

Kant, Anti-Exceptionalism, and the Phenomenology of Scientific Reasoning: From Transcendental Logic to Scientific Self-Awareness

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Abstract

Kant's transcendental logic provides a robust framework for addressing the limitations of classical and extensional models in specifying inferential content. These arguments position Kant's transcendental logic as a framework that enriches human logic by representing the unity of synthetic knowledge, thereby integrating the new methods of natural science into a cognitive process centred on human experience. This reinterpretation aligns with contemporary movements toward pluralism and adaptability in logic while restoring a sense of logic's exceptionality within a phenomenological context. Kant's transcendental logic serves two key roles: i) as a precursor to alternative logics, supporting the anti-exceptionalist view that logic evolves alongside other epistemic practices, and ii) as an illustration of the *phenomenological continuum* through which science advances, representing the scientific self-awareness of his time. Although this self-awareness lacks universal validity—evidenced by the decline of Euclidean geometry's exclusivity and other scientific shifts—it highlights logic's dual role: as both a tool for refining epistemic practices and a discipline influenced by evolving scientific paradigms. While anti-exceptionalism challenges the privileged status of logic, the concept of a phenomenological continuum restores a refined sense of exceptionality that aligns logic with the highest epistemic ideals.

Keywords: Transcendental Logic, Phenomenology, Logical Anti-Exceptionalism, Synthetic Judgments, Scientific Self-Awareness.

Kant, anti-excepcionalismo y la fenomenología del razonamiento científico: De la lógica trascendental a la autoconciencia científica

Resumen

La lógica trascendental de Kant ofrece un marco robusto para abordar las limitaciones de los modelos clásicos y extensionales al especificar el contenido inferencial. Estos argumentos posicionan la lógica trascendental de Kant como un marco que enriquece la lógica humana al representar la unidad del conocimiento

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sinfético, integrando así los nuevos métodos de la ciencia natural en un proceso cognitivo centrado en la experiencia humana. Esta reinterpretación se alinea con los movimientos contemporáneos hacia el pluralismo y la adaptabilidad en la lógica, al mismo tiempo que restaura un sentido de excepcionalidad de la lógica dentro de un contexto fenomenológico. La lógica trascendental de Kant cumple dos roles clave: i) como precursor de lógicas alternativas, apoyando la visión anti-excepcionalista de que la lógica evoluciona junto con otras prácticas epistémicas, y ii) como una ilustración del continuum fenomenológico a través del cual avanza la ciencia, representando la autoconciencia científica de su tiempo. Aunque esta autoconciencia carece de validez universal—como lo demuestra el declive de la exclusividad de la geometría euclidiana y otros cambios científicos—pone de relieve el papel dual de la lógica: como herramienta para afinar las prácticas epistémicas y como disciplina influenciada por los paradigmas científicos en evolución. Mientras que el anti-excepcionalismo desafía el estatus privilegiado de la lógica, el concepto de un continuum fenomenológico restaura un sentido refinado de excepcionalidad, alineando la lógica con los más altos ideales epistémicos.

Palabras clave: Lógica Trascendental, fenomenología, anti-excepcionalismo lógico, juicios sintéticos, autoconciencia científica.

1. Introduction

This article delves into the role of *a priori* synthesis in unifying representationalism and inferentialism, presenting a framework that transcends simple extensional models of logic. By placing Kant's approach within broader philosophical discussions on inference, we aim to clarify how inferential content is specified, grounded, and represented within the cognitive structures that shape human understanding.

Kant's transcendental logic offers a profound enrichment of human reasoning by representing the unity of synthetic knowledge. It integrates the emerging methodologies of natural science with a cognitive process centred on human experience. This framework embodies the scientific self-awareness of Kant's time, depicted phenomenologically through the inferential structures enabled by the categories and spatiotemporal forms. While this self-awareness lacks universal validity—evident in the eventual

decline of Euclidean geometry's exclusivity and other scientific shifts—it achieves two key objectives: i) it anticipates alternative logics, supporting the anti-exceptionalist perspective that logic evolves alongside other sense-making practices, and ii) it establishes a new sense of logic's exceptional status, as its coordination with transcendental conditions positions it as a fundamental guide for epistemic practices. This framework reveals the *phenomenological continuum* through which scientific paradigms develop.

From this perspective, we argue that Kant's *Critique of Pure Reason* (KrV)² emerges not only as a treatise on universal cognitive laws but also as a phenomenological model of logical exceptionalism. By proposing a framework of theoretical consciousness that adapts to historical scientific paradigms, Kant bridges past methodologies with future insights, offering a dynamic vision of the evolving interplay between logic and human understanding.

An essential point of Kantian philosophy was to replace scholastic metaphysics with a form of synthetic knowledge that preserves our ability to comprehend the unobservable while doing justice to our capacity for cognizing empirical laws. This, however, would come at a cost. The price was the abandonment of unified intellectual principles, such as those proposed by Leibniz (KrV, A271/B327), in favour of the idea that the principles of cognition enrich rationality in ways inherently aligned with human intuition. This Kantian shift required a new understanding of the nature of our cognitive faculties and their capacity for discernment, particularly in theoretical domains that demand non-arbitrary modal specifications—those compatible with lawful regularities, representing essential rather than contingent structures. This reorientation resonates with later developments in the study of logical laws, particularly the way seemingly simple principles, such as the law of non-contradiction, have been increasingly complexified to accommodate deeper inquiries into logical structures and their foundations. For instance, the evolution of logic in the 19th and 20th centuries reflects an ongoing effort to refine and expand upon basic logical principles, ensuring their compatibility with broader epistemic frameworks, much like Kant's effort to ground cognition in the interplay between sensibility and understanding. This parallel illustrates

² This work follows the citation conventions of the Kant-Gesellschaft, which establish specific criteria for referencing Kantian sources.

how Kant's insights laid a foundation for modern intellectual movements focused on the revaluation of classical logic, the exploration of alternative logical systems, and the development of frameworks capable of addressing the complexities of cognition, modality, and meaning.

To introduce the topic, it is necessary to first remove certain obstacles rooted in widely accepted assumptions about Kantian philosophy. A persistent notion is that Kant's view of logic is outdated, influenced by the prejudice that logic could not evolve beyond the Aristotelian syllogistic. We argue that this interpretation is a complete non-starter—if we take it as a premise, we can't even begin to grasp the reality of Kant's text. Contrary to what's often assumed, Kant actually presents a surprisingly innovative perspective, one that remains impressive even by today's standards. He does indeed assign the *general* aspect of logical knowledge to Aristotelian logic, which he considers 'finalised.' However, as noted by authors like Dieter Henrich and Ernst Cassirer (1923), this move reflects Kant's perspective that Aristotelian logic, while historically foundational, serves a limited role. It could not account for the evolving complexities of scientific knowledge or its reliance on *a priori* condition. As Henrich (2003) argues, Kant viewed Aristotelian logic as complete within its own domain but inadequate for addressing the full scope of cognition, particularly when it came to validating the representation of scientific advancements in his era. For such judgments, Aristotelian logic was, in fact, becoming outdated.

