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	<h2 style="text-align: center;">The Epistemological Paradigm in Contemporary Arab Philosophical Thought: Foundations, Approaches, and Critical Horizons</h2>
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<p>Abstract</p>	
<p>his study examines the epistemological orientation of contemporary Arab philosophical thought, emphasizing its sustained engagement with epistemological inquiry as an indispensable intellectual and civilizational necessity. Despite the diversity of its referential frameworks, methodological foundations, and theoretical objectives, Arab thought—whether in its Eastern or Western manifestations—has demonstrated a shared commitment to interrogating the conditions, limits, and validity of knowledge within a rapidly evolving scientific and cultural context. This engagement unfolds within a critical project that seeks to endow scientific knowledge with an Arab philosophical imprint through a plurality of conceptual tools and intellectual approaches. While contemporary Arab epistemological discourse often draws upon Western philosophical paradigms and is sometimes burdened with ideological presuppositions inherited from them, it nevertheless articulates an autonomous critical vision aimed at rereading Arab intellectual heritage—long insulated from systematic critique—through modern epistemic instruments. In doing so, it endeavors to dismantle entrenched modes of thought, expose structural epistemological obstacles within the Arab intellectual tradition, and diagnose the causes of scientific and cognitive stagnation in Arab societies. The article argues that these epistemological endeavors should not be viewed as mere acts of imitation or intellectual dependency, but rather as formative and evolving critical projects striving for consolidation and theoretical maturity. Their richness in concepts, analytical procedures, and methodological innovations necessitates a deep, contextualized, and rigorous reading. Ultimately, the study underscores that epistemological inquiry constitutes a fundamental condition for the renewal of Arab rationality, the reconstruction of scientific consciousness, and the reconfiguration of the relationship between heritage, modernity, and knowledge production in the contemporary Arab world.</p>	
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Introduction

Epistemological discourse occupies a central position in contemporary philosophical reflection, particularly within the context of profound cognitive and scientific transformations that have reshaped modern thought. As a field concerned with the conditions of possibility, validity, and limits of knowledge, epistemology has become one of the most dynamic

and intellectually productive domains of philosophy, owing to its close relationship with scientific activity and its engagement with the rapid succession of precise and complex discoveries that characterize modern science. In this sense, epistemology functions not merely as a theoretical inquiry but as a critical framework through which scientific rationality continuously interrogates its own foundations, methods, and outcomes.

Within this evolving global context, the engagement of Arab thought with epistemological inquiry has emerged as an urgent civilizational and intellectual necessity. This engagement reflects a growing awareness that the challenges faced by Arab societies—particularly those related to scientific development, cultural renewal, and intellectual autonomy—cannot be addressed without a critical examination of the structures of knowledge that govern thought and practice. Consequently, contemporary Arab philosophical discourse has increasingly turned toward epistemology as a means of reassessing both inherited intellectual traditions and imported modern paradigms.

The Arab philosophical-epistemological project has adopted diverse positions in its encounter with modern epistemological discourse, ranging from reception and adaptation to critique and reconstruction. Despite differences in methodological orientation and theoretical emphasis among its leading figures, a unifying characteristic of these approaches lies in their profound assimilation of modern European epistemological theories. These theories are not merely reproduced but are reworked and mobilized to articulate points of divergence vis-à-vis Western epistemic models and to illuminate the specific historical and cultural conditions of Arab rationality.

This critical engagement has proven both vibrant and productive, as it has enabled Arab thought to transcend the epistemological rupture that historically separated it from its own intellectual heritage. Through epistemological analysis, Arab philosophers have sought to diagnose the crisis of modern Arab thought, identify the structural causes of cognitive stagnation, and confront the enduring problem of scientific backwardness. In this regard, the epistemological project has functioned as an instrument of critique, renewal, and self-reflection.

Among the most influential figures in this epistemological turn are Muhammad Abed al-Jabri, Zaki Najib Mahmoud, and Muhammad Thabit Afandi. Their works contributed decisively to framing epistemology as a central concern of contemporary Arab philosophy, particularly through their efforts to uncover the epistemological obstacles embedded within the structure of the Arab mind, both historically and in its modern manifestations. Against this backdrop, the present study addresses the central question of how contemporary Arab thought has drawn upon epistemological discourse, and what core issues, concepts, and methodological concerns have shaped this engagement.

Terminology and Concepts

1. The Concept of Epistemology

The term *epistemology* is a relatively modern philosophical coinage, introduced by James Frederick Ferrier (1808–1864) in his work *Institutes of Metaphysics* (1854). Ferrier employed the term to designate a systematic inquiry into knowledge as such, distinguishing it from both metaphysics and psychology. The term later entered broader European philosophical circulation, particularly within the French intellectual context, following its use by Bertrand Russell in 1901, and subsequently through the works of Émile Meyerson, who contributed to consolidating its association with the philosophy of science.

