

Introduction to Environmental Psychology and Applications for Modern Interior Design

Xiaodong Zhang

Institute of environmental art. Hebei Institute of Fine Art, ShiJiaZhuang HeBei, 050700, China

123EEE@163.com

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Abstract. Up to now, the interior design development already became a capacity of environment psychology. Ergonomics and aesthetics were one of the integrated disciplines. Compared with previous, it more emphasis on "people-oriented" design concept, emphasizes on the feelings of people as the ultimate goal of design. Environmental psychology is precisely in this context, with the constant improvement of interior design discipline, its important role in the interior design has been emerging as a modern interior design theory.

Introduction

Modern interior design is an involved in engineering, art, ecology, environmental psychology and other disciplines of knowledge borderline subject, the essence is to create safe, comfortable, pleasant, and rich aesthetic feeling of the indoor environment. And environmental psychology is supporting the professional essential theoretical foundation. Because the primary problem of modern interior design is to solve and the problem of the relationship between the indoor environment (physical and psychological), do not know people in different psychological and behavioral characteristics and law of environment, will not be able to science and art to deal with the relationship between the elements in the design of indoor environment, also won't be able to create conform to the need of the indoor environment. Environmental psychology from the Angle of the psychology to explore what kind of environment is to match people's wish of a science. Its application in the interior design is mainly reflected in two aspects; One is the study of living environment (all for human production and life of the indoor environment, to the person's psychology influence; it is to study the psychological needs of the demands of our customers, and according to the psychological needs of people, adjustment, improve, and improve the quality of living environment.) Around the two themes in this paper, through analysis the status quo of environmental psychology in the modern interior design, people on indoor environmental elements of cognition and perception, behavior of interior space design, psychological feelings of the individual differences of the influence of the impact on the interior design style and so on four aspects to illustrate the specific influence to the modern interior design environment psychology

Interior design and emotional attention

The function of interior design

Interior design in the basic solution to the problem of two aspects: first is the material level, including the use of the function of the meet, the division of space, the relationship between material and structure, construction and technology such as: the second is the spiritual level, namely all kinds of space on the user's emotional and aesthetic impact. In the current which is more important.

With the coming of information society, the progress and development of science and technology, people's mode of production and way of life has been greatly improved and improve. At the same time, the negative impact of industrial society has become increasingly prominent, such as unlimited resources exploitation, ecological environment destruction and pollution, intense work pressure, drab cold working environment and loss of the traditional cultural characteristics in various areas of the world. People come to realize that the earth is not destroyed, environment and

our life more and more strange. Humans are beginning to go beyond the satisfaction of material life, to a higher level of emotional and spiritual satisfaction.

The emotional attention in the form and function of interior design

Interior designers in the design, although the design thinking as the dominant position, but with design thinking alone, also can't do the deeper level, also need designers into emotional. In liu xie "wen-hsin-diao-long" in put forward "to love", with true feelings into writing, against affectation, vocabulary stack. The artistic creation of "moving people by feeling" is often put forward, the artist will require creative passionately. Interior designers also also need to invest in the design of emotions, including the attention to the ecological environment, the attention to people's physical and mental, the attention to cultural traditions, etc.

Interior space is provided to the people to carry out the study, work, leisure, entertainment and communication, she not only meet such, use of daily life and physiological needs, should also allow users to enjoy high quality of the space environment: some space image searing, exciting and inspiring; Some natural space image, let a person feel considerate and thoughtful everywhere; Some unique interior space image, fully display the charm of users. The high quality of the space environment means that the user's mental and emotional got fully satisfied.

