Reality and Truth: A Comprehensive Theory of Knowledge and Being

Abstract

This paper defends Common Sense Realism against contemporary epistemological skepticism about reality and truth. We argue that reality exists independently of perception and that human cognition provides genuine access to this reality despite inherent limitations. Our defense proceeds through two primary arguments: the Action Argument demonstrating the logical necessity of reality for intentional choice, and the Imagination Argument revealing consciousness's dependence on prior reality. We develop an information theory grounded in objective patterns and introduce the Fragment Theory of Knowledge to explain how partial, perspective-bound experiences access fragments of unified reality. We address challenges from quantum mechanics and evolutionary theory, providing a unified response that integrates scientific understanding with realist commitments, ultimately demonstrating the practical significance of realism across multiple domains of human experience and inquiry.

Keywords: Common Sense Realism, epistemology, ontology, Action Argument, Fragment Theory of Knowledge, quantum mechanics, evolutionary theory

1. Introduction: The Contemporary Crisis and the Case for Common Sense Realism

The 21st century confronts a profound philosophical crisis concerning the nature of reality and truth, extending beyond academic circles to permeate societal discourse and practical decision-making. Unlike traditional skepticism, this contemporary crisis involves widespread questioning of objective reality itself, fueled by technological manipulation, information fragmentation, and cultural shifts prioritizing subjectivity. This paper defends Common Sense Realism as a robust philosophical framework capable of addressing this crisis. We argue that an objective reality exists independently of human perception and that human cognition, despite inherent limitations, provides genuine, albeit partial and perspectival, access to this reality.

While this defense of Common Sense Realism builds upon the foundations laid by philosophers like Thomas Reid (1785), G.E. Moore, and Alvin Plantinga (2000), it makes several distinct contributions. First, it provides novel formulations of the Action and

Imagination Arguments that demonstrate reality's logical necessity. Second, it introduces the Fragment Theory of Knowledge, offering a new framework for reconciling epistemological diversity with ontological unity. Third, it directly addresses contemporary challenges from quantum mechanics and evolutionary theory, providing a unified response that integrates scientific understanding with realist commitments. Finally, it demonstrates the practical significance of realism across multiple domains, from education to social organization.

Our defense proceeds through several interconnected arguments. First, we establish the logical necessity of reality through the Action Argument (demonstrating that intentional choice requires real alternatives) and the Imagination Argument (showing that mental content derives from reality). Second, we develop an information theory grounded in objective patterns while acknowledging interpretation's role, introducing the Fragment Theory of Knowledge to reconcile epistemological diversity with ontological realism. Third, we analyze qualia, arguing for the objective basis of subjective experience. Fourth, we revisit Searle's Chinese Room argument to distinguish symbol manipulation from understanding grounded in reality engagement. Fifth, we explore the nature of partial knowledge, affirming its capacity for genuine truth despite incompleteness. Sixth, we examine the reliability of common sense as our natural attunement to reality. Finally, we address significant challenges from quantum mechanics and evolutionary theory. We argue quantum mechanics refines rather than refutes realism. Regarding evolution, we accept the force of arguments like Plantinga's (2011) against the reliability of cognition under naturalism, but resolve the challenge by rejecting naturalism itself, integrating evolution within a theistic framework that supports cognitive reliability. We conclude by synthesizing these arguments, highlighting the practical implications of Common Sense Realism for knowledge, understanding, and human flourishing.

2. The Necessity of Reality: Action and Choice

The foundation of Common Sense Realism rests on the logical necessity of an objective reality, demonstrable through the analysis of intentional action. Every meaningful decision presupposes the existence of real, distinct alternatives. Consider the simple act of reaching for a coffee cup: for this action to be possible and meaningful, the act of reaching versus not reaching must represent genuinely different states; the cup must exist independently; our actions must effect real changes; and the available choices must be truly distinct possibilities. If reality were merely a mental construct, meaningful choice would collapse, as there would be no objective basis for distinguishing alternatives or consequences.

Intentional action logically requires: (1) a real actor capable of initiating change; (2) real alternatives with objective existence beyond mental conception; (3) real differences grounding the significance of choice; and (4) real consequences following from choices. Attempts to deny this founder on self-contradiction. Anti-realism, the claim that reality is

inaccessible or non-existent, cannot be consistently maintained in practice. Any act of denial—including formulating the thought "reality doesn't exist"—presupposes the reality it seeks to negate: the denier must exist as a real entity; their thoughts must be real thoughts with distinct content; their arguments must employ real logic; their communication requires real language with stable meaning; and their audience must really exist. The very structure of intentional action and rational discourse necessitates an objective reality.

3. The Necessity of Reality: Imagination and Consciousness

Further evidence for reality's necessity emerges from the inherent limitations of human imagination and consciousness. Despite remarkable creative capacity, human minds cannot generate truly original content ex nihilo. All imaginative acts—artistic creation, scientific theorizing, even fantastical thought—fundamentally rely on recombining, transforming, or abstracting elements derived from prior experience of reality. We cannot genuinely conceive of a color outside our experienced spectrum, a spatial dimension beyond our three-dimensional intuition (despite mathematical descriptions), or a sensory quality utterly unrelated to our existing sensory modalities.

This universal constraint demonstrates consciousness's dependence on reality as the source of all mental content. Whether analyzed through representational theories (mental content requires external referents), phenomenology (consciousness is always consciousness of something), embodied cognition (thought patterns mirror physical interactions), or information processing (neural processing requires real input), consciousness reveals itself as inherently reality-dependent. Reality possesses temporal, logical, functional, and ontological priority over mental contents. Our concepts derive meaning from experience; rational thought requires patterns observed in reality; mental systems need real conditions to operate; existence itself presupposes a foundational reality.

Even creativity operates by transforming reality-derived elements through processes like transformation, integration, extension, and novel application. Innovation across technology, science, and art consistently demonstrates this principle, building upon existing knowledge and recombining known elements rather than creating absolutely novel fundamentals. This dependence reinforces the conclusion that reality necessarily precedes and grounds consciousness.

4. Information, Knowledge, and Fragmentation

Understanding how knowledge develops requires a theory of information grounded in objective reality. Information exists at the interface of physical patterns and meaningful interpretation. It requires objective, stable, and consistently behaving physical differences (Pattern Foundation) that possess the potential for interpretation (Interpretability), can be

transmitted across media (Transmission Properties), and are fundamentally grounded in reality (Reality Dependence). Raw data (physical patterns) gains meaning (interpreted significance) through a process constrained by reality, context (physical, semantic, practical, social), and verification against objective conditions.

Knowledge develops from information through stages: pattern recognition, meaning formation (integrating patterns with context), verification (testing interpretations against reality), and integration (connecting new knowledge into coherent frameworks). Reality guides this process by providing foundational patterns, feedback mechanisms, integration support, and developmental direction.

