Research on the Application of Pop Art in Modern Architectural Form Design

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Abstract: Under the influence of the information age, modern architecture tends to develop in a diversified direction. Pop art, which was born in the middle of the 20th century, is the product of a specific historical period. The popular, grotesque and playful art form shown by pop art has a far-reaching impact on the development of modern architectural forms. To a certain extent, pop art breaks the boundary between art and life in a relaxed and playful popular way. With the increasingly monotonous style of modernist architecture, the appearance of the city has become increasingly rigid and monotonous. Pop architecture has entered the public line of sight with its popular and witty characteristics, injecting new vitality into modern architecture. However, some elements and design techniques of pop architecture can still be found in today’s architecture and have a far-reaching impact. Through the analysis of the emergence, development and characteristics of pop art, combined with the relevant cases of modern pop architecture at home and abroad, from the point of view of collage integration, figurative architecture and mechanical reproduction, this paper expounds the application of pop art in modern architectural form design, and provides a new way for reference in architectural form design.

1. Interpretation of Pop Art

1.1. The emergence and development of Pop Art

Pop art is inextricably linked with neo-Dadaism, neo-realism and integrated art in this period, so it is not easy to establish a clear concept for it. In a broad sense, the slang name “Pop” covers the disputes of these trends of thought, and it is an art facing the general public, our daily life and countless consumer goods in the city. It is also a concomitant form of industrialized society.

Pop art first appeared in Britain in the 1950s and came into being in the group discussion of painters, critics and architects who called themselves “independents” in the Contemporary Art Research Society of London. “Pop” is the abbreviation of “popular art” put forward by the British critic Lawrence Arroway in 1954. He pointed out that “Pop is a style, especially figurative painting, which is characterized by exaggeration. Its forms and images are taken from commercial art, such as cartoons, illustrations, posters and so on.” The United States is the real prosperity of pop art. In the 1960s, as a victorious country in World War II, the economy of the United States grew rapidly, and there was a higher demand for both material and spiritual pursuits. The hedonistic lifestyle represented by Las Vegas, the gambling city, is widespread. The whole country has entered an era of high consumption. Coupled with adequate economic support from the government, great changes have
taken place in the public's daily way of life and values. Americans' natural pursuit of trendy freedom also makes pop art easier to accept and popularize. At this time, the deep-rooted gap between the aesthetic elite art and the masses has been gradually bridged, and the boundary between art and life has also been blurred. Pop art is the most important art movement in the 20th century. It broadens the concept of art, enriches the forms and means of expression of art, dispels the difference between elegant art and popular art, and breaks through the boundary between art and life[1]. In fact, pop art, like all other art movements, is deeply rooted in the art of the past, and it is inextricably linked with Dadaism. However, it is obvious that pop art is essentially different from Dadaism, because the environment and soil on which they exist is very different. Dada is a challenge to the social order of existing aesthetics, while Pope establishes this challenge into an order.

1.2. Pop Art and Postmodernism
Pop art and postmodernism are inextricably linked. Pop architecture, which came into being in the post-modernist period, is a kind of post-modernist architectural movement and an architectural trend of thought in the field of post-modern architecture. Pop art marks the obvious difference between contemporary art and modern art, and is far from modernist art in terms of ideas and means of expression, reflecting a new artistic view different from modernism. the artistic value of this artistic view lies not only in the uniqueness of its individual works, but also in that Pop has become a kind of wisdom and spirit.

Pop art deconstructs the aristocratic flavor of art with a keen sense of commodity society and consumer culture, and completes the integration of life with the self-denial of style, which itself has a distinct sign of postmodernism. Pop art, which is subordinate to post-modernist art, particularly prominently shows a mix of multiple styles, pursuing popularization and popular taste, and opposing modernism's alienation and indifference[2]. The collage style of ready-made objects used by pop artists, the extreme commercialization and daily life of creative objects, and the endless repetition of industrialized mechanical media all result in the loss of self-expression and “mixed” state of artists after being “exhausted”. This is bound to make the meaning patterns of both classical art and modern art lose their effectiveness and turn into a non-stylish plane aesthetics. Therefore, “in this pure and accidental game of signifier, which we call postmodernism, art no longer produces modernist monumental works, but an endless reorganization of previously existing fragments of text.”

The scope of influence of post-modernism is very extensive. After modernism, it is inevitably influenced by it, but it mainly opposes and modifies modernism, reversing and criticizing the way modernism imposes principles and laws on people. The involvement of pop art in postmodernism is self-evident. Post-modernist architecture embodies the sense of broken stacking, the superficial sense of planarization, the objectivity of fragmentation and the machine of replication in varying degrees, which can be found in the practice of pop artists.

