

From “Creation Theory” to “Symbiosis Theory”: Exploring the Ontology of Modern Design

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Abstract:

Under the current background where the design discipline is defined as an interdisciplinary science and society attaches great importance to sustainable development, this paper, centering on the numerous problems in the field of modern design, raises three key questions from the aspects of essence, method and strategy: What is the ontology of modern design? The development of design methodology: From “Creation Theory” to “Symbiosis Theory”? How to promote design towards a more sustainable development through the Symbiosis Theory? It is expected to find an effective way to solve the predicaments such as the confusion of the interdisciplinary boundaries of the design discipline, the disconnection between design and society, and the incompatibility between tradition and innovation. Eventually, the author summarizes the research approaches of modern design based on the Symbiosis Theory as: Through design practices such as cultural symbiosis, ecological symbiosis, symbiosis between technology and humans, and social symbiosis, to practice problem awareness, systematic thinking, and the harmonious symbiosis between humans and nature, so as to achieve the sustainable development of the human world.

Keywords:

Symbiosis Theory, Design Theory Renewal, Modern Design, Sustainable Design

1. Introduction

In the latest catalogue of disciplinary classifications issued by national educational authorities, design studies has been officially positioned as an interdisciplinary subject. On the one hand, this institutional definition fully reflects the highly comprehensive and integrated characteristics of modern design. On the other hand, it also puts forward higher academic requirements for researchers and practitioners in this field. If design is recognized as an interdisciplinary discipline, then where exactly lies its core that integrates various knowledge domains? [1] Within such a complex interdisciplinary framework, how can design scholars clarify their disciplinary standpoint and highlight the unique value and core priorities of design as an independent discipline? In other words, in those comprehensive and cross-cutting research projects, what essential factors determine that a project belongs to design rather than engineering, art, sociology or other disciplines? If the scope of design continues to expand indefinitely and eventually loses its definable disciplinary

boundary, will design still exist as an independent academic field? Therefore, the exploration of the disciplinary core of design is of vital importance. Judging from existing theoretical understandings, neither the material outcomes of design nor the technical skills of designers seem to be able to fully represent the unique nature of design itself. Under such circumstances, reflecting on and clarifying the ontology of modern design has become an essential and fundamental issue that cannot be avoided in contemporary design research.

2. What Is the Ontology of Modern Design?

2.1. Origin and Historical Evolution of Modern Design

The historical narrative of modern design can be traced back to the Great Exhibition held in the Crystal Palace, which left William Morris in deep disappointment and reflection. After visiting the exhibition, Morris expressed a strong nostalgic longing for the Middle Ages, an era dominated by exquisite handicraft production that had not yet been impacted by mechanized mass production. Although the architectural form of the Crystal Palace represented a highly modern industrial achievement, the exhibits displayed inside were notoriously crude and poorly manufactured due to the rapid development of mechanized production brought by the Industrial Revolution. This glittering glass-and-iron building embodied the bright future and optimistic vision of modern design, yet the shadow behind it also implied potential crises that have troubled the discipline ever since. In fact, these underlying tensions correspond to two core questions that modern design has been debating and exploring from its very beginning up to the present day.

2.2. Two Key Issues in the Formation of Modern Design

The first question concerns whether design should accept and embrace mechanized mass production. The second question focuses on whether design should serve the privileged elite class or the general public.

The entire developmental history of modern design can be regarded as a continuous exploration of answers to these two fundamental questions. It was not until the emergence of the Bauhaus that systematic and influential solutions were put forward, making it the culmination and milestone of modern design. Firstly, the Bauhaus broke the long-standing separation between fine art and applied art, advocated design as a form of artifact creation, emphasized the unity of art and technology, openly embraced mechanized production, and established a complete and systematic design education system and teaching methodology. Secondly, the Bauhaus put forward the core proposition that the purpose of design is human beings rather than products, clearly declaring that design should serve the broad masses of people rather than a small number of privileged groups.