However, human experience is inherently partial, leading to the Fragment Theory of Knowledge. Reality constitutes a totally interconnected system, but human perception is necessarily limited by spatial, temporal, sensory, and processing constraints, allowing us to grasp only "fragments" of this totality. Each individual constructs understanding from their unique collection of fragments, shaped by their physical trajectory, developmental sequence, sensory capabilities, and specific interactions. This explains epistemological diversity without requiring ontological relativism: different observers access different fragments of the same objective reality. Understanding develops by integrating these fragments through direct experience, pattern recognition, and knowledge extension, always constrained by reality's objective structure. Different perspectives can be integrated through comparison, validation against reality, and synthesis, with objective reality serving as the common reference point.

This framework reconciles diverse viewpoints with ontological realism, guiding personal and collective knowledge development.

5. Subjective Experience and Objective Qualities (Qualia)

The nature of subjective experience, or qualia, presents another challenge often leveraged against realism. How can personal, first-person experiences correspond to objective reality? Our framework argues that reality contains objective qualitative features (e.g., specific wavelengths corresponding to color, molecular structures to taste) that exist independently of observers. Scientific evidence confirms these physical foundations for color, sound, taste, texture, and smell. These qualities persist independently of perception, as evidenced by geological records and cross-observer consistency, and are governed by natural laws, constraining possible experiences.

Consciousness accesses these objective qualities through direct, first-person experience. This access is non-inferential and provides immediate awareness. While subjective, qualia possess objective characteristics: stability across observers (consistent reporting of basic qualities), grounding in natural constraints (physical limits on possible experiences), and practical

verification (successful interaction based on sensory experience). Experience forms the foundation for knowledge, integrating direct understanding with theoretical frameworks through practical application.

Consciousness actively detects qualities, integrates diverse sensory inputs into unified perceptions, and develops understanding through ongoing engagement. It accesses objective features through direct perception, pattern recognition, and quality integration. Awareness is characterized by immediacy, integration, and development. Reality's qualitative aspects include natural properties, organized patterns, and integrated systems. Understanding emerges by combining direct experiential knowledge with systematic theoretical frameworks into unified comprehension. Reality serves as the unifying foundation, providing common ground, integration guidance, and verification source for diverse forms of understanding.

6. Understanding vs. Symbol Manipulation: The Chinese Room Revisited

Searle's (1980) Chinese Room argument effectively challenged Strong AI by demonstrating that rule-based symbol manipulation, characteristic of computation, does not equate to genuine understanding. Purely computational systems suffer from semantic vacancy (syntax doesn't generate semantics), lack grounding in reality (symbols need referents), and exhibit a connection gap (abstract processing lacks experiential content).

Genuine understanding requires moving beyond symbol manipulation to active reality engagement. This involves direct physical interaction, pattern discovery in real regularities, meaning development through symbol-referent grounding, and the emergence of understanding through integrating experience and rules. Pattern recognition bridges symbol manipulation and understanding by connecting detected regularities (feature detection, relationship discovery) to real-world phenomena. True comprehension involves reality grounding, experiential development, theory-practice integration, and authentic grasp beyond mere rule-following.

Understanding develops through stages: initial symbol manipulation, reality engagement (direct interaction, practical experience), pattern integration (connecting concepts, understanding structures), and finally, emergence of genuine comprehension. Reality plays a crucial role through direct feedback, provision of natural patterns, guidance toward deeper understanding, and support for theory-practice integration. Meaning emerges through linking symbols to reality, growing comprehension through experience, integrating theory and practice, and achieving authentic grasp.

This analysis has implications for AI: genuine machine understanding requires reality engagement capabilities (physical interaction, environmental feedback), sophisticated pattern

recognition, robust integration mechanisms, and developmental potential. These requirements highlight the difference between current AI (primarily sophisticated pattern matching) and the grounded, integrated understanding characteristic of human cognition.

7. The Nature of Partial Knowledge

A central tenet of our framework is that human knowledge, while capable of genuine truth, is inherently partial. This partiality doesn't negate truth but contextualizes it. The possibility of partial truth is illustrated by examples like a fisherman knowing local waters without knowing the whole ocean, or a doctor diagnosing pneumonia without knowing every cellular detail. This challenges both absolutism (demanding complete knowledge) and relativism (denying objective truth due to partiality), aligning with concepts like Plantinga's (1993) "warrant without certitude." We must distinguish "knowing that" (discrete, verifiable claims) from "knowing about" (perpetually incomplete understanding of complex domains). This distinction echoes Aquinas's discussion of knowing God.

Accuracy persists despite limitation because knowledge needs to be adequate for its purpose, not exhaustive, distinguishing "perfect" from "imperfect" knowledge, as Pasnau (2002) discussed. Engineering based on classical physics, culinary expertise without quantum chemistry knowledge, and parental intuition demonstrate this principle, reflecting Polanyi's (1958) "tacit knowledge." Human knowledge is characterized by perspectival structure (always from a vantage point, as Nagel (1986) noted), scalable accuracy (valid at different levels of precision, as Dennett described), integration requirement (understanding emerges from connecting fragments, as Lonergan (1957) explained), correctability (progressive refinement through error detection, akin to Popper's (1963) "verisimilitude"), and pragmatic verification (confirmation through successful interaction, following Peirce).

Despite these limitations, reality remains accessible through direct sensory experience (as argued by McDowell (1994), Merleau-Ponty (1945), Gibson (1979), and Pollock (1986)), rational insight (grasping logical/mathematical structures, as discussed by Hardy (1940) and Katz (1998)), practical engagement (revealing causal structures through action, as Dreyfus (1991) emphasized), shared investigation (overcoming individual limits via collaboration, aligning with Longino (1990) and Quine (1960)), and theory construction (approximating underlying structures, supporting Putnam's argument against miraculous scientific success and aligning with Lipton (2004), Kitcher (1993), and Lakatos (1978)). This accessibility aligns with Wolterstorff's claim that knowledge is perspectival but objective.

Contrasting human knowledge with idealized divine knowledge (comprehensive, immediate, unified, active, personal, as suggested in Psalms and by Aquinas, Augustine, and Edwards) highlights human limitations (limited scope, mediated access (per Locke), sequential processing (per Lonergan), receptive nature (per Pieper), generalization tendency (per

Aristotle)) without rendering human knowledge illusory (as Augustine argued). Models relating these perspectives (containment (Alston, 1989), qualitative difference (Aquinas; Kierkegaard, 1844), participation (Augustine; Maritain, 1932), analogy (Aquinas; Alston)) show how human understanding can derive from and connect to divine knowledge while remaining distinct (as Plantinga argues). This relationship grounds the possibility of truth for limited beings, addressing challenges from perspective (Nagel), verification (Peirce), skepticism (Plantinga), and pluralism (Hick, 1989) by situating human knowledge within a framework where partial understanding can genuinely correspond to aspects of reality as known comprehensively by God (as Evans (1998) suggests). Reality's underlying unity (logical coherence (Leibniz; Plantinga), causal integration (Cartwright, 1999; Colossians 1:17), intelligible structure (Lonergan; Wigner, 1960; Taylor, 1989; Kepler), teleological orientation (MacIntyre, 1981; Ephesians 1:10), truth convergence (Popper; Aquinas)) provides the foundation for integrating diverse partial knowledge (as Edwards proposed).