Historical development and the change of the emotional focus in interior design

For religion and the interior design of the sovereign of emotional attention

"Human nearly 5 000 design of civilization is a history of design for power and wealth". Before the industrial revolution of the architecture and indoor space design key is basically serve for religion, royalty and aristocracy, the king and the Pope are using palaces, churches, architecture and interior space to create an atmosphere of service. To maintain its rule in Egypt the temple of tall, magnificent internally with massive, pillar, column group of design major is not for its structure and bearing, and the main purpose is to make the mysterious religious atmosphere and deterrence. Massive columns interrupt the line of sight of people everywhere, thick column group of blocking the light, make the hall light is dark, thick high stand column group of squeezing into the space is narrow, have majesty, stunning the psychological effects on people, make people nervous, timid and distress, so as to achieve to fear god and god is the embodiment of the pharaoh, with the purpose of the worship of the emotional concern of interior design is very clear. The European baroque and rococo palace, strange exaggerated modelling, the adornment of overelaborate, luxurious decoration materials, which ignores practical function each other race than luxury, tried to show its position and power in form, reflecting the Kings and nobles excessively to show off their wealth, and the pursuit of pleasure feelings. At the same time also reflects the nobles pale extravagant, decadent life.

For the popularization of interior design of emotional attention

After the industrial revolution, construction and interior space design focus to the ordinary people, from the palaces, churches, to public facilities and residential. "once the design meet the object is the public, it has modern means", the modern interior design is with the development of industrial civilization, modern interior design of the public's work and life, is the study of physiological and psychological characteristics of ordinary people, is the use of advanced industrial equipment for mass production of materials, create a healthy and comfortable accord with modern ethical living space. [1]

Pay attention to the characteristics of contemporary interior design and emotion

Interior design of ecological environmental protection of emotional attention

Contemporary society is the most urgent to solve the issues of ecological, environmental sustainable development. For office space, whether national or commercial space, residential space, even in a large number of land use and consume the limited resources on earth, most of them are non-renewable resources, such as granite, marble, stone is unlimited by mining and use, in be being designed indoors, stone, wood and rare metals used in great quantities, the resources of our country

and the world is undoubtedly a disaster; Followed by the waste of energy. Some form of one-sided pursuit of interior design atmosphere, not the active adoption of natural light and excessive pursuit of lighting effects, regardless of the natural ventilation and heat preservation and the scope and increase the use of air conditioning, make energy consumption increase.

At present, the variety of interior decoration materials, a large number of chemical synthetic materials, due to the interests of the driven by some manufacturer's product quality can not meet the national quality standard, the environmental pollution by harmful substances, great harm on human itself. More serious is that some of them are not recycled materials. Due to the characteristics of interior decoration, the update speed faster, conversion of abandoned adornment material, become the pollution of the environment construction waste, according to concerning sectional statistic, it accounts for 340/0 in the pollution of the environment.

Therefore, designer has a long way in the contemporary interior design, not only vision to open, and to look more in the long run; Should not only pay attention to the interior space environment design, should pay attention to the environmental quality of the whole human society more love life, love of the earth to the survival of humans.

The feelings of the traditional culture, focus on interior design

Is a precious spiritual wealth of human traditional culture, inherit and develop traditional culture is an important problem. Each national survival and development in every nation proud boasts rich traditional culture, people hold profound feelings of this national outstanding traditional culture, ethnic traditional culture contains a unique distinctive philosophy, aesthetic views and form language, fully tap, to carry forward in today's society. The function of the modernism advocates "form follows function", opposed to the inheritance of traditional culture, by the United States into the world, form the international style, cause too drab, inflexible, in the form of this period of interior design focus on the abstract "human", without regional characteristics and traditional culture. Against tradition and modernism design adornment, advocating "less is more" point of view, and the result cut the human historical and cultural heritage, causing the regional nationality emotion by inhibition of the traditional culture. Since postmodernism, appeared a lot of interior design with the fine aspects of traditional culture is closely related to the design [2]. Pei xiangshan hotel four seasons hall, indoor design fully absorbed the Chinese traditional garden and the design theory and method of folk houses, and created the modern interior space, with Chinese style for Chinese interior design has set a good example.

Interior design on the natural environment of emotional attention

21st century, the rapid growth of population, the advancement of urbanization and the improvement of housing conditions, high-rise buildings in the city. The arrival of information age, digital product deep into every family and office space. Human form to connect with nature in the dwindling, everywhere is the furniture of the metope of the hard, cold and unfamiliar space. So in terms of interior design material selection, the use of natural materials become the main means of interior design, closely associated with human beings in the natural material of cotton, wood, bamboo, materials such as earth, stone, these materials can fully display the beauty of nature, closer to the distance between human and nature, and the comfort of the human spirit and the emotion. In the space of interior design to create, introduces indoor outdoor space, or to communicate with each other and penetration, indoor and outdoor space to create the state of nature.

