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CRITICAL RATIONALISM, FALSIFIABILITY, AND THE OPEN SOCIETY: A POPPERIAN FRAMEWORK FOR THE POST-TRUTH CRISIS

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Abstract

This article examines the relevance of Karl Popper's critical rationalism and his conception of the open society for understanding the epistemic and political conditions of the post-truth era. Rather than treating falsificationism as a procedure for verifying every public claim, the article interprets Popper's philosophy as an ethic of fallibilism, public criticism, and institutional correction. The study employs qualitative library research through a critical reading of Popper's major works, supported by contemporary scholarship on post-truth, misinformation, digital polarization, and public reason. The analysis argues that post-truth conditions are sustained not only by the circulation of false information but also by weakened norms of evidence, declining trust in institutions, and the insulation of political identities from criticism. Popper's falsifiability criterion is relevant primarily as a model of critical testing within scientific inquiry, while critical rationalism offers a broader orientation for evaluating public claims provisionally and revisably. The concept of the open society complements this orientation by emphasizing institutions that protect dissent, transparency, error correction, and nonviolent political change. The article concludes that a Popperian response to post-truth should not be understood as a simple fact-checking method, but as a framework for strengthening public criticism, epistemic humility, and institutional accountability.

Keywords: Karl Popper; Critical Rationalism; Falsifiability; Open Society; Post-Truth

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A. Introduction

The post-truth phenomenon has become a major epistemic and political concern in contemporary public life. The term gained wider recognition after Oxford Dictionaries selected it as its Word of the Year in 2016 (Oxford Dictionaries, 2016). Post-truth does not imply that truth itself has become relative. Rather, it describes a communicative and political environment in which evidence-based standards exert less influence on public judgement, while partisan identity, emotional appeals, and repeated narratives increasingly shape the acceptance of claims. Digital platforms intensify this condition by enabling the rapid circulation of fragmented, selective, and frequently unverified information. In such circumstances, false or misleading claims may gain public influence not because they are epistemically stronger, but because they resonate with group

loyalties, affective commitments, and distrust toward established institutions. Research on social-media-induced polarization shows that confirmation bias can reinforce echo chambers and the selective acceptance of information consistent with prior beliefs. In parallel, organized social media manipulation can exploit platform affordances to shape public opinion and weaken trust in journalism and democratic institutions (Modgil et al., 2024; Bradshaw & Howard, 2018).

Echo chambers refer to communication environments in which users are repeatedly exposed to views that reinforce their existing beliefs while opposing perspectives are excluded, marginalized, or treated as untrustworthy. This pattern narrows informational diversity and can strengthen the influence of emotionally resonant narratives over evidence-based assessment. In digital environments, such dynamics may be reinforced by network homophily, selective exposure, and platform-based personalization. The concept of filter bubbles refers to personalized information environments that can reinforce prior preferences while limiting exposure to opposing viewpoints (Bruns, 2019).

The digital algorithms in the above description show a fundamental shift in the practice of information production and consumption, where factual truth is no longer the main foundation in the formation of public opinion. This condition also has an impact on global political dynamics, including Indonesia. Since 2010, research has documented how organized social media manipulation and the circulation of false or misleading content can polarize political constituencies, distort public understanding, and weaken trust in journalism and democratic institutions. Exposure to fake news has also been associated with declining trust in mainstream media, although its relationship with political trust may vary according to ideological orientation and political context (Bradshaw & Howard, 2018; Ognyanova et al., 2020). The rapid diffusion of false information further complicates the public distinction between evidence-based reporting, opinion, and manipulated content (Vosoughi et al., 2018).

The post-truth condition invites renewed reflection on the standards through which public claims are assessed, criticized, and revised. Karl Popper's philosophy is relevant in this context because it emphasizes fallibilism, rational criticism, and the possibility of correcting error. His falsifiability criterion concerns the conditions under which scientific theories can be exposed to potential refutation, whereas his broader

philosophy of critical rationalism concerns the willingness to subject claims to criticism rather than treating them as immune from challenge. Popper's conception of the open society complements this epistemic orientation by emphasizing institutions that protect dissent, transparency, public scrutiny, and peaceful political reform.

