

The Foundation of Metaphysical Necessity: An Revisionary Kantian Approach

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Abstract. This paper aims to provide a coherent metaphysical account of metaphysical necessity, particularly Kripke's notion of "a posteriori necessary truths," through a modified Kantian approach. Starting from Kant's concept of the thing-in-itself, the paper makes a crucial revision to its agnostic stance: while the intrinsic qualities of the thing-in-itself remain unknowable, its structural or functional role—namely, as the transcendental foundation for the unity of phenomena—can be grasped by reason through transcendental reflection. Building on this foundation, the paper demonstrates that what Kripke refers to as "essence" is in fact the functional manifestation of the Ding an sich. Putnam's "correspondence principle" provides empirical corroboration for the Ding an sich's role in guaranteeing the unity of phenomena. The necessity of a priori propositions like "water is H₂O" does not derive from the empirical content itself, but from the Ding an sich's essential, constitutive function as the bearer of universality. Furthermore, this paper addresses philosophical challenges such as multiple realizability from Quinean holism and functionalism, thereby further consolidating the rationality and explanatory power of this revised approach. Ultimately, it seeks to build a philosophical bridge between Kant and Kripke, demonstrating that the foundation of metaphysical necessity is deeply rooted in the functional role of the thing-in-itself and the transcendental structure of human cognition.

Keywords: Metaphysical necessity, thing-in-itself, a posteriori necessary truth, rigid designation, principle of correspondence

1. Introduction

The question of metaphysical necessity lies at the intersection of contemporary analytic philosophy and classical transcendental philosophy. Its core concern is: What kind of truth holds not only in the real world but is necessarily true in all possible worlds? And how can humans come to know such necessity? This paper aims to reexamine the philosophical foundations of "post-a priori necessity." Through a modified Kantian framework, it responds to challenges posed by strict reference theories, exemplified by Saul Kripke, and attempts to provide a more coherent metaphysical account of metaphysical necessity.

Immanuel Kant laid the transcendental foundation for discussions of necessity. Within his critical philosophy, necessity and strict universality derive from the a priori structure of the human cognitive subject. Mathematics and the principles of pure reason are necessary not because they reflect the

structure of the thing-in-itself (Ding an sich), but because they constitute the formal framework enabling empirical phenomena [1]. Thus, Kantian necessity is fundamentally epistemic and a priori. However, Kant's placement of the "thing-in-itself" beyond the absolute limits of human cognition—as a wholly unknowable entity—creates a seemingly insurmountable chasm within his system between a posteriority and metaphysical necessity. Saul Kripke's work radically transformed this theoretical landscape. In his "Naming and Necessity," he powerfully argued for the existence of a posteriori necessary truths, famously exemplified by "water is H₂O." Kripke pointed out that while people discover water's chemical structure through a posteriori empirical scientific inquiry, this leads to a necessary truth: in all possible worlds, water must be H₂O. This necessity does not derive from our language or concepts, but from the essential properties of the object itself. He explains this through the theory of "rigid designation": natural kind terms (such as "water") rigidly designate the same object in all possible worlds, so statements about their essential properties possess cross-world necessity [2]. Hilary Putnam's contributions further enriched and supported this picture. His "twin Earth" thought experiment and semantic externalism powerfully bolstered the view that designation is determined by the external world rather than internal perception. His "Principle of Correspondence"—which requires that different phenomenal manifestations of an object (such as ice, water, and steam) must be interrelated within the same category and subject to a unified interpretive framework—provides crucial empirical corroboration and philosophical support for the argument presented in this paper.

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This paper adopts Kant's concept of the thing-in-itself as its theoretical starting point, yet does not fully embrace Kant's position of thoroughgoing, unconditional agnosticism regarding the thing-in-itself. It argues that analytical propositions concerning the thing-in-itself—specifically those pertaining to its functional role, such as “as the foundation of phenomenal unity”—can be grasped by reason through a priori reasoning. Moreover, human cognition will perceive such propositions as necessary. However, synthetic propositions about the thing-in-itself itself (concerning its intrinsic qualitative nature, such as “what the thing-in-itself actually is”) remain unknowable, and the human mind does not perceive them as necessary.