Epistemology thus emerged as a field that takes knowledge as its primary object of investigation, reflecting the rise of new scientific theories that necessitated a critical examination of knowledge itself. In *Lalande's Philosophical Encyclopedia*, André Lalande notes that the term epistemology has often been used to denote the philosophy of science. However, Lalande emphasizes that epistemology should not be understood as a speculative synthesis or a positivist anticipation of scientific laws. Rather, it is fundamentally a critical study of the principles, hypotheses, and results of the sciences, aiming to determine their logical origins, validity, and objective scope.

This definition necessitates a distinction between epistemology and the theory of knowledge. While epistemology constitutes an indispensable entry point to the theory of knowledge, it differs from it in both scope and method. Epistemology examines knowledge *a posteriori* within specific scientific domains, whereas the theory of knowledge addresses knowledge at the level of the unity of thought as a whole. This distinction is further elaborated by Jamil Saliba, who equates epistemology with the philosophy of science and defines it as a critical examination of scientific principles and results, distinct from the applied logic concerned with scientific methods.

The *Philosophical Dictionary* issued by the Arabic Language Academy in Cairo reinforces this view by defining epistemology as a critical study of the foundations and outcomes of the sciences. At the same time, it acknowledges a divergence between the French and English traditions: while the French approach equates epistemology with the philosophy of science, the English tradition often identifies it with the general theory of knowledge. The *Oxford Dictionary* further broadens the concept by defining epistemology as the study of the sources, methods, nature, value, and limits of knowledge.

For the purposes of this study, the definition adopted is that proposed by Muhammad Abed al-Jabri, who conceptualizes epistemology as a contemporary critical inquiry into knowledge, viewed through the current stage of philosophical and scientific development. For al-Jabri, epistemology examines the dynamic relationship between the knowing subject and the object of knowledge—a relationship that simultaneously constitutes both subject and object through their interaction.

2. The Concept of the Epistemological Obstacle

One of the most influential concepts in modern epistemology is the notion of the *epistemological obstacle*, developed by Gaston Bachelard in his studies on the history and philosophy of science. Bachelard defines epistemological obstacles as internal impediments that hinder the progress of scientific knowledge. These obstacles do not arise from external social or material conditions, but from the psychological and conceptual structures of the knowing subject itself.

According to Bachelard, epistemological obstacles are rooted in unconscious presuppositions, habitual modes of thinking, and inherited conceptual frameworks that resist scientific transformation. They possess a historical character, as they are continually reproduced and reconfigured across different stages of scientific development. Importantly, Bachelard argues that scientific progress cannot be understood without reference to these obstacles, as overcoming them constitutes a necessary condition for epistemological advancement.

3. The Concept of the Epistemological Break

Closely related to the notion of the epistemological obstacle is Bachelard's concept of the *epistemological break*. This concept describes the discontinuities and ruptures that occur in the history of science when new theories emerge upon the ruins of outdated conceptual systems. Scientific development, from this perspective, is not cumulative but revolutionary, involving the reconstruction and redefinition of concepts, methods, and explanatory frameworks.

This view challenges any notion of linear scientific progress and emphasizes the dynamic and transformative nature of scientific rationality. As al-Jabri observes, the history of science is not static but characterized by qualitative shifts that require the continuous reconstruction of its subject matter and conceptual foundations.

4. The Concept of the Scientific Method

The scientific method constitutes a foundational element in epistemological inquiry, as it provides the procedural framework through which knowledge claims are generated, tested, and validated. Methods vary according to the nature of scientific disciplines and research objectives, yet they share a common commitment to systematic inquiry and rational justification.

In the *Philosophical Dictionary*, the method is defined in general terms as a specific means employed to achieve a particular end. More precisely, the scientific method refers to an organized set of intellectual and empirical operations designed to discover, verify, or demonstrate truth. From an epistemological perspective, the scientific method is not merely a technical tool but a reflection of deeper assumptions about rationality, objectivity, and the relationship between theory and experience.

5. The Concept of Rationality

Rationality constitutes one of the central pillars of epistemological inquiry, as it defines the status of reason in the production, justification, and validation of knowledge. In the *Philosophical Dictionary*, Ibrahim Madkour identifies three principal meanings of rationality. First, rationality denotes the authority of reason insofar as it explains phenomena by referring them to intelligible and coherent causes. Second, it refers to rationalism as a philosophical doctrine that grounds knowledge in primary and necessary principles of reason, asserting that genuine knowledge is inaccessible without such principles, given the provisional and contingent nature of sensory data. Third, rationality signifies the primacy of reason as the sole legitimate path to belief, rejecting transmitted truths (*al-ḥaqīqa al-naqliyya*) that are not validated by rational criteria (Madkour, 1983).