2.3. New Transformations of Modern Design in the Contemporary Era

Design can be understood as a purposeful and planned creative activity carried out before the production of artifacts or the implementation of related behaviors. Its core lies in effectively solving practical problems in human production and daily life by means of various design tools and systematic methods. As an intellectual discipline, design is an integrated product of culture, art, science and technology. Design studies, correspondingly, is the scientific research system that studies design behavior, focusing on the logic of design creation, the methodology of design practice, the laws

governing the emergence and evolution of design, as well as the approaches to design application and communication. [2] With the continuous progress of the times, design studies has been constantly endowed with new connotations and values, while its disciplinary intension and extension have also been continuously expanded and enriched.

After a long period of historical development, modern design has not only inherited the traditional orientation toward artifact creation, but also derived new characteristics and value orientations. Modern design is no longer limited to the design of physical “objects”, but increasingly focuses on the design of the “events”, “rationales” and “relationships” that exist behind those objects. [3] Art and design have been characterized by interdisciplinary integration and complex practical phenomena since their inception. Meanwhile, the changes of the times have also brought about renewed thinking on fundamental issues: What is the real ontology of design? The ontology of modern design involves not only the material dimensions of traditional artifact creation, such as the function, structure, craftsmanship, color and material of products, but also the spiritual dimensions, including the excavation of cultural connotations implied in the philosophical idea of the “unity of Dao and artifacts”. Furthermore, it requires an innovative transformation of design thinking from “artifact creation” to “event planning”, as well as the social responsibility that design should undertake to serve the public interest. [4]

Undoubtedly, new developmental stages require the guidance of new theoretical systems.

3. The Evolution of Design Methodology: From “Creation Theory” to “Symbiosis Theory”

3.1. The ideal beauty that combines aesthetic beauty with natural beauty

In the field of design research, theories such as creation theory have long provided a holistic perspective for understanding design activities. Essentially, creation theory reveals the dual nature of materiality and spirituality in human artifact-making, which is often referred to as “primitive culture”. As a macro-theoretical framework, it lays the foundation for design research. Only on this basis can researchers objectively understand the developmental laws of design activities in ancient and modern times, and thus profoundly grasp a series of essential issues in design. [5] Today, with the continuous advancement of design studies, its theoretical system is also expanding and innovating. Increasingly, theories from other disciplines have been introduced into design research, including communication theories such as the diffusion of innovations, as well as psychological and sociological theories such as trauma theory. Among these imported theoretical resources, symbiosis theory has shown unique value and potential in guiding design toward a more sustainable developmental path.

Symbiosis theory originated in the field of biology. It was first proposed by the German mycologist Anton de Bary in 1879, who defined symbiosis as the phenomenon in which different species live together in close association. In 1884, de Bary further distinguished among various coexisting patterns of organisms, including symbiosis, non-symbiosis, parasitism and saprophytism. On this basis, Scott put forward in 1969 that symbiosis represents a balanced state formed through the interdependence of two or more organisms, rather than a simple unilateral or mutual dependency. In 1970, the American biologist Lynn Margulis proposed the theory of

symbiogenesis, also known as the serial endosymbiotic theory, which made symbiosis theory widely influential across the academic world. In 1977, Gerald further expanded the conceptual scope of symbiosis, incorporating interspecific relationships such as predation, phoresis, mutualism and commensalism into the unified category of symbiosis. [6]

The concept of symbiosis includes three core components. First, symbiosis occurs among different species with distinct organizational structures and functional attributes. Second, symbiosis is an aggregation behavior directly related to survival and adaptation. Third, there are close connections among different organisms within a symbiotic system, manifested in the continuous flow of materials, energy and information. A symbiotic system consists of symbiotic units and the external symbiotic environment, while the relationships between symbiotic units include symbiotic patterns and symbiotic interfaces. The symbiotic interface, together with the internal and external symbiotic environments, constitutes the survival conditions of the entire symbiotic system. [6]