Historically, human and nature is inseparable, natural for human survival and development provides the basic and necessary material conditions, depend on natural, return to nature, is human nature, man and heaven and earth.

The aging of the interior design of emotional attention

Aging is also a important problem in today's society, the world health organization definition, aging rate at 0. 700 ~ 1400 for aging countries. At present, the Shanghai, Beijing, tianjin, jiangsu and zhejiang and other places of the ageing population ratio has exceeded 1000, 130 million elderly people. Study of the elderly living space, the creation of the care for the elderly health environment, it is also one of the focus of contemporary interior design emotional [3].

People have declined after 60 years old, the body function, at the age of 75 after the most

significant drop in walking, hearing, vision. From psychological aspect, the elderly are more likely to suffer from loneliness. Therefore according to the characteristics of the elderly, they need some special space environment, indoor stylist people more to devote a great deal of love and emotion, let old people comfortable and healthy old age. The elderly bedroom appropriate design in sunny sun, sunshine have great health benefits for the elderly: this is because, first of all, the old body function decline, weakened resistance to virus, bacteria, plenty of sunshine can sterilization and purification air, meet the needs of the indoor health care; Second lack of high quality in the elderly of sunlight, easy to suffer from osteoporosis disease. Such as the elderly disabled at the same time, the interior design should be fully considered, especially the stairs, corridor, the balcony and the design of the toilet, to reduce the ground fall of on any form of design, corridor as far as possible need not smooth material on the ground, metope without brittle material such as glass, adding armrest toilet facilities, to facilitate the elderly sit up energy.

China since ancient times will have a good tradition of respect elders, care for the elderly is the responsibility of the society, for the elderly health, comfort, safety of interior space, interior designers are in duty.

Interior design for individual development of emotional attention

In recent years, the interior design tend to "money" and "vulgar", the essence of which reflects some social problems: one is the designer and the user's quality is not high, blind imitation or mechanical copying someone else's design, resulting in "bedroom HaoHuaHua", "material costliness" unrealistic design; Part 2 it is to reflect the lives of corruption and possessiveness for wealth. Into a period of diversification of contemporary society, people advocate self and innovation, the pursuit of the perfect personality. Interior design to shape the distinctive bright individual character space, meet the needs of the individual character, also cultivate people personalized aesthetic pursuit.

Contemporary interior design style in a variety of forms, but one thing is for sure, is from the Angle of the material and spiritual emotion focus depth, the width of the range, type, are each an interior designer should carefully thinking and research. Design, every designer should have beneficial in nature, society and human, for humans to create positive and full of healthy, active years of work and life environment.

In the modern interior design, environmental psychology status quo

Environmental psychology in the application of interior design in our country has been developed in recent years, but in the context of a "harmonious society", people have generally realized the importance of environmental psychology to the interior environment design, also is some people spare no effort to the nature of the plants, water, rocks, etc is copied to the real life to meet their desire for the nature. Especially in the modern science and technology rapid development and people's material and cultural level under the premise of constantly improve, to apply environmental psychology trends in interior design.

And obviously. In fact most of the time, our production and living in the making and the right of life of building and indoor environment. Such as Chongqing Jiangbei a building, the use of very large residential buildings made of reinforced concrete structures, because the height is too high, single space combination and too complicated, in which makes people like entering a isolated from natural electromagnetic field of Faraday shield room. In the case of loss of natural electromagnetic field due to the function of the body, can't keep balance state, so often feel anxiety and panic, over a certain period of time can also affect the physical health and work efficiency. And as now the indoor decoration construction site, carpenter, oil workers, bricklayer's electrician into together, such as saws, electric hammer, such as voice everywhere, smoke, the smell of the stimulus was in the air. At the same time, more and more in indoor decoration of the use of environmentally friendly materials, not only bring high consumption of resources and energy, is also a serious threat to the people's living environment, endangering our health. The above listed several examples, completely broke our expectations of realistic environment, but also with the spirit of environmental psychology concept.

