Qeios

Peer Review

Review of: "The Role of Artificial Intelligence in the Lifecycle of Scientific Manuscripts: Authoring, Reviewing, and Editorial Selection"

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This manuscript addresses one of the most pressing contemporary issues in scholarly communication: the accelerating integration of artificial intelligence into manuscript preparation, peer review, and editorial decision-making, and the ethical, epistemic, and economic consequences of that integration. The topic is highly relevant, timely, and well aligned with the mission and values of Qeios, particularly its emphasis on transparency, human accountability in peer review, and reform of dysfunctional academic publishing practices.

Compared to the previous version, this revised manuscript demonstrates clear conceptual maturation. The author now more explicitly positions the work as a *normative, policy-oriented critical review* rather than a systematic review, clarifies the scope of the analysis, and introduces greater nuance in the discussion of alternative hybrid models (including uncompensated variants). These changes improve both intellectual honesty and reader orientation.

Overall, the manuscript constitutes a serious, well-argued contribution to the debate on AI and research integrity and is suitable for open scholarly discussion.

Clarity of Aims, Scope, and Argumentation

The central aim of the manuscript is clearly articulated: to examine whether AI can meaningfully address the peer-review crisis and, if not, why the crisis must be understood as fundamentally economic and

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systemic rather than technological. This thesis is communicated early and reiterated consistently across sections.

Strengths

- The Introduction clearly frames the problem, identifies the paradox of AI adoption, and explains why purely technical solutions are insufficient.
- The tripartite structure (AI in authorship, AI in review, AI in editorial selection) provides a logical scaffold that readers can easily follow.
- The explicit statement that the manuscript is a *critical commentary and policy analysis* rather than a systematic review is particularly welcome, as it pre-empts inappropriate methodological criticism.

Suggestions

- While the narrative is coherent, the manuscript would benefit from explicit guiding questions at the end of the Introduction (e.g., 2–3 bullet-pointed analytical questions). This would further enhance navigability, especially for non-specialist readers.
- The normative stance is explicit, but a brief paragraph distinguishing descriptive claims (what AI currently does) from normative claims (what AI should or should not be allowed to do) would strengthen conceptual clarity.

Literature and Evidence

The manuscript demonstrates quite impressive command of recent literature (2023–2026) across publishing ethics, AI evaluation, and peer-review studies. The synthesis of empirical findings on hallucinated citations is particularly strong and constitutes one of the paper's most valuable elements.

Strengths

- Table 1 offers a clear, consolidated overview of citation hallucination rates across models and disciplines, which is likely to be reused as a reference point by future authors and reviewers.
- The discussion accurately reflects the state of evidence: incremental improvements without elimination of core risks.
- The manuscript avoids cherry-picking and acknowledges partial improvements (e.g., RAG tools) while correctly emphasizing their structural limitations.

Suggestions

- Some quantitative claims (e.g., detection accuracy rates for statistical errors, effects of reviewer compensation pilots) would benefit from clearer indication of context and limitations, such as journal type, discipline, or pilot scale.
- Given the density of references, a short thematic synthesis paragraph at the end of Section 3 summarizing what the evidence collectively shows (and does not show) would help readers distill key takeaways.

Analysis of Human vs. AI Review Capacities

Sections 4.1–4.4 provide a nuanced and well-balanced comparison of AI and human reviewers. The manuscript appropriately resists both techno-utopian and reactionary positions.

Strengths

- The distinction between *technical verification* and *epistemic judgment* is analytically sharp and convincingly defended.
- The discussion of novelty recognition and paradigm-challenging research is perceptive and grounded in the training logic of contemporary LLMs.
- Table 2 is particularly effective as a pedagogical tool and would be valuable in reviewer or editor training contexts.

Constructive suggestions

- While acknowledging human bias, the manuscript could further develop how human–AI interaction design (e.g., blind AI pre-screening, structured human overrides) might mitigate rather than amplify bias.
- The term “incremental science filter” is compelling, but a short illustrative example (historical or hypothetical) could make the risk more concrete for readers.

Economic Analysis and Policy Proposals

The discussion of publishing economics (Section 5) is one of the manuscript's most distinctive contributions. It explicitly names labor exploitation as a core driver of the crisis and resists treating AI as a neutral efficiency tool.

Strengths

- The four-scenario framework (Table 3) is clear, logically structured, and analytically useful.
- The revised version shows improved balance by acknowledging the continued viability of uncompensated hybrid models in some communities.
- The ethical case for reviewer compensation is clearly articulated without claiming it is the only possible solution.

Suggestions

- The manuscript would benefit from a clearer separation between normative advocacy and practical feasibility. For example, which stakeholders are realistically positioned to implement the "Fair Hybrid Model" first?
- A short discussion of regional variability (e.g., Global South vs. North, well-funded vs. society journals) would further strengthen the economic analysis.

Editorial AI and Algorithmic Bias

Section 6 provides a persuasive critique of AI-driven editorial triage and predictive analytics.

Strengths

- The manuscript correctly identifies feedback loops between historical citation data, prestige bias, and algorithmic reinforcement.
- The argument is well integrated with broader critiques of metric-driven research assessment.

Suggestions

- The discussion could be enhanced by briefly distinguishing assistive tooling (e.g., workload relief) from decisional authority, clarifying that not all editorial AI use is equally problematic.

- Explicitly linking this section back to Qeios' open peer-review model (as a partial countermeasure to opacity) would strengthen platform relevance.

Ethics, Governance, and Training

Section 7 is strong, clearly written, and practically oriented.

Strengths

- The emphasis on mandatory disclosure, audit trails, and human accountability is consistent with best ethical guidance.
- The inclusion of legal liability and regulatory developments (e.g., high-risk system classification) adds depth rarely found in comparable reviews.
- The training recommendations are concrete and actionable.

Suggestions

- The governance framework would be even stronger if summarized in a single schematic table or figure, mirroring the clarity of earlier tables.
- Some recommendations may benefit from prioritization (short-term vs. long-term interventions).

Presentation, Style, and Transparency

Strengths

- The manuscript is generally well-written, precise, and accessible to an interdisciplinary audience.
- AI usage disclosures are clear and appropriate.
- The tone is critical but not polemical, which is well-suited to open peer review.

Minor issues

- There are some typographical errors, formatting artifacts, and spacing inconsistencies (likely from PDF conversion or positioning - e.g., Table 2 bottom legend is at the very top of the next page).
- A light editorial pass would improve readability but does not affect scientific validity.

Overall Assessment

I consider this manuscript to offer a substantive, ethically grounded, and conceptually coherent contribution to the literature on AI in scholarly publishing. Its key strength lies in reframing the AI debate away from technical optimism toward structural reform, while still acknowledging legitimate efficiency gains.

The revised version (I am now reviewing ver.2) demonstrates responsiveness to complexity and avoids false dichotomies. While some arguments reflect the author's strong normative position, these positions are clearly labeled, well defended, and supported by evidence.

My rating for the current proposed work would be 5 stars because it is a rigorous, timely, and intellectually honest review that combines empirical evidence with thoughtful normative analysis. Minor clarifications and editorial refinements would further enhance clarity, but the manuscript already represents a high-quality contribution well suited for open scholarly discussion on Qeios.

Declarations

Potential competing interests: No potential competing interests to declare.