Knowledge grows through accretion (adding facts, per Popper), integration (connecting insights, per Duhem (1906); Whewell (1840); Polanyi), correction (rectifying errors, per Popper), paradigm shifts (fundamental reconceptualization, per Kuhn (1962)), and depth increase (revealing underlying mechanisms, per Hacking (1983)). Experience plays a crucial role as empirical foundation (Locke, 1689), correction mechanism (Popper; Sellars, 1956; Ricoeur, 1976), integration catalyst (Whewell; Merleau-Ponty), depth enabler (Ryle, 1949; Dreyfus), and source of embodied understanding (Lakoff & Johnson, 1980; Merleau-Ponty). Experience and theory interact within a "hermeneutic circle" (Gadamer, 1960), with experience providing reality contact that guides conceptual schemes (Quine; McDowell).

Understanding integrates through pattern recognition (Nussbaum, 1986; Polanyi), explanatory unification (Maxwell; Darwin; Kitcher; Cartwright), hierarchical organization (Dennett, 1987; Popper), cross-disciplinary connection (Wilson, 1998; Mitchell, 2009), and narrative coherence (Ricoeur, 1984; MacIntyre). This integration transforms knowledge (Taylor) but remains incomplete, reflecting philosophy's task to see how things "hang together" (Sellars; Lonergan). Reality guides this development through resistance feedback (Peirce; Hacking), convergence patterns (Nagel; Northrop, 1946), fruitfulness indicators (Lakatos; Polanyi), elegance markers (Dirac, 1963; Nozick, 1981), and practical effectiveness (Dewey, 1916; Peirce). This guidance ensures progressive approximation despite paradigm shifts (Kuhn) and cultural diversity (Jaspers, 1951; Lewis, 1947).

8. Common Sense and Reality Engagement

Common sense, far from being mere convention, represents our natural attunement to reality, grounding specialized knowledge. Innate understanding provides foundational cognitive structures (object permanence, causality, numerical cognition, social recognition) evident

even in infancy (as shown by Spelke (2007) and Meltzoff (2007)), enabling meaningful experience (as argued by McDowell and Sellars). Comprehension develops through stages (Piaget) and interaction within the "zone of proximal development" (Vygotsky, 1978), integrating innate capacities (Plantinga) with experience and cultural transmission (Gadamer).

Common sense proves reliable due to evolutionary fitness (selection typically favors accurate tracking, per Millikan (1984)), practical success (everyday actions work), perceptual constancy (distinguishing appearance from reality, per Gibson), error detection (recognizing illusions/mistakes, per Reid (1785) and Augustine), and convergent correction (collective inquiry refines understanding, per Kitcher). Reality remains accessible through sensory engagement (McDowell; Putnam, 1981; Merleau-Ponty), practical interaction (Dewey, 1925; Dreyfus), rational insight (Hardy; Katz), intersubjective confirmation (Longino), and linguistic articulation (Taylor, 2016). This aligns with Reid's principles of common sense.

Understanding is tested through predictive success (Popper), interventional testing (manipulating systems, Cartwright, 1989; Hacking), anomaly analysis (learning from failures, Kuhn), comparative evaluation (assessing competing explanations, Lipton; McMullin, 1982), and practical application (implementation success, Dewey). Action plays a key verification role via success feedback (Dewey; Gibson), resistance encounters (revealing constraints, Rouse, 1987; Gadamer), skill development (embodied knowledge, Dreyfus; Ryle; Polanyi), tool-mediated discovery (Hacking), and adaptive refinement (learning from outcomes). Reality provides feedback through consistent consequence patterns (Hume, 1748; Peirce), resistance to oversimplification (Einstein; Muir, 1911), convergent triangulation across methods (Whewell; Dobzhansky, 1973), practical efficacy (James, 1907; Peirce), and persistent anomalies that guide theoretical revision (Kuhn; Popper). Knowledge is confirmed through explanatory coherence (Thagard, 2000; Harman, 1965), novel prediction (Lakatos; Popper), manipulative success (Cartwright), robust convergence (Mitchell), and demonstrated error correction (Popper). This supports realism despite cognitive limitations (Putnam; McMullin).

Human understanding accesses reality through multiple ways of knowing: empirical investigation (Popper), phenomenological experience (Husserl; Merleau-Ponty; Scarry, 1985), narrative understanding (Ricoeur; MacIntyre; White, 1973), practical knowledge (phronesis/tacit knowledge, Aristotle; Polanyi; Dreyfus), and interpersonal understanding (I-Thou relations, Buber, 1923; Levinas, 1974; Nussbaum). These approaches are complementary (Nagel), not mutually exclusive, and can be productively combined (Varela, 1991; Ricoeur; Ryle; Stern). This unity in diversity is possible due to reality's multi-aspectual structure (Dooyeweerd, 1935-1936; Bhaskar, 1975), the complementary limitations of each approach (Polanyi), ontological realism combined with epistemological perspectivism (Nagel), analogical connections between frameworks (Ricoeur), and the human capacity for

integrative complexity (Tetlock, 1986). Reality's foundation (coherent structure (Whitehead, 1929), multi-dimensional reality (Polanyi), analogical patterns (Hesse, 1966), hierarchical organization (Koestler, 1967), information integration (Bateson, 1972; Floridi, 2011)) enables this integration (Peirce).

9. Reconciling Quantum Mechanics and Realism

Quantum mechanics, with phenomena like wave-particle duality, superposition, entanglement, and observer effects (as discussed by Feynman (1965), Schrödinger (1935), Bell (1964), Aspect (1982), Heisenberg (1958), Wheeler (1983)), appears to challenge realism (as noted by d'Espagnat (2006)). However, a sophisticated realism can accommodate these findings. Apparent conflicts often arise from category errors (epistemological vs. ontological claims, d'Espagnat; Fine, 1986; Popper), level confusions (quantum vs. classical scales, Cartwright; Cushing, 1989; Teller, 1995), and misinterpretations (formalism vs. interpretation, Maudlin, 2019).

The "observer effect" refers to physical measurement interaction, not necessarily consciousness (Mermin, 1985), disturbing quantum systems (Redhead, 1987) rather than creating them (Mermin). Measurement acquires information (Maudlin) through physical, not mental, causation (Albert, 1992; Wigner, 1961), reflecting contextuality, not subjectivity (Dickson, 1998; Fuchs, 2010). Decoherence theory explains the emergence of classical behavior through environmental interaction (Zurek, 2003) without invoking consciousness. Furthermore, viable realist interpretations of quantum mechanics exist (e.g., Bohmian mechanics (Goldstein, 1998), objective collapse theories, many-worlds) alongside instrumentalist ones (Maudlin), demonstrating compatibility (d'Espagnat; Smolin, 2019).