Similarly, in *Lalande's Philosophical Encyclopedia*, André Lalande conceptualizes rationality as a defining characteristic of that which conforms to reason. Among the multiple meanings he identifies, three are particularly significant for epistemological analysis. In the metaphysical sense, rationality implies that nothing exists outside rational intelligibility. In the epistemic sense, it holds that all certain knowledge derives from a priori, indubitable principles that yield necessary conclusions. In the practical sense, rationality is understood as the condition of possibility for choice and action, presupposing a rational subject equipped with universal and necessary principles that organize experience and guide judgment (Lalande, 2001).

6. The Concept of Scientific Orientation

Scientific orientation refers to an epistemic stance that accords science an absolute and exclusive authority in determining truth and validity. According to this perspective, no form of knowledge is deemed legitimate unless it conforms to the standards of the scientific method and empirical verification. This orientation is most prominently associated with positivist and scientific approaches, particularly within the natural and experimental sciences, where scientific facts are elevated to the status of ultimate arbiters of meaning and truth (Mahmoud, 1965).

While this position has contributed significantly to the advancement of empirical research and methodological rigor, epistemological critique has underscored its limitations, particularly its tendency to marginalize other forms of rationality and non-scientific modes of understanding, such as philosophical, ethical, and historical knowledge.

7. The Concept of Empiricism

Empiricism is traditionally defined as the doctrine that posits sense perception as the sole source of knowledge. In Madkour's account, empiricism maintains that the human mind contains no innate ideas and functions initially as a blank slate, upon which sensory experience inscribes impressions and representations (Madkour, 1983). From this standpoint, all concepts and judgments ultimately derive from experience.

However, empiricism does not deny the activity of reason altogether. Rather, it assigns reason the role of organizing, reflecting upon, and synthesizing sensory data. Through processes such as abstraction, comparison, and generalization, reason transforms experiential elements into coherent ideas. Thus, while empiricism shares certain assumptions with sensory theories, it distinguishes itself by emphasizing the constructive role of the mind in knowledge formation.

8. The Concept of the History of Science

The history of science may be understood as a meta-discourse—that is, a discourse about scientific discourses—which examines the development of significant theories, concepts, and results within specific scientific fields. These discourses acquire historical meaning through their interrelation and mutual influence over time. As such, the history of science is not merely a chronological record of discoveries, but an interpretive framework that reveals the internal logic and epistemic transformations of scientific knowledge.

Defining the history of science with precision remains challenging, as the concept has been shaped by multiple intellectual backgrounds. From an ideological perspective, it is rooted in the transformations of European societies since the seventeenth century, particularly the Renaissance and the Scientific Revolution. Philosophically, thinkers such as Brachevic have viewed the history of science as a means of uncovering the creative activity of thought, which itself constitutes a central concern of philosophy.

From an epistemological standpoint, Gaston Bachelard regards the history of science as an essential tool for highlighting the epistemological values of contemporary scientific rationality. For Bachelard, the historian of science must grasp the dominant epistemic norms of present-day science, while remaining aware that these norms will inevitably be superseded. This insight underscores the dynamic and continuous nature of scientific historicization (Bachelard, 1984).

The centrality of the history of science in epistemological studies has been widely acknowledged. As Pierre Boudrot argues, a rigorous study of the history of science enhances our ability to uncover the foundations, orientations, and transformations of scientific thinking, thereby serving as a natural gateway to the philosophy of science (Boudrot, 1997).

9. The Concept of Philosophical Truth

Philosophical truth is commonly understood as that which is fixed, certain, or in accordance with established meanings in language, convention, or law. Within many philosophical traditions, truth has been associated with realism, whereby the true is defined as that which corresponds to external reality and is accessible through direct sensory experience or empirical verification.

While this conception aligns with empiricist philosophies, it remains terminologically and conceptually limited. Not all forms of truth correspond directly to empirical reality; for instance, mathematical and logical truths are demonstrative rather than empirical. The ambiguity surrounding the notion of truth thus necessitates a more nuanced definition.

In this regard, André Lalande identifies multiple philosophical meanings of truth: truth as correctness, truth as a true proposition, truth as demonstrated knowledge, truth as reliable testimony, and truth as reality itself (Lalande, 2001). These distinctions reveal the plurality of truth criteria across different epistemic domains.

Contemporary Arab Intellectual Approaches

1. The Critical Approach of Muhammad Abed al-Jabri

The critical approach represents one of the most influential frameworks through which contemporary Arab thought has sought to interpret and assimilate the epistemological lesson. This approach draws primarily on French epistemological traditions, which differ markedly from the Anglo-Saxon orientation prevalent in much of the Arab East.