A person's perception of interior design elements and sense

People's perception of interior design elements and feel, is through the visual nature-related senses of smelling, hearing/of the person with the sense of smell of indoor boundary surface, color, lighting, furniture, display of perception. In the design practice through to the people's cognition and feeling satisfied, created many excellent interior design. Such as the mandarin Oriental hotel (Bangkok) of interior design, interior designers use looks simple line, pattern, color, lighting, furniture to create a "dream of the house" of the mind, in the "dream of the house" of the mind is contains the rich connotation of environmental psychology. Specific performance in the following four aspects:

The visual satisfaction. Mainly based on the indoor light (artificial light and natural light), color and modeling (shape) of processing. First look at the mandarin Oriental hotel (Bangkok) room for interior design in the biggest influence of the processing of artificial lighting, guest room of the primary side of the desk lamp of illumination and unconventional top lighting. That's because the room is mainly a place for guests sleep to rest, and when people sleep mainly USES is supine posture, lateral illumination method is effective to avoid the top lighting lighting to rest direct irradiation of the eye. Designers in the facade, ceiling and ground are used to produce diffuse material, avoid the harm to the human eye of specular reflection. The processing of natural light, with the method of the double layer curtain to regulate natural light to human visual impact: outside a layer with translucent fabric, suitable for don't need to use natural light of direct illuminate; Lining using has very good shading sex thick cotton and linen fabric, suitable for complete alienation of natural light. [4]

On the processing of color, the designer in the guest room on four facade used the light yellow imitation cotton wallpaper, ceiling with ivory porous paint, the ground USES a relatively deep yellow cotton carpet decorative pattern, used on the desk, the furniture such as beds, chairs a small area of the contrast (ochre) match. This kind of collocation makes whole space tonal change and unification on the basis of "warmth" feeling will pale yellow color of performance incisively and vividly.

Integral space and basic furniture of rectangular shape, has been adopted for the rectangle is most can let a person feel balanced comfortable on the vision of a shape. In spite of the guest room in local desk lamp and tea table, bedding compared with rectangular have a strong sense of circular, but due to the circular use area is small, will not let a space appear cluttered constraint, but rose to adorn action to the overall environment, make indoor environment modelling looks so vivid and comfort.

Above through processing indoor light, color and shape, and create a quiet and comfortable indoor environment, meet the requirement of the guest rooms, visual.

In addition, the Hong Kong famous interior designer Joseph hung on the indoor light, color and shape of processing is also very worthy of our learning. Its representative works include the peninsula pearl restaurant and kanazu curry house, etc.

Good acoustic environment. By controlling the sound source, control the transfer process of sound and noise. For interior design, to meet the requirements of the auditory mainly through different space to select different coefficient of sound insulation of decoration materials. Rooms due to their high activity coefficient of illicit close is strong, sound insulation requirements, elevation and ground the high absorption of wallpaper and the carpet of cotton and linen material to enhance absorption function, meet the passengers during sleep and rest rooms need quiet. Because the bathroom don't need to have the bedroom so high coefficient of acoustic, so on the choice of materials, mainly by the absorption effect is worse than cotton and linen material ceramic tile and wood.

The skin (touch) feel satisfied. Mainly through well-organized natural ventilation in interior design and choose the right touch of different surface materials. So the designer when designing SPA lounge will maximize the ensure the north-south all-transparent, make them form a cross ventilation to improve indoor air fresh. In the choice and the material we direct contact with the skin, also want to consider the needs of users.

Meet for the sense of smell. Mainly through the organization and good ventilation, indoor greening and reducing indoor smoke. So designers in order to improve the quality of indoor sense of smell, first of all, as far as possible the setting of natural ventilation, at the time of natural ventilation cannot be fully realized, is trying to cooperate with equipment set up artificial ventilation, also can choose according to the space requirements of indoor greening the number and variety of plants. In some sense of smell demanding

Indoor environment, such as hospitals, railway stations, shopping malls and other public indoor space, also can use text signs, such as "please don't smoke in the" to maintain indoor olfactory environment.