Kisho Kurokawa once pointed out that the characteristics of symbiosis thought lie in the “intermediate realm” and the “sacred realm”. [7] To fully understand these two concepts, it is necessary to introduce the concept of the “universal realm”, thus forming the theoretical framework of the “three realms of symbiosis”. As shown in Figure 1, the “intermediate realm” acts as a transitional bond that connects different things and maintains the relationship between them. “Ambiguity” is the essential characteristic of the intermediate realm. Boundaries objectively exist between different things, yet if such boundaries become vague and ambiguous, integration and fusion between different entities become possible, and such integration constitutes a typical symbiotic phenomenon. The “sacred realm” refers to the core part of a thing, which possesses unique and irreplaceable inherent properties. [8]

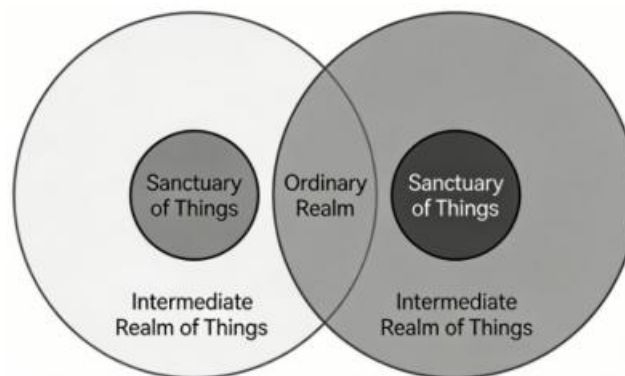


Figure 1. Schematic Diagram of the Three Realms of Symbiosis.

Table 1. Summary of Symbiotic Elements and Corresponding Design Strategies.

Symbiotic Elements	Symbiotic Elements
Symbiosis of Part and Whole	Balancing identity and difference
Symbiosis of Internal and External	Constructing “intermediate realm” and enhancing “ambiguity”
Symbiosis of Architecture and Environment	Realizing mutual infiltration and integration between architecture and nature
Symbiosis of Different Cultures	Realizing mutual infiltration and integration between architecture and nature
Symbiosis of History and Present	Maintaining the “sacred realm” of one’s own culture while interacting with other cultures to generate new

	and distinctive cultural forms
Symbiosis of Technology and Humanity	Deconstructing, recombining and adjusting historical symbols in a creative way
Symbiosis of Internal and External	Endowing design works with typical technological characteristics of the era through rational application of modern technology

Symbiosis theory, in essence, emphasizes negotiation, coordination and cooperation. Design studies has long been dedicated to exploring the relationships between two or more elements, ranging from macro relationships such as human and artifact, artifact and artifact, artifact and environment, artifact and society, to micro relationships such as function and form. Symbiosis is not only a biological phenomenon but also a widespread social phenomenon; it is not only a natural state but also a malleable and constructible state; it is not only a biological recognition mechanism but also an effective methodological tool in social science research. Therefore, this paper attempts to explore the possibility of taking symbiosis theory as a fundamental theory to guide design toward sustainable development. By combining symbiosis theory with practical design cases, this study further investigates the ontological issues of modern design and the innovative direction of the renewal of modern design theory.

As a unique methodology for describing interspecific relationships, this ecological paradigm and research thought has gradually penetrated into many disciplinary fields such as medicine, geology, psychology and design. From the perspective of design studies, symbiosis theory has transcended its original biological category and evolved into a philosophical view and methodological system that guides design practice. It emphasizes the interdependence, co-evolution and harmonious coexistence among different elements, systems, environments and social subjects in the design process. [6]

3.2. The ideal beauty that combines artistic beauty with femininity

The ideal beauty in Ingres's concept is the ideal beauty that combines artistic beauty with femininity. The ideal beauty pursued in Ingres's art is not only the ideal beauty that follows the beauty of nature, but also the feminine beauty that combines with humans. It is the beauty that conforms to human subjective wishes and the beauty that conforms to human idealistic sentiments. In Ingres's view, if one wants to pursue the true and objective beauty of nature, one must first study aesthetic taste and then learn the standards of aesthetics. [3] In ancient times, beauty was deemed more important than truth, to the extent that the term "Greek" became synonymous with perfection. The Romans emulated this absolute beauty, and the Greeks were renowned for their flawless perfection in sculpture, architecture, poetry, and beyond. Consequently, artists of that era were highly esteemed for their ability to reproduce beauty. Ingres' artistic philosophy clearly reflected these classical artistic theories, indicating that he was influenced by the ancient Greek and Roman periods. [4] In order to win the audience's favor, Ingres also strived to impart a strong sense of realism to his paintings. As he once put it, "You can catch flies not with vinegar, but with honey." This implies that only by creating beautiful and elegant things can one bring joy and enjoyment to the audience during the creative process. In Ingres's philosophy, the ultimate goal of ideal beauty is to educate and nurture people. [5] In his view, painting must serve noble ideals, and must express the artistic beauty and value through the medium of women, with justice, history, and religion as the themes and content of the art.