Scale distinctions are crucial (Mermin). Quantum effects dominate at micro-scales, while classical physics remains accurate macroscopically (Weinberg, 1992), consistent with the correspondence principle (Bohr). Reality manifests scale-dependent properties (Hawking, 1988; Maudlin) within a multi-layered structure featuring emergent properties (Humphreys, 2016) and consistent information transfer (Wallace, 2012). This aligns with perspectival realism (Giere, 2006; Teller; Massimi, 2018) and complementarity (Bohr; Cushing; Popper). Despite quantum strangeness, reality demonstrates persistence through causal continuity (Bohm, 1957; Ladyman, 2007), conservation laws (Wigner; Butterfield, 2007), mathematical consistency (Wigner, 1960; Morrison, 2000), predictive reliability (Bokulich, 2008; Hacking), information conservation (Susskind, 2008; Wallace), and structural relationships (supporting structural realism, Worrall, 1989; Ladyman). This supports metaphysical realism (Popper) requiring refinement, not abandonment (d'Espagnat).

The measurement problem (apparent contradiction between completeness, linear evolution, and definite outcomes, per Albert) highlights interpretive challenges (Wigner; Maudlin) but

doesn't necessitate abandoning realism. Interpretations like Copenhagen (Heisenberg), Many-Worlds (Everett, 1957), Bohmian (Bohm), Objective Collapse (Albert), and QBism (Fuchs) offer different resolutions. The existence of realist options (Bohmian, Objective Collapse) shows compatibility (Maudlin). The problem concerns unobserved reality and theoretical limits (Popper) more than observed outcomes. Decoherence offers partial physical explanation (Zurek). Quantum constraints (conservation laws, probability limits (Bohm; Cartwright; Cushing), exclusion principles (Feynman; Unruh, 1999; Cartwright), uncertainty limits (Butterfield; Bunge, 1979; Maudlin), causal structure (Bunge; Maudlin; Salmon, 1984)) demonstrate reality's persistent structure imposing limitations independent of observation (d'Espagnat). This aligns with Popper's propensity interpretation and requires an expanded realism (Smolin).

Integrating quantum mechanics requires recognizing reality's multi-layered structure (ontological stratification (Bunge; Bhaskar), inter-level relations (Cartwright; Wimsatt, 2007; Zurek), scale-dependent manifestation (Batterman, 2002; Butterfield), perspectival realism (Giere; Teller; Massimi), complementary description (Bohr; Cushing; Popper)) and nature's fundamental unity (universal laws (Feynman; Ladyman; Psillos, 1999), hierarchical integration (Wimsatt; Polanyi; Bhaskar), symmetry principles (Weinberg; Butterfield; Ladyman), information integration (Bohm, 1980; Floridi; Wallace), structural continuity (Worrall; Ladyman; Bub, 2016)). This expanded realism accommodates quantum phenomena by refining, not rejecting, realist commitments (Bohm; Teller; Heisenberg).

10. Addressing the Evolutionary Challenge

The evolutionary challenge posits that if cognition evolved for survival, not truth, its reliability is undermined. This challenge requires careful consideration of the relationship between evolutionary adaptation and truth-tracking.

10.1 Evolution and Truth

The core issue is the relationship between survival value and truth value. Does natural selection, focused on fitness, produce cognitive faculties oriented toward truth? Several possibilities exist: a disconnect (selection favoring misrepresentation, as suggested by Stich (1990) or Churchland (1987)); accidental alignment (truth as incidental); partial correlation (accuracy in relevant domains only, per Wilson (1998)); or a necessary connection (accuracy generally enhances fitness, per Kornblith (1993), Millikan (1984), Davidson (1974), Ramsey (1926), Dennett (1995)).

While specific biases enhancing survival might exist, the general pressures of prediction efficacy, action guidance, resource optimization, and social coordination suggest natural selection would typically favor cognitive systems that accurately track reality within fitness-

relevant domains. Our cognitive faculties developed from basic survival-oriented systems (perception, memory, fear, social cognition) which prioritize fitness (Marcus, 2008), to sophisticated truth-tracking capabilities (abstract reasoning, language, metacognition, scientific method) that transcend immediate survival pressures, suggesting an "evolution plus" model (Plantinga) reflecting self-transcendence (Lonergan).

The possibility of reliability emerges from ecological validity (accuracy in ancestral domains, supported by Spelke, Atran (1990), Tomasello (2014)), robustness through complementarity (cross-checking faculties, Goldman (1986); Gibson; Longino; Kahneman (2011)), progressive development (cultural/methodological refinement, Dennett; Kuhn; Hacking; Popper), and pragmatic validation (practical success, Dewey; Baird, 2004; Trout, 2009; Peirce). Reality plays an active role through structural constraints (Millikan; Armstrong, 1973; Dretske, 1981; Penrose, 1989; Lewis, 1973), selection pressure (Sober, 2008; Dawkins, 1986; Dennett; Sterelny, 2003; Brentano, 1874), informational access (Polanyi; Merleau-Ponty; Dewey; Fricker, 2007; McDowell), and providing an integration framework (Sellars; Cartwright; Wimsatt; Ricoeur; Nagel). This active role guides evolution toward substantial accuracy.

10.2 Theistic Integration

A theistic framework provides additional resources for understanding cognitive reliability in light of evolution, complementing rather than replacing scientific accounts. Key aspects include:

- **Guided Evolution**: Divine guidance (potentially via initial conditions, quantum indeterminacy, or multi-level causation) can direct evolutionary processes toward intended outcomes, including reliable cognition, without violating natural laws (Plantinga, 2011; van Inwagen, 2006; Polkinghorne, 1989; Murphy, 2006; Collins, 2009).
- **Cognitive Design**: Cognitive faculties can be understood as divinely designed for truth-tracking, reflecting the divine image and fulfilling purposes beyond mere survival (Evans, 2010; Swinburne, 1997; Rea, 2002; Ratzsch, 2001; Plantinga).
- **Revelatory Guidance**: Divine revelation (general, special, incarnational) supplements natural cognitive development, providing additional knowledge and correction (Helm, 1982; Plantinga; Stump, 2010; Wolterstorff, 1995; Alston, 1991).
- **Spirit Guidance**: Ongoing spiritual guidance (noetic illumination, conscience, wisdom development) can enhance understanding beyond natural capacities (Evans; Smith, 2009; Newman, 1870; Zagzebski, 2012; Moser, 2008; Plantinga).

This perspective interprets evolution's purpose as fulfilling divine intentions, including developmental trajectories toward complexity (Conway Morris, 2003; Davies, 1992; Murray, 2008), mind emergence for relationship (Clayton, 2004; Nagel, 2012; Chomsky, 1988; Taylor,

1989; Moltmann, 1985), freedom development for love/responsibility (Deacon, 2012; Gazzaniga, 2005; Nozick; Wolterstorff, 2008; Swinburne), and knowledge capacity for truth (Plantinga; Lonergan; Searle, 1998; Taylor). Understanding develops through natural cognition, revelatory guidance, spiritual transformation, and eschatological completion. Reality's design (intelligible structure, fine-tuning, disclosure capacity, moral structure) supports reliable cognitive development (Plantinga; Polkinghorne; Collins; Davies; Adams, 1999; Wolterstorff).

10.3 Response to Skepticism

Having explored evolutionary development and potential theistic integration, we address specific skeptical challenges arising from evolution.