The person's psychology behavior patterns to the influence of the indoor space design

Environmental psychology tells us: the person's behavior also belongs to the category of psychology, there is a corresponding and common psychology and behavior, can make a similar reaction to the same environment. This is our guidance of environmental psychology in the foundation of modern interior design is its universality can be summarized as the following 6 points:

The field and interpersonal distance. Areas are animals in the environment as an adaptation to get food, breed survival behavior. As senior animals, but the people -- in language expression, rational thinking, decision-making and social aspects with ordinary animals will have substantial distinction, indoor environment in the life of people, the production, entertainment and other activities, are always striving to be interference or obstruction of the activity. Different activities must have their physiological and psychological scope and field, people do not want to easily be interference by foreign things. Indoor environment, personal space is often required of the interpersonal communication distance TongPan consideration. Interpersonal contact contact according to different objects and different communication places, each have differences in the distance. In animals based on the research experience of environment and behavior, puts forward the concept of interpersonal distance. Depending on the degree of close relationship, to determine the behavior characteristics of interpersonal distance, can be divided into: close distance, personal distance, social distance and public distance. Each type of distance, according to the different behavior nature of people divided into near and distant facies. In close distance, for example, intimate, can smell and radiant heat to the other party feel as close to the phase; Shake hands with each other is far away. Of course, considering the people of different nationalities, religion, gender, degree of professional and cultural factors, interpersonal distance will also be different.

The privacy and the end. If the area lies in the space, the illicit close sex is more involved in the corresponding space range, including isolation requirements for the line of sight, sound, etc. The requirement of illicit close sex more prominent in the residence interior space. Such as collective dormitory first people to live in the dormitory, if allowed to choose their first beds, always willing to choose to do the bed in the room, it will in life and go to bed when there is relatively little disturbed; By comparing to a large number of residential model, we also found that the master bedroom is placed in a quiet corner; Table in the restaurant dining seats selected, usually the most reluctant to choose near the door or people frequently through the seats, so of them against the wall in the restaurant, because in the interior space form more "end", is more in line with the individual meal "end to" the psychological requirements.

Based on a sense of security. The people who live in the interior space, from the psychological feeling, is not necessarily the more open, the better, usually prefer to choose to "rely on" in large indoor space objects. For example in the railway station and subway station waiting area or on the platform, it is not more gathered in the place where the most easy to get on the bus, but willing to stay relatively scattered in the crowd inside hall, near the pillars of the platform, properly keep distance with flow channel. That's because people from psychological feel on the edge of the column is "relying on", more secure. [5]

The conformity and phototaxis. From some very accident found that occurs in the public places, emergency people often leading a few people running, follow the crowd blindly without

considering the running direction is toward the safety evacuation, even when the fire alarm rang, smoke filled. People seldom pay attention to the content of the fire signs and text, even to this lack of trust, but intuitively followed the lead of a few people running, formed the flow of the entire population.

The above situation which belong to a herd mentality. At the same time, the population flow in the interior space, has a tendency to flow from the dark toward the bright place, emergency language guide will guide is better than words. In psychological and behavioral phenomenon prompts the designer to create public indoor environment, first of all to pay attention to the orientation of space, lighting, sound, marks and writing guide is important, but through the emergency of the psychological and behavior analysis, the design of space, lighting, audio elements in grasp more should give high attention.

Space in the shape of a psychological feeling. By each interface to surround close and into the interior space, the form feature often make activity in which people produce different psychological feeling. Mr Famous architect i. m. pei had to his work -- with oblique triangle Space Museum in Washington new house has a very good, he thought the triangle, consume more inclined to space can give a person with dynamic and full of change of the psychological feelings, as shown in figure 7. We will find that in real life circle will give the feeling of full spray up, square, let people have a sense of solemn and stable.

Shortcut effect. Shortcuts effect refers to the people through a space as far as possible when they take the most concise line, even if there are other factors influence. There are a lot of this kind of behavior in our life, such as from one side of the playground we go to the other side, usually in a straight line and won't go around the track, that is to say we're in the space layout, attention should be paid to control of the distance, should not be too long.