Al-Jabri explicitly acknowledges this intellectual affiliation, noting that French epistemology occupies a central place in his work due to both subjective and objective reasons. Subjectively, the Maghreb's historical and cultural ties to French intellectual life have shaped its philosophical orientations. Objectively, French epistemology places greater emphasis on rational critique and historical analysis than on formalism, rendering it particularly suited to the study of Arab intellectual heritage (al-Jabri, 2002).

As a leading representative of rationalist thought in the contemporary Arab world, al-Jabri employed epistemology as a methodological tool for critically rereading Arab heritage, with the aim of resolving the tension between authenticity and modernity. Through this rereading, he sought to uncover the epistemological obstacles embedded within Arab knowledge systems and to establish a decisive epistemological break with them.

This project is most clearly articulated in his major works, including *The Formation of the Arab Mind*, *The Structure of the Arab Mind*, and *We and Heritage* (al-Jabri, 1991, 1980). Al-Jabri and his intellectual successors—such as Mohammed Waqidi, Salem Yafout, and Abdessalam Benabdelali—adopt the French definition of epistemology articulated by Lalande, according to which epistemology is synonymous with the philosophy of science.

The influence of Louis Althusser proved particularly decisive in this context. Althusser's epistemological reading of Marx introduced key concepts—such as the autonomy of the object of knowledge and the critique of empiricism and voluntarism—which reshaped Arab epistemological discourse. This historical-critical epistemology, further developed

by thinkers such as Étienne Balibar, exerted a profound influence on Arab philosophical production, especially in Morocco.

Indeed, much of the epistemological output published in the Moroccan journal *Aqlam* was stimulated by this intellectual current, addressing issues such as the relationship between science and ideology, theory and practice, alienation, the distinction between science and philosophy, and the concept of structure as articulated by Claude Lévi-Strauss.

The Epistemological Entry of Muhammad Abed al-Jabri

Beyond the ideological and philosophical dimensions that traditionally frame epistemological debates, Muhammad Abed al-Jabri's engagement with epistemology begins with a rigorous and deliberate clarification of the concept itself. For al-Jabri, epistemology does not merely denote a field of abstract theorization; rather, it constitutes a complex set of critical problems whose clarification is a necessary precondition for any serious epistemological reading of Arab-Islamic heritage. These problems, in his view, can be articulated through three interrelated observations.

First, al-Jabri emphasizes the conceptual problem inherent in the term *epistemology* itself—namely, the need to define it precisely, delimit its specific domain of inquiry, clarify its objectives, and determine the nature of its relationship with adjacent or overlapping sciences. Without such clarification, epistemology risks becoming a vague and ideologically overloaded notion, incapable of performing its critical function (al-Jabri, 2002).

Second, al-Jabri observes that questions of definition and delimitation are intrinsically philosophical. As such, epistemology cannot be isolated from philosophy and treated as an autonomous technical discipline detached from broader philosophical reflection. This observation underscores the impossibility of divorcing epistemological inquiry from philosophical critique, particularly when addressing foundational questions concerning knowledge, reason, and truth.

Third, epistemological studies, according to al-Jabri, necessarily engage in a critical examination of the results produced by both the natural sciences and the human sciences. Consequently, philosophical reflection on scientific discoveries inevitably bears the imprint of the sciences themselves, insofar as philosophy derives its questions, concepts, and problematics from the dominant scientific paradigms of each historical period.

This perspective reflects a significant development in al-Jabri's epistemological awareness, particularly his engagement with what he terms the "second reading" inaugurated by Louis Althusser's interpretation of epistemology. Through this reading, al-Jabri came to recognize that epistemological concepts are not ideologically neutral, but rather function within specific historical and intellectual projects. Accordingly, he sought to invest the concept of epistemology with an ideological and critical dimension consistent with his broader concern for heritage and intellectual renewal (Althusser, 1970; al-Jabri, 1991).

Al-Jabri maintains that philosophy has always drawn upon the sciences of its own epoch, deriving from them both its central questions and its guiding principles. This reveals the dynamic dialectic between the "old" and the "new," demonstrating that philosophy, in its historical evolution, is profoundly shaped by scientific development, and that the nature of philosophical inquiry reflects the prevailing modes of scientific rationality. It is for this reason that al-Jabri argues, in *Introduction to the Philosophy of Science*, that the term *philosophy of science* remains fluid and indeterminate, open to multiple interpretations depending on the epistemological orientation of the thinker (al-Jabri, 2002).