We will begin by exploring the distinction between general logic and transcendental logic, a fundamental step in understanding these ideas.

1.1. Kant's stand on Aristotelian Logic: Connecting Transcendental Logic to Non-Classical Insights

To properly understand Kant's perspective on Aristotelian logic, one must contrast it with his concept of the difference between general logic and transcendental logic. Kant's transcendental logic, with its concept of synthetic judgments and a subjectively grounded perspective on logical principles, presents an alternative approach to logic. In many ways, it serves as a forerunner to modern non-classical logic, challenging and occasionally relaxing the traditional assumptions of extensionality, non-contradiction, and the excluded middle. Transcendental logic examines the conditions of possibility for knowledge, which involves more specific structures—akin to the way modal logics introduce frameworks for necessity and possibility, or

intensional logics address the context-dependence of meaning, or inferentialism emphasises the interconnectedness of concepts within a network of inferential relations rather than their extensional definitions. Therefore, we can confidently say that Kant did not view Aristotelian logic as a complete system of logic, but as limited. This is because Aristotelian logic only addresses general forms of logical thinking, failing to consider their synthetic foundations.

Kant's logical distinctions are conceptually parallel to modern logic's move beyond classical systems to frameworks that account for semantic or contextual variation, as seen in intensional (Carnap, 1956; Føllesdal, 1966; Marcus, 1946; Montague, 1973;) and modal logics (Carnap, 1947; Hintikka, 1962; Kripke, 1963; Lewis and Langford, 1932). To break down these ideas further, Kant saw general logic as dealing with the *form* of thought in abstraction from content or conditions of applicability, much like classical logic focuses on extensionally valid principles and the law of non-contradiction and bipolarity. Extensionality, as a principle in logic, asserts that entities such as sets, statements, or predicates are defined and distinguished solely by their extensions—whether the members of a set, the truth-values of statements, or the objects satisfying a predicate—grounding logical principles in numerical, one-to-one correlations between terms or statements. This approach emphasises external characteristics, such as numerical or logical equivalences, over underlying or deeper conditions or meanings. Because of the focus on extensional relations, classical logic evaluates the truth of statements based on fixed truth conditions, treating all instances uniformly, regardless of situational or interpretive variations. Kant's general logic similarly focuses on formal rules that apply universally, without investigating the deeper conditions that justify those rules or their reasons for holding true.

1.2. Overview and Early Definitions

We will now proceed with an overview of the article, structured as a progression of interconnected arguments that aim to illuminate Kant's transformative contributions to logic and their broader implications. The work unfolds progressing from foundational distinctions in Kant's theory to their resonance in contemporary debates on non-classical logic and phenomenology.

Section 2 lays the groundwork by exploring Kant's distinction between analytic and synthetic judgments. Here, we examine how Kant critiques the limitations of analytic reasoning, which clarifies relationships within established concepts but cannot address the deeper conditions that make knowledge possible. This leads to Kant's introduction of synthetic judgments, which unifies disparate representations under the synthetic unity of apperception, enabling meaningful cognition. This chapter sets the stage for understanding how Kant's transcendental logic transcends extensional reasoning and anticipates frameworks, such as modal and intensional logics, which account for context and relational dynamics.

Section 3 builds on this foundation by addressing the challenges of representing inferential content in logical systems. Kant's reflections on negation and his recognition of 'third possibilities' serve as a bridge to non-classical frameworks like paraconsistent and intuitionistic logics, which question classical assumptions such as bivalence and the law of the excluded middle. The chapter explores how inferential content arises within the structures of meaning. This perspective enriches our understanding of Kant's synthesis of the manifold by situating logical processes within the broader domain of meaning and intensional relations.

Section 4 expands the discussion to connect Kant's transcendental logic to the broader project of logical anti-exceptionalism and the *phenomenological continuum*, emphasizing how Kant's insights align with modern pluralistic frameworks.

A term we will frequently use, and one that carries substantial weight in the premises of this article, is the 'phenomenological continuum.' Given its importance, it is advisable to provide the reader with a guiding definition of this concept early on, even though its full meaning will unfold through the development of the article's arguments. In academic terms and with respect to established theories, the term refers to a structured abstraction of ideal possibilities, aligning with Husserl's phenomenology and his concept of cognition as an *eidetic*, non-psychological layered process. In the context of this article, this borrowing from Husserl serves to frame the phenomenological continuum as an integrative framework that captures the interplay between ideal layers of cognition, meaning, and epistemic practices. The concept of logic being embedded within a phenomenological continuum is a central insight of our article. It suggests

that various mechanisms of establishing epistemic validity—ranging from highly formal (analytic) approaches to those enriched by substantive content (synthetic)—can be integrated into a unified and continuous framework of cognition. This aligns with the article’s thesis that logic’s exceptional status is redefined within a broader epistemic and phenomenological framework, emphasizing its role in scientific self-awareness.

2. Kant’s Theory of Judgment: From Analytic Limits to Synthetic Foundations

2.1. From Analytic Limits to Synthetic Foundations

Kant’s theory of judgment is fundamentally rooted in the synthesis of intuition and concepts. This synthesis, which is central to his transcendental logic. The material elements of representation (both concepts and intuitions) serve as the building blocks of judgment, where the act of synthesis advances beyond the merely analytical dissection of concepts to establish connections essential for cognition. Kant elaborates on this advancement of synthetic over analytic structures in the *Critique of Pure Reason*, where he explains how judgments arise from a dynamic interplay between the faculties of understanding and sensibility.

In the *Jäsche Logic*, Kant defines a judgment as “the representation of the unity of the consciousness of various representations, or the representation of their relation, insofar as it is objective” (*Logik*, §18, 9:101). This description emphasises that judgments are not merely associations of ideas, but structured acts that subsume multiple representations under a single concept. The *Merkmale* or ‘marks’ of a concept are the material elements through which this synthesis occurs, forming the basis for connecting intuitions with higher-order cognitive structures.

This dynamic of synthesis is further clarified in the *Critique of Pure Reason*, where Kant writes:

Judgment is therefore the mediate cognition of an object, consequently the representation of a representation of it. In every judgment there is a concept that holds of many representations, and among these it also comprehends a given representation, which is then immediately referred to the object (KrV, A68/B93).

Here, Kant underscores that judgments mediate between the immediate representations of objects and concepts. The act of judgment involves organizing these elements to form a coherent representation of the object, enabling meaningful cognition.

