

A Scientific Interpretation of the Complexity of Tibetan Ecological Ethics

Dongze Li

College of Geography and Environmental Science
Northwest Normal University
Lanzhou, China 730070
College of Art and Designing
Lanzhou City University
Lanzhou, China 730070

Abstract—This paper explains the ecological ethics of Tibetans from the perspective of complexity theory in the context of ecological civilization construction, which is of great significance to the construction of ecological civilization in Tibetan areas. Based on the theory of complexity, this paper analyzes the source and basic characteristics of Tibetan ecological ethics. It is believed that the animism of the concept of special ontology, the subject of natural life and the spiritual space, as well as the relationship between man and nature are the scientific understanding of the ecological ethics of the complex science by the complexity science, which reproduce the scientific composition and significance of the Tibetan ecological ethics.

Keywords—Tibetan nationality; ecological ethics; complexity; interpretation

I. INTRODUCTION

Complexity is a universal phenomenon in the objective world and an essential attribute of things. On a global scale, people's understanding of complexity has experienced the spiraling process of "the early stage's complexity understanding sprout, the modern times' complexity neglect, and the return of modern complexity understanding." [1] There is currently no well-recognized definition of "complexity", but most of the concepts of complexity express the consensus that complexity manifests itself in a state in which many factors interact; complexity is "something intertwined"; complexity expresses an irreducible feature. [2] People's interpretation of the geographic system is accompanied by an understanding of the laws of the complexity of the objective world. "Complexity theory is a new theory system based on the general system theory of Bertalanffy and the dissipative structure principle of Prigogine. It is a brand-new theoretical system." [3] In the re-recognition of the relationship between man and nature, it breaks through anthropocentrism and puts people and other life into a kind of ethical concept of "respecting for life". It believes that "only when people think that all life, including human life and the life of all creatures are sacred, is he ethical." [4] This kind of reverence for life has got rid of the set pattern of anthropocentrism, established the organic connection between man and other creatures in

nature, and cared about their destiny, which is a supplement and extension of the ethics involving only human beings. It is fundamentally complete ethics. The main feature of the complexity system is that "the overall function and behavior cannot be determined unambiguously by its constituents and subsystems through simple addition and linear causal chains." [5]

The world view based on the construction of complexity science is holistic, transcending the mechanical world view constructed by traditional reductionism as the main mode of thinking. Therefore, the basic starting point of the complex system inquiry mode is nonlinear thinking. At the same time, relational thinking, holistic thinking and process thinking constitute three basic means and methods for examining complex systems. [6]

II. ECOLOGICAL VIEW OF COMPLEXITY SCIENCE

New discoveries from the perspective of complexity science have changed human understanding of the universe's origins and prompted people to reconstruct ontology in philosophy. [7] It changed people's theoretical vision and way of thinking in the world, and formed a new ecological outlook. "Ecological relationships involve complex ecological factors, ecological patterns, ecological functions, dynamic processes and cybernetic mechanisms, their accumulation of time, spatial interactivity, multi-layered scales, mobility of action subjects, and immaturity of scientific methods determine the complexity of ecological research." [8]

In 1869, Haeckel defined ecology as the science of studying the relationship between organisms and the surrounding environment. In 1935, Tansler regarded the organism and the environment as a natural whole through the concept of "ecosystem", expanding the relationship between human beings and their own growth and development environment. With the rise of complexity science research, dissipative structure, hypercycle theory, and synergy theory have been introduced into the field of ecological research, revealing the essence of ecosystem complexity. At the same time, in the field of humanities and social sciences, ecology has also expanded the field of research. In the 1920s, Harlan

Barros and Polk and others proposed the concept of "human ecology" and applied ecological thinking methods to human community research, and introduced human culture and historical traditions into ecological process research.

On the one hand, the ecological outlook of complexity science casts an ideological principle that is different from the mechanical world view. First, the world is a whole composed of a network of relationships. Any component of the world is in an interactive relationship with other parts of the whole. Changes in any one element will inevitably lead to changes in the network of complex relationships. "In fact, it can be said that if the world is not included in us, we will be incomplete. The view that the world is completely independent of our existence and the view that we only interact with the world, are wrong." [9] Second, the world is a dynamic and orderly whole. The world is a rheologic whole that cannot be completely divided. The world itself is caused by the process of eternal rheology. The overall order of the whole process in the rheological process is the secondary. Third, the greater value and meaning of human beings are included in the self-organizational evolution of nature as a whole. The value and meaning of human life exist simultaneously in the connection between social and natural evolutionary processes. Human physical organization and spiritual structure are formed in the process of interacting with nature. "Humans must transcend the limitations of their own species, they should not only pursue the interests of their own development, but also create conditions for the development of other life; human beings only consciously integrate their own development into the universal evolution of the universe." [10]