He further asserts the existence of a guiding vision that governs exposition, analysis, and critique—a vision grounded in contemporary progressive thought that assigns science and scientific knowledge a central role in social and cultural transformation. As Salem Yafout observes, it is precisely this guiding vision that underpins al-Jabri's functional, instrumental, and hypothetical engagement with epistemology, particularly in his synthesis of Islamic philosophical concerns with modern philosophy of science (Yafout, 1989).

Through this epistemological framework, al-Jabri seeks to achieve two interrelated objectives. The first is the defense of modernity as a necessary intellectual horizon. The second, which depends upon the first, is the critical excavation of Arab-Islamic heritage. To this end, al-Jabri mobilizes the concept of the *epistemological break*, abandoning traditionalist readings of heritage, critiquing dominant Western epistemic mechanisms, and reconstructing the structure of Arab rationality on new methodological foundations inspired by modern science.

As al-Jabri himself states:

"The critique of reason is a fundamental and primary component of every project of renaissance. Yet our modern Arab renaissance has failed to undertake a comprehensive revision of its mechanisms, concepts, representations, and visions—one of the main reasons for its persistent stagnation." (al-Jabri, 1991, p. 5)

Although it is impossible to exhaust the complexity of al-Jabri's thought within the confines of a single study, highlighting these core elements enables a deeper understanding of the distinctive approach through which he addressed the problem of authenticity and modernity. Central to his method is the notion that the unity of thought in any historical period is determined by the unity of its *problematic*—a historically situated configuration of concepts, methods, and intellectual visions shaped by ideological, economic, social, and political conditions.

From this standpoint, Islamic philosophy cannot be reduced to a mere extension of Greek philosophy. Rather, it represents an original intellectual project shaped by its own historical and ideological contexts. As al-Jabri insists, "we must search for a meaning for Islamic philosophy" within its own epistemological horizon (al-Jabri, 1980).

In *We and Heritage*, al-Jabri reformulates this challenge through a series of critical questions: How do we liberate ourselves from the authority of heritage? How do we exercise authority over it? For him, this entails deconstructing

the fixed structures of heritage and transforming them into dynamic processes—converting the absolute into the relative, the ahistorical into the historical, and the atemporal into the temporal.

This methodological orientation draws inspiration from post-structuralist approaches, particularly those associated with Michel Foucault, and is evident in al-Jabri's analyses of figures such as Ibn Rushd and Al-Farabi. In his reading of al-Farabi, al-Jabri emphasizes the unity of thought and society, reflecting historical conditions of fragmentation and ideological conflict in the fourth century AH.

Ultimately, al-Jabri's critical project aims to uncover the epistemological foundations through which Arab rationality produced its discursive, empirical, and demonstrative forms of knowledge. By identifying and dismantling inherited epistemological obstacles, he seeks to renew Arab culture and reconcile authenticity with modernity.

Central to this project is al-Jabri's tripartite classification of knowledge systems:

1. **Discursive Knowledge (Bayānī):** Grounded in religious rationality and manifested in grammar, rhetoric, and jurisprudence, relying on analogical reasoning.
2. **Mystical Knowledge (ʿIrfānī):** Characterized by irrational intuition, encompassing Sufism, astrology, and Shi'ism.
3. **Demonstrative Knowledge (Burhānī):** Based on logic, philosophy, mathematics, and the natural sciences, grounded in observation and experimentation.

Deconstructing the concept of epistemological rupture, al-Jabri acknowledges its origin in Gaston Bachelard's philosophy of science, while emphasizing his own innovative application of the concept to the history of philosophy and heritage (Bachelard, 1984).

Second: The Analytical Approach

(Zaki Najib Mahmoud)

In contrast to the Maghrebian engagement with French epistemology, Arab epistemological discourse in the Mashreq gravitated toward the Anglo-Saxon analytical tradition. Zaki Najib Mahmoud stands as one of its most prominent representatives.

The analytical approach, although rooted in classical philosophy with figures such as Socrates, Plato, Aristotle, Descartes, and Bacon, acquired its modern form with the development of symbolic logic by Gottlob Frege and Bertrand Russell at the turn of the twentieth century. This movement sought to resolve philosophical problems through the logical analysis of language, making logic and the philosophy of language its principal foundations.

Analytical philosophy initially focused on the clarification of philosophical propositions, but gradually shifted toward enhancing precision in scientific discourse. Its ultimate aim was to endow philosophical language with the same rigor and clarity characteristic of mathematical logic, thereby strengthening the relationship between philosophy and science (Russell, 1918; Mahmoud, 1965).