1.3. The characteristics of Pop Art

1.3.1. Commercialization. With great emphasis on flexibility and consumption, and the pursuit of popular interest, design has further become an integral part of modern market economy and business management. With the rise of humanistic thought, artists began to think about how to better serve the public, which also makes art and goods more integrated and more responsive to the needs of the public. Pop art takes an optimistic attitude towards the culture of the consumption age and the information age, and shortens the distance between art and the public through realistic images, making art break away from the original elegant coat and the exclusive characteristics of the aristocracy [3].

1.3.2. Popularization. In terms of design, pop style is not a pure and unified style, but a collection of various styles. He pursues the popular taste of the general public, pays attention to the daily life,
abandons the artistic fantasy of perfection and elegance, opposes the restrictions and restraints of modernism on design ideas, use bright, flamboyant and even dazzling “original colors” to make eye-catching and unique[4], and uses popular “symbolic language” and popular techniques to express the psychological demands of the general public.

1.3.3. Dramatization. Novelty, weirdness and strangeness are pursued by pop art. The characteristics of “pop” design style are changeable, emphasizing novelty and uniqueness, and usually extremely pursue the use of strong color contrast in the design process. Pop architecture uses deconstruction, overlap, exaggeration, deformation, collage and other methods to express absurd aesthetic elements [5]. It is difficult to determine a unified style. He gathers the characteristics of various elements in various historical periods, which is similar to the characteristics of eclecticism.

2. The Popularization of Modern Architectural Form

2.1. Collage integration
Collage art traces its artistic roots, it should be Cubism that began in France in 1908[6]. This kind of collage method takes pop art as its basic source of inspiration. Lauschenberg's method of using discarded objects to create is correct and necessary for them, and they have to emulate it one after another. In the process of architectural creation, they consciously apply some industrial materials to their works. To create some kind of messy, disharmonious, completely opposite to the rational perfection pursued by modernism.

Gehry seems to have always regarded “architectural creation embodies the contradictory values of contemporary society” as the ultimate ideal of his architectural design. His deep concern for contemporary art has determined the source of inspiration for the fragmented form design language in his design works. Introducing pop art into the building, Gehry designed the “Santa Monica House for his own use” and has been famous ever since. (figure 1)

![Figure 1. Santa Monica self-use residence](image)

Inspired by Lauschenberg's use of waste to make works of art, Gary tried to extricate himself from the craftsmanship of architecture that is harmonious from the whole to the details. Combine those industrial or waste materials into your own architectural creation in a broken way. The house was originally a typical medium-sized family building in the residential area, with pink asbestos tiles on the facade and a four-slope roof looking for slopes. Gehry's expansion has greatly changed the external shape of the building. He located part of the old house in the center of the building and surrounded it with corrugated metal hoardings to form a more transparent screen. Most of the building retains the original structure and form, expanding the kitchen and dining room space, and extending part to the atrium. The extension surrounds the original part, forming a strong contrast, showing a sense of urgency between stability and instability. The creation of this work is no longer only controlled by drawings, it is the residential construction process that determines its final form.

The method of collage is not only widely used in the field of architectural design, but also affects the development of urban planning theory, which refers to Colin Rowe's famous “Collage City”. In this book, the author believes that the western city is a small-scale realization, but also composed of
many unfinished parts, by some self-sufficient building blocks to form a small harmonious environment. On the other hand, the utopian society imagined by humanism in history and the “city of tomorrow” put forward by modernists such as Corbusier are contrary to the formation of the actual urban environment in the West, so there is the theory of the decline and fall of Utopia. The author of “collage City” puts forward the idea of taking the architect as a “miscellaneous family” and reusing what was originally abandoned and giving it a new use, which is in line with some artistic ideas in pop art [7]. Architects should abandon their professional prejudices, test facts with practice, adopt the method of “collage”, pay attention to the protection of the integrity of the city and the neglected parts of the city, and combine facts with reason. Give an organic combination between the realistic whole based on the architectural intention and the dynamic unfinished goal, so as to realize the organic renewal and growth of the city.

2.2. Figurative architecture

Even western classical architectural forms emphasize their abstract features, such as Doric and Ionic columns in ancient Greek columns, which only metaphorize the body shapes of men and women respectively [8], while for orthodox modernism, concrete imitation of real objects is an equal approach. Figurative architecture always seems to be associated with the appearance of popularity, commercialization and popularization, as an inevitable product of the pop tendency of an architectural trend of thought, pop architecture inevitably contains pejorative morphological features in a sense. The figurative art in pop art opens the way for the figurative technique of architectural form design. (figure 2)

![Figure 2. Concrete pop architecture](image)

Fish Dance Restaurant is Gary's only work in Asia, and the whole building presents the image of a leaping fish. The 22m-high “carp” and an abstract “snake” spiral tower are juxtaposed with two very strong visual impact parts. it has a strong identification, simple and clear shape, and strong affinity, coupled with the surrounding environment, showing a strong sense of direction, sense of belonging and landmark. (figure 3). Claes Oldenburg is perhaps the most radical and creative of all pop artists.