This aspect of Kantian philosophy enjoys a notable consensus among contemporary commentators, allowing us to reference their works here without delving into contentious debates. Dieter Henrich underscores the mediating function of judgment within Kant's system, showing how synthesis bridges the sensory manifold and *a priori* categories, forming the backbone of transcendental logic, as discussed in his essay, "Kant's Notion of a Deduction and the Methodological Background of the First Critique" (1969, p. 52). Béatrice Longuenesse observes that judgment combines representations in accordance with the rules of the categories, thereby forming the synthetic unity of consciousness, as she explains in *Kant and the Capacity to Judge* (1998, p. 96). Similarly, Henry Allison emphasises that synthesis constitutes the essential activity of the understanding, uniting intuitions and concepts to produce genuine knowledge rather than mere analytical truths, a point he develops in *Kant's Transcendental Idealism* (2004, p. 139). Paul Guyer, in *Kant and the Claims of Knowledge* (1987, p. 175), links this synthesis to the dynamic structures required for comprehending the world, advancing beyond static conceptual analysis. Clinton Tolley elaborates in *The Generality of Kant's Transcendental Logic* (2012, p. 432) that judgment actively constructs a unified representation by organizing the manifold of intuition under conceptual rules.

In the *Critique of Pure Reason*, Kant's distinction between synthetic and analytic judgments (KrV, A6-7/B10-11) underscores the limitations of purely analytic reasoning in accounting for the structural principles governing reality. Analytic judgments clarify meanings within established concepts but do not engage with the conditions that render phenomena possible in experience. Kant is categorical in warning that *analytic judgments* should not be "falsely presented as propositions of experience" (*Metaphysik Mrongovius*, Ak. 29, 78).

For example, consider the statement 'a triangle has three sides.' At first glance, this might seem analytically valid, as the concept of 'triangle' appears to contain the predicate 'three sides' by definition. However, upon closer examination, the actual application and recognition of a triangle

depend on synthetic unity. To understand ‘triangle’ as a three-sided figure requires not only conceptual definitions, but also the ability to synthesise spatial intuitions into a coherent geometric form.

Kant also believes that genuine analytic judgments, such as “bachelors do not sign postnuptial agreements,” (KrV, B190) do not adequately explain the reasons they are logically necessary. Furthermore, Kant considers the cognition of the non-contradictory nature of these judgments to be a “merely negative criterion of all truth” (KrV, B190). These judgments merely illustrate the *form* of logical necessity—that is, they show what this logical form necessarily excludes (in this case, the possibility of a bachelor being bound by a postnuptial agreement). However, they do not explain why this exclusion is itself necessary.

Analytic judgments can clarify what is logically ruled out based on the definitions of the terms involved (e.g., a bachelor, by definition, is unmarried and therefore cannot logically enter a postnuptial agreement). Yet, they stop short of grounding the necessity of these exclusions in anything beyond the tautological relationships between concepts:

In the analytic judgment I remain with the given concept in order to discern something about it. If it is an affirmative judgment, I ascribe to this concept something already thought in it; if it is a negative judgment, I only exclude the opposite of this concept from it (KrV, A7/B10).

For Kant, this highlights a limitation of analytic judgments: while they reveal logical consistency within a closed system of definitions, they fail to address the deeper, synthetic foundations that give rise to such logical structures and their applicability to the real world: “Without the synthesis that the understanding itself produces, through which it also first brings forth the connection of the manifold representations, no concepts, and hence no cognition of objects, would ever arise” (KrV, A77/B102).

Kant’s *Critique of Pure Reason* establishes a crucial distinction between general logic and transcendental logic, highlighting the latter’s unique role in grounding and guiding the power of judgment. As Kant explains, general logic provides no precepts for the power of judgment, as it deals only with the formal rules of thought. Transcendental logic is

concerned with securing and correcting judgment through determinate rules, particularly in using pure understanding. Kant writes:

General logic can give no precepts to the power of judgment; things are quite different with transcendental logic, so that it even seems that the latter has as its proper business to correct and secure the power of judgment in the use of the pure understanding through determinate rules (KrV, A134/B173).

Kant's concept of transcendental logic extends this analytic limitation, distinguishing it from general logic by examining the conditions that make knowledge possible (KrV, A55/B79). Transcendental logic, unlike formal logic, investigates how concepts like relate to experience, grounding these relations in synthetic unity rather than mere extensional connections.

2.2. Kant's Synthesis of the Manifold: The Foundation of Objective Judgment

Kant's idea of the synthesis of the manifold is foundational for his theory of judgment, emphasizing that it is neither reducible to purely extensional relations (such as binary classifications of subject and predicate) nor limited to analytic clarification of concepts:

The synthesis of a manifold (be it given empirically or a priori) first brings forth a cognition, which, to be sure, may initially still be crude and confused, and therefore in need of analysis, but is nonetheless a synthesis of representations that consciousness first gathers together and unifies into a possible judgment (KrV, A78/B103).

This unifying aspect of synthetic judgments shows that the truth or error of the judgment does not originate from the extensional inclusion but rather from a synthetic act that brings together disparate representations into a coherent structure: "In synthetic judgments, however, I am to go beyond the given concept in order to consider something entirely different which is thought as in a relation to it, a relation which is therefore never one of identity" (KrV, A7/B10).

This ‘going beyond’ encapsulates the introduction of extra-extensional content. This synthesis enables judgments to achieve their objective validity through the unity of apperception. Kant identifies the unity of apperception—an act of self-consciousness that synthesises representations—as a necessary condition for any judgment. This unity doesn’t describe empirical reality; instead, it’s a fundamental *mental process* that shapes how we understand things:

Combination does not lie in the objects, and cannot be borrowed from them... Combination is rather an act of the spontaneity of the power of representation, and, since this representation must be represented as belonging to the unity of consciousness, the category of this unity provides the concept of this combination (KrV, B130).

All unification of representations demands unity of consciousness in the synthesis of them (KrV, B133).

Kant’s distinction between analytic and synthetic judgments, his emphasis on synthesis as an *a priori* act, and the corrective role of transcendental logic collectively show the limitations of purely extensional approaches to judgment. While analytic judgments clarify the logical structure of concepts, they cannot explain the relational or synthetic foundations that give judgments their normative and cognitive validity. By going beyond the given concept, synthetic judgments—grounded in synthesis and guided by transcendental logic—provide the foundation for meaningful cognition, filling the gap between form and content in human understanding.

3. Specifying Inferential Content: Beyond Classical Logic and Toward Synthetic Foundations

3.1. Kant, Negation, and the Third Possibility: Exploring Extra-Extensional Content and the Limits of Classical Logic

The challenge of representing inferential content lies in specifying the difference between a proposition and its negation, as illustrated by Kant’s discussion of non-binary oppositions (KrV, A504/B532). By recognizing a ‘third possibility,’ Kant introduces the concept of extra-extensional content,

which are representational structures not fully reducible to binary classifications of truth or falsity. This insight points to a foundational limitation within classical logic, which operates on the principle of bivalence (every proposition is either true or false) and the law of excluded middle (a proposition and its negation cannot both be false).