Ingres' work "Fountain" is the most renowned among his body artworks. The depicted scene is of a girl holding a water pitcher, with a stream of clear water pouring down from it. The graceful yet powerful straight lines give the girl's body a beautiful, youthful aura, and her plump figure - Ingres' work "Fountain" is an embodiment of his lifelong pursuit of the ideal "Goddess of Beauty". The girl in "Fountain" represents the ideal beauty that Ingres admires, combining artistic beauty with femininity. The "Eternal Feminine" in Ingres' female body paintings captures the artist's vision of capturing the youthful beauty and vitality of women on canvas, thereby achieving an eternal artistic life, walking forever in the radiance of beauty. [6] The work that best embodies the ideal of a perfect goddess is "The Fountain". An art critic once said, "All the beauty in the world combined cannot match her own. She concentrates her beauty, making her image more abundant, and her anger even more reflective of ideal beauty." The serene beauty, purity, and ideal beauty that humans seek are vividly portrayed in the painting. The girl in Ingres' "The Fountain" is lifelike, adhering to the rational beauty of ancient Greek sculpture art. The varied lines fill the entire painting, revealing complexity within simplicity, and simplicity within complexity, yet the changing image appears unified. The left side, with the towering elbow as the apex, has a body contour resembling a gently falling strand of gauze, forming a changing circular arc; the right side, with the water pitcher and raised arm, constitutes a circular and triangular geometric shape, giving the dynamic lines a sense of movement, forming a contrast with the simplicity and serenity on the left. The painter strictly adheres to the principles of form beauty such as rhythm and cadence, and the girl's posture reveals the beauty of the S-shaped curve created by the ancient Greek sculptor Praxiteles. Ingres pioneered a new paradigm of perfect human body aesthetics that has brought endless rational charm to future generations. [7]

4. How Can Symbiosis Theory Promote the Sustainable Development of Modern Design?

4.1. Design toward a Better and More Harmonious World

Design studies represents a design philosophy that comprehensively considers multiple dimensions including environment, society, culture and technology, pursues sustainable development and harmonious coexistence, and aims to create a better, more balanced and sustainable world. From the disciplinary perspective of design, symbiosis theory promotes the sustainable development of design through the interconnection and mutual promotion of cultural, ecological, social and other dimensions.

Firstly, cultural symbiosis. Design studies advocates respecting and preserving the uniqueness and authenticity of regional cultures, while actively promoting communication, integration and dialogue between different cultures. Designers can create works that are both full of contemporary spirit and rich in cultural deposits by deeply excavating local cultural genes and integrating them with modern design concepts and languages. For example, Kisho Kurokawa's idea of "symbiosis of heterogeneous cultures" reflects the complementarity and coexistence of different cultural systems in design practice, thus continuously enriching the cultural connotation and spiritual value of design works.

Secondly, ecological symbiosis. In the context of design studies, ecological symbiosis means that design activities should follow natural laws and achieve harmonious coexistence with the ecological environment. This includes the use of

environmentally friendly materials, the implementation of green design strategies, the promotion of biodiversity protection, and the creation of self-regulating and low-energy-consumption buildings and products. Design should also encourage direct interaction and harmonious communication between human beings and nature. For instance, in urban planning, sufficient green spaces and wetlands should be preserved, and ecological corridors should be constructed to enhance the ecological resilience and adaptive capacity of cities. [9]

Thirdly, techno-human symbiosis. Design studies focuses on how technological progress can better serve human needs and create a more humanized, convenient and safe living experience. The idea of techno-human symbiosis emphasizes the friendliness of human-computer interaction, ensuring that the development of technology will not alienate people or sever their connection with the natural environment, but will continuously improve the quality of life and human well-being. For example, the design of smart home systems aims to enhance the convenience of daily life through advanced technology while maintaining emotional connections among family members.

