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Ecological Rationality and the Construction of China's Autonomous Theoretical System of Ecological Philosophy: Foundational Positioning and Practical Pathways

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Abstract: Ecological rationality is not only a key category for understanding the internal logic of contemporary ecological philosophy, but also an indispensable theoretical fulcrum for constructing China's autonomous theoretical system of ecological philosophy. Building on a comprehensive clarification of the intricate relationship between ecological philosophy and ecological rationality, this article defines ecological rationality as a complex form of rationality premised on ecological holism, oriented toward harmonious coexistence between humanity and nature, and realized through practical reason. It first reconstructs the historical trajectory and problem shift of ecological philosophy, then systematically explains the inner logic through which ecological philosophy develops into ecological rationality from both temporal and spatial dimensions. On this solid basis, the study summarizes the basic connotations and principles of ecological rationality and critically analyzes its foundational role in the construction of China's autonomous theoretical system of ecological philosophy from ontological, axiological, methodological, and discursive perspectives. Finally, in light of ecological civilization construction in the new era, Chinese modernization, and global ecological governance, it proposes actionable practical pathways for advancing theoretical system-building through ecological rationality. Ultimately, the article argues that ecological rationality is not merely a core category within China's autonomous theoretical system of ecological philosophy, but also a crucial theoretical thread connecting the knowledge system, discourse system, and practical system.

Keywords: ecological rationality; ecological philosophy; knowledge system; ecological civilization; harmonious coexistence; ecological governance

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1. Research Trajectory and Problem Shift in Ecological Philosophy

Since the twentieth century, the rapid development of science, technology, and social productive forces has made the human-nature relationship a focal concern shared by philosophical reflection and practical governance. While industrial civilization generated unprecedented material abundance, it also accumulated severe ecological consequences, including energy depletion, land desertification, atmospheric pollution, and global warming. As the ecological crisis gradually evolved from a local problem into a global challenge, modern development logic and the rational structure underpinning it had to be critically re-examined. In this context, Western intellectual debates on the human-nature relationship broadly produced two major orientations: one emphasized the intrinsic value of nature and developed into non-anthropocentrism, deep ecology, environmental ethics, and wilderness philosophy; the other retained the position that the human being is the bearer of value and therefore discussed the human-nature relationship in terms of practice, institutions, and the formation of a second nature. Despite their divergent paths, these approaches jointly propelled the rise of ecological philosophy and

turned the question of what kind of relationship ought to be established between humanity and nature into a central issue that modern philosophy can no longer evade.

Research on ecological philosophy in China has generally unfolded in three successive yet internally connected stages [1, 2]. During the 1980s and 1990s, the main task consisted of translating and introducing Western environmental ethics and ecological philosophy, thereby establishing the basic problem-consciousness and conceptual field of the discipline in China. Thereafter, scholarship gradually shifted toward an integrated engagement with Marxist views of nature, traditional Chinese ecological wisdom, and ecological ethics, and the field began to move toward systematization and disciplinary consolidation. Since the advent of the new era, ecological philosophy has increasingly been situated within the broader context of ecological civilization construction, Chinese modernization, and the building of an autonomous knowledge system, so that the focus of inquiry has moved from conceptual exposition and theoretical clarification to systematic theory-building and rigorous engagement with real-world problems.

At this stage, the construction of an autonomous Chinese theoretical system of ecological philosophy can no longer remain at the level of mechanically transplanting Western environmental-philosophical discourse, nor can it be satisfied with merely listing traditional ecological ideas as historical materials. What is required instead is to integrate Marxist views of nature, traditional Chinese modes of holistic thinking, and the practical experience of ecological civilization construction in the new era into a coherent theoretical whole [3]. Only on this basis can ecological rationality become both the core category through which ecological philosophy unfolds itself and the key thread linking the knowledge system, discourse system, and practical system.

From the perspective of problem-consciousness, the proposal of ecological rationality is not simply driven by a desire for conceptual renewal, but by the deeper demands of contemporary development [4, 5]. First, the escalating global ecological crisis has revealed the internal limits of instrumental rationality founded on the conquest of nature, boundless expansion, and the priority of efficiency. Second, under the conditions of deepening Chinese modernization and ecological civilization construction, general appeals to "green development" or "environmental protection" are no longer sufficient to disclose the deeper philosophical grounds of harmonious coexistence between humanity and nature. The pressing task, therefore, is to clarify at the philosophical level the rational foundations of ecological civilization and, on that basis, to forge a theoretical framework of ecological philosophy marked by Chinese subjectivity, originality, and explanatory power.