Logical Positivism and the Analytical Turn in Arab Thought

Accordingly, the analytical approach constitutes the methodological foundation of Logical Positivism, whose intellectual genealogy can be traced back to Auguste Comte's positivist project. Within twentieth-century philosophy of science, Logical Positivism emerged as a movement that sought to secure the rigor, coherence, and objectivity of scientific knowledge by grounding it in empirical experience and logical analysis. Its principal objective was the construction of a unified system of knowledge based on the principle of the *Unity of Science*, whereby distinctions between scientific disciplines are methodologically minimized in favor of a single, coherent scientific language (Carnap, 1934/1959).

This orientation rests on the assumption that a genuinely scientific philosophy can only be achieved through the logical analysis of science itself. Consequently, Logical Positivism has been designated by various terms—*Scientific Empiricism*, *Logical Empiricism*, the *Unity of Science* movement, and *Analytical Philosophy*—all of which emphasize the centrality of logic, verification, and linguistic clarity in philosophical inquiry.

In this sense, Logical Positivism—often referred to as *Neopositivism*—represents a decisive epistemological and philosophical rupture in Western thought. This rupture was embraced and reformulated within Arab philosophy by Zaki Najib Mahmoud, who emerged as one of the most prominent Arab proponents of analytical philosophy in the twentieth century. Mahmoud sought to articulate a new conception of philosophy that would decisively break with classical metaphysics and speculative traditions, thereby effecting an epistemological rupture with inherited philosophical paradigms. His project was driven by the conviction that philosophy should no longer be understood as a mere repetition of its own history, but rather as a critical activity devoted to the logical clarification of scientific propositions (Mahmoud, 1965).

Meaning, Modernity, and the Problem of Knowledge

Central to Zaki Najib Mahmoud's epistemological project is the question of meaning and its *indigenization* (*tawṭīn al-ma'nā*) within Arab intellectual culture. This concern forms the core of his attempt to resolve the enduring problematic of *authenticity and modernity* (*al-aṣāla wa-al-mu'āṣara*). Mahmoud was firmly convinced that the intellectual stagnation afflicting Arab societies stemmed not from a lack of ideas, but from their ambiguity and conceptual opacity—an opacity that prevents ideas from being translated into concrete social practices and thereby constitutes a major epistemological obstacle.

To overcome this obstacle, Mahmoud proposes a pragmatic criterion: ideas should not be evaluated solely in terms of their abstract meaning, but rather in light of their anticipated consequences. That is, one must ask how the adoption of a given idea would transform lived reality. For example, understanding the semantic content of “democracy” is insufficient unless one can envision the social, political, and ethical transformations that would result from its implementation. This forward-looking evaluation reflects the influence of scientific and pragmatic reasoning in Mahmoud’s epistemology and underscores his commitment to clarity, applicability, and social relevance (Mahmoud, 1983).

From this perspective, Logical Positivism appears not merely as a technical philosophical doctrine, but as a call to embrace science and scientific thinking as the most reliable path toward progress and intellectual renaissance (*nahḍa*). In Mahmoud’s view, Logical Positivism represents one of the most mature and coherent projects within contemporary Arab philosophy, capable of addressing key intellectual dilemmas by promoting experimentation, precision, and conceptual transparency.

Philosophy of Science as Meta-Language

Zaki Najib Mahmoud offers several definitions of the philosophy of science, all of which remain consistent with the methodological commitments of Logical Positivism. In one formulation, he argues that when scientific statements are subjected to analysis, the philosopher’s concern is not with external phenomena themselves, but with the logical structure of scientific propositions. Philosophy of science, therefore, is not science, but a reflective discourse on science (Mahmoud, 1965).

However, Mahmoud insists that this definition must be further refined. Philosophy of science is not merely commentary on science; it is a logical analysis of scientific propositions. This necessitates a clear distinction between science and philosophy of science. Science consists of *object-language*—statements about empirical reality that constitute the content of scientific theories. Philosophy of science, by contrast, operates at the level of *meta-language*, analyzing, clarifying, and evaluating the logical coherence and meaning of those statements.

In this framework, the primary task of philosophy is the analysis of propositions belonging to the empirical sciences and mathematics, which Logical Positivists regard as the only *exact sciences*. Propositions that do not describe the empirical world or fail to meet verification criteria are deemed meaningless. As Rudolf Carnap famously states, the Vienna Circle’s object of inquiry is science itself, approached from a logical rather than historical, social, or psychological standpoint (Carnap, 1934/1959).

Thus, Mahmoud’s philosophy of science rests on the logical analysis of scientific propositions with the aim of clarification and conceptual precision. Philosophy becomes a linguistic activity whose function is explanatory rather than speculative, achieved through the deconstruction of scientific language and the unification of its terms.