Based on this revised position, this paper contends that Kripke's challenge not only fails to overturn Kant's transcendental framework but instead necessitates a constructive revision of the concept of the “thing-in-itself.” This paper aims to demonstrate that: (1) The “essence” in Kripke's theory corresponds to Kant's Ding an sich as the bearer of universality; (2) The unknowability of the Ding an sich should be precisely confined to its intrinsic qualitative nature, excluding its transcendental function of determining the unity of the phenomenal world; (3) The necessity of a posteriori necessary propositions like “water is H₂O” derives precisely from the regulative function that the thing-in-itself necessarily exercises to guarantee the possibility of experience. Through this revised Kantian approach, this paper seeks to provide a more robust metaphysical foundation for the a posteriori necessity identified by Kripke, thereby building a philosophical bridge between Kant and Kripke while simultaneously responding to critiques from other philosophical perspectives.

2. Core argument: the thing-in-itself as the universal foundation of metaphysical necessity

2.1. Revision of Kant's framework and the functional role of the thing-in-itself

The central distinction in Kant's philosophy lies between “phenomenon” (*Erscheinung*) and “thing-in-itself” (*Ding an sich*). The phenomenon encompasses the entire realm of human experience, jointly constructed by our innate forms of intuition (space and time) and the categories of the understanding. Conversely, the thing-in-itself denotes reality itself, existing independently of our cognitive forms. Kant firmly maintained that all human knowledge is confined to the phenomenal realm, while the intrinsic nature or inherent properties of the thing-in-itself remain utterly unknowable. Nevertheless, the thing-in-itself plays an indispensable functional role within Kant's system: it serves as the essential foundation for the manifestation of phenomena, providing the a priori basis that ensures the coherence and unity of the phenomenal world. Without the thing-in-itself as the source of sensory stimuli and the bedrock of phenomena, the entire empirical world would lose its objectivity and unity.

This paper partially borrows Kant's framework but makes a crucial revision to its agnostic conclusion. It contends that the unknowability of the thing-in-itself should be strictly confined to its “qualitative nature” and not extended to its “structural or functional role.” In other words, while people cannot know through any empirical means or intuition “what it is,” people can understand through transcendental reflection and reasoning “what it does”—that is, the functions it necessarily performs as the transcendental ground of phenomena. For example, the proposition “the thing-in-itself as the foundation of the unity of phenomena” does not state comprehensive knowledge about the thing-in-itself's internal attributes, but rather constitutes an analytical proposition about the conditions of empirical possibility. It is something reason can grasp through a priori argumentation.

Thus, the necessity of a posteriori propositions like “water is H₂O” does not rest upon complete ignorance of the thing-in-itself. Rather, it originates from the thing-in-itself’s functional role as the universal ground of determination—a role accessible to reason and constituting the ultimate source of a posteriori necessity.

2.2. Universality as a necessary condition for necessity

Universality, traditionally defined as the unconditional applicability of a property, principle, or truth across all possible contexts, constitutes a necessary condition for metaphysical necessity. Accordingly, two cognitive modes of necessity can be distinguished: (1) a priori necessity, such as mathematical truths. Its necessity derives from the universal a priori structure of human cognition, independent of any contingent empirical content, and thus possesses strict universality a priori. (2) Acquired necessity, such as “water is H₂O.” Its necessity cannot be explained solely by referential or attributive aspects at the phenomenal level. For any phenomenal form (e.g., water in its liquid state), people can logically conceive of different arrangements (e.g., ice or vapor) without contradiction. Therefore, its necessity must originate beyond the phenomenal realm.

Kant regarded the thing-in-itself as the necessary foundation of the phenomenal world. Though its intrinsic nature remains unknowable, it holds a transcendental position of necessity as the source of sensation and the guarantor of the unity of phenomena. This paper further contends that the thing-in-itself is not only the foundation of phenomena but also the ultimate bearer of universality. Universality refers to the unconditional validity of a property or truth across all possible worlds. The thing-in-itself, by virtue of its nature transcending time and space and being independent of any particular experiential conditions, becomes the source of this universality. For example, the statement “water is H₂O” is true in all possible worlds precisely because it refers not to some contingent property of water, but to the essential structure prescribed by the underlying thing-in-itself. Through its functional role—ensuring the unity and consistency of phenomenal manifestations—the thing-in-itself confers cross-world validity upon such essential statements [4].

The central thesis of this paper is that a posteriori necessity is possible if and only when its referent ultimately appeals to the thing-in-itself—that is, the thing-in-itself which transcends all phenomenal contingency and serves as the ultimate bearer of universality. This universality manifests through two fundamental attributes of the thing-in-itself: (1) Transcendental independence from space and time: The thing-in-itself exists independently of spatial and temporal forms. It precedes any living consciousness and continuously stimulates our senses to produce phenomena. Its capacity to affect sensibility is eternal and unchanging. (2) Foundation of phenomenal unity: Though its intrinsic nature remains unknowable, the thing-in-itself guarantees the stability and coherence of phenomenal manifestations. Without the thing-in-itself to prescribe a harmonious mode of appearance, human experience would descend into chaos, rendering all knowledge impossible. Thus, the thing-in-itself necessarily functions as the prescriber of a unified mode of appearance—a unity itself transcending the flux of time and space [1,5].

