

Exploring interior design criteria for different atmospheric spaces

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Abstract

Interior design style has always been a topic that cannot be avoided by the interior design profession. Since the 18th century, the interior design styles have mainly focused on the regional or contemporary artistic features, such as Mediterranean style, Baroque style and so on. With the intercommunication and integration of the global economy and culture, the decoration style of interior space in the world becomes more diverse, and it is often difficult to define the attributes of a space designing with a specific style. However, in different interior styles, there are many commonalities from the perspective of human experience and perception. For example, people can experience or perceive the atmosphere of romance, cuteness and relaxation by the indoor decoration. Moreover, these perceptions from the spatial form are more direct to the users than the style representation, and they also affect the human emotion and consciousness in the space. This study is an exploratory research which mainly adopts the in-depth interview method. Professional designers are invited to describe the perceptual experience of various atmospheric features, such as romance, cuteness, and relaxation. After induction and analysis, the design principles of different atmospheric features are generalized. The results show that the basic design and combination principles of shapes, lines, colors, and texture used by designers differ in the creation of characteristic spaces of different atmosphere. It is suggested to collect data about clients' perception and experience of romantic, cute, relaxed or other atmospheric features in the future to compare the similarities and differences between clients and professional designers in their perception of the atmosphere by indoor decoration. The creation of different virtual reality spaces may also be used to verify the design principles of different atmospheric characteristics through quantitative investigation, so as to find the possibility of establishing a new effective evaluation system for interior design field in the future.

Key words: interior design, atmosphere, perception, design principle, element

Introduction

A. Background

On the topic of interior design getting rid of stylization,

several main points are: the ambiguity of the Mix&Match [1] decoration caused by the globalization and the integration of regional culture; functionalism to remove decorative representations; advocating the return to nature, introducing nature into the interior space and bringing comfort. Style as the expression and exchange language of the interior design is increasingly showing its disadvantages of one-sided and fuzziness. The interior space design is oriented towards promoting people's life patterns and physical health, paying attention to people's feelings, emotions and other spiritual aspects of happiness. The release of the WELL Building Standard™ (WELL) in 2014 [2] mainly focused on these points. All above promotes an attempt to link the language of interior design communication with human perception.

This study first uses professional interior designers as samples, through in-depth interviews and combining with their experience accumulation in the interior design process to illustrate the characteristics and related explanations of the selected constituent elements for different spatial atmospheres. If the characteristics of the relevant interior space design elements can be derived from the perspective of spatial atmosphere perception, the application of this research to the interior design course and the teaching process can assist students to participate the experience-aware by interaction, which may be a new direction for future interior design education.

B. The image of the study

Due to the diversity of the spatial atmosphere, the study first considers the three atmospheres such as romantic [3], cute [4], and relaxed [5] as the research objects, and try to explore the shape, line, color, quality characteristics and design principles of them. Romantic, cute, and relaxed are the most common atmospheric features of interior space design. For couples who decorate a wedding room, romance may be a tacit understanding between the users and the designer. Usually the space for children, whether for rest, study or entertainment, the cute ambience is the symbol that distinguishes it from the adults' space. The living space of the elderly, whether it is home or nursing house, the relaxed atmosphere is the consensus of everyone [6]. These ambience features are also applied to a broader field of space design, depending on spatial functions, attributes, and users' preferences.

The respondents in this study were all adults, with the sense of romance, cuteness, and relaxed atmosphere. This study

attempts to present the clarity of the shape, line, color, and texture elements for interior space design corresponding to the three atmospheres of romance, cuteness and relaxation through designer interviews. This study is a pattern for the research direction of the relationship between other indoor atmospheres and formal elements.

C. Research method

This study adopts the method of in-depth interviews with interior designers. Among the 13 respondents, there were 5 female designers (average age=36) and 8 male designers (average age=33). The 13 respondents all have more than 3 years of practical project operation experience and won awards in well-known domestic design competitions, 3 of which have won the Asia Pacific Interior Design Awards™ (APIDA) [7]. Through the interviews, we recorded and analyzed the relevant design elements of the shape, line, color and texture for the three atmospheres of romance, cuteness and relaxation.