Language, Verification, and the Rejection of Metaphysics

The epistemological foundations of Logical Positivism include the analysis of scientific theories, the unification of scientific language, and the integration of all sciences into a comprehensive philosophical framework. This project entails a categorical rejection of metaphysical and theological propositions, which are dismissed as *pseudo-statements* or “empty verbal expressions.” Philosophy, in this view, must confine itself to linking language with empirical experience and constructing reality through logical formulation.

Meaning is defined in terms of verification: the meaning of a proposition lies in the method by which it can be empirically verified. Accordingly, Logical Positivists engaged in the analysis of both everyday language and philosophical discourse in order to eliminate ambiguity and resolve pseudo-problems. In some versions of analytical philosophy, this endeavor culminated in attempts to construct an artificial logical language that could function as a universal model for scientific discourse.

This linguistic turn is encapsulated in the early philosophy of Ludwig Wittgenstein, who asserts:

“The object of philosophy is the logical clarification of thoughts. Philosophy is not a theory but an activity... Its result is not a number of philosophical propositions, but the clarification of propositions.” (Wittgenstein, 1922/1961, §4.112) These principles of Logical Positivism profoundly shaped Zaki Najib Mahmoud’s intellectual trajectory. In *The Story of a Mind*, he declares his enduring commitment to this scientific-philosophical stance from 1946 onward, applying it not only in philosophy of science but also in literary criticism and cultural analysis (Mahmoud, 1983).

Third: The Critical-Analytical Approach

(Mohamed Thabit al-Fandi)

A third epistemological orientation within contemporary Arab thought is represented by the critical-analytical approach developed by Mohamed Thabit al-Fandi. This approach emerged at the intersection of philosophy, science, and history, reflecting the intellectual climate of twentieth-century Arab modernity. Al-Fandi’s work is distinguished by its synthesis of rational critique, analytical rigor, and historical consciousness.

Two key factors shaped al-Fandi’s epistemological outlook: his historical self-awareness and his formal training in mathematics, which endowed him with a precise understanding of scientific reasoning. Accordingly, he rejected unilateral definitions of the philosophy of science in favor of a tripartite conception. For al-Fandi, the philosophy of science does not seek to impose a single scientific method, but rather to analyze existing scientific structures, critique their foundations, and evaluate scientific truth within the broader horizon of human knowledge.

Al-Fandi identifies three core dimensions of this approach. First, critique functions as a methodological practice internal to science itself, whereby scientists reassess the logical foundations and domains of their disciplines. Second, the legitimacy of critique is realized within a historical framework that acknowledges scientific progress as a non-linear process marked by ruptures and epistemological obstacles. Third, philosophy of science must engage with diverse modes of inference—induction, deduction, the hypothetico-deductive method—and evaluate scientific theories and laws accordingly.

Through this synthesis, al-Fandi moves beyond both strict Logical Positivism and purely critical epistemology, articulating a balanced approach that combines analysis and critique as complementary tools for achieving rational understanding.

Conclusion

In light of the intellectual diversity characterizing contemporary philosophy of science, Arab thought is compelled to engage deeply with epistemological theory in order to ground its civilizational project. Such engagement requires understanding the conditions of scientific development and identifying epistemological obstacles that hinder progress. Through the works of Muhammad Abed al-Jabri, Zaki Najib Mahmoud, and Mohamed Thabit al-Fandi, it becomes evident that contemporary Arab epistemology has drawn upon multiple Western traditions—critical, analytical, and historical—while seeking to adapt them creatively to Arab-Islamic contexts.

Collectively, these approaches underscore the necessity of epistemic self-critique, methodological renewal, and the reconciliation of authenticity with modernity. Only through such efforts can Arab thought transition from a consumptive relationship with knowledge to a productive one, capable of confronting contemporary challenges while contributing meaningfully to global intellectual culture.

Author Contributions

Both authors contributed substantially and equally to the conception, design, and execution of this study. **Salaa Mohamed** developed the theoretical framework, conducted the primary epistemological analysis, and drafted the initial version of the manuscript. **Kaabouche Ahmed** contributed to the critical interpretation of sources, refinement of the philosophical arguments, and revision of the manuscript for intellectual coherence and academic rigor. Both authors reviewed and approved the final version of the manuscript and take full responsibility for its content.

Ethical Considerations

This study is based exclusively on the analysis and interpretation of published philosophical texts and secondary sources. It does not involve human participants, personal data, experiments, or animals. Consequently, ethical approval from an institutional review board was not required. The research was conducted in accordance with internationally accepted ethical standards for academic research, including honesty, academic integrity, and proper citation of all sources.

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Conflict of Interest

The authors declare that there are no known financial or non-financial conflicts of interest that could have influenced the research, authorship, or publication of this article.