After a period of artistic practice of combining waste materials with graffiti-like techniques, he began to create figurative physical art, and thus achieved great success. His performance objects tend to wander between the fields of sculpture and painting, ranging from food and daily necessities to flattened washing basins and egg beater models. For example, the work “Big Mac” is a behemoth made of colored canvas and stuffed foam, which is based directly on the specific food image of the “fast food” kingdom of the United States.

Not only Gehry, but also many architects are engaged in the architectural creation of concrete architectural design, although the forms of their works are different, there is no doubt that they are all influenced by popular culture under the influence of pop art. and it boils down to questioning the modernist architectural movement.
Figurative design has always existed in the history of construction, but it has caused a lot of controversy in the society in recent years. The initial function of architecture is also “instrumental use”, which is to provide people with a place to protect against wind and rain, cold and summer. Compared with the “implement” as a product, the figurative design of architecture will cause more controversy, the main reason is that the imitation is too similar and loses the sense of reality on the scale of the building [9], and the figurative form also sacrifices part of its function. This is regarded as a kind of perceptual expression, which is a kind of material waste.

2.3. Mechanical replication
The German philosopher W Benjamin put forward the concept of “mechanical reproduction” after investigating and analyzing the fate of art after the formation of modern industrialized society. In his view, when classical art gradually disappears and modern art tends to be confused, the important feature of works of art in modern industrialized society is a large number of copies by means of technological reproduction.

The most representative figure of mechanical reproduction is Andy Warhol, the most famous pop artist in the United States, who claims to abandon all emotions to copy like a machine, and even wants to be a machine himself. Most of Warhol's paintings use material net printing technology to print a certain image directly on the drawing paper. Through the constant repetition and reproduction of a single image to explain to people the change of people's attitude towards objects in the era of commercial consumption. “Marilyn Monroe” series is Warhol's most famous works. Isozaki was influenced by the “Marilyn Monroe” series, from which he got some inspiration and inspiration for architectural creation. Like Warhol, he was also infatuated with the image of Monroe and launched a series of architectural practices with metaphorical erotic factors based on the theme of her figure. At first, this outline was used on curved plywood chairs, and then the idealized outline of this provocative body was arranged in the population hallway of Gunma Art Museum, the restaurant of Kitakyushu Library, the facade of population corridor of Fukuoka City Hall and many other building parts. (figure 4)

In the post-industrial society, every corner and field of society is full of mass production copied images of a single style of image form seems to have been accustomed to by people, and can be seen everywhere in daily life. Reproduction technology can make works of art multiply from one piece to thousands. This kind of reproduction in art leads to the loss of the authenticity and uniqueness of art.

Figure 3. The Image of “Fish” and Fish Dance Restaurant

Figure 4. Isozaki's new design works
According to Friedrich Jameson, the machine in the post-modern era is “the machine of reproduction, not the machine of production”.

3. Conclusion
From the perspective of overall development, to a large extent, the current development direction of western art is still inextricably linked with the pop movement in the 1960s. People in the West believe that the so-called contemporary art is to a large extent the contemporary development and extension of pop art [10]. Pop art, with its special “ordinary things” for collage, reproduction and representation, stands out from the artistic style of modernism in the form and style of mockery, teasing and popularization, and forms its brand-new art form. Collage integration, figurative design techniques and mechanical reproduction are widely used in architecture in different ways that have been transformed into architectural form design. In a word, the introduction of pop art and the spread and generalization of pop art have had a certain impact on various trends of thought in contemporary architectural design, especially in the process of the formation and development of post-modernist architecture, and there is further development in our more highly consumerized, commercialized and pictorial world. This development has become a part of many architects' understanding of the world and the city, and it has also become one of the imperceptible factors in their ideas.

Acknowledgments
The successful completion of this thesis on time was not my credit. It was the result of all the teaching, care, and encouragement of my teachers, classmates, and supportive family members. Thanks!

Picture Source
Figure 1 is from Richard C. Levene, Fernando Marquez Cecilia, Frank Gehry, 1997; Figure 2 is from the website https://huaban.com; Figure 3 is from the picture of Zhulong.com; Figure 4 is from the Google picture.

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