Kant's idea of extra-extensional content aligns with debates in contemporary logic, where critics increasingly question the ability of classical frameworks to account for richer conceptual relationships. For example, paraconsistent (da Costa, 1974; Priest, 2006) and intuitionistic logics (Brouwer, 1928; Heyting, 1930) challenge the universality of classical principles like double negation elimination or the strict dichotomy of bivalence, allowing for more flexible and context-sensitive systems of inference. Inferentialists (with nuanced verificationist tendencies) such as Michael Dummett have critiqued classical logic on similar grounds, emphasizing the role of constructivist and intensional perspectives:

Classical logic [...] rests upon the principle of bivalence: every statement is determinately true or determinately false [...] This view is inherently extensional, suppressing the idea that meaning resides in the use and the manner in which propositions are established (Dummett, 1991, p. 10).

In what follows, we will show how Kant's insights into synthesis and the unity of apperception relate to these developments, offering a theoretical bridge between classical and non-classical logical paradigms.

In the *Critique of Pure Reason*, Kant illustrates this thesis with the example of conflicting judgments that do not negate one another entirely but leave room for a third state or possibility: "If someone said that every body either smells good or smells not good, then there is a third possibility, namely that it has no smell (aroma) at all, and thus both conflicting propositions can be false" (KrV, A504/B532).

Conjunction elimination, as a classical proof-theoretical principle, allows us to infer P from $P \wedge Q$. However, if P is not fully equivalent to $\neg(\neg P)$, this equivalence implies that the inferential role of P is not entirely captured by its extensional conjunctions. For instance, in Kant's example of the concept 'body' and the property of smell, the proposition 'the body

smells good' (or P) cannot simply be reduced to its presence in a conjunction like 'the body smells good and exists.' The possibility that the body has no smell at all (Kant's 'third possibility') shows that the concept of 'smell' in this case resists straightforward disjunctive or conjunctive relations.

This approach can lead to unintended models: interpretations that, while formally consistent, fail to align with the intended semantics. When extensional exclusion proves insufficient to ground a judgment, it not only fails to establish reliable inferential connections or effectively exclude false outcomes but also highlights the limitations of interpreting the connective 'not' purely extensionally—treating negation as merely inverting truth-values without considering its deeper modal semantics.

This insufficiency highlights that the meaning of a concept like 'smell' is not fully captured by its extensional conjunction with other predicates (e.g., 'good' or 'not good'). Instead, it involves a broader structure of possible relations that includes scenarios where the predicates are inapplicable, such as the absence of smell altogether. Crucially, one can affirm 'not-smell' (the absence of smell) without thereby affirming 'smell' (the presence of some identifiable olfactory quality). This asymmetry shows the inadequacy of purely extensional accounts to handle the nuances of negation and conceptual opposition.

The problem reveals that negation does not merely invert the truth-value of a predicate, but instead operates within the inferential and intensional structure of propositions. This highlights that intensional distinctions—such as negating a quality without asserting the absence of the broader concept—are fundamental to understanding inferential relations and meaning.

3.2 Kant's non-classical approach on Contradiction: The Role of Synthesis and the Grounding of Meaning

Kant's exploration of a 'third possibility' suggests that the meaning of a concept often extends beyond its immediate binary oppositions, encompassing relational structures that classical logic cannot fully capture.

By addressing these complexities, Kant's work not only critiques the rigid framework of classical logic but also paves the way for exploring how synthetic judgments and the transcendental synthesis of intuition and

concepts can provide a more robust account of inferential content. This framework lays the foundation for engaging with non-classical logical rules, such as multi-valued or modal logics, where propositions are assessed within a broader spectrum of possibilities, echoing Kant's own efforts to transcend the binary confines of extensional reasoning.

Kant explores this further in his reflections on the Ideal of Pure Reason, where he demonstrates that negating both the subject and predicate of a concept removes the possibility of contradiction. He writes:

If I cancel the predicate in an identical judgment and keep the subject, then a contradiction arises [...]. But if I cancel the subject together with the predicate, then no contradiction arises; for there is no longer anything that could be contradicted (KrV, A595/B623).

If x and $P(x)$ are both cancelled, we have $\neg x \wedge \neg P(x)$. In this case, no contradiction arises because the negation of x eliminates the subject, leaving nothing to which $P(x)$ or its negation ($\neg P(x)$) could apply. When both x and $P(x)$ are negated, there is no logical space for opposition or contradiction to arise. Kant's framework introduces a third possibility: the cancellation of x itself, where no contradiction arises because x no longer serves as the ground for $P(x)$ or $\neg P(x)$.

Kant's observation, formalised and analysed phenomenologically, thus bridges logical analysis with the lived structures of consciousness, providing a richer understanding of contradiction and its grounding. This situates contradiction within the lived context of representation, where the presence or absence of the subject is not just a formal element of logic but an integral part of the intentional act of synthesis. For Kant, the act of judgment is not merely the application of formal rules but a process in which the mind synthesises representations to produce meaningful cognition. Contradiction, therefore, does not exist in isolation as an abstract formal relation; it arises only within the framework of consciousness actively uniting subject and predicate in a coherent structure. This passage underscores that contradiction arises not from isolated inconsistencies but from the active, lawful synthesis of representations into a unified judgment:

Combination does not lie in the objects, and cannot be borrowed from them. It is rather an act of the spontaneity of the power of representation, and since this representation must be represented as belonging to the unity of consciousness, the category provides the concept of this unity in the combination of the manifold (KrV, A105).

Kant's account of contradiction highlights its intensional structure, where meaning and opposition arise from the relational dynamics between subject and predicate within a judgment. For Kant, this relational dynamic ensures that contradiction is meaningful, rooted in the lawful synthesis of representations under the unity of apperception. This perspective distinguishes meaningful contradictions from mere formal inconsistencies, which lack the coherence and structure necessary for cognitive validity. This argument can be further developed by considering how inconsistencies can be understood from multiple perspectives: as external disassociations, as a mismatch between elements, or as grounded in meaning relations. Only the last type—those grounded in meaning relations—are of interest to Kant.

For example, 'The apple is red' and 'The sky is not blue' might result in an apparent consistency, but this consistency is superficial. Therefore, we cannot account for the inconsistencies that might arise in inferential outcomes if these propositions were arbitrarily combined within a broader framework of reasoning. Extensionally, these statements can coexist or even be *intersubstituted (salva veritate)* without contradiction, as their truth values do not inherently depend on one another. However, their compatibility is entirely external because there is no meaningful connection or relational framework uniting them within a judgment. They belong to separate conceptual domains and thus lack the synthesised unity required to generate a meaningful cognitive or logical contradiction.