Within Islamic ethical discourse, the principle of tabayyun provides a relevant point of dialogue for discussions of information, responsibility, and public communication. Tabayyun refers to the ethical obligation to examine information carefully before accepting or disseminating it, especially when unverified claims may cause harm (Nasoha et al., 2025). This principle may be placed in dialogue with Popperian critical rationalism, but the two should not be treated as equivalent. Tabayyun concerns ethical responsibility in the reception and circulation of information, whereas falsifiability concerns the logical and methodological conditions under which scientific theories can be exposed to possible refutation. Their relationship is therefore analogical rather than identical: both discourage uncritical acceptance of claims, but they operate within different epistemic and normative traditions. This distinction is important in the post-truth era. The digitization of information has expanded access to knowledge while also intensifying the circulation of misleading claims, selective narratives, and emotionally charged content. A constructive response therefore requires both ethical responsibility in communication and public institutions capable of protecting criticism, evidence-based inquiry, and collective correction.

Existing discussions commonly examine falsifiability within the philosophy of science or discuss the open society primarily as a theory of democracy and institutional reform. Less attention has been given to the relationship between Popper's epistemological fallibilism and the institutional conditions required for public criticism to function under post-truth pressures. This article addresses that relationship by examining falsifiability, critical rationalism, and the open society as interconnected elements of a broader Popperian response to misinformation, polarization, and declining trust in public knowledge. This article examines how Popper's critical rationalism and conception of the open society may contribute to the restoration of public conditions for criticism, correction, and accountable disagreement. It has four objectives: to identify the epistemic characteristics of post-truth conditions; to clarify the role of falsifiability within Popper's philosophy of science; to examine the open society as an institutional condition

for public criticism; and to formulate a conceptual synthesis linking epistemic fallibilism, civic responsibility, and institutional accountability.

B. Methods

This study employs qualitative library research with a philosophical-interpretive orientation. The primary sources consist of Karl Popper's major works on the philosophy of science, critical rationalism, and political theory, particularly *The Logic of Scientific Discovery*, *Conjectures and Refutations*, *The Open Society and Its Enemies*, and *The Poverty of Historicism*. These works are examined to identify Popper's positions on falsifiability, fallibilism, criticism, institutional reform, and the relationship between knowledge and political freedom. Secondary sources were selected from scholarly publications on Popper's philosophy, post-truth discourse, misinformation, digital polarization, public reason, and democratic institutions. The selection was guided by three criteria: direct relevance to the relationship between critical rationalism and post-truth conditions; scholarly credibility; and usefulness for explaining the contemporary limits of public criticism.

The analysis proceeded in three stages. First, the study reconstructed Popper's distinction between falsifiability as a criterion of scientific demarcation and critical rationalism as a broader orientation toward conjecture, criticism, and error correction. Second, it examined the concept of the open society as an institutional framework that protects criticism, dissent, and peaceful reform. Third, it developed a conceptual synthesis to assess how epistemic fallibilism and institutional openness may contribute to public resilience against misinformation, polarization, and dogmatic truth claims. This study does not treat Popper's philosophy as a technical model for fact-checking individual statements. Instead, it examines Popper's relevance as a normative and epistemic orientation for strengthening public criticism, intellectual humility, and institutional accountability.

C. Results and Discussion

1. Post-Truth Epistemological Conditions

The post-truth phenomenon involves more than the circulation of distorted information. It also concerns the weakening of shared standards for assessing evidence, the politicization of knowledge, and the tendency to treat criticism as an attack on group

identity rather than as a possible source of correction. In such conditions, public claims may be accepted not primarily because of their evidential strength, but because they resonate with political loyalties, emotional commitments, or pre-existing distrust toward institutions. Within Islamic epistemological discourse, wasathiyah has been proposed as a framework for balancing reason and revelation in strengthening Muslim digital literacy (Addzaky et al., 2024). This approach is relevant because it emphasizes moderation and ethical responsibility in the reception of information. However, the post-truth condition also raises a further question concerning the public standards through which claims can be criticized, tested, and revised when they circulate within polarized digital environments.

Political propaganda intensifies this problem when emotional appeals are used not only to influence public opinion but also to shape the criteria through which information is accepted as credible. From a Popperian perspective, this condition becomes problematic when public claims are insulated from criticism and no longer remain open to evidence, objection, or correction. Widiyanto's discussion of dialogue in the post-truth age similarly indicates that contemporary public communication requires forms of engagement capable of resisting hostility, exclusion, and the erosion of rational exchange (Widiyanto, 2023).