- **The Naturalistic Challenge**: Plantinga (2011) compellingly argues that if naturalism (the view that only the natural world exists) and unguided evolution are true, then the probability of our cognitive faculties being reliable is low or inscrutable. Natural selection favors adaptive behavior, not necessarily true beliefs, and there are many ways false beliefs could lead to adaptive behavior. We concur with the force of this argument conditional on naturalism. That is, accepting the premises (naturalism + unguided evolution) makes skepticism about cognitive reliability a serious, perhaps unavoidable, conclusion.
- **The Contingency Challenge**: Evolutionary development is contingent. Could different evolutionary paths have produced minds incapable of tracking truth? While contingency is real, reality's structural constraints, selection pressures favoring accuracy in key domains, and the convergent nature of effective problem-solving suggest that any evolved intelligence capable of complex interaction would likely develop substantial truth-tracking capacities, albeit potentially different from ours. Furthermore, as argued below, the observed coherence and success of our knowledge provides reason to trust our specific evolutionary outcome.
- **The Domain-Limitation Challenge**: Does reliability extend beyond ancestral domains? While our basic faculties are adapted to ancestral environments, capabilities like abstract reasoning, language, and methodological inquiry allow us to transcend these origins and achieve reliable knowledge in novel domains like theoretical physics or mathematics. This transcendence, while perhaps surprising under strict naturalism, is explained within a theistic framework as fulfilling a broader purpose for knowledge.
- **The Self-Defeat Challenge**: Does evolutionary skepticism undermine itself? Yes, Plantinga's argument highlights this: if one accepts naturalism + evolution and concludes cognitive faculties are unreliable, then the belief in naturalism + evolution itself becomes

suspect, as it was produced by those same unreliable faculties. This creates a powerful internal tension for the evolutionary naturalist.

Our response to the core evolutionary challenge, therefore, hinges on the assessment of naturalism. We accept Plantinga's argument that naturalism + unguided evolution provides a poor foundation for trusting cognitive reliability. However, rather than concluding that our faculties are unreliable, we take the observed coherence and practical success of human knowledge (as detailed below and throughout this paper) as strong evidence against the conjunction of naturalism and unguided evolution. The fact that our cognitive faculties do seem reliable provides a reason to doubt the naturalistic premise that would render such reliability improbable. The theistic framework outlined previously offers a coherent alternative where divinely guided evolution produces faculties designed for truth.

- **The Coherence of Knowledge (as evidence against Naturalism+Evolution)**: The observed coherence of knowledge provides strong reason to trust our cognitive faculties, thereby challenging the naturalistic premise that would make such coherence unlikely. This coherence manifests through:
    - *Evolutionary Recursion*: Evolutionary theory itself relies on the faculties it studies, presupposing their reliability. A consistent evolutionary naturalism cannot easily escape this circularity.
    - *Convergent Coherence*: Knowledge converges across disciplines, cultures, and time, suggesting alignment with a common reality rather than arbitrary, survival-driven construction.
    - *Practical Coherence*: The remarkable practical effectiveness of knowledge (technology, prediction, problem-solving) confirms substantial reliability in ways inexplicable if cognition merely tracked survival without regard for truth.
- **The Possibility of Truth (as evidence against Naturalism+Evolution)**: The demonstrable possibility of achieving truth, even partial and progressive truth, provides further reason to doubt a purely naturalistic evolutionary account of cognition. Truth remains possible through:
    - *Truth Emergence*: Collective inquiry demonstrably corrects errors and converges on stable understanding.
    - *Adaptive Truth Bias*: Selection pressures often favor accuracy, making truth-tracking a likely evolutionary outcome even if not the direct target.
    - *Methodological Transcendence*: Human inquiry develops methods (scientific, critical) that systematically overcome innate cognitive limitations.

- *Domain Transcendence*: Cognition successfully extends to abstract domains far beyond immediate survival needs.

In summary, we accept the logical force of the evolutionary argument against naturalism regarding cognitive reliability. However, observing the actual coherence, practical success, and truth-tracking capabilities of human cognition leads us to reject the naturalistic premise rather than cognitive reliability itself. Reality's necessary role in grounding consciousness, action, and evolution itself provides the ultimate foundation. A theistic framework, incorporating guided evolution and cognitive design, offers a compelling explanation for why our evolved faculties reliably connect us to truth.

11. Language, Culture, and Common Reality

Linguistic and cultural diversity initially seems to challenge realism, suggesting reality is constructed rather than discovered. Languages vary in grammatical categories (e.g., evidentiality, per Aikhenvald (2004)), lexical categorization (e.g., color terms, per Berlin & Kay (1969)), conceptual resources (e.g., Waldeinsamkeit), and metaphorical systems (e.g., time metaphors, per Lakoff & Johnson (1980)), influencing thought (linguistic relativity, per Whorf (1940)). However, radical linguistic determinism is untenable; languages shape perspective but don't create separate realities (as argued by Boroditsky (2011), Davidson (1974), Taylor (2016)).

Universal patterns constrain linguistic variation: structural universals (e.g., nouns/verbs, per Greenberg (1963); Chomsky (1968)), semantic universals (e.g., basic concepts, per Wierzbicka (1992); color term patterns, Berlin & Kay), pragmatic universals (e.g., conversational maxims, Grice (1975); Levinson (2000)), and developmental universals (acquisition stages, Bates (1976); Tomasello (2003)). These suggest common cognitive architecture and reality engagement (Pinker (1994); Putnam (1981)). Reality constrains language through perceptual limits (natural prototypes, P. Churchland (1979); Rosch (1978)), practical demands (functional categorization, Millikan; Martin), logical requirements (propositional structure, Davidson; Searle (1983)), and communicative needs (coordination, conventionalization, Lewis (1969); Clark (1996)). Successful communication across languages—translation (Jakobson (1959); Rabassa (2005)), language learning (Cook (2002); Grosjean (1982)), communicative adaptation (Gumperz (1982); Schegloff (1992)), conceptual borrowing (Thomason (2001); Kuhn (1982))—demonstrates access to a common reality through different linguistic means (Lucy (1992); Davidson; Putnam; Taylor).

Cultural worldviews also vary, differing in metaphysical assumptions (Descola (2013)), epistemological approaches (Geertz (1983)), value systems (MacIntyre), and narrative traditions. Yet, common foundations exist: biological universals (Brown (1991); Tooby & Cosmides (1992)), perceptual universals (Rosch; Noë (2004)), pragmatic universals (similar

practical problems, Malinowski (1944); Dewey), and cognitive universals (similar reasoning patterns, Atran; Kahneman & Tversky). These suggest shared human nature (Sellars) and reality engagement constrain cultural variation (Wiredu (1996)). Universal truth is possible through shared cognitive/perceptual foundations and practical engagement. Cultural diversity provides complementary perspectives enriching understanding, integrated through cross-cultural comparison and synthesis.

12. Conclusion: Synthesis and Implications

This comprehensive defense establishes Common Sense Realism as a robust framework integrating insights from action theory, consciousness studies, information theory, epistemology, and critiques of challenges from quantum mechanics and evolution. Reality exists independently, yet remains accessible through multiple complementary pathways, including innate common sense understanding refined by experience, reason, and collective inquiry. Human knowledge, while inherently partial and perspectival, achieves genuine correspondence with reality's structure, enabling truth despite limitations.