2. Theoretical Genesis of Ecological Philosophy and Ecological Rationality

2.1. Progressive Formation in the Temporal Dimension: From Ecology to Ecological Philosophy and Then to Ecological Rationality

Ecological philosophy is not a self-sufficient abstract theory detached from experience; rather, it is a philosophical form gradually generated through modern humanity's ongoing reflection on the relationship between human beings and nature. In temporal terms, this process may be described as a chain of progression from ecology to ecological philosophy and then from ecological philosophy to ecological rationality. At the outset, theoretical awareness of ecological questions emerged in response to practical challenges such as resource scarcity, environmental degradation, and ecological imbalance, thereby giving impetus to the formation of ecology as a scientific field. Subsequently, as ecological problems continually exceeded the boundaries of the natural sciences, the human-nature relationship ceased to be treated merely as an empirical issue and was elevated into a philosophical problem involving modes of existence, standards of value, and civilizational direction. This transition gave rise to ecological philosophy [6]. Once ecological philosophy moved beyond general criticism of ecological crisis and turned toward deeper reflection on ecological wholeness, ecological relations, and their

rational foundations, ecological rationality emerged as the theoretical result of ecological philosophy's movement toward greater depth.

In this sense, ecological philosophy first appears as a systematic reflection on the human-nature relationship. The meaning of nature has changed "from enemy to model, from model to object, and from object to partner." This judgment indicates that humanity's understanding of nature is not static, but is continually adjusted and reconstructed in historical practice. It is precisely this historical transformation of relational structure that redirected ecological philosophy from the question of "what nature is" toward the more fundamental question of how ecological relations are constituted, sustained, and reconstructed [4].

2.2. Structural Unfolding in the Spatial Dimension: The Holistic Construction of Ecological Philosophy

If the temporal dimension reveals the historical genesis of ecological philosophy and ecological rationality, the spatial dimension reveals the comprehensive unfolding of the internal structure of ecological philosophy. Ecological philosophy is not a patchwork of disciplinary fragments. Rather, it is a comprehensive philosophical formation generated at the intersection of ecology, biology, ethics, sociology, and critique of modern civilization [7]. It possesses not only a clear problem-consciousness, but also relatively complete ontological, epistemological, methodological, and axiological layers. Accordingly, ecological philosophy should not be understood as a mere revision of natural philosophy in the narrow sense; it is instead a systematic reconstruction of the relationships among humanity, nature, society, and the "humanized environment."

On this point, Chinese scholarship has exhibited a significant degree of convergence. One scholar stated that ecological philosophy "takes the human--nature relationship as its principal object of inquiry, aims at the realization of harmonious coexistence between humanity and nature, and constitutes a holistic and organismic worldview." This formulation shows that the core task of ecological philosophy is not simply to describe nature itself, but to reinterpret the relation between human beings and nature—fractured by modern industrial civilization—through a holistic and organismic perspective [8]. In other words, the true concern of ecological philosophy is neither the isolated natural object nor the abstract human subject, but the relational structure in which humanity and nature dynamically generate, mutually condition, and interpenetrate each other.

In this sense, the theoretical focus of ecological philosophy has shifted from the "ontology of nature" in traditional natural philosophy to "ecological relations" as its central category. Ecological relations are both the object of ecological philosophy and the logical point of departure for its theoretical construction. Humanity's knowing, using, transforming, and adapting to nature always take place within a network of such relations. The task of ecological philosophy is precisely to disclose, from a holistic perspective, the structure, limits, and normative principles of this relational web.

2.3. The Appearance of Ecological Rationality: The Deepening of Ecological Philosophy

Ecological rationality is not an added concept floating outside ecological philosophy; it is an internal outcome formed in the course of ecological philosophy's theoretical deepening. If ecological philosophy addresses the question of how the human-nature relationship ought to be understood, ecological rationality further asks what kind of rationality human beings ought to adopt in dealing with that relationship [9]. The emergence of ecological rationality therefore marks the movement of ecological philosophy from relational awareness to rational self-consciousness, and from problem reflection to the construction of principles.