At the same time, complexity science research brings human consciousness into the ontological category through quantum theory, which fundamentally clarifies the problem of how to know about people and abandons the concept of human beings' functional combination in the traditional mechanical worldview. People are not only biological, but also conscious. In the 1930s, John von Neumann first used the theory of quantum mechanics to describe neurophysiological processes. The EEG experiment conducted by the University of Southampton in the United Kingdom has proved that the thinking process is essentially quantized. The process of thinking is very similar to the changes in quantum processes. Consciousness is the result of quantum behavior within the brain and is a special quantum mechanical phenomenon that occurs in the microscopic world of the brain [11]. "In the theory of quantum mechanics, mind and matter are seen as two components that belong to a whole nature. In fact, the fundamental change brought by quantum theory is that a physical world that is structurally outside the mind moves into a physical world that enters the inner part of the mind." [12]

A vision of the world of consciousness that incorporates quantum reality is being constructed, retaining the independence of consciousness relative to matter within the theoretical framework of quantum science, but at the same time trying to make the two have a common scientific basis and merge with each other in a more fundamental reality [13].

III. ECOLOGICAL ETHICS OF COMPLEXITY SCIENCE

Ethics is a philosophy that plays a guiding role in the construction of social ideology, and is an important subject of philosophical thinking to guide social development. The origin and purpose of morality is the fundamental problem of normative ethics. [14] Around the purpose of morality, ethicists have formed a debate between anthropocentrism and non-anthropocentrism. The same arguments about the origin of morality are also divided into two categories, that is, self-disciplined or heteronomous. The moral origin theory of self-discipline believes that morality comes from itself, and the heteronomous moral origin theory believes that morality originates from something other than itself. Traditional western social ethics is anthropocentrism. From the Plato era, through the development of thinkers such as Aristotle, Descartes, and Kant, western society has formed anthropocentric ethics that only humans are the purpose. Other natural beings other than human beings serve the interests of mankind. The development of western religions has solidified this idea. Western religions believe that the universe has some overall goal, and human beings have privileges in the universe. Therefore, traditional western ethics believes that the origin, purpose and standards of morality are only serving the interests of mankind. All moral good and evil should be based on human interests. [15] In the late 19th century, the development of evolution required western society to abandon deep-rooted views — human beings are special and they must accept that human beings are the result of the evolution of nature. Human beings are only one of the approximately 10 million species of organisms currently on earth, and they are completely equal to other creatures and don't have authority over other living beings. The development of evolutionary ideas has spawned non-anthropocentrism and natural centralism. Under the new scientific background and complex reality, human beings must re-establish the relationship with nature and promote new ecological ethics to guide the real society.

Therefore, in the process of ecological ethics development, shallow ecology and deep ecology have emerged to cope with the challenges of the natural environment and complex social changes. From the technical point of view, shallow ecology regards people as the savior of the earth. Nature is transformed from human-derived objects into objects that humans use technology to "save". Therefore, shallow ecology ultimately doesn't break away from the set pattern of "anthropocentrism". The central principle is that people must respect life and realize the transcendence of human beings beyond natural life. In 1973, the Norwegian philosopher Alan Ness published an article entitled "Shallow Ecology Movement and Deep and Long-Term Ecological Movement: A Summary", which proposed the distinction between shallow ecology and deep ecology, shallow ecological movement and deep ecological movement. The deep ecological theory system is opposite to shallow ecology, which is a kind of transcendence of the shallow ecological system and a deconstruction of the humanistic and technical principles upheld by the shallow ecology. Deep ecology believes that human beings are no longer the natural savior. Human beings are no longer

superior to nature, "but the children who will return to the earth." [16]. The deep ecological ethics insists that people must dissolve into the principle of nature, and human beings must resolve themselves into the natural world. "This kind of resolution is not a human-specific endowment, but a virtue principle that natural life should have." [17]. The deep ecological ethics ultimately leads people to pay attention to those non-human beings existence in accordance with the principle of "guarding the earth by human beings". It is the universal responsibility of human beings for the broad ecosystem including themselves. This ecological ethics transcends the humanistic ethics, treating other beings other than human beings as the purpose of juxtaposition with others. The environmental ethics formed under the influence of deep ecology has brought people to the wilderness in real life, that is, the concept opposite to the natural resources that have been developed and utilized by human beings. The ultimate home of deep ecology is the philosophy of this wilderness, [18] and "the rich diversity of world culture reflects the corresponding diversity of their wilderness" [19].