Quantum mechanics and evolutionary theory, often cited against realism, actually refine it. Quantum phenomena reveal reality's scale-dependent, multi-layered structure without necessitating observer-dependence. The evolutionary challenge to cognitive reliability under naturalism is potent, but the observed coherence and success of knowledge lead us to reject naturalism rather than realism, finding stronger grounding in a theistic framework where potentially guided evolution produces faculties oriented toward truth. Linguistic and cultural diversity reflects different perspectives on a common reality rather than constructing separate worlds, constrained by universal human capacities and reality's structure.

This framework resolves false dichotomies (absolutism vs. relativism, naive realism vs. constructivism) and integrates diverse knowledge domains (scientific, phenomenological, narrative, practical, interpersonal) within a coherent understanding of reality's multi-dimensional unity. It carries profound practical implications for education (integrating diverse approaches, connecting theory and practice, as emphasized by Dewey (1916), Gardner (1991), Popper (1963), and Montessori (1948)), scientific methodology (methodological pluralism, acknowledging social dimensions, as discussed by Hacking, Mitchell, Longino, Hanson (1958), Popper, Kuhn, and Lakatos), technological development (grounding innovation in reality, per Winner (1986)), personal development (cultivating intellectual/moral virtues, reflective awareness, following Gadamer, Zagzebski (1996), MacIntyre, James (1909), and Taylor), and social organization (balancing universal needs with cultural diversity, fostering common ground, as explored by Nussbaum (1999), Taylor, Berger (1967), Rawls (1971), Habermas (1981), Gutmann (1987), Buber, and Levinas).

Common Sense Realism calls for ongoing engagement with reality through intellectual inquiry and practical action, fostering humility about knowledge limitations while maintaining confidence in truth's possibility. Its ultimate validation lies in its practical fruitfulness—orienting effective action, enhancing understanding, facilitating communication, and fostering human flourishing within the rich, complex reality we inhabit (as James noted).

References

Adams, R. (1999). *Finite and infinite goods*. Oxford University Press.

Aikhenvald, A. (2004). *Evidentiality*. Oxford University Press.

Albert, D. (1992). *Quantum mechanics and experience*. Harvard University Press.

Alston, W. P. (1989). *Divine nature and human language*. Cornell University Press.

Alston, W. P. (1991). *Perceiving God*. Cornell University Press.

Armstrong, D. (1973). *Belief, truth and knowledge*. Cambridge University Press.

Aspect, A. (1982). Experimental tests of Bell's inequalities using time-varying analyzers. *Physical Review Letters*, 49(25), 1804-1807.

Atran, S. (1990). *Cognitive foundations of natural history*. Cambridge University Press.

Augustine. (397-400 CE). *Confessions*.

Baird, D. (2004). *Thing knowledge*. University of California Press.

Bates, E. (1976). *Language and context*. Academic Press.

Bateson, G. (1972). *Steps to an ecology of mind*. University of Chicago Press.

Batterman, R. (2002). *The devil in the details*. Oxford University Press.

Bell, J. S. (1964). On the Einstein Podolsky Rosen paradox. *Physics*, 1(3), 195-200.

Bell, J. S. (1987). *Speakable and unspeakable in quantum mechanics*. Cambridge University Press.

Berger, P. (1967). *The sacred canopy*. Doubleday.

Berlin, B., & Kay, P. (1969). *Basic color terms*. University of California Press.

Bhaskar, R. (1975). *A realist theory of science*. Routledge.

Bohm, D. (1957). *Causality and chance in modern physics*. Routledge.

Bohm, D. (1980). *Wholeness and the implicate order*. Routledge.

Bokulich, A. (2008). *Reexamining the quantum-classical relation*. Cambridge University Press.

Boroditsky, L. (2011). How language shapes thought. *Scientific American*, 304(2), 62-65.

Brentano, F. (1874). *Psychology from an empirical standpoint*. Routledge.

Brown, D. (1991). *Human universals*. McGraw-Hill.

Bub, J. (2016). *Bananaworld: Quantum mechanics for primates*. Oxford University Press.

Buber, M. (1923). *I and thou*. Scribner.

Bunge, M. (1979). *Causality and modern science*. Dover Publications.

Butterfield, J. (2007). *Handbook of philosophy of physics*. North Holland.

Cartwright, N. (1989). *Nature's capacities and their measurement*. Oxford University Press.

Cartwright, N. (1999). *The dappled world*. Cambridge University Press.

Chomsky, N. (1968). *Language and mind*. Harcourt Brace Jovanovich.

Chomsky, N. (1988). *Language and problems of knowledge*. MIT Press.

Churchland, P. (1987). Epistemology in the age of neuroscience. *Journal of Philosophy*, 84(10), 544-553.

Churchland, P. M. (1979). *Scientific realism and the plasticity of mind*. Cambridge University Press.

Clark, H. (1996). *Using language*. Cambridge University Press.

Clayton, P. (2004). *Mind and emergence*. Oxford University Press.

Collins, R. (2009). *The well-tuned universe*. Free Press.

Conway Morris, S. (2003). *Life's solution*. Cambridge University Press.

Cook, V. (2002). *Portraits of the L2 user*. Multilingual Matters.

Cushing, J. (1989). *Philosophical consequences of quantum theory*. University of Notre Dame Press.

Davidson, D. (1974). On the very idea of a conceptual scheme. *Proceedings and Addresses of the American Philosophical Association*, 47, 5-20.

Davies, P. (1992). *The mind of God*. Simon & Schuster.

Dawkins, R. (1986). *The blind watchmaker*. W. W. Norton.

Deacon, T. (2012). *Incomplete nature*. W. W. Norton.

Dennett, D. (1987). *The intentional stance*. MIT Press.

Dennett, D. (1995). *Darwin's dangerous idea*. Simon & Schuster.

Descola, P. (2013). *Beyond nature and culture*. University of Chicago Press.

d'Espagnat, B. (2006). *On physics and philosophy*. Princeton University Press.

Dewey, J. (1916). *Democracy and education*. Macmillan.

Dewey, J. (1925). *Experience and nature*. Open Court.

Dickson, M. (1998). *Quantum chance and non-locality*. Cambridge University Press.

Dirac, P. (1963). The evolution of the physicist's picture of nature. *Scientific American*, 208(5), 45-53.

Dobzhansky, T. (1973). Nothing in biology makes sense except in the light of evolution. *The American Biology Teacher*, 35(3), 125-129.

Dooyeweerd, H. (1935-1936). *A new critique of theoretical thought*. H. J. Paris.

Dretske, F. (1981). *Knowledge and the flow of information*. MIT Press.

Dreyfus, H. (1991). *Being-in-the-world*. MIT Press.

Duhem, P. (1906). *The aim and structure of physical theory*. Princeton University Press.

Edwards, J. (1758). *The works of Jonathan Edwards*. Yale University Press.

Evans, C. S. (1998). *Faith beyond reason*. Eerdmans.

Evans, C. S. (2010). *Natural signs and knowledge of God*. Oxford University Press.