2.3. Kripke’s challenge and its resolution within a modified framework

Kripke’s proposition that “water is H₂O” constitutes the most potent counterexample to traditional Kantianism. It appears to be a synthetic proposition—one discovered purely through a posteriori experience—yet true in all possible worlds. However, careful analysis within this paper’s revised framework reveals that Kripke’s example not only fails to undermine our argument but actually confirms our core insight. The key lies in Kripke’s accurate observation that the word “water,”

through its initial “baptism,” refers not to its superficial, variable phenomenal properties (such as wetness or transparency), but to its hidden, intrinsic essential structure. This essential referent is precisely the thing-in-itself in the Kantian sense.

Two arguments support this interpretation. (1) The word “water” in “water is H₂O” does not refer to any particular phenomenal property. Its reference eludes any purely phenomenalist reduction. (2) The proposition asserts not some contingent feature of water (e.g., “the water in the lake is full”), but declares that the thing-in-itself of water necessarily determines H₂O as its unified mode of appearance in our phenomenal world. Thus, the metaphysical necessity of “water is H₂O” does not derive from the chemical description “H₂O” itself, but from the thing-in-itself ultimately signified by the strict referential term “water”—that universal bearer whose very existence provides the foundation for necessity [6].

2.4. Putnam’s correspondence principle: empirical support and deepening

Hillary Putnam’s “Principle of Correspondence,” proposed within his externalist semantic framework, represents a significant contribution to his theory of natural kind reference. This principle asserts that different phenomenal manifestations of a natural kind (such as “water”)—including liquid water, ice, and steam—must be unifiable within the same category and subject to a unified explanatory framework. In other words, while these manifestations appear diverse in sensory experience, they must share a deep, law-like structural unity; otherwise, they cannot be rationally recognized as instances of the same natural kind.

Putnam further elucidates this principle through the “twin Earth” thought experiment: even in a possible world where a liquid shares all sensory properties with water, it should not be called “water” if its microscopic structure is not H₂O. This judgment rests precisely on the correspondence principle—namely, that referential identity is not determined by subjective sensation, but by the objective structure underlying the object and its position within a causal-law system.

Within this paper’s modified Kantian framework, the correspondence principle is viewed as a “functional manifestation” of the thing-in-itself at the experiential level. As the foundation of phenomena, the thing-in-itself ensures a transcendental unity and correspondence among its various modes of appearance. Thus, when scientific experimentation reveals that all phenomena termed “water” can be reduced to H₂O, people uncover not merely an empirical law but the inevitable outcome of the thing-in-itself prescribing a unified mode of appearance within the phenomenal world. The principle of correspondence is therefore not merely a semantic or scientific methodological principle but a metaphysical one, reflecting the functional role of the thing-in-itself as the source of necessity.

The scientific discovery that “water is H₂O” constitutes the scientific encoding of this deep correspondence. When all manifestations labeled “water” are found to conform to the explanatory framework of H₂O, this proposition acquires an empirical necessity. This necessity is not merely a psychological habit but reflects the prescriptive function of the thing-in-itself: it guarantees a lawful, unified correspondence between its diverse modes of appearance. Putnam’s principle, then, is the necessary manifestation of the thing-in-itself within the empirical realm to guarantee referential stability and the possibility of knowledge.

3. Responses to potential philosophical challenges

3.1. Challenge one: Quine's critique of the analytic/synthetic distinction

In his landmark essay "Two Dogmas of Empiricism," W.V.O. Quine mounted a thorough critique of the notion that strict distinctions exist between analyticity and syntheticity, as well as between apriority and aposteriority. He argued that people cannot clearly isolate purely analytic or a priori components within the web of belief. This appears to undermine any concept of necessity based on a priori analysis [7].

This paper responds that while Quine's critique certainly demolishes any attempt to ground necessity in pure linguistic convention or logical analysis, the argument in this paper does not rely on the traditional notion of "analyticity" that Quine attacked. Quine's holistic conception of knowledge (the web of belief) successfully demonstrates that our beliefs form an interconnected whole, jointly adjusted in the face of "stubborn experience."

