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Examining the Core Elements of Popper's Falsifiability Perspective and Their Compatibility

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1. Round 1

1.1. Reviewer 1

Reviewer:

The statement "members of the Vienna Circle sought to establish a foundation for scientific laws independent of Aristotelian essentialism and rationalism" (Introduction) requires more specificity. It would be helpful to mention key figures like Carnap or Schlick and explain how their logical positivism contrasts with Popper’s falsificationism.

The reference to Marxism and psychoanalysis as pseudosciences (Introduction) should include a clearer justification. The phrase "Marxism and the psychoanalytic theories of Freud and Adler, in his view, were examples of theories that wore the guise of science but were not scientific in reality" lacks depth. A brief explanation of why these theories fail Popper’s falsifiability criterion would be useful.

The section discussing the "logical asymmetry between confirming and falsifying a general statement" (Introduction) is an essential argument but is not well-developed. Consider providing an example beyond the classic "All swans are white" analogy to illustrate the asymmetry.

Authors revised the manuscript and uploaded the document.

1.2. Reviewer 2

Reviewer:

The phrase "hypothesis, falsification, the primacy of theory over observation, approximation to truth, and realism constitute the core elements of the falsifiability perspective" (Introduction) lists key elements but does not sufficiently introduce them. A brief definition of each concept would improve accessibility for readers unfamiliar with Popper's work.

In the statement "Popper claimed that scientists never resort to induction when evaluating scientific theories, and that inductivism is nothing more than a myth," (Introduction) consider citing Popper's original works (e.g., The Logic of Scientific Discovery). Additionally, some philosophers argue that scientific practice involves a mix of induction and falsification—acknowledging this counterpoint would strengthen the discussion.

In the sentence "every theory is a conjecture that comes to a scientist's mind to solve a problem" (Methodology), it would strengthen the argument to provide a historical example of a significant theory that emerged from this process (e.g., Einstein's relativity replacing Newtonian mechanics).

The phrase "The problem of survival is the origin of all problems" (Methodology) is too broad. If the intent is to link problem-solving with evolutionary principles, it should be explicitly stated with references to Popper's evolutionary epistemology.

The sentence "Popper has been criticized for this criterion, as it implies that a preferable theory is one that is less probable" (Discussion) should be expanded with counterarguments from other philosophers of science, such as Kuhn or Lakatos, who propose alternative criteria for scientific progress.

Authors revised the manuscript and uploaded the document.

2. Revised

Editor's decision: Accepted.
Editor in Chief's decision: Accepted.