4. Logic in a Phenomenological *Continuum*: Kant, Anti-Exceptionalism, and the Evolution of Meaning

4.1. Reconciling Universality and Plurality: Synthesis, Contradiction, and Meaning

Kant's transcendental logic moves beyond classical extensional reasoning by examining how judgments are synthesised, while maintaining a

commitment to universal and necessary conditions for cognition. This apparent subtlety should not be dismissed as a flaw or oversight in his philosophical vision. To advance the interpretation of Kant's work, it is crucial to integrate these seemingly divergent aspects of his philosophy. What could Kant have been aiming for, then, in expanding the scope of meaning beyond the dominant logic of his time without abandoning a universal logic? The answer lies in Kant's refusal to separate logic from its non-dialectical *canon*, instead grounding it in the transcendental structures that enable experience and cognition. For Kant, the distinction between sense and non-sense depends on this grounding, avoiding a dialectical approach where the transcendental dimension becomes merely a speculative rational tool.

For Kant, we cannot understand logic merely as an abstract system of formal rules (an *organon*) detached from the conditions of human cognition. Instead, Kant argues that logic is inseparably connected to the transcendental structures that make experience possible. His transcendental logic seeks to ground logical principles not only in their formal necessity but also in their role in organizing the manifold of experience into meaningful unity. Thus, the universal validity of logical laws is preserved, but their applicability is enriched by their rootedness in the experiential synthesis of sense and understanding.

This relates quite peculiarly to modern pioneers of non-classical paraconsistent theorists. In a hierarchy of paraconsistent logics (denoted as C_n , where n represents levels of inconsistency management), for example, we can understand fine-tuned reasoning in domains where contradictions arise but do not compromise the system's utility (da Costa, 1974). There is a sense in which Kant's thesis on the unity of meaning aligns with da Costa's approach to reasoning, particularly in addressing inconsistent but non-trivial datasets. For Kant, a contradiction is an analytical mismatch of conceptual elements but also a failure in the synthetic unity of apperception, where representations must cohere under a unified judgment to achieve cognitive validity. This suggests that the emergence of a contradiction is not necessarily an irreversible sign of the collapse of the system, but rather a signal that can point toward various directions for adjustment within the *continuum* of meaning. We can understand this continuum as the dynamic process where representations are synthesised and restructured to preserve

coherence and intelligibility. We can view a contradiction not as an endpoint but as a moment for reflective recalibration. This allows us to reassess, expand, or refine our cognitive framework in order to integrate disparate elements or resolve tensions.

Kant's view that the categories of understanding and pure intuitions provide a scaffolding for cognition without prescribing an immutable logical framework reflects the tension at the heart of anti-exceptionalism. Logic, in this view, is a tool shaped by the aims of inquiry rather than a fixed metaphysical reality. This pluralistic adaptability of logical systems and epistemic frameworks aligns with Kant's broader view that the concepts of consistency and completeness are not rigidly universal but should be understood in relation to the empirical and conceptual goals of specific disciplines. As discussed earlier, this adaptability underscores the limitations of extensional reasoning, as the standards for completeness and consistency are shaped by the ontological and methodological contexts of a given paradigm. Kant's framework provides a strong basis for understanding how theories can be coherent and well-defended within one belief system, yet appear incomplete or inconsistent when viewed from the perspective of another belief system. By allowing for these distinctions, Kant sets the stage for an enriched and pluralistic logic that better accommodates the evolving demands of science and philosophy, even if he did not fully pursue these implications himself.

The distinctions Kant makes room for involve the stratification of content across different domains of cognition, allowing for the possibility that logic and other epistemic frameworks need not be universally general but can instead operate within specific, domain-dependent structures. His attempt to universalise the sense-making practices of his time—particularly in natural science—ultimately fell short, as later developments, such as the rise of non-Euclidean geometries, demonstrated the limits of his framework. Nonetheless, there is room within his own theory to accommodate these shortcomings, as he himself allowed logic the possibility of adjustment and adaptation. Kant viewed Euclidean geometry as the framework for spatial reasoning, considering it grounded in the pure intuition of space. However, his broader transcendental framework does not rigidly tie cognition to the specific axioms of Euclidean geometry; rather, it emphasises the role of pure intuitions (space and time) as extra-logical conditions of cognition.

There is, at the very least, an ambivalence in the outcomes here. Kant intended for his framework to be universal, but his theory neither fails nor collapses when this universality is denied. On the contrary, it thrives precisely under this very condition.

We can expand this thesis by arguing that the completeness and consistency of our knowledge depend on specific scientific and philosophical paradigms that shape our rationality with new logical methods. From this perspective, Newtonian physics is more than an isolated scientific paradigm; it is a worldview that reshapes the horizon of possibilities for pure reason. In other words, the theory ability to achieve *completeness* (covering all phenomena) and *consistency* (avoiding contradictions) in knowledge hinges on paradigms that set the rules for logical reasoning, changing the way we make sense of the world.

4.2. Rethinking Logical Exceptionalism

The perspective outlined in the last section reflects the seeds of the more advanced pluralistic frameworks, such as those later elaborated in Husserl's phenomenology and the contemporary debates on logical anti-exceptionalism. Hjortland (2017) advocates for an abductive and revisionary method in logic, suggesting that logical principles should be evaluated and potentially revised based on their coherence, simplicity, and explanatory power—similar to the criteria applied in scientific inquiry. This perspective highlights that logic, like scientific theories, is open to revision. However, while this approach challenges the traditional notion of logic as fundamentally distinct and exceptional, it does not fully address how logic and empirical science differ in terms of priority or foundational status. Thus, while Hjortland's view effectively deconstructs the idea of logic's uniqueness, it leaves unresolved the question of how logic maintains its guiding role in relation to the sciences it parallels.

Martin and Hjortland (2022) refine this perspective by addressing how logic can remain foundational despite losing its exceptional status as the unique study of the traditional properties like a priority, normativity, or necessity. They argue that anti-exceptionalism about logic should not be seen merely as continuity with science but as “the rejection of at least one of the traditional properties of logic” (Martin and Hjortland, 2022, p. 8). This approach allows logic to keep its foundational role while adapting to the evolving demands of theoretical and practical inquiry.

This approach to anti-exceptionalism leads to what we term *Holistic Anti-Exceptionalism*, emphasizing the interconnectedness of logic with other epistemic practices within a logical continuum—a dynamic framework where meaning and reasoning evolve through their integration with broader cognitive structures. In this framework, logic is not an isolated or exceptional discipline but part of a dynamic interplay where various forms of knowledge and inquiry mutually inform and shape each other. This challenges the notion that logic is uniquely fixed or universal among epistemic systems, instead proposing that logic, like other fields, can evolve and be revised in response to experience, context, and methodological innovation. This continuum reflects the evolving structures of meaning, where logic adapts and integrates with other epistemic systems to maintain coherence, applicability, and relevance.