In discussing a philosophy of ecological rationality, it is emphasized that such a philosophy must take "the ecological whole as the horizon of its mode of thought and method of thinking." What is meant here by "the ecological whole" is not an empty totality, but a complex structure in which human beings, nature, society, and technology are

mutually connected, mutually constrained, and jointly generated. Ecological rationality acquires its philosophical determination precisely within this structure: it demands not only a break with the modern habit of subject-object dualism, one-way control, and expansionist utilitarianism, but also a reorganization of human practice in accordance with relationality, boundary-consciousness, and long-term temporal scales. Ecological rationality is therefore no longer a mere extension of ordinary cognitive rationality; it is a composite form of rationality that integrates ontology, axiology, and methodology.

From the perspective of Marxist philosophy, ecological rationality is not a negation of rationality, but a re-specification of it [10]. Marx observed that human beings can "produce in accordance with the standard of every species" and can "apply the inherent standard to the object everywhere." This indicates that human practice is not an unbounded domination of the external world, but an active process containing an awareness of measure, an orientation toward the object, and a capacity for self-restraint. Ecological rationality is the deepened expression of such practical rationality in the age of ecological civilization. It requires that human beings, in their cognitive and transformative engagement with nature, acknowledge the objectivity of ecological laws, respect the integral interests of the community of life, and establish necessary boundaries, self-limitation, and coordination in developmental practice.

Accordingly, ecological philosophy and ecological rationality are not parallel categories but internally generative ones [11]. Through its philosophical inquiry into ecological relations, ecological philosophy lays the theoretical groundwork for ecological rationality. Ecological rationality, in turn, through its further refinement of ecological wholeness, practical measure, and civilizational limits, advances ecological philosophy from general value critique toward a more principled, systematic, and practice-oriented theoretical form. It is in this sense that ecological rationality becomes an indispensable key category for understanding the deepening trajectory of ecological philosophy.

3. Basic Connotations and Principles of Ecological Rationality

Within the context of constructing China's autonomous theoretical system of ecological philosophy, ecological rationality encompasses at least four fundamental dimensions. First, it represents a holistic rationality. Ecological rationality necessitates moving beyond mechanistic reductionism and one-dimensional utilitarianism by situating human beings, nature, society, and technology within a network of interconnections. This holistic approach does not eliminate differences but emphasizes the interdependence, constraints, and feedback among distinct elements [7]. Second, it embodies a boundary rationality. While recognizing humanity's active capacity to transform nature, ecological rationality rejects unlimited domination and insists that all development must respect ecological thresholds, carrying capacities, and intergenerational responsibilities. Third, it is an axiological rationality. It elevates respect for, conformity to, and protection of nature into intrinsic standards of value judgment, making harmonious coexistence between humanity and nature a key criterion for evaluating economic activities, institutional designs, and civilizational forms. Fourth, it is a practical rationality. Ecological rationality goes beyond theoretical demonstration, emphasizing the implementation of ecological principles through institutional innovation, behavioral adjustments, and civilizational transformation.

On this foundation, four fundamental principles can be identified. The first is the principle of universal interrelatedness. Ecological issues are never isolated events but arise from the interconnectedness of natural, social, and technological processes. Recognizing this interrelatedness ensures that ecological philosophy avoids reducing ecological crises to mere issues of pollution control or resource scarcity. The second is the principle of objective lawfulness. Ecological rationality demands that human actions align with the objective laws governing the evolution, circulation, and recovery of ecological systems. The third is the principle of holistic coordination. Ecological rationality opposes sacrificing the whole for local interests and advocates for a unified ecological standard in national development, local construction, corporate operations, and daily life. The fourth

is the principle of historical generation. Ecological rationality does not exist a priori within any single theory but evolves gradually through reflections on ecological crises, the establishment of green institutions, and the practical processes of civilizational transformation.

These principles hold significant methodological value for the development of China's autonomous theoretical system of ecological philosophy. They prevent ecological philosophy from devolving into empty value declarations, instead imbuing it with theoretical rigor that is arguable, translatable, and practicable. Furthermore, they distinguish ecological philosophy from narrowly defined fields such as environmental management or resource economics, as its primary focus remains the philosophical reconstruction of the human–nature relationship. Ecological rationality thus advances ecological philosophy beyond the moral imperative of "why nature ought to be protected" toward a new theoretical awareness of "how the human–nature relationship ought to be organized through a new rationality."