The psychological feeling of individual differences affect indoor whole style

"Opinionated, do not act in accordance with the law" after the incident, people began to pay much attention to the understanding of the differences between things, even the same kinds of things, also has the difference, no two objects in the world are the same, people's psychological feeling there is such a difference. In 1879, Wundt psychological laboratory in leipzig university, after a long time experiment, found that psychological behavior and sensory system has obvious individual differences.

Although environmental psychology from the overall analysis of human behavior and psychological commonalities, but also admitted that the individual differences, respect for the individual features. In the modern interior design such differences tend to determine the integral style of interior design. So we in the indoor environment design should fully consider the user's personality to the unique requirements of the environment, fully understand the user's individual behavior and psychological needs, in shaping the environment shall be fully respected. But in order to create a comfortable, pleasant, more suited to the environment of the residents, we should properly use of environmental psychology knowledge to correct people's behavior and psychological "guide", impact on one's personality, and even "restraint" to a certain extent. In the design, both must respect the individual differences, also should pay attention to environmental psychology influence on interior design, the two dialectical reasonable use.

The teaching of engineering graphics in descriptive geometry, the theoretical basis of the three view drawing as the main expressive means. Starting point, line and plane projection, to the study of geometry superposition, dig form and the three-dimensional cutting, plane projection reversal form complex three-dimensional space concept. Drawing standards its core purpose is to develop accurate 3 d space imagination and standardized view, drawing ability; Three view drawing and axonometric drawing is its core content of repeated interactions. The effect of forming in your mind quickly and standard three-dimensional imagination, and with AutoCAD drawing tool or means of computer aided accurately express the design intent; At the same time form a rigorous and normative logic thought. Engineering graphics recognition and its production of uncertainty is in the process of training must be strictly observed. The correctness of the graphics, can be used in the production of machining is the ultimate goal, under the size specification only has practical

significance.

Art graphics on the basis of the sketch, color, combination of plane composition, color composition, three-dimensional construction, the theoretical basis of the dot, line, face and all sorts of color for elements, the research on the rules of the combination of graphics, change and unity as its core. Various elements is a means of emotion or intent and symbols. Designers through the basic skills of freehand drawing or plane computer-aided design software like Photoshop to express themselves on visual design change process; Exercise at the same time up to the standard of aesthetic imagination and creativity. Art graphics is outpouring of emotion, is to achieve the ultimate goal of the visual enjoyment, and size and drawing specification into bondage thinking factors here.

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On the teaching mode applied design talents as the goal of teaching mode, to cultivate the students' application ability is given priority to, emphasis on cultivating students' professional design ability, comprehensive design ability, innovation ability, to adapt to the social demand and the development of The Times. Interior design teaching should to train in the design of the first line which has an independent design capability and can be engaged in the specific design and management of the design personnel as foothold, at the same time also should strengthen the noble moral character, to the human society sense of responsibility, has the innovative spirit and ability, have the consciousness and ability of lifelong learning, etc. The cultivation of the overall comprehensive quality.

Conclusion

Above on the theory of environmental psychology is the modern interior design guide of China and thus put forward some of the interior design strategy, is himself in the process of teaching and practice some inspiration. In interior design in the development of our country, it is more in need of combines the actual conditions of the current society make the correct theoretical guidance. In today's society has been into the post-industrial era, people are concerned about the own existence is far more than ever, as designers training future educators, we should shoulder the responsibility, the history of the era have entrusted to our efforts to develop suitable for era demand of designers.

References

- [1] Zhang Licui. Research on the teaching reform of interior design in Higher Vocational colleges. Curriculum education research. 2012 (2): 1-3
- [2] Zhang Jing. On the reform of teaching mode of interior art design in Higher Vocational colleges. Journal of science and Technology 2010 (10)
- [3] Zhang Qi-man, Pan Wuhua. Interior design data set 2 [M]. Beijing: China Building Industry Press. 1999
- [4] Hong Yi-Min. Reform the teaching method [J] training innovative talents. Beijing: Chinese Journal of Women's College. 2008 (4)
- [5] Pan Wu-hua. Indoor display art design. Beijing, China Building Industry Press, 1999