4.3. Holistic Logical Anti-Exceptionalism: Second-Order Logic and Kant's Synthesis of Meaning

Another important contributor to the debate on the non-exceptionality of logic, Shapiro (1991) advocates for second-order logic as a means to develop robust logical systems without relying on foundationalist assumptions, aligning with broader discussions about the adaptability of logical structures. In *Foundations without Foundationalism: A Case for Second-Order Logic*, Shapiro challenges the traditional demand for a single, ultimate foundation for mathematics, which he refers to as foundationalism. Shapiro makes a distinction between strong foundationalism, which claims that there is a single, unique foundation for mathematics, and moderate foundationalism, which holds that there is at least one viable foundation for mathematics. This distinction supports his central argument: that the foundations of mathematics can and should be explored through possible enrichments of first-order logic.

This rejection of strong foundationalism extends to Shapiro's treatment of logical entailment. For Shapiro, there is no reason to question the logical entailment of P leading to C if this conclusion is established via a semantic argument that depends on robust metatheoretic principles. However, this raises a significant issue: "The problem is that the metatheory may have axioms or presuppositions which are not self-evident, or which otherwise do not conform to foundationalist standards" (Shapiro, 1991, p. 44). Findings that rely on relatively strong metatheoretic principles

influence our intuitions about what constitutes correct inference. In Shapiro's vision:

Justification is a holistic matter. Our post-theoretic judgements regarding correct inference are guided by our work in logical theory — both deductive and semantic. To borrow an overworked phrase, some of the 'data', judgements of correct inference or 'intuitions', are heavily laden with theory, at least at this point in history (1991, p. 46).

According to the semanticist account, this suggests that there is no fixed or unrevisable set of inferential principles capable of serving as an ideal foundation for logic or mathematics. This view parallels Kant's approach to the synthesis of representational elements (concepts and intuitions), which he uses to establish notions of unity and quantity and to explain the constructive nature of mathematics.

For the construction of a concept, therefore, a non-empirical intuition is required, [...] I construct a triangle by exhibiting an object corresponding to this concept, either through mere imagination, in pure intuition, or on paper, in empirical intuition, but in both cases completely without having had to borrow the pattern for it from any experience (KrV, A714/B742).

Shapiro's holistic semantics and Kant's synthetic unity emphasise that the foundations of mathematical reasoning are shaped by a continuous process of theoretical development. For Shapiro, second-order logic and holistic semantic principles provide the structural flexibility needed to account for mathematical practice. Similarly, Kant's epistemological model elevates semantic structures to a level of *a priori* ideality—cognitive frameworks that ground the synthesis of intuitions and concepts. However, in Kant's framework, this semantic knowledge is elevated to a level of *a priori* cognitive structure that provides the metatheoretic strength needed for rich foundations that go beyond the scope of *general logic*. Where Shapiro finds metatheoretic strength in second-order logic as a means to transcend the limitations of first-order frameworks, Kant identifies this strength in the *a priori* conditions of cognition that make mathematical and logical synthesis possible.

4.4. The Role of Logic in a Phenomenological *Continuum*: Kant, Science, and Transcendental Logic as Self-Cognition

To understand Kant's logical anti-exceptionalism—assuming it is an implicit thesis within his system—it is necessary to focus on its unique and distinctive aspects. Anti-exceptionalism here is not merely the claim that logic is similar to other empirical sciences; rather, it is the assertion that logic is not an exception to the broader set of theoretical self-awareness tools available within a *phenomenological continuum*.

Kant's transcendental logic, too, operates within such a self-reflective framework. As he explains in his lectures, transcendental logic is “ultimately only the self-cognition of the understanding” (Ak. 29, pp. 752–756, 784–785). This perspective highlights that logic is not a detached or static system; rather, it is dynamically embedded in the reflective processes that characterise human cognition, further affirming its role within a *phenomenological continuum*. Husserl's methodological insight into transcendental reduction provides a critical lens for understanding this process. This method highlights the dynamic role of logic as part of a continuum, not merely a formal system but as an instrument for interrogating and reorganizing the foundational conditions of knowledge. Zahavi (2018) emphasises that phenomenology is not merely a descriptive endeavour. While phenomenology is distinct from metaphysics in the traditional sense, he argues that it redefines and replaces metaphysics' role. In this reinterpretation, phenomenology assumes the task of uncovering the structures of reality, not by metaphysical speculation, but through transcendental reflection:

Transcendental phenomenology must ultimately be viewed as a metaphilosophical or methodological endeavour rather than as a straightforwardly metaphysical doctrine about the nature and ontological status of worldly objects [...] Transcendental phenomenology thematizes objects in terms of their givenness, validity, and intelligibility, and such an investigation calls for a reflective stance quite unlike the one needed in the positive sciences (2018, p. 62).

In this way, logic's transcendental function becomes not only a regulative ideal but also a dynamic participant in shaping and refining scientific and metaphysical understanding.

Consider the concept of a *phenomenological continuum*: a dynamic tapestry of various layers of meaning, each intricately shaped through processes of self-interpretation and rational evaluation. What insights might emerge when we explore how these layers interact, evolve, and redefine our understanding of reality? As fields inform and refine each other, advancements in one domain often challenge, reshape, or expand the conceptual frameworks of another. The best example of this dynamic interplay is the impact of quantum mechanics, where the unique and counterintuitive nature of quantum phenomena—such as superposition and entanglement—challenged our traditional notions of sense and absurdity. The development of quantum logic is not the only consequence of this kind of shift in understanding. The special effect here lies in the fact that the total knowledge derived from this new universe of scientific laws is already intertwined with the way we logicise it—that is, how we construct a framework to make sense of it. As commentators like Tolley (2018, p. 85) note, this dynamic nature of transcendental logic aligns with Kant’s broader reconfiguration of traditional ontology. This process transforms not only our logical structures but also leads to the creation of a new non-deterministic metaphysics, reshaping the foundational principles of how we interpret reality.

In the context of logical anti-exceptionalism, this cross-disciplinary influence becomes particularly significant, as it highlights how logic, far from being static or uniquely insulated, evolves in response to developments in scientific fields and mathematics. New discoveries in non-logical areas can prompt revisions or adaptations in logical systems, demonstrating that logic operates under similar processes of refinement and justification as other epistemic practices. However, it is important to understand that this does not lower logic to the fragile standards of proof found in so-called minor scientific fields; on the contrary, it elevates other scientific and empirical research fields to a logical status. This leads us to a new kind of logical exceptionalism, grounded and coordinated by phenomenology. This process is enriched by the dialogue between various sciences, as well as through commentary, integration, and even ruptures between different disciplines, all of which contribute to the ongoing evolution and refinement of rational inquiry within this *continuum*.

What unites these diverse elements is their shared function as conceptual frameworks—the systems and structures through which meaning is organised, relationships are established, and knowledge is interpreted and expanded. The idea centres on the notion that different forms of knowledge and inquiry—whether logic, science, metaphysics, or other disciplines—are unified by their role in structuring and organizing meaning. These frameworks define how we classify, relate, and interpret the world around us, and they evolve in response to the needs of their respective disciplines. The phenomenological continuum emphasises the interconnection between these fields, showing that they are not isolated but instead influence and adapt to one another.