4. The Foundational Positioning of Ecological Rationality in the Construction of China's Autonomous Theoretical System of Ecological Philosophy

The construction of China's autonomous theoretical system of ecological philosophy does not primarily depend on merely adding Chinese cases, nor on juxtaposing Western ecological thought in parallel. Its key task is to form a theoretical structure of categories marked by subjectivity, originality, and systematicity. A recent analysis observed that the construction of China's autonomous ecological-philosophical knowledge system must proceed from the theoretical demands and practical trajectory of ecological civilization construction in the new era, and must identify new fields, new problems, and new frameworks for ecological-philosophical research from contemporary ecological-civilization practice. This judgment provides a clear direction for the theoretical positioning of ecological rationality: ecological rationality should not be treated as a simple repetition of established Western theories, but as a core category in the autonomous construction of Chinese ecological philosophy.

First, ecological rationality should be positioned as the ontological fulcrum of China's autonomous theoretical system of ecological philosophy. The ontology of traditional industrial civilization tends to construe nature as an object available for possession, division, and limitless extraction [12]. Ecological rationality, by contrast, requires that human beings and nature be understood at the most fundamental level as an interdependent and co-generative community of life. In discussing the foundational categories of ecological civilization and its construction theory, it has been emphasized that ecological civilization is not merely a developmental goal, but also a "meta-philosophical" concept that normatively regulates the process of modernization. Ecological rationality is precisely the rational articulation of this "meta-philosophical" concept within ecological philosophy. It shifts the ontology of ecological philosophy away from the dualistic framework of "subject versus object" toward an existential horizon structured by coexistence, wholeness, and relation.

Second, ecological rationality should be positioned as the axiological axis of China's autonomous theoretical system of ecological philosophy. Ecological rationality is not an ethical supplement on the periphery of ecological philosophy; rather, it is a form of rationality whose value orientation lies in the "interests of the ecological whole," whose fundamental goal is "harmony between humanity and nature," and whose practical orientation is the "unity of social, economic, and ecological benefits." Precisely for this reason, ecological rationality must undertake a dual task at the level of value: on the one hand, it provides normative criteria through which ecological protection, resource use, and social development can be evaluated within a unified framework; on the other hand, it establishes non-transgressable limits for the modernization process in the human–nature relationship, thereby preventing developmental logic from sliding into one-dimensional utilitarian expansion. Ecological rationality therefore ceases to be a merely general environmental-ethical principle and instead becomes a major theoretical pivot for

reflecting on and rectifying conceptions of development, production, and civilization as a whole.

Third, ecological rationality should be positioned as the methodological hub of China's autonomous theoretical system of ecological philosophy. The construction of such a system is itself a complex undertaking involving interdisciplinary crossings, multi-level integration, and multi-dimensional expansion [13]. Ecological rationality can bring together heterogeneous intellectual resources from ecology, philosophy, political science, economics, and cultural studies, thereby forming a methodological structure that is problem-oriented, holistic in analysis, and practice-tested in orientation. It requires research to begin from concrete ecological problems while resisting fragmentation and superficial empiricism; it also encourages the creative absorption of existing achievements in world ecological philosophy while affirming the subjectivity of China's path, experience, and discourse. In this way, theoretical construction can genuinely proceed on the basis of autonomous generation rather than passive borrowing.

Fourth, ecological rationality should be positioned as a mechanism of discursive innovation for China's autonomous theoretical system of ecological philosophy [11]. Ecological-philosophical research in China has already accumulated a relatively solid disciplinary foundation. Yet there remains room for improvement in the refinement of core concepts, the articulation of theoretical originality, and the capacity to translate Chinese discourse into internationally communicable forms. Ecological rationality can serve precisely as a category that combines philosophical universality with the specificity of Chinese practice. It can promote a transition from knowledge transplantation to theoretical growth, and from conceptual borrowing to discursive creation. In this sense, ecological rationality is not merely an explanatory concept; it is also a discursive mechanism capable of continuously generating the autonomous expressive power of Chinese ecological philosophy.

5. Practical Pathways for Advancing the Construction of China's Autonomous Theoretical System of Ecological Philosophy through Ecological Rationality

First, ecological rationality must be interpreted in Chinese terms under the guidance of the ecological-civilization vision and the practical experience of ecological civilization construction in the new era [14]. Only when ecological rationality truly enters the concrete context of contemporary China's ecological civilization can it overcome an abstract and empty theoretical condition and acquire vivid substantive content. Ecological rationality is a kind of all-round rationality that takes the laws of nature as its basis and criterion and harmonious development between human beings and nature as its principle and goal. Accordingly, the Sinicized interpretation of ecological rationality cannot remain at the level of merely relocating concepts. It must instead revolve around major ideas and practical agendas—such as green development, harmonious coexistence between humanity and nature, integrated protection and governance of mountains, rivers, forests, farmlands, lakes, grasslands, and deserts, and active participation in global ecological governance—so as to distill their underlying rational structure, value logic, and institutional implications. Only in this way can ecological rationality acquire a distinctly Chinese standpoint, a concrete practical orientation, and a recognizable character of the times.