Digital platforms intensify these conditions through rapid circulation, selective exposure, algorithmic personalization, and fragmented public attention. Fact-checking systems, platform moderation, and media literacy remain important, but they cannot fully address the problem when public actors reject correction in advance or dismiss all institutional sources of knowledge as inherently illegitimate. The crisis is therefore not only informational but also epistemic and institutional.

Religious institutions also face new epistemic pressures when theological claims compete with viral narratives that may be emotionally persuasive but weakly grounded in evidence. Arken's discussion of sacred texts in the post-truth era illustrates how religious authority must respond to changing conditions of communication and public trust (Arken, 2025). The relevance of Popper's philosophy lies not in reducing theological claims to scientific hypotheses, but in strengthening an ethos of intellectual responsibility, openness to criticism, and willingness to correct human interpretations and public judgments.

2. Popper's Falsificationism as an Epistemic Critique of Post-Truth

Karl Popper developed falsifiability within his broader philosophy of critical rationalism. His central claim is that scientific knowledge does not advance through final verification, but through conjectures that remain open to criticism and possible refutation. Falsifiability should therefore not be understood as a mechanical procedure for proving theories false conclusively. Its primary function is to distinguish empirical theories from claims formulated in ways that prevent any possible refutation.

A theory is scientific not because it has been conclusively verified, but because it makes claims that could, in principle, conflict with observation or experiment. In Popper's account, falsifiability functions as a criterion of demarcation between empirical science and claims that cannot be exposed to possible refutation (Popper, 1959). For Popper, scientific knowledge develops through conjectures and attempted refutations. A theory that survives severe criticism may be regarded as corroborated for the time being, but it does not become finally true or immune from future revision (Popper, 1963).

This account is consistent with recent discussions of Popper's relevance for Islamic intellectual inquiry, particularly where critical engagement is understood as a condition for the development of knowledge rather than as a rejection of religious commitment (Yuwono, 2024; Sarah & Adib, 2023). Hammersley's discussion of the open society also underlines that Popper's philosophy cannot be reduced to a narrow method of scientific testing, because it is connected to wider questions of criticism, authority, and intellectual freedom (Hammersley, 2024).

Falsifiability should not, however, be transferred mechanically to every statement circulating in public communication. It concerns empirical theories, whereas many political, ethical, and religious claims involve normative questions that cannot be settled through observation alone. Its relevance to post-truth lies in the broader ethos of critical rationalism: public claims should remain open to evidence, objections, and revision rather than being treated as immune from criticism because they serve political, ideological, or emotional commitments.

Popper's critique of verificationism challenged the assumption that general scientific laws could be established through conclusive confirmation. Instead, scientific theories remain provisional and subject to future testing (Hinst & Andersson, 2017). This does not entail relativism. It means that some theories may be preferred over others

because they survive more demanding criticism, provide stronger explanations, and remain open to further examination (Hines, 1988).

3. Open Society as a Normative Structure to Overcome the Post-Truth Crisis

If Popper's critical rationalism provides an epistemic orientation toward criticism, fallibilism, and error correction, the open society provides the normative and institutional conditions through which such criticism can operate within socio-political life. Popper asserts that an open society is characterized by openness to criticism, intellectual freedom, transparency, and institutional sustainability that allows correction of collective wrongs (Royer, 2023). In the context of post-truth, this characteristic is a structural prerequisite for repairing the damage to the mechanism of truth production in the public sphere. The post-truth phenomenon thrives in conditions when the public no longer has access to rational deliberations and when traditionalist epistemic authority of scientists, media, state institutions is eroding legitimacy. Thus, post-truth is not only an epistemological crisis, but also a crisis of trust in democratic institutions (Eidlin, 1993).

For Popper, an open society is not simply a society that tolerates diverse opinions. It is a political order in which institutions may be criticized, public policies may be revised, rulers may be replaced without violence, and no political or ideological authority can claim immunity from scrutiny. This conception rests on the recognition that individuals and institutions are fallible and therefore require mechanisms of correction (Popper, 1945; Frederick, 2019). The contrast between open and closed forms of social organization is relevant to post-truth conditions. A closed orientation emerges when political identities, ideological commitments, or institutional interests prevent claims from being examined through public criticism. In contrast, an open society protects the conditions under which disagreement can be expressed, evidence can be evaluated, and collective errors can be corrected (Royer, 2023; Eidlin, 1993).