These are frameworks that define how we classify, relate, and interpret the world around us. All disciplines share a commitment to articulating these spaces of conceptual interaction, meaning they define and refine their own categorical structures to make sense of their subject matter. The *phenomenological continuum* ties them together by emphasizing that these fields are not isolated but instead interact, influence, and respond to one another.

4.5. Kant, Newton, and the Phenomenological Continuum: Reframing Rationality and Scientific Self-Awareness

We are now ready to suggest how Kant's problematization of the question of pure reason was conducted according to criteria compatible with a view of this *phenomenological continuum*, which restored to logic a new exceptional status. This status is defined as the most fundamental and *a priori* aspect of our epistemic processes at each stage of our cognitive ceiling.

An often overlooked yet significant insight of Kant's—though broadly acknowledged in general terms—is that modern science introduced a new standard of rationality into our logical understanding, one that inherently expands upon pre-critical metaphysics. This development is reflected in i) the kind of *a priori* knowledge that we can now frame, ii) the modal distinctions—between different horizons of possibility—that the imagination enables, and iii) our current capacity to normatively regulate phenomena through universal laws. This implies that the emergence of Newton's work does not merely provide a particular kind of *ontic* knowledge designed to aid practical predictions but establishes new

parameters of rationality. These parameters expand our frameworks for a priori reasoning, enrich the imagination's capacity to navigate modal possibilities, and refine the normative structures governing empirical phenomena through lawlike regularities.

Isaac Newton's contributions in *Philosophiæ Naturalis Principia Mathematica* ([1687] 1999) marked a paradigm shift in the understanding of natural phenomena, fundamentally reshaping how reality was comprehended. Newton established a framework in which the motion of objects could be precisely predicted based on their interactions, thus reinforcing the deterministic nature of physical laws. This deterministic framework was further supported by Newton's development of calculus. Through calculus, the seamless transitions in motion could be analysed with unprecedented precision, allowing for the study of how a quantity changes at a specific instant. This approach captures the dynamic behaviour of continuously varying processes, such as velocity, acceleration, or growth, by providing a precise mathematical framework to describe instantaneous changes. Additionally, Newton proposed absolute space and time as an immutable backdrop for physical events, independent of the objects within them. This conception provided a universal framework for understanding the deterministic structure of the universe, governed by mathematical laws that applied uniformly to all phenomena.

This represents a paradigm shift where an expanded understanding of space, time, and causal relationships reshapes our comprehension of natural phenomena in ways that transcend empirical observation alone. It transcends mere empirical observation by organizing experience through precise, systematic laws, such as those governing motion and continuity, without invoking unobservable or abstract metaphysical entities. Kant's *a priori* synthesis thesis denies the absolute nature of time and space³ as defended by Newtonians (Clarke, 1717). Instead, it incorporates Newtonian principles, such as causality and continuity, but reinterprets them as components of a mental framework essential for organizing experience, rather than as intrinsic aspects of reality itself.

By situating Newton's laws within this framework, Kant renders them cognizable within what can be described as a phenomenological

³ For Kant, space and time are *a priori* forms of intuition—fundamental conditions of human cognition that structure all possible perceptions, making phenomena intelligible (KrV, A20/B34).

continuum. This continuum allows Newtonian principles to be seen not as fixed, external realities but as constructs that derive their validity from the cognitive mechanisms that unify experience into coherent knowledge. Newton's laws, under Kant's reinterpretation, are not purely empirical discoveries nor metaphysical truths about the world-in-itself; they are intelligible because they emerge from the synthesis of sensory input (intuition) and conceptual organization, grounded in the *a priori* forms of space, time, and causality.

This process fosters a kind of scientific self-awareness, as it involves recognizing that the very standards of rationality and intelligibility guiding scientific inquiry are themselves shaped by the cognitive and historical conditions under which knowledge is produced. This scientific self-awareness thus represents a deeper comprehension of how human cognition both enables and limits our grasp of universal principles, constantly pushing the boundaries of rational inquiry.

5. Conclusion

We will now share the central conclusions that emerged from this work, as they frame the innovative perspectives that Kant offers, especially when viewed through the lens of modern logical and phenomenological frameworks. Although Kant was not engaged in the debate between classical and non-classical logic as we understand it today, his theory anticipates significant insights aligned with anti-exceptionalism and modern critiques of classical logic.

Classical logic, as traditionally conceived, presupposes universal principles such as the laws of non-contradiction and excluded middle, but it fails to account for how cognition synthesises representations into meaningful structures. Kant's transcendental logic shifts the focus to the synthetic foundations of judgment, offering a perspective that critiques and extends the extensional ballasts of logic by incorporating the relational conditions necessary for cognition to achieve intelligibility. In doing so, Kant not only opens the door to a richer understanding of logical principles but also prefigures the move toward adaptive, pluralistic frameworks that characterise contemporary approaches to logic and epistemology. This

positions Kant as a distant precursor to logical anti-exceptionalism, albeit a unique one, which we term *holistic anti-exceptionalism*.

Another key conclusion connects Kant's insights to the broader evolution of knowledge systems, allowing for the definition of a new sense of exceptionality in logic. However, this argument unfolds in seemingly disconnected stages. First, Kant redefines the traditional exceptionality of logic by challenging its privileged status over non-formal, empirically grounded knowledge. He contends that certain forms of knowledge, while rooted in empirical content, are nonetheless *a priori* and hold a status comparable to intellectual and analytical principles. This knowledge arises from the synthetic unity of cognition. By doing so, he challenges the notion of logic as an isolated and universally superior discipline. In the second stage, Kant restores a new kind of exceptionality to logic, one that is transcendental in nature.

To clarify these steps, logic is not exceptional in the sense of being entirely separate from other fields of inquiry; rather, it operates within a broader continuum of epistemic practices. Like other disciplines, it is shaped by a dynamic interplay of revision, empirical grounding, and contextual adaptation. However, its exceptionality lies in its capacity to mediate between diverse sources of epistemic validation—not only formal structures but also empirical investigations. Put simply, the way the human mind distinguishes knowledge that is independent of contingent principles (*a priori*), traces modal distinctions (such as necessity and possibility), and separates universal laws from mere associative patterns (normativity) does not emerge from a single, privileged source. Instead, these distinctions arise within an interconnected system of cognitive processes shaped by the interplay between empirical and formal elements.

By anticipating the stratification of knowledge across various domains of cognition, Kant's insights set the stage for a pluralistic logic, one capable of adapting to and accommodating the evolving demands of both science and philosophy. This pluralistic view acknowledges the growing complexity of epistemic frameworks while maintaining logic centrality in structuring and grounding these frameworks.