Everett III, H. (1957). The theory of the universal wave function. [Doctoral Dissertation]. Princeton University.

Feynman, R. (1965). *The character of physical law*. MIT Press.

Fine, A. (1986). *The shaky game*. University of Chicago Press.

Floridi, L. (2011). *The philosophy of information*. Oxford University Press.

Fricker, M. (2007). *Epistemic injustice*. Oxford University Press.

Fuchs, C. (2010). QBism, the perimeter of quantum Bayesianism. *arXiv preprint arXiv:1003.5209*.

Gadamer, H.-G. (1960). *Truth and method*. Continuum.

Gardner, H. (1991). *The unschooled mind*. Basic Books.

Gazzaniga, M. (2005). *The ethical brain*. Dana Press.

Geertz, C. (1983). *Local knowledge*. Basic Books.

Gibson, J. J. (1979). *The ecological approach to visual perception*. Houghton Mifflin.

Giere, R. (2006). *Scientific perspectivism*. University of Chicago Press.

Goldman, A. (1986). *Epistemology and cognition*. Harvard University Press.

Goldstein, S. (1998). Bohmian mechanics. *Physics Today*, 51(3), 42-47.

Grice, P. (1975). Logic and conversation. In P. Cole & J. Morgan (Eds.), *Syntax and semantics* (pp. 41-58). Academic Press.

Grosjean, F. (1982). *Life with two languages*. Harvard University Press.

Gumperz, J. (1982). *Discourse strategies*. Cambridge University Press.

Gutmann, A. (1987). *Democratic education*. Princeton University Press.

Habermas, J. (1981). *The theory of communicative action*. Beacon Press.

Hacking, I. (1983). *Representing and intervening*. Cambridge University Press.

Hanson, N. R. (1958). *Patterns of discovery*. Cambridge University Press.

Hardy, G. H. (1940). *A mathematician's apology*. Cambridge University Press.

Harman, G. (1965). The inference to the best explanation. *Philosophical Review*, 74(1), 88-95.

Hawking, S. (1988). *A brief history of time*. Bantam Books.

Heisenberg, W. (1958). *Physics and philosophy*. Harper & Row.

Helm, P. (1982). *The divine revelation*. Eerdmans.

Hesse, M. (1966). *Models and analogies in science*. University of Notre Dame Press.

Hick, J. (1989). *An interpretation of religion*. Yale University Press.

Hume, D. (1748). *An enquiry concerning human understanding*. A. Millar.

Humphreys, P. (2016). *Emergence*. Oxford University Press.

Jakobson, R. (1959). On linguistic aspects of translation. In R. A. Brower (Ed.), *On translation* (pp. 232-239). Harvard University Press.

James, W. (1907). *Pragmatism*. Longmans, Green.

James, W. (1909). *The meaning of truth*. Longmans, Green.

Jaspers, K. (1951). *Way to wisdom*. Yale University Press.

Kahneman, D. (2011). *Thinking, fast and slow*. Farrar, Straus and Giroux.

Katz, J. (1998). *Realistic rationalism*. MIT Press.

Kierkegaard, S. (1844). *Philosophical fragments*. Princeton University Press.

Kitcher, P. (1993). *The advancement of science*. Oxford University Press.

Koestler, A. (1967). *The ghost in the machine*. Hutchinson.

Kornblith, H. (1993). *Inductive inference and its natural ground*. MIT Press.

Kuhn, T. (1962). *The structure of scientific revolutions*. University of Chicago Press.

Kuhn, T. (1982). Commensurability, comparability, communicability. *PSA: Proceedings of the Biennial Meeting of the Philosophy of Science Association*, 2, 669-688.

Ladyman, J. (2007). *Every thing must go*. Oxford University Press.

Lakatos, I. (1978). *The methodology of scientific research programmes*. Cambridge University Press.

Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. University of Chicago Press.

Levinas, E. (1974). *Otherwise than being, or beyond essence*. Duquesne University Press.

Levinson, S. (2000). *Presumptive meanings*. MIT Press.

Lewis, C. S. (1947). *Miracles*. Macmillan.

Lewis, D. (1969). *Convention*. Harvard University Press.

Lewis, D. (1973). *Counterfactuals*. Harvard University Press.

Lipton, P. (2004). *Inference to the best explanation*. Routledge.

Locke, J. (1689). *An essay concerning human understanding*. Oxford University Press.

Lonergan, B. (1957). *Insight: A study of human understanding*. Longmans, Green.

Longino, H. (1990). *Science as social knowledge*. Princeton University Press.

Lucy, J. (1992). *Language diversity and thought*. Cambridge University Press.

MacIntyre, A. (1981). *After virtue*. University of Notre Dame Press.

Malinowski, B. (1944). *A scientific theory of culture*. University of North Carolina Press.

Marcus, G. (2008). *Kluge: The haphazard evolution of the human mind*. Houghton Mifflin.

Maritain, J. (1932). *The degrees of knowledge*. University of Notre Dame Press.

Massimi, M. (2018). *Perspectival realism*. Oxford University Press.

Maudlin, T. (2019). *Philosophy of physics: Quantum theory*. Princeton University Press.

McDowell, J. (1994). *Mind and world*. Harvard University Press.

McMullin, E. (1982). Values in science. *PSA: Proceedings of the Biennial Meeting of the Philosophy of Science Association*, 2, 3-28.

Meltzoff, A. (2007). 'Like me': A foundation for social cognition. *Developmental Science*, 10(1), 126-134.

Mermin, N. D. (1985). Is the moon there when nobody looks? Reality and the quantum theory. *Physics Today*, 38(4), 38-47.

Merleau-Ponty, M. (1945). *Phenomenology of perception*. Routledge.

Millikan, R. (1984). *Language, thought, and other biological categories*. MIT Press.

Mitchell, S. (2009). *Unsimple truths*. University of Chicago Press.

Moltmann, J. (1985). *God in creation*. SCM Press.

Montessori, M. (1948). *To educate the human potential*. Kalakshetra Publications.

Morrison, M. (2000). *Unifying scientific theories*. Cambridge University Press.

Moser, P. (2008). *The elusive God*. Cambridge University Press.

Muir, J. (1911). *My first summer in the Sierra*. Houghton Mifflin.

Murphy, N. (2006). *Bodies and souls, or spirited bodies?* Cambridge University Press.

Murray, M. (2008). *Nature red in tooth and claw*. Oxford University Press.

Nagel, T. (1986). *The view from nowhere*. Oxford University Press.

Nagel, T. (2012). *Mind and cosmos*. Oxford University Press.

Newman, J. H. (1870). *An essay in aid of a grammar of assent*. Burns, Oates & Co.

Noë, A. (2004). *Action in perception*. MIT Press.

Northrop, F. S. C. (1946). *The meeting of East and West*. Macmillan.

Nozick, R. (1981). *Philosophical explanations*. Harvard University Press.

Nussbaum, M. (1986). *The fragility of goodness*. Cambridge University Press.

Nussbaum, M. (1999). *Sex and social justice*. Oxford University Press.

Pasnau, R. (2002). *Thomas Aquinas on human nature*. Cambridge University Press.