In the era of digitalization, these closed societal patterns are reappearing in the form of echo chambers, algorithmic polarization, and online communities that build tribal epistemologies This structure resembles the tendencies criticized in Popper's critique of historicism and utopianism, particularly the monopolization of truth, the restriction of criticism, and the replacement of rational exchange with absolutist narratives insulated from public scrutiny (Craiutu, 2022). This condition is considered to give space for

disinformation to flourish not only because of the weak ability of the public to verify facts, but because of the loss of social-institutional space to test claims openly.

The relationship between Popper's philosophy of science and his political thought should not be understood as a direct transfer of scientific falsification into every sphere of social life. Political, ethical, and religious disagreements cannot always be resolved through empirical testing. Nevertheless, Popper's broader commitment to criticism, fallibilism, and error correction supports institutional arrangements in which public claims, policies, and authorities may be scrutinized, contested, and revised. In this sense, democratic institutions provide conditions through which criticism can be protected and collective errors can be corrected without violence (Popper, 1963; Eidlin, 1993).

The contextualization of the Open Society principle in the post-truth era shows that efforts to overcome disinformation require more than factual literacy but rather institutional discipline that ensures that criticism is not silenced and freedom of information is not reduced to the freedom to spread uncorrected claims. Thus, Open Society serves as a political prerequisite for the falsification ethos of an ecosystem in which public claims are tested through mechanisms of open criticism, transparency, and institutional correction. In the Popperian perspective, a healthy society is one that not only knows how to criticize, but is also capable of criticism because there is a socio-political structure that supports it.

4. The Integration of Falsificationism and Open Society as an Epistemological-Comprehensive Response

The integration of critical rationalism and the open society does not require the direct application of scientific falsification to every political, ethical, or religious disagreement. Instead, it requires a public culture in which claims remain open to criticism and institutions remain capable of revising their decisions in response to evidence and unintended consequences. Popper's critique of historicism and his defense of piecemeal social engineering are relevant here because they reject political projects based on claims of final historical certainty and support gradual reforms that remain open to evaluation and correction (Popper, 1957; Imron & Mukhlison, 2020).

This position recognizes human fallibility without collapsing into relativism. Popperian fallibilism does not deny the possibility of truth; it rejects the claim that

individuals or institutions possess final and unquestionable certainty in empirical or public matters. In the post-truth context, this orientation resists both dogmatism, which closes the space for criticism, and total relativism, which treats all claims as equally valid regardless of evidence or argument.

The relationship between critical rationalism and the open society can be formulated through three interconnected levels. First, at the epistemic level, public claims should remain open to evidence, criticism, and revision. Second, at the civic level, citizens require habits of intellectual humility, source evaluation, and willingness to revise their views when confronted with stronger arguments. Third, at the institutional level, democratic institutions, independent media, educational systems, and legal safeguards must protect the public circulation of criticism and prevent the monopolization of information.

This framework does not assume that all public disagreements can be resolved through scientific falsification. Political, ethical, and religious disagreements frequently involve values that cannot be settled by empirical testing alone. Nevertheless, Popper's critical rationalism remains relevant because it rejects the transformation of disagreement into dogmatism. It requires that competing claims be articulated publicly, exposed to criticism, and revised when they produce harmful consequences or fail to withstand reasoned examination.

D. Conclusion

This article has examined the relevance of Karl Popper's critical rationalism and the open society for understanding the epistemic and political challenges of the post-truth era. The analysis shows that falsifiability should not be treated as a universal method for verifying every public statement or identifying every instance of misinformation. Its relevance lies in the wider Popperian commitment to fallibilism, critical testing, and the rejection of claims that seek immunity from criticism.

The concept of the open society complements this epistemic orientation by emphasizing institutions that permit dissent, protect intellectual freedom, enable public scrutiny, and allow collective errors to be corrected without violence. Post-truth conditions are intensified when public claims are insulated from criticism, political identities replace evidential standards, and institutions of correction lose legitimacy. A

Popperian response to post-truth therefore requires more than fact-checking initiatives. It requires a public culture in which citizens, institutions, and knowledge-producing communities accept the possibility of error and remain open to criticism. The value of Popper's thought lies not in offering certainty, but in providing an ethic of inquiry and institutional correction capable of resisting dogmatism, misinformation, and the political manipulation of truth claims. A Popperian response to post-truth therefore operates across three connected levels: epistemically, by keeping claims open to criticism and revision; civically, by cultivating intellectual humility and responsible judgement; and institutionally, by protecting dissent, transparency, and nonviolent mechanisms of correction.

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