To restore this sense of exceptionality after dismantling its purely formal version, Kant must reconstruct the entire critical analysis of human rationality from a perspective deeper than the merely formal-analytical

approach. Kant achieves a redefinition of logic's status by recognizing the *a priori* character of transcendental self-cognition, which arises from reflecting on the limits of understanding itself. In this framework, logic becomes exceptional not because it is independent of empirical content but because it serves as the foundational mechanism for organizing and reflecting on the very conditions that make knowledge and understanding possible. This transcendental perspective positions logic as both deeply interconnected with other epistemic practices and uniquely foundational in its role. Logic will always be that which aligns with this highest stage and, therefore, while it is continuous with the insights of other sciences, it remains the aspect of that knowledge which is exceptional—specifically, the part that manifests *transcendentally* as scientific self-knowledge, which highlights logic's unique role in reflecting and articulating the principles and structures underlying scientific inquiry itself.

This perspective situates logic within a broader epistemic continuum, rather than treating it as an isolated and immutable framework. By integrating both a sense of non-exceptionality and a redefined exceptional status, it offers a unique view of reason's capacity for self-reflection and oversight. This forms what was described in the article as a 'phenomenological continuum'—a broader framework of ideal cognitive possibilities. This reorientation allows for a richer understanding of logic's role as both integrated within and foundational to the broader landscape of rational inquiry.

A final word on the value of revisiting Kant's theses. This article is an invitation to reconsider Kant—not as a figure confined to the history of philosophy but as a vital contributor to ongoing debates about the nature of logic, inference, and meaning. His theory of judgment, grounded in his theory of synthesis, is far from a closed chapter; rather, it paves the way for new possibilities in understanding the complexities of human cognition and its relationship with how scientific progress enriches our frameworks for reasoning about possibility, hypothetical scenarios, and *a priori* principles. By reclaiming the value of Kant's work, we not only pay tribute to his intellectual legacy but also gain insights that are deeply pertinent to contemporary challenges, aligning with ongoing efforts to explore the justification of mathematical principles, the development of non-classical logics, and the synthesis of empirical and conceptual knowledge.

References

- Allison, H. E. (2004). *Kant's Transcendental Idealism: An Interpretation and Defense*. Yale University Press.
- Brouwer, L. E. J. (1928). Mathematics, Science and Language. In S. Stauffer (Ed.), *Proceedings of the International Congress of Mathematicians* (pp. 90–91). University of Toronto Press.
- Carnap, R. (1947). *Meaning and Necessity: A Study in Semantics and Modal Logic*. University of Chicago Press.
- Carnap, R. (1956). *Meaning and Necessity: A Study in Semantics and Modal Logic*. University of Chicago Press.
- Cassirer, E. (1923). *Substance and Function and Einstein's Theory of Relativity*. Open Court Publishing.
- Clarke, S. (1717). *A Collection of Papers, which Passed Between the Late Learned Mr. Leibniz, and Dr. Clarke, in the Years 1715 and 1716: Relating to the Principles of Natural Philosophy and Religion*. James Knapton.
- da Costa, N. C. A. (1974). On the Theory of Inconsistent Formal Systems. *Notre Dame Journal of Formal Logic*, 15(4), 497–510.
- Føllesdal, D. (1966). Quine on Modality. In S. Morgenbesser, P. Suppes, and M. White (Eds.), *Philosophy, Science, and Method: Essays in Honor of Ernest Nagel* (pp. 422–453). St. Martin;s Press.
- Guyer, P. (1987). *Kant and the Claims of Knowledge*. Cambridge University Press.
- Henrich, D. (1969). Kant's Notion of a Deduction and the Methodological Background of the First Critique. In E. Forster (Ed.), *Kant's Transcendental Deductions* (pp. 29–54). Stanford University Press.
- Heyting, A. (1930). *Die formalen Regeln der intuitionistischen Logik*. Deütsche Akademie der Wissenschaften zu Berlin, Mathematisch-Naturwissenschaftliche Klasse.
- Hintikka, J. (1962). *Knowledge and Belief: An Introduction to the Logic of the Two Notions*. Cornell University Press.
- Hjortland, O. T. (2017). Anti-Exceptionalism about Logic. *Philosophical Studies*, 174(3), 631–658.

- Husserl, E. (1973). *Experience and Judgment: Investigations in a Genealogy of Logic*. Northwestern University Press.
- Husserl, E. (1983). *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy. First Book: General Introduction to a Pure Phenomenology*. Nijhoff.
- Husserl, E. (2001). *Logical Investigations*, vols. 1–2. Routledge.
- Kant, I. (1900–present). *Gesammelte Schriften*, vol. 29. Walter de Gruyter.
- Kant, I. (1782). *Metaphysik Mrongovius*. In G. Lehmann and R. Brandt (Eds.), *Gesammelte Schriften*. Walter de Gruyter. (AA 29, pp. 73–175)
- Kant, I. (1992). *Jäsche Logic*. In *Lectures on Logic* (pp. 517–520). Cambridge University Press.
- Kant, I. (1998). *Critique of Pure Reason*. Cambridge University Press.
- Kripke, S. (1963). Semantical Considerations on Modal Logic. *Acta Philosophica Fennica*, 16, 83–94.
- Lewis, C. I., and Langford, C. H. (1932). *Symbolic Logic*. Century Co.
- Longuenesse, B. (1998). *Kant and the Capacity to Judge*. Princeton University Press.
- Marcus, R. B. (1946). A Functional Calculus of First-Order Based on Strict Implication. *Journal of Symbolic Logic*, 11(1), 1–16.
- Martin, B., and Hjortland, O. T. (2022). Anti-Exceptionalism about Logic as Tradition Rejection. *Synthese*, 200, 148. <https://doi.org/10.1007/s11229-022-03653-7>
- McIntyre, R. (1982). Husserl's Phenomenological Conception of Intentionality and Its Difficulties. *Philosophia*, 11(1–2), 139–160. <https://doi.org/10.1007/BF02380839>
- Montague, R. (1973). The Proper Treatment of Quantification in Ordinary English. In J. Hintikka, J. Moravcsik, and P. Suppes (Eds.), *Approaches to Natural Language* (pp. 221–242). Reidel.
- Newton, I. (1999). *The Principia: Mathematical Principles of Natural Philosophy*. University of California Press.

Priest, G. (2006). *In Contradiction: A Study of the Transconsistent*. Oxford University Press.

Shapiro, S. (1991). *Foundations without Foundationalism: A Case for Second-Order Logic*. Oxford University Press.

Tolley, C. (2012). The Generality of Kant's Transcendental Logic. *Journal of the History of Philosophy*, 50(3), 417–446.

Tolley, C. (2018). The Relation Between Ontology and Logic in Kant. In M. Ruffing et al. (Eds.), *Proceedings of the 11th International Kant Congress* (Vol. 2, pp. 417–446). Walter de Gruyter.

Zahavi, D. (2018). *Husserl's Legacy: Phenomenology, Metaphysics, and Transcendental Philosophy*. Oxford University Press.

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