to find out the laws of the Earth."

"The earliest understanding of the character "Guan" can be found in the I Ching.

It was stated in "Xiang 象" that "Winds moving above the Earth, *Guan*." *Guan* are formed by the two trigrams representing one the Earth and the other Wind moving above it. "According to this explanation, both the human experience of observing the outside world and the ability to perceive it in its unity are involved: an ontological approach that connects and combines the human heart-mind experience with Nature - i.e. the Tao Dao 道, the origin of all things."

Zong Bing 宗炳 of the Southern Dynasties said "Settle the hearts to view the Tao", as a mode of thinking that people use to experience the Great Law of universe -Tao, "Guan" is a verb that can be implemented concretely, and the object of "Guan" is the Tao. The specific creation of a landscape painting is carried out under the guidance of the thinking mode of "Guan", and a thinking system of visual perception completely different from that of the West has been formed.

4.2 Object of "Guan" - the Source of the Physical Images

"Guan" is a kind of structural "seeing". It has cultural presuppositions, among which one of the important points is the concept of "source of physical image". This also leads to the unique characteristics of Chinese landscape paintings, such as containing four-dimensional space-time in two-dimensional pictures. The reason is that the concept of "Guan" predestined that Chinese landscape painters do not paint what they see or what they know, but their feelings and understandings of "the source of physical images" in the world they live in. Such feelings are not a matter of being inside, but a sense of being outside.

Xu Fuguan stated in his "Spirit of Chinese Arts" that "the so-called Source of Physical Image is the nature of what physical matters are derived from, however, the nature cannot be separated from the form" and "Only when painting can express the nature of things, can it be said 'getting the truth of things'" (Xu, 2001). The above statements show that everything has common sense, and only artworks that can express the essence of nature can reflect the Tao behind the physical images. Contemporary scholar Wei Bin said in his "Explanations on the Theory of Paintings of Tang Dynasty" that "The image of landscapes, the momentum coexist with each other (Explanation: The charm and form of landscape painting complement each other)", "Not the landscape having this momentum, but the image of the landscape reflected in my heart which move with the movement of the heart, so it is said that the spirit and form coexist with each other." (Wei,2007). It is this common sense that maps the landscape schema in the hearts of human beings, and thus arouses their perception of nature.

The source of the physical image refers to the ins and outs thereof. Only by observing the details of the things, and then the painting can get the truth of creature. People in the Song Dynasty believed that knowledge is acquired through investigating things to the utmost, and its nature should be explored by understanding the principles of things. "Clarifying the source of physical image" actually inspired the concept of "Shang Li (Advocating rationality)" in paintings of the Song Dynasty. It is also the beginning of our research on the interpretation of art works from the level of the schema of Chinese classical landscape paintings.

Generally speaking, Jing Hao's "source of physical image" is actually a reconstruction of the "common sense" of the nature that must be grasped in the space theory and creation of Chinese classical landscape painting, that is, an interpretation of the Chinese landscape painting pattern. The "source of physical image" should be understood as the essential existence of the original, inherent, natural, but also interdependent development of everything according to its own internal laws.

We can summarise the visual principles of this idea of pursuing 'the source of objects and images' in three main points (Accolla, A., & Jiang, J.2019):

- 1. The importance of orientation The relationship between distance, direction, and position is constant and objective, regardless the subject's position.
- The importance of the original proportion As advocated in the Yi Jing, the integration of men into Nature should not affect or interfere.
- the natural state of objects and, therefore, respect the original proportions of the world.
- 4. The understanding of visual laws The Yi Jing also expresses that when the objective conditions of the objective world change, people's perception remain unaltered to a certain extent, since there is a tendency to perceive familiar objects as unaltered in shape, size, colour, brightness and so on, despite the stimuli changes may involve, i.e. the principle of perceptual constancy.

4.3 The Organizational Features of the Space Art Elements of Landscape Painting under the Influence of "Source of Physical Image"

Through the exploration of "guan", the inherent "schema" is gradually abandoned, and this philosophical proposition, which has the characteristics of traditional Chinese cultural thinking and the common characteristics of modernity and human visual perception, is translated into the concept and method of visual space that can be used and understood by modern design.

1. Lines - the Carrier of Art Life

In the landscape paintings after the Song Dynasty in China and the history of modern western art, the liberation and expression of lines occupied an important position. Most of the landscape paintings in the Song Dynasty were painted on scrolls, with more smudges and strong naturalism. In the Yuan Dynasty, artistic elements, such as lines, began to play a key role in painting expressions as pure art forms separated from natural objects and images. How did lines in landscape painting represent space-time? How were art elements such as points, lines and planes used in the expression of physical images? Through analysis, we find that in the plot of Huang Gongwang's Dwelling in the Fuchun Mountains(Figure 1-1), the painting dominated by line expressions:

As a carrier of natural objects and images and space-time, in the composition of mountains in this painting, it did not emphasize the quantitative change to qualitative change of artistic elements, such as points to form lines, or lines to form planes, but highlighted the expressive force of lines as an art element, and the relationship between various elements was dominated by the expressiveness of the lines.