Fourthly, social symbiosis. At the social level, design should promote social inclusiveness and diversity by adopting the principle of universal design, fully considering the needs of people of different ages, genders and physical conditions, and thus promoting social fairness and harmonious development. In addition, design can be used as an important tool to solve social problems. For example, through rational design of public spaces, communication and interaction among community residents can be promoted, thus alleviating problems such as social isolation and interpersonal estrangement.

4.2. Symbiosis Theory as a Driving Force for Sustainable Design

There is an inherent and close logical connection between symbiosis theory and sustainable development. Sustainable development refers to the development model that meets the needs of the present generation without compromising the ability of future generations to meet their own needs, emphasizing the balanced and coordinated development of economy, society and environment. Symbiosis theory provides a solid theoretical foundation and practical guidance for the realization of sustainable development goals.

Firstly, interdependence and cooperative interaction. Symbiosis theory emphasizes the interdependence and mutual cooperation between different organisms, individuals and organizations. Within the framework of sustainable development, this means that various stakeholders, including governments, enterprises and civil society, should fully recognize their mutual dependence and achieve common sustainable development goals through active cooperation and joint participation.

Secondly, systematic thinking and holistic perspective. Symbiosis theory adopts the methodology of systematic thinking, holding that any system, whether ecological, economic or social, is a complex and integrated whole, whose internal components interact and restrict each other. Similarly, sustainable development also requires the application of systematic thinking, fully considering the interaction and mutual influence of economic, social and environmental dimensions, so as to avoid the one-sided pursuit of economic growth at the cost of social fairness and environmental protection.

Thirdly, long-term perspective and strategic vision. Symbiotic relationships are usually formed in the long-term evolutionary process and require continuous time accumulation to establish and maintain. Likewise, sustainable development emphasizes a long-term developmental perspective, requiring decision-makers to pay more attention to long-term interests rather than short-term gains. Such a long-term perspective helps prevent the over-exploitation of resources and irreversible damage to the ecological environment.

Fourthly, dynamic balance and adaptive adjustment. According to symbiosis theory, all parties in a symbiotic relationship achieve a relatively stable dynamic balance through continuous interaction and adaptive adjustment. Sustainable development also pursues such a balanced state: meeting the material and cultural needs of human beings while protecting and restoring the natural environment, so as to realize the coordinated development of economy, society and environment.

In conclusion, the internal connection between symbiosis theory and sustainable development lies in their common emphasis on balance, cooperation, long-term vision and systematic thinking. The application of symbiosis theory can help people better understand and realize the goals of sustainable development, and further promote the harmonious coexistence between human beings and nature. Symbiosis theory provides scientific theoretical guidance for design studies, promotes communication and integration between design and other disciplines, and drives the innovative development of the design discipline. In the future, sustainable design should pay more attention to interdisciplinary research methods and the application of new tools and technologies, strengthen cooperation among scholars and institutions in the core research field, form an academic research community, focus on solving real social problems, enhance cross-disciplinary exchanges, and truly break the fixed boundaries of traditional disciplines. [10]

5. Conclusions

Against the national background of vigorously promoting the construction and development of interdisciplinary subjects, researchers and practitioners in the design field are still faced with confusion and division regarding the boundaries of emerging design fields. Based on this reality, the author raises three key questions from the three levels of ontological essence, methodological evolution and practical strategy: What is the ontology of modern design? Has the methodology of design studies evolved from “creation theory” to “symbiosis theory”? How can symbiosis theory promote the sustainable development of modern design? This study expects to clarify the developmental path of modern design through in-depth exploration of the above three questions. By reflecting on the realistic problems in the current era and tracing the historical origin of design, this paper explores the ontological issues of modern design, and then introduces symbiosis theory as a new theoretical guidance that is more in line with the new changes of contemporary design, so as to activate the new development of design studies under this new paradigm.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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