Peirce, C. S. (1877). The fixation of belief. *Popular Science Monthly*, 12, 1-15.

Penrose, R. (1989). *The emperor's new mind*. Oxford University Press.

Piaget, J. (1970). *Science of education and the psychology of the child*. Orion Press.

Pinker, S. (1994). *The language instinct*. William Morrow.

Plantinga, A. (1993). *Warrant and proper function*. Oxford University Press.

Plantinga, A. (2000). *Warranted Christian belief*. Oxford University Press.

Plantinga, A. (2011). *Where the conflict really lies*. Oxford University Press.

Polanyi, M. (1958). *Personal knowledge*. University of Chicago Press.

Polkinghorne, J. (1989). *Science and providence*. SPCK.

Pollock, J. (1986). *Contemporary theories of knowledge*. Rowman & Littlefield.

Popper, K. (1963). *Conjectures and refutations*. Routledge.

Psillos, S. (1999). *Scientific realism*. Routledge.

Putnam, H. (1981). *Reason, truth and history*. Cambridge University Press.

Quine, W. V. O. (1960). *Word and object*. MIT Press.

Rabassa, G. (2005). *If this be treason*. New Directions.

Ramsey, F. (1926). Truth and probability. In *The foundations of mathematics and other logical essays* (pp. 156-198). Routledge.

Ratzsch, D. (2001). *Nature, design and science*. SUNY Press.

Rawls, J. (1971). *A theory of justice*. Harvard University Press.

Rea, M. (2002). *World without design*. Oxford University Press.

Redhead, M. (1987). *Incompleteness, nonlocality, and realism*. Oxford University Press.

Reid, T. (1785). *Essays on the intellectual powers of man*. Edinburgh University Press.

Ricoeur, P. (1976). *Interpretation theory: Discourse and the surplus of meaning*. Texas Christian University Press.

Ricoeur, P. (1984). *Time and narrative*. University of Chicago Press.

Rosch, E. (1978). Principles of categorization. In E. Rosch & B. B. Lloyd (Eds.), *Cognition and categorization* (pp. 27-48). Lawrence Erlbaum.

Rouse, J. (1987). *Knowledge and power*. Cornell University Press.

Ryle, G. (1949). *The concept of mind*. University of Chicago Press.

Salmon, W. (1984). *Scientific explanation and the causal structure of the world*. Princeton University Press.

Scarry, E. (1985). *The body in pain*. Oxford University Press.

Schegloff, E. (1992). Repair after next turn. *American Sociological Review*, 57(3), 1301-1326.

Schrödinger, E. (1935). Die gegenwärtige Situation in der Quantenmechanik. *Die Naturwissenschaften*, 23(48), 807-812.

Searle, J. (1980). Minds, brains, and programs. *Behavioral and Brain Sciences*, 3(3), 417-424.

Searle, J. (1983). *Intentionality*. Cambridge University Press.

Searle, J. (1998). *Mind, language and society*. Basic Books.

Sellars, W. (1956). Empiricism and the philosophy of mind. *Minnesota Studies in the Philosophy of Science*, 1, 253-329.

Sellars, W. (1962). Philosophy and the scientific image of man. In R. Colodny (Ed.), *Frontiers of science and philosophy* (pp. 35-78). University of Pittsburgh Press.

Smith, J. K. A. (2009). *Desiring the kingdom*. Baker Academic.

Smolin, L. (2019). *Einstein's unfinished revolution*. Penguin Press.

Sober, E. (2008). *Evidence and evolution*. Cambridge University Press.

Spelke, E. (2007). Core knowledge. *Handbook of Child Psychology*, 2, 89-127.

Sterelny, K. (2003). *Thought in a hostile world*. Blackwell.

Stich, S. (1990). *The fragmentation of reason*. MIT Press.

Stump, E. (2010). *Wandering in darkness*. Oxford University Press.

Susskind, L. (2008). *The black hole war*. Little, Brown.

Swinburne, R. (1997). *The evolution of the soul*. Oxford University Press.

Taylor, C. (1989). *Sources of the self*. Harvard University Press.

Taylor, C. (2016). *The language animal*. Harvard University Press.

Teller, P. (1995). *An interpretive introduction to quantum field theory*. Princeton University Press.

Tetlock, P. (1986). Cognitive style and political judgment. *Journal of Personality and Social Psychology*, 45(4), 807-820.

Thagard, P. (2000). *Coherence in thought and action*. MIT Press.

Thomason, S. (2001). *Language contact*. Edinburgh University Press.

Tomasello, M. (2003). *Constructing a language*. Harvard University Press.

Tomasello, M. (2014). *A natural history of human thinking*. Harvard University Press.

Tooby, J., & Cosmides, L. (1992). The adapted mind. Oxford University Press.

Trout, J. D. (2009). *The empathy gap*. Penguin Press.

Unruh, W. (1999). *Philosophy of quantum mechanics*. Cambridge University Press.

van Inwagen, P. (2006). *The problem of evil*. Oxford University Press.

Varela, F. (1991). *The embodied mind*. MIT Press.

Vygotsky, L. (1978). *Mind in society*. Harvard University Press.

Wallace, D. (2012). *The emergent multiverse*. Oxford University Press.

Weinberg, S. (1992). *Dreams of a final theory*. Pantheon Books.

Wheeler, J. A. (1983). Law without law. In J. A. Wheeler & W. H. Zurek (Eds.), *Quantum theory and measurement* (pp. 182-213). Princeton University Press.

Whewell, W. (1840). *The philosophy of the inductive sciences*. Parker.

White, H. (1973). *Metahistory*. Johns Hopkins University Press.

Whitehead, A. N. (1929). *Process and reality*. Free Press.

Whorf, B. L. (1940). Science and linguistics. *Technology Review*, 42(6), 229-231.

Wierzbicka, A. (1992). *Semantics, culture, and cognition*. Oxford University Press.

Wigner, E. (1960). The unreasonable effectiveness of mathematics in the natural sciences. *Communications in Pure and Applied Mathematics*, 13(1), 1-14.

Wigner, E. (1961). Remarks on the mind-body question. In I. J. Good (Ed.), *The scientist speculates* (pp. 284-302). Heinemann.

Wilson, E. O. (1998). *Consilience: The unity of knowledge*. Knopf.

Wimsatt, W. (2007). *Re-engineering philosophy for limited beings*. Harvard University Press.

Winner, L. (1986). *The whale and the reactor*. University of Chicago Press.

Wiredu, K. (1996). *Cultural universals and particulars*. Indiana University Press.

Wolterstorff, N. (1995). *Divine discourse*. Cambridge University Press.

Wolterstorff, N. (2008). *Justice: Rights and wrongs*. Princeton University Press.

Worrall, J. (1989). Structural realism: The best of both worlds? *Dialectica*, 43(1-2), 99-124.

Zagzebski, L. (1996). *Virtues of the mind*. Cambridge University Press.

Zagzebski, L. (2012). *Epistemic authority*. Oxford University Press.

Zurek, W. (2003). Decoherence, einselection, and the quantum origins of the classical. *Reviews of Modern Physics*, 75(3), 715-775.