This study used a semi-structured interview approach. Two of the designers received face-to-face interviews, and the rest were conducted in the form of telephone interviews. An example of an open questioning interview is as following:

Question: Please describe what the romantic interior space should look like?

Or question: What techniques do you usually use to express romantic space in the design process?

Or question: Is there anything you think is necessary to express a romantic atmosphere?

From the respondents' answers, we extracted key words around the shape, line, color and texture of the space. An example is as following:

Answer: The romantic atmosphere is dreamy, the purple is very romantic and white translucent yarn, hollow partitions that are looming, unable to see through the eyes, have a sense of romance; The slender curve is very romantic, and the straight line must have a sense of rhythm, but only if the line is not too thick; Fresh and fragrant flowers, turbulent water, soft touch of water mist, music, close to nature; Soft and warm light, not too bright, dark and very emotional...

Through the above answers, further questions are asked about key and unclear content, such as:

Question added: Soft touch, in addition to water mist, is there something similar or more appropriate to express this feeling?

Answer added: There should be yarn, silk, and velvet fabric texture close to this gentle, smooth...

By the above method, through continuous in-depth dialogue, the results can be continuously focused and clearly defined. It should be noted that although this method of focusing through keywords is the point of this study, other information presented in the interviews is also an indispensable auxiliary material for this study. They may be auxiliary content of feature enhancement. It highlights the difference of the atmosphere, and may also be an important reference for the commonality between different atmospheres.

This study is a preliminary attempt which shows the method of in-depth interview with the professional group of interior designers. Subsequent research also needs to verify the commonality of the conclusions from the study for the customer group. On the other hand, based on the research results, the students of the interior design can be tested for the

common sense, in order to look forward to the application and promotion of the research results in the field of interior design education.

Results and discussion

A. Romantic atmosphere

TABLE I
 Elemental statistics of romantic atmosphere

Category	Element	NO. of mention	%(N=13)
Shape	Heart shape	3	23%
	Round shape	1	7%
Line	Curve	13	100%
Color	Purple	11	85%
	White	4	31%
	Pink	6	46%
	Blue	4	31%
Texture	Yarn/silk	13	100%
	other lightweight material	3	23%
Other	Dark/Warm/Soft Light	11	85%
	Private/Layered Space	4	31%

Result I: On the expression of line, 100% of respondents believe curve is the characteristic element of the romantic atmosphere, the delicate, fluent and concise curve was stressed in the description, with a gentle female line curve of metaphor awareness is able to arouse the romantic atmosphere.

Result II: 85% of people think that purple is well to express romantic space atmosphere. According to the color system of PANTONE® [8], purple contains many purple colors with different brightness and purity. In addition to the broad purple color in this study, the colors specifically mentioned are purple-red, dark purple, pale gray-purple and blue-violet. 46% respondents suggested that pink can also express a romantic atmosphere. In addition, blue and white are also mentioned by 31% respondents which can also be used to express the romantic atmosphere.

Result III: In terms of texture, 100% respondents believe that the material of yarn and silk can express the romantic atmosphere of space. The characteristics of this type of material are mainly due to its light, elegant, soft, and certain transparency, and it can build rich administrative levels sense, let a space appear rather indirect to achieve the right privacy.

Result IV: Regarding the shape elements of the romantic atmosphere, only 30% respondents gave relevant suggestions. The shape of the heart was mentioned by 3 interviewees. As early as the middle of the 13th century, the French poem "Le Roman De La Poire" linked the heart-shaped pattern to romantic love [9]. But this interview shows that most designers don't recognize that the heart-shaped pattern is the shape element which can express the romantic atmosphere of space. This may be explained by the fact that the expression of the heart shape is too straightforward and contrary to the indirect sense of the expression of the romantic atmosphere.