However, while deep ecology emphasizes holism, it ignores the important differences between individuals and may endanger the basic values of humanitarian ideals. And it doesn't mention a specific and systematic philosophy and stays at the stage of the activist movement. How humans view, recognize, and evaluate nature also determine what ecological ethics and behaviors humans will have. [20] The complexity approach seems to be a way of thinking that is most likely to be close to ecological reality and the real life of life to date. Complexity and complex system are not only the formation mechanism of natural ecology, but also form the ecological relationship between nature and human beings. The grasp of complex relationship can enable people to deeply understand the truth of nature, the real picture of self-organization evolution and the structure of human existence. [21] Incorporating the complexity theory into the holistic approach of ecological philosophy and establishing complex ecological ethics may find a solution to the current ecological ethical dilemma.

Complexity ecological philosophy is a theoretical form of integration into nature [22]. The science of complexity has made a new interpretation of the world ontology, and brings "consciousness" into objective reality according to the ontological view of "monism and dual aspect". "Scientific understanding and animism are not necessarily mutually exclusive. The latest research in physics, chemistry, biology, and ecology on complex tissue systems suggests the possibility that the scientific world landscape is abandoning the mode of mechanistics and turning to a pluralistic animism based on science." [23] The science of quantum consciousness is proving this kind of "animism based on science" from the perspective of the quantum reality of consciousness. Therefore, the complexity of ecological ethics makes people and other living beings all equal. Human beings get rid of the subject-object relationship with the environment, and at the same time, from the holism, it will surpass the existence view of the people and the surrounding world through the consciousness. Humanization into nature doesn't stem from responsibility ethics and "human moral

emotions", but because people's "monism and dual aspect" ontological attributes not only physically connect people with nature, but also communicate humans and nature from the heart.

IV. THE SCIENTIFIC INTERPRETATION OF THE COMPLEXITY OF TIBETAN ECOLOGICAL ETHICS

Ethics is a philosophy about morality. Ecological ethics regulates the moral relationship between people and the surrounding things, including the moral care of people and people, people and animals, people and plants as well as people and landscapes. For a long time, Chinese Tibetans have formed a unique ecological ethic concept in a special living environment.

A. *The Source of Tibetan Ecological Ethics*

Luoja Cairang thinks that the origin of Tibetan ecological ethical culture can be traced back to the age of ancient myths and legends [24]. Myths and legends are the ancestors' interpretation of the origin of man-god and the origin of all things, initially constructing a national cosmology, reflecting the ancestors' initial understanding of natural production. The origin of the Tibetan ecological ethical consciousness is influenced by the "natural generation theory" in books such as "Siba Formation Song", "Siba Slaughters the Cattle Song", "Tibetan King Status Records" and other books. [25] The afterwards established taboo concepts, totem worship, ancestor worship, and primitive religious beliefs are all sources of Tibetan ecological ethics.

B. *Basic Characteristics of Tibetan Ecological Ethics*

Xiong Kunxin and Yan Shunxin believe that Tibetans have formed ethical and moral concepts and lifestyles about the universe, nature and life on the basis of dealing with the relationship between people and nature, people and other creatures, and people and society. Its basic characteristics are: a highly harmonious relationship between man and nature, cherishing the relationship between man and creature in all life, and the relationship of pursuing abstinence between man and society. [26] Tibetans stipulate the rationality of human activities through the "harmonious convention" between man and nature, man and creature, and man and society. Totem worship, life taboos, religious culture, and tribal customary law have jointly established the ethical principles of Tibetan society.

C. *Review of Tibetan Ecological Ethics from the Perspective of Complexity Science*

Duan Yifu believes: "The theme of humanism expresses a deep-rooted desire: to understand the complexity and subtlety of human experience, so that in practice more attention can be paid to quality rather than quantity, adjectives rather than nouns, psychology rather than economics." [27] Both the natural system and the human experience system show complex characteristics. The study of the relationship between human and land by geography, on the one hand, while revealing the laws of the natural science of "land", it also needs to pay attention to the

complexity of "people", which can't be simply summarized by the term "human". The study of Tibetan ecological ethics, in particular, should pay attention to the "collective unconsciousness" of this particular ethnic group, that is, a solid cultural and psychological structure should be built through primitive religion, Tibetan Buddhism, love of the land, and behavioral habits. By reviewing the traditional Tibetan ecological ethics through the perspective of complexity science, it is possible to sort out the reasonable content that has reference significance for the current ecological civilization construction and policy formulation, and adjust the environmental and resource concepts of the former utilitarianism.

1) *Animism under the concept of special ontology:* Complexity science constructs the ontology of "monism and dual aspect", and brings consciousness into the objective reality level, which provides a new perspective for the dialectical view of Tibetan culture on the concept of "animism". In the Tibetan concept, the human soul is the spiritual entity corresponding to the human body [28]. There is no difference between the concept of "soul" and "god" [29]. "The soul is the foundation of life, born together with the flesh of the man, attaching to the human body to develop and grow. It can also walk around and make its home everywhere. As long as the soul is not damaged, the person will be safe and sound. The standing room of soul is everything in nature [30].