The slight intervention of dots enhances the richness and naturalness of line transition. The combination of lines is a metaphor for the generation of planes. There is no very close interweaving between lines, but there are spaces. The relationship of "Being and Not-being

grow out of one another" between lines, and the wet and dry shades of lines that are achieved through brush and ink, continuously promotes the continuous extension of planes (Figure 1-3). However, there is no line arrangement similar to that in western sketches, that is, the mechanical superposition and intersection of lines to produce planes which are often used to express a relatively fixed momentary image, but are difficult to achieve extension in space and time.

Driven by these two kinds of relationships, the kinetic energy of visual shift and relationship change is generated, which organically promotes the extension of time and space. This relationship is particularly obvious in comparison with the works of Chinese contemporary artist Zhou Jie(Figure 1-2) . For the same motif, the tranquil landscapes, Huang Gongwang and Zhou Jie adopted very different treatment methods. Zhou Jie used long scroll painting composition, and highlighted the art element of lines, but the way of expression was deeply influenced by western painting consciousness(Figure 1-4), the lines were interweaved to express volume (space), hence the performance of the lines themselves depended on the generation of the volume image, making it difficult for the lines to be independent as an art element, and the landscapes they constructed was a three-dimensional miniature model, the space was confined in a quiet atmosphere and couldn't be extended freely, nor did it have the mental conception produced by the Gestalt completion effect.

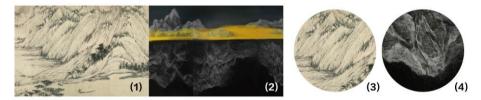


Figure 1. (1). (3).Huang gongwang *黄公望*(1269—1354): Fu chun shan ju tu(*富春山居* 图), (3).(4)Zhou Jie 周杰: Where Are We Heading To? No.9 (artplusshanghai.com).

2. Contour and Mass - Drawing Game

Cezanne used dark lines to outline the still life, making the still life look clear and solid, and the unique role of the contours began to show. "Cubism" inherited the tradition of Cezanne's rational analysis of the structure of paintings, and tried to form a painterly space and physical structure through the decomposition and reconstruction of space and physical images to reduce the descriptive and expressive nature of the work, so as to organize a geometric structural beauty. In this process, a drawing language of "simultaneous vision" became the most important transformation of Cubism, which represented different visual images of the same object from various angles through the observation of multiple perspectives at different viewpoints. In essence, it is the deconstruction and analysis of objects (Figure 2-1).

Contours, as a sign of the transition of space, are essentially external lines to emphasize and distinguish between spaces and forms. In cubist paintings, contours are unfolded from a three-dimensional space and spread in a two-dimensional space. This is the key to realize the transition from a three-dimensional space to a two-dimensional space with characteristics of four-dimensional space-time. The role of contour is fully exerted.

In terms of the operating concept of space-time expression, cubism and Chinese landscape painting have a great degree of similarity in the composition method, but there is a problem for cubism in the expression of a four-dimensional space - the fragmentation of the image and the feeling of viewing (Figure 2-2), while Chinese landscape painting has a consistent sense of tranquility and nature without losing the narrative content. The key is that the two civilizations have different cultural origins, values and art languages (Figure 2-3,2-6).

On this issue, Purism is against Cubism's eliminating the integrity of the objects by emphasizing the change of viewpoints, hoping to further abandon the overly complicated structural details and show geometric characteristics. Purist painting also deals with the image of things by means of superimposing side contours on orthographic projection. It inherits the multi-view observation method of cubism and superimposes two different viewpoints. This processing method, has the following two effects: on the one hand, the spatial depth of the picture is compressed, presenting the expressive characteristics of shallow space; on the other hand, because the contours of all objects are very clear and interdependent, the picture maintains a strict order. Purist painting finally combines the visual image in reality with the cubist observation method of multi-perspective and different viewpoints, thus creating a new "stereoscopic" "reality".

China has a complete system of solutions to the problem, of which the two important elements are the processing of contours and the use of masses (Figure 2-4,2-5). In the Ming Dynasty, especially in the middle and late periods, the direction of art changed. The development of commerce and the civic life have enriched material civilization, so the scholar-officials did not suffer from the depression and lack of desire like those in the Yuan Dynasty; the interpersonal relationship and the relationship between man and nature also became increasingly prosperous and complicated, and the landscape painting art shifted from pure self-expression to a paradigm with more space-time experience and gamification, which required the landscape painters to have the ability to solve changing and diversified space-time. As a result, the potential of contours and masses was explored. As a single form, the mountain boundary is bound to have an end, and the perspective sense of "everything looks big in the near and small in the distance" generated by human visual perception is inevitable even in landscape paintings. In the picture below, we find that the high-altitude composition of paintings in the Song and Yuan Dynasties had been transformed into a image in depth with a space-time narration effect (Figure 2-8). For the specific composition of mountain paintings, the shape of the mountain body was no longer majestic and complete, the boundary turning points were shattered by fragmented combinations of rocks and stones or organic contours, so as to avoid the spatial isolation caused by human visual

perspective in all spatial nodes. In this way, the extension of the space was maintained and it was also in line with the practical experience of people traveling in the mountains(Figure 2-7).