However, this insight not only fails to undermine the present paper's argument but indirectly supports it. The foundation for arguing the necessity of "water is H₂O" is not an atomic proposition that can be isolated for "analysis," but rather the most fundamental a priori presupposition enabling any empirical knowledge (including chemical knowledge): that the thing-in-itself must serve as a universal basis determining the unity of phenomena [8]. This presupposition, as described by Quine, is deeply embedded at the core of our web of beliefs, possessing a centrality and tenacity that makes it "difficult to modify under any circumstances." Abandoning the belief that "the thing-in-itself of water determines H₂O as its unified manifestation" would entail the collapse and invalidation of the entire chemical system and a vast body of related empirical knowledge. This is fundamentally different from abandoning a peripheral, readily modifiable belief (such as "all swans are white").

Thus, Quine's holism helps us more clearly locate the nature of the necessity claimed in this paper: it is a necessity grounded in the bedrock of our cognitive framework that cannot be relinquished. The concept of the thing-in-itself, in its functional role, is precisely an indispensable component of this framework. In this sense, the necessity of "water is H₂O" stems precisely from its status as a "cornerstone" of our rational cognitive endeavor [9].

3.2. Challenge two: the multiple realizability of functionalism

The argument of "multiple realizability," originating from the philosophy of mind, posits that the same high-level functional role (such as "pain" or "water") may be realized by multiple distinct underlying physical structures. Accordingly, even if water in our world is realized by H₂O, it seems logically possible that a possible world exists where all the phenomenal properties of water are perfectly "realized" by another microscopic structure (e.g., XYZ). Does this undermine H₂O's status as the necessary essence of water?

This paper argues that the challenge of multiple realizability contains an unnoticed transcendental illusion. It erroneously presupposes that one can meaningfully conceive of a "world with a different thing-in-itself." According to Kantian transcendental idealism, space and time are the necessary forms of our sensuous intuition. Therefore, anything people can imagine as a "possible world" must necessarily be merely a reconfiguration of phenomena. Our "conceivability" is strictly confined to variations within the phenomenal realm. However, as the transcendental ground of phenomena, the thing-in-itself itself is absolutely external to the forms of space and time. It is not itself a variable in the sequence of possible worlds or an item available for reconfiguration. Therefore, to claim that one can conceive of a "world of things-in-themselves that are different" is equivalent to claiming that

people can transcend the absolute limits of our own cognition to think of a “difference” that is neither spatial nor temporal. This inevitably produces a hollow concept devoid of any cognitive content.

Thus, the so-called “XYZ world” cannot legitimately be described as a world where “the thing-in-itself of water is specified as XYZ.” It can only be understood as: under the same thing-in-itself, the phenomenon of water presenting another possible yet still unified mode of appearance under different natural laws. However, according to Putnam’s correspondence principle (itself a requirement of the constitutive function of the thing-in-itself), if no lawful correspondence exists between XYZ and H₂O—meaning they cannot be reduced to the same causal historical chain and interpretive framework—then they cannot rationally be recognized as manifestations of the same natural kind (water). They would constitute two entirely distinct kinds [10].

In other words, the identity of “water” as a natural kind is rigidly fixed by a singular “naming baptism,” anchoring its designation to a specific thing-in-itself and its prescribed essential structure. This designation is rigid, transcending all possible worlds. What people can conceive are only different phenomenal manifestations under the same essence (H₂O)—such as ice and steam—never another essence (XYZ) simultaneously called “water.” The challenge of multiple realizabilities erroneously applies humanity’s limited, phenomenally constrained modal imagination to the realm of the thing-in-itself. Thus, this challenge cannot undermine the conclusion of this paper.

4. Conclusion

This paper offers a novel and coherent account of metaphysical necessity through a modified Kantian approach. It reexamines Kant’s concept of the thing-in-itself, precisely delimiting its unknowability to intrinsic qualities while defending its foundational role in establishing necessity through functional relations. By integrating Kripke’s “essence” and Putnam’s “correspondence” into this revised framework, this paper demonstrates that the ultimate source of the necessity of a posteriori propositions like “water is H₂O” lies in the determinative function necessarily exercised by the thing-in-itself as the bearer of universality, coupled with the absolute inconceivability of the thing-in-itself’s variation to human reason. This approach not only successfully bridges Kant and Kripke, providing a robust metaphysical foundation for acquired necessity, but also powerfully counters potential challenges from Quinean holism and functionalism, such as multiple realizability. It demonstrates that metaphysical necessity is not mysteriously unfathomable; its roots are deeply embedded in the conditions of empirical possibility and the inherent structure of human cognition.

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