Discussion I: Looking at the elements of the romantic atmosphere, the descriptions and advices of color are

mentioned the most. In addition to purple as the main representative color, pink, white, blue can also be used as an attempt or reference. A high degree of consistency is reflected in the recommendations of the lines and material elements. It shows that the smooth, soft curve, light, silky yarn and silk material are the best choice for expressing romance. As for the elements of the shape, it is not a factor that is considered by the characteristics of the romantic atmosphere.

Discussion 2: The purple color, which is recognized by the romantic atmosphere, and the texture and layering of the yarn and silk materials, also 31% respondents mentioned the characteristics of spatial privacy and enthusiasm. At the same time, 85% respondents spontaneously talked about the characteristics of romantic space light. Point light source and indirect lighting with layer and warmth are the elements to create a romantic atmosphere. These elemental characteristics convey an appealing and fascinating mystery [10], that is, the romantic space often has a certain mystery.

B. Cute atmosphere

TABLE 2
 Elemental statistics of cute atmosphere

Category	Element	NO. of mention	%(N=13)
Shape	Cute Animal/ Cartoon Character	8	62%
	Round shape	13	100%
	Simple shape(without angle)	7	54%
Line	Graffiti lines	8	62%
Color	Pink/ Powderblue	3	23%
	Various colors	10	77%
Texture	Furry material	10	77%
	Rubber/ Soft wood	3	23%
Other	Bright/Warm Light	1	7%

Result I: 62% respondents gave suggestions for the elements of the line in terms of the expression of the cute space, and the suggestions given were that the lines of the children's graffiti [11]. The lines of children's graffiti reflect the characteristics of children's paintings that are irregular and juvenile. Perhaps it is precisely because of this irregular and unpredictable naive trait of the lines that some respondents find it difficult to make a clear answer to the elemental features of the lines.

Result II: 100% answers mentioned that the round shape is best for a cute atmosphere, more than half of the respondents emphasized the sleek, simple shape characteristics. At the same time, 62% of the respondents suggested that animal and cartoon images are also important elements to express the cute atmosphere, such as rabbits, puppies, bears, etc, and use words such as small, fat, adorable to describe these animals. That things have the characteristics of "baby" can evoke a cute feeling, the opinion which was confirmed by Konrad Lorenz in 1943 [12]. From the interviews, the description of the shape elements of the cute space atmosphere is richer, both abstract and figurative, but roundness is the common feature of the shape elements.

Result III: 77% respondents believe that various colors are more suitable for expressing the cute atmosphere. Some

designers emphasize that there should be at least 3 or more colors in the same space, which usually follow the principle of contrast or complementarity [13]. Another 23% respondents suggested that pink can express the cuteness of girls. On the contrary, powderblue is more suitable for expressing the boy's cuteness.

Result IV: 77% respondents believe that the furry material is characteristic of cute spaces. It has a direct correlation with stuffed animals such as rabbits, puppies, and bears. The furry material is warm and skin-friendly, and is also the fabric commonly used by children's dolls. Another 23% respondents suggested that lightness and elasticity are characteristics of cute atmosphere materials such as rubber, and soft wood. The furry, light and elastic texture gives people a sense of security, accessibility and fun.

Discussion 1: Respondents have the most answers to the shape elements of the cute atmosphere, and the opinions of the round shape show a high degree of consistency. In comparison, the line elements of the cute atmosphere are considered to be difficult to describe and analyze in detail except for the lines of children's graffiti.

Discussion 2: Most respondents believe that the various colors with lightness and elasticity of purity and brightness are key elements of a cute atmosphere. These elements show the lively and interesting features of the cute atmosphere. The furry material gives children a sense of psychological comfort and a warm sense of security, as evidenced by Harry F. Harlow's rhesus monkey experiment [14]. The combination of the rounded shape, the small and sturdy pleasant pet, the cartoon image and other "baby" features, controllability and security are the elements of the cute atmosphere.