2) *Natural life subject and spiritual space:* In the second half of the 20th century, with the deepening of relativity, quantum mechanics, and complexity science research, physicists described a new world completely different from the classical mechanical world view for human beings. Scientific research transcended the paradigm of modern science. In the postmodern science, there is a reenchantment of scientific thoughts. Under the scientific dimension, nature reappears its own charm and reveals the divine side [31]. In the philosophy of Spinoza, which is deeply appreciated by deep ecology, nature, god, and entity are the inner unity. Nature is God, and God is nature. Therefore, Spinoza provides a general understanding of nature: nature is a whole, and people are part of it. The realization of a free person is consistent with the recognition of a larger natural whole. Spinoza's philosophy has an organic and spiritual understanding of nature. This resonates with the ontology of "monism and dual aspect" of complexity science. "In philosophical, complexity research provides some meanings about the current changes in thinking mode, making people's understanding of nature, society and mind more close to reality itself." [32] American ecological thinker Thomas Berley suggests that true humanity should be closely linked to nature, and that human beings naturally enter the earth's life system through awe of natural wildness. The mystery and spirituality rejected by scientism gradually reveal its rationality in the perspective of complexity science. "The complexity of complexity theory and chaos theory can defend a claim of 'taking its own nature,

recognizing the limits, celebrating the magic and mystery". [33] In the context of complexity science non-locality and quantum over-range, the concept of seeing nature as a living organism in Tibetan traditional culture has obtained supporting evidence. If people interpret the reason why natural spirituality transcends natural religion from the dimension of natural creation, the produce of the concept of natural spirituality is due to the worship of life. The spiritual factors in the traditional Tibetan ecological wisdom reflect the worship of life; on the other hand, the worship of mutual promotion. In the article "Feminism, Earth-based Spirituality and Ecofeminism", Starhawk has made three generalizations based on the spirituality of the earth: ubiquitous, interconnected, and sympathetic [34]. Natural spirituality affirms the intrinsic life value of every existence on the earth. Therefore, each living individual has its own unique value. Diversity and complexity are worthy of recognition. The emergence of complex systems is the essential attribute of natural complex systems. E. Laszlo puts forward the fifth field in the book "Small Ripple in the Pool — a New Picture of Cosmic Evolution" — the universe; quantum vacuum zero-point can make entire information fields, and a new way of explaining the telepathic phenomenon of time and space is given. Starting from the philosophy of complexity science, it is clear that spiritual space of the Qinghai-Tibet Plateau constructed by the traditional Tibetan ecological ethics, its ecological space, production space and living space are all infiltrated by the spiritual space.

3) *Harmonious symbiotic relationship between man and nature:* Under the guidance of the Tibetan concept of "animism", the relationship between man and nature is not the relationship between the subject and the object. Man and nature are connected through the "soul", and the soul is the medium connecting man and nature. Human's protection of nature is to protect human beings, and human beings have complete identity with nature. The nature of the Tibetan ecological concept is not only the real thing but also the spiritual thing. "The universe and nature are a living and self-created community. It is in this dimension that people interact, mutually nourish, appreciate each other, and respect each other with nature. Nature is regarded as a spiritual object, transcending the concept that human beings regard nature as merely an object of available matter in modern thinking." [35]

V. CONCLUSION

Complexity science represents the current level of human natural cognition, and significant advances in physics have changed human understanding of the universe's origins, which in turn prompts people to reconstruct ontology in philosophy. The core task of human geography is to explore the issue of human-land relations. The human world view directly affects its fundamental principles and fundamental methods of understanding the world and transforming the world. Under the influence of the original Bon and Tibetan

Buddhism, the Tibetan traditional culture affirmed the sacredness of nature with the religious creed of "animism". Modern science has been developed in the process of constantly overcoming the theory of natural spirituality, bringing about a major change in the relationship between man and nature. The relationship between man and nature has become the relationship between understanding and being understood, transforming and being transformed. From the transformation of nature to the opposite of nature, people and the nature form the relationship between the subject and the object, and at the same time transform from the nature of the organic life to the mechanical nature. This kind of natural view has formed a clear conflict with the "spiritual nature" in Tibetan traditional cultural concepts. Tibetan ecological ethics is subject to the challenges of modernism. Complexity science brings a new opportunity to re-examine modernism. Under the guidance of theories of complexity, non-linearity and emergence, complexity science reconstructs the ontology of "monism and dual aspect" in philosophy, and brings consciousness into the ontological category, providing a basis for understanding the "spiritual space" of the Qinghai-Tibet Plateau from the perspective of natural creation, affirming the "natural sacredness" aspect of Tibetan ecological ethics from a certain aspect and providing an opportunity to carry forward the ecological ethics in the traditional philosophy of the nation.

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