Figure 2.Representative work of (1)/(2)G.Braque(1882-1963).(3)Mei Qing 梅清(1624-1697).(4)Wang Zhirui 王之瑞(?-1660).(5).Wang Jian 王鉴(1598-1677).(6)Hong Ren 弘仁(1610-1664).(7).Wen Zhengming 文征明(1470-1559).(8).Xie Shichen 谢时臣(1487—1567).

3. Geometry - Gestalt Completion

The overall style of Chinese painting presents a natural, casual and organic artistic language. Its object image has an internal structure with a very strong constitution law, which is covered by the rich and natural changes of artistic elements however. Although geometry exists, it does not attach importance to the shaping of the volume sense of mountains, but creates a solid and stable sense of rhythm of two-dimensional pictures, which also results in the planarized and profound space of Chinese painting, providing an expression different from the traditional western landscape painting. This is actually the way Cubism wants to explore. In Chinese landscape painting, the Gestalt method is generally used to complete the viewer's psycho visual wander, thereby abandoning the volume and the sense of existence while shaping the image of mountains.

And this also creates another opportunity, because the purpose of shaping the physical image is no longer to produce a visual perception of the sense of light, dark and volume, however it still has to show the change of the image of the mountain body, therefore the focus of each side of the mountain body does not lies in its shadow relationship different from the other sides, but the change in space implied by the artistic elements. This kind of implication of image transmission can be conveyed to the cultivated audience by arousing the schema in their mind. Images can be extended in infinite space and time, and with the unique material carriers of Chinese landscape painting, such as long scroll painting, the

audience can experience a sensory journey of mountains and rivers as if traveling there in person.

5. Paraphrases in the Visual Image Design of the College of Art and Media, Tongji University

The logo design of the College of Art and Media is composed of seven graphics that gradually change from circular to triangular. Each graphic is like a spot of light with multiple colors superimposed to form a white border on the inside and a colored outline on the outside. Its combination form is flexible, and the seven graphics can be freely combined and transformed to form a logo with a sense of movement that represents the basic order and law in art (Figure 3-1). The image poster of the A & M College was constructed by using different superposition methods in the AI software. This poster is a metaphor for the internal spatial relationship of the College, the spatial journey of the College was transformed and refined in accordance with the research results of traditional landscape painting (Figure 3-2,3-3). Combining with theoretical research on traditional Chinese garden and the practical wayfinding system design in the next step, the VI system design of A&M college with wayfinding system design had been merged into one, which created a holistic and inclusive environment for the visiting teachers and students. While visiting the School of Media, they participated immersivity in the narrative of the college space, thereby a deeper impression of the college was created.

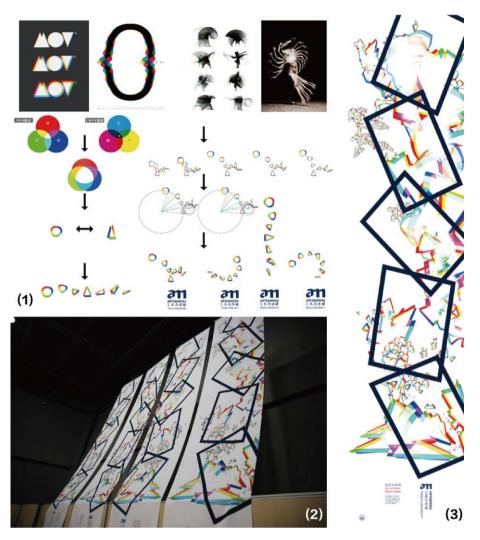


Figure 3. (1). The explanation of the Logo design process, design by Avril Accolla(2)/(3) The poster which represent the visual identity of A&M college according to the feature of space, design by Avril Accolla&Jixiang Jiang.

6. Conclusion

Human beings have tried to find the truths and mechanisms behind the cosmic space-time in the endless phenomena since ancient time, thus, different forms of carriers had been created to find and express the position of human beings. Visual perception, as the most

important sense, becomes one of the crucial parts of human creativity. However, vision is also the deepest sense that obscures us. China and the West have formed different visual and expressive systems during the past historical development independently, which continue to affect the development of their own cultures profoundly and subtly. However, in the past three years of research, what impressed me most is that human beings have more in common than what we show. The Chinese proverb says: tread different paths that lead to the same destination(Shu tu tong gui 殊途同归), As human beings, our destiny is the same. Multicultural sustainable development and design innovation under its influence will be the source to reduce human ambiguity and to strengthen consensus. This has to be a work in progress which will never end and keep evolving.

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