C. Relaxed atmosphere

TABLE 3
 Elemental statistics of relaxed atmosphere

Category	Element	NO. of mention	%(N=13)
Shape	Rectangle	6	46%
	Round shape	1	7%
	Cloud shape	1	7%
Line	Curve	4	31%
	Straight line	7	54%
Color	Color of nature	10	77%
	White	1	7%
	Light tones	3	23%
Texture	Cotton / Linen	11	85%
	Wood/ Rattan/ Bamboo/ Stone	10	77%
Other	Natural light	3	23%
	Transparency/ Openness space	6	46%

Result I: Regarding the line elements of the relaxed atmosphere, 85% respondents gave relevant comments. 54% of them believe that the straight line can express a relaxed atmosphere, while the rest prefer the curve. But all respondents who gave comments agreed that the expression of a relaxed atmosphere should be simple. The reason why more people choose straight lines, the response is that the straight line is

more concise than the curve. At the same time, from the perspective of space construction, they believe that the spatial structure should be clean and straight lines, open and transparent, and such spaces are more easily perceived. Everything is in your eyes letting you rest assured and create a sense of relaxation.

Result II: 60% respondents gave a description of the shape of the relaxed space, while the rest considered no special requirements. 75% of the opinions suggest that a square, stable rectangle can be used to express a relaxed feeling. At the same time, all the respondents agreed to introduce natural prototypes such as green plants, raw stones, water and fishes into the indoor space, or the space with large open windows to absorb the scenery of nature, can give people a feeling of relaxation.

Result III: For the description of color, 77% respondents believe that the colors of the relaxed atmosphere should be taken from nature, such as the green colors of the plants, the brown colors of the woods, or the gray colors of the bricks or stones and so on. A few respondents believe that the color of a relaxed atmosphere should be light-toned.

Result IV: In terms of texture, 85% of the respondents believe that the use of pure cotton and linen fabrics can provide a good space for a relaxed atmosphere. 77% respondents believe that natural materials such as wood, rattan, bamboo, brick, stone and other materials can give people a relaxed feeling. Whether it is cotton, linen, or wood, rattan, bamboo, brick, stone, these materials are emphasized to be processed by humans as little as possible, reflecting their original texture can evoke a sense of casualness.

Discussion 1: Throughout the elemental characteristics of the relaxed atmosphere, the elements of the texture were talked about and recommended mostly, and at the same time, the material element of the texture is also highly recognized, that is, the material from nature, without deep human processing. In terms of color expression, suggestions for capturing the colors of nature, light tones reflect visual adaptability and low irritating characteristics. Including the transparency and openness requirements of space, and the introduction of natural light, plants and water flow, the space that can be summarized into a relaxed atmosphere has obvious pro-natural characteristics, and the integration of natural landscape design elements can promote human health [15].

Discussion 2: More people prefer straight lines to express a relaxed space atmosphere, combined with the bright and unobstructed openness requirements of the spatial structure, and put forward suggestions for not placing furniture according to certain rules or regulations, also the lightness and freedom of movement about furniture, as the key to creating a relaxed atmosphere, the spatial layout should be understood and perceived easily.

Conclusion

According to the results of the above interviews and through analysis, the characteristics of shape, line, color and texture elements corresponding to the three spatial atmospheres are different. Through this preliminary interview, we found that some of the design elements of the three spatial atmospheres have shown clear results, some of which show clear conditions, and other else of which still have ambiguity in design elements,

which need to be further explored and clarified.

From the characteristics of the well-defined elements, such as the circular elements of the cute space, the characteristics of the yarn material of the romantic space, etc., it is very clear and understandable for the students of interior design. For elemental features with clear directions, such as the purple-like preference of the romantic space, students can use the PANTONE® system to discover the principle of the group of purple system and try to classify the colors by design practicing. At the same time of verification, the comparison between different designs can also make the design principles of the shape, line, color and texture of the space atmosphere clearer.

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