References

1. Abdallah, A., & Al-Lahlah, M. M. A. B. (2002). *Scientific research: Definition, steps, methodologies, and statistical concepts*. Al-Dar Al-Jami'iyya.
2. Abdel-Qader, M. M. A. (1997). *Philosophy of science: An Arabic reading* (Vol. 1). Dar Al-Nahda Al-Arabiya.
3. Abdel-Qader, M. M. A. (1997). *Philosophy of science: An Arabic reading* (Vol. 2). Dar Al-Nahda Al-Arabiya.
4. Abdel-Qader, M. M. A. (1997). *Scientific philosophy: A critical vision* (Vol. 1). Dar Al-Nahda Al-Arabiya.
5. Al-Azzam, M. (1993). *Introduction to the philosophy of science: Studies in contemporary epistemology*. Dar Tlass.
6. Al-Hariri, H. (n.d.). *The positivist epistemological heritage: Foundations, manifestations, and limits*. Mominoun Without Borders. <https://www.mominoun.com>

7. Al-Jabri, M. A. (1980). *We and heritage*. Dar Al-Tali'a.
8. Al-Jabri, M. A. (1991). *The formation of the Arab mind* (4th ed.). Arab Cultural Center.
9. Al-Jabri, M. A. (2002). *Introduction to the philosophy of science: Contemporary rationality and the development of scientific thought* (5th ed.). Center for Arab Unity Studies.
10. Althusser, L. (1970). *For Marx* (B. Brewster, Trans.). Verso.
11. Alaouchiche, A., et al. (2013). *The question of modernity and enlightenment: Between Western and Arab thought*. Al-Diffaf Publications.
12. Bachelard, G. (1984). *The new scientific spirit* (A. Goldhammer, Trans.). Beacon Press.
13. Bouchaïr, A. (n.d.). *Essays in epistemological studies: Philosophical inquiries into the micro and macro worlds*. Éditions El-Ikhtilaf.
14. Carnap, R. (1959). *The logical syntax of language* (A. Smeaton, Trans.). Routledge. (Original work published 1934)
15. Chalmers, A. F. (2013). *What is this thing called science?* (4th ed.). Open University Press.
16. Feyerabend, P. (1975). *Against method: Outline of an anarchistic theory of knowledge*. Verso.
17. Godfrey-Smith, P. (2003). *Theory and reality: An introduction to the philosophy of science*. University of Chicago Press.
18. Habermas, J. (1971). *Knowledge and human interests*. Beacon Press.
19. Hashim, R. Q. (2013). Gaston Bachelard's epistemology of knowledge. *Babylon Center for Studies Journal*, University of Babylon.
20. Kuhn, T. S. (1970). *The structure of scientific revolutions* (2nd ed.). University of Chicago Press.
21. Lakatos, I. (1978). *The methodology of scientific research programmes*. Cambridge University Press.
22. Lalande, A. (2001). *Lalande's philosophical encyclopedia* (2nd ed.). Oueidat Publications.
23. Lalande, A. (n.d.). *Vocabulaire technique et critique de la philosophie*. Presses Universitaires de France.
24. Madkour, I. (1983). *Philosophical dictionary*. General Organization for Government Printing Offices.
25. Mahmoud, Z. N. (1965). *Positivist logic* (Vol. 2, 2nd ed.). Anglo-Egyptian Bookshop.
26. Mahmoud, Z. N. (1983). *The story of a mind*. Dar Al-Shorouk.
27. Majid, M. H. (2004). *Modern discussion forum (Al-Hiwar Al-Mutamaddin)* (Issue 950).
28. Naeema, B. S. (2009). Epistemological discourse in contemporary Arab philosophical thought. *Forum of the Professor Journal*, 5-6.
29. Popper, K. R. (1959). *The logic of scientific discovery*. Routledge.
30. Popper, K. R. (1963). *Conjectures and refutations: The growth of scientific knowledge*. Routledge.
31. Psillos, S. (1999). *Scientific realism: How science tracks truth*. Routledge.
32. Russell, B. (1918). *The philosophy of logical atomism*. Open Court.
33. Saliba, J. (1982). *The philosophical dictionary* (Vol. 1). Lebanese Book House.
34. Ward, A. (n.d.). *The concept of the history of science: A preliminary approach*. Al-Banna Al-Marrakshi Center for Research and Studies. <http://www.alabnnima>
35. Waqidi, M. (1983). *What is epistemology?* Dar Al-Hadatha.
36. Wittgenstein, L. (1961). *Tractatus logico-philosophicus* (D. F. Pears & B. F. McGuinness, Trans.). Routledge. (Original work published 1922)
37. Yafout, S. (1989). *Contemporary rationalism between critique and truth*. Dar Al-Tali'a.