Second, Marxist views of nature should be taken as the philosophical foundation for strengthening the explanatory power of ecological rationality. The construction of China's autonomous theoretical system of ecological philosophy must rest on the creative application of the basic principles of Marxism. In particular, philosophical resources concerning the metabolism between humanity and nature, the measure of practice, and the all-round development of the human being must be transformed into key supports for the generation and unfolding of ecological rationality [11]. Only then can ecological rationality avoid being reduced to a general moral appeal or a value slogan and instead become a genuine theoretical instrument for explaining the ecological path of Chinese modernization and for revealing the laws of development of ecological civilization. The

theoretical deepening of ecological rationality requires both a return to the Marxist philosophical understanding of nature and a renewed determination, within the historical process of ecological civilization construction in contemporary China, of the practical measure and developmental boundaries of the human-nature relationship.

Third, the holistic wisdom of traditional Chinese philosophy should be reactivated to broaden the cultural foundations of ecological rationality. Traditional Chinese thought contains numerous propositions concerning the relation between heaven and humanity, following nature, and the co-flourishing of all things. These cannot be directly equated with modern ecological-philosophical categories. Nevertheless, their resources of holism, moderation, harmony, and generativity can still provide profound cultural support for the localization of ecological rationality. The key issue is neither to appropriate classical discourse at a superficial level nor to restate traditional propositions in a simple way, but rather to convert them through modern philosophical transformation and theoretical reinterpretation into intellectual resources capable of entering contemporary ecological-civilization discourse. Only when traditional ecological wisdom is creatively transformed and innovatively developed under the guidance of Marxism can ecological rationality acquire a deeper cultural grounding and a more persuasive local form of expression.

Fourth, interdisciplinary research must be advanced around concrete issues so as to enhance the practical integrative capacity of ecological rationality. In such areas as carbon peaking and carbon neutrality, territorial spatial optimization, ecological compensation mechanisms, the rule of law in environmental governance, and eco-oriented rural revitalization, China has already generated a large number of complex and composite practical issues. If ecological rationality is to become an effective category for constructing China's autonomous theoretical system of ecological philosophy, it cannot remain at the level of abstract philosophical speculation. It must enter the scene of real problems and foster multi-layered interaction and mutual corroboration among philosophical analysis, policy research, institutional design, and governance practice. Only in this way can ecological rationality be transformed into a theoretical category equipped with explanatory force, critical force, and guiding force.

Fifth, a China-centered yet world-oriented discourse system of ecological philosophy should be built. Autonomy does not mean closure [8]. A truly self-conscious theoretical system must continuously clarify its own value position and theoretical profile through sustained dialogue with ecological thought worldwide. This indicates that ecological rationality is not only a core category internal to China's autonomous theoretical system of ecological philosophy; it can also become an important conceptual bridge connecting Chinese experience with global concerns. On the one hand, it responds to the universal questioning, under the conditions of global ecological crisis, of development modes, civilizational forms, and the restructuring of the human-nature relationship. On the other hand, it brings into focus the institutional strengths, cultural characteristics, and practical wisdom gradually formed in the course of China's ecological civilization construction. In this way, Chinese ecological philosophy can develop a discourse with stronger subjectivity, greater originality, and more effective explanatory power on a global scale.

6. Conclusion

In sum, ecological rationality is not merely a supplementary concept within ecological-philosophical research but serves as a pivotal category that permeates the theoretical development of ecological philosophy, the establishment of China's independent theoretical framework for ecological philosophy, and the advancement of ecological-civilization studies in the contemporary era. By following the progression of "ecological philosophy-ecological rationality-practical pathways," this article has explored the theoretical importance of ecological rationality as a composite form of rationality and highlighted its foundational role in shaping China's autonomous theoretical system of ecological philosophy. Moving forward, ecological rationality has the potential to act as a genuine fulcrum for theoretical innovation and systematic refinement in Chinese ecological philosophy, provided it is firmly rooted in the theoretical demands and

practical processes of ecological civilization construction in the modern era, and achieves a profound integration among Marxist philosophy, traditional ecological wisdom, and contemporary green practices.

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