Academia's Black Box: The Peer Review Crisis

A Brief Analysis of Peer Review Process Flows and Their Systemic Vulnerabilities

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Abstract

This paper intends to offer evidence that a crisis exists in peer-reviewed academic publishing whose damaging effects impact the academic integrity of the entire worldwide corpus of scholarly research, threaten to undermine confidence in all scholarship, and could lead to an *epistemological catastrophe* if left unaddressed.

Identifying the Main Problems and Potential Consequences

A crisis exists in peer-reviewed academic publishing whose damaging effects impact the academic integrity of the entire worldwide corpus of scholarly research, threaten to undermine confidence in all scholarship. If left unaddressed, this exigent clutch in academic research could lead to an *epistemological catastrophe*. The problem may be stated simply: *No universal standards or processes for peer review exist in scholarly academic publishing* (Klebel, Reichmann, Polka, McDowell, Penfold, Hindle, & Ross-Hellauer, 2020). The evidence for this lack of process clarity and standardization is shocking: According to Klebel et al. (2020), approximately three-fourths of all academic journals offer *no insight* into their peer review processes, the identities or credentials of the reviewers, the sources of funding for the research and any associated conflicts of interest, or indicate whether the published documents being presented as peer-reviewed are merely *preprints* or are fully-vetted and edited for publication.

For the earnest doctoral student or practicing academician, this dearth of quality control is an *architectonic nightmare*: All academic scholarship is predicated on the notion of citation; in other words, scholars' most basic epistemological footing rest upon the reliability and integrity of their cited and referenced works. If these works' quality cannot be measured, guaranteed, or otherwise verified, the quality of any scholarship built upon such references is potentially a house of cards. Any new research inherits all the defects of its cited works: Since the validity and authority of of modern academic scholarship is intended to build upon the findings of its references, fuzzy or undefined peer review standards leave the modern researcher in a quandary; the justification and *bona fides* of academic writing is only as strong as its antecedent referenced citations (Klebel et al., 2020).

Possible Solutions

According to a commentary by Makel (2014), the practical inability for most scholars to *replicate* the research findings they abstract and build upon from their cited works demands the rigor of peer review for those cited works be *utterly paramount*. Makel offers a novel solution to the syndrome of extant defects in

peer review, namely, to mandate all academic journals *outsource* their peer review to an unrelated (and presumably objectively distant and unbiased) third party (2014). Makel further suggests academicians submit their preprint manuscripts to online open-access archives and repositories before endeavoring to publish to give the greater community of scholars a chance to critique the manuscript *long before* it even reaches the peer review stage (2014). Finally, Makel proposes all future scholarly articles be required to offer *co-citations*, that is, cite the original peer-reviewed article, then cite another totally independent peer-reviewed article which replicates or otherwise verifies the findings of the original (2014).

Conclusion

These recommendations may help reduce the chance that future scholarship is unintentionally biased or inadvertently bolsters or restates a false or poorly-validated claim to truth. Truth has been, since at least the dawn of rational and empirical inquiry in Ancient Greece, the goal of all research. The exact quote from which this ethical mandate is paraphrased is taken from Aristotle's *Nicomachean Ethics*: "τὸν αὐτὸν δὴ1 τρόπον καὶ ἀποδέχεσθαι χρεὼν ἕκαστον τῶν λεγομένων· πεπαιδευμένου γάρ ἐστιν ἐπὶ τοσοῦτον τἀκριβὲς ἐπιζητεῖν καθ᾽ ἕκαστον γένος ἐφ᾽ ὅσον ἡ τοῦ πράγματος φύσις ἐπιδέχεται·," (Aristotle, ca. 350 B.C.E./1926, p. 8, lines 21-25).

The precise English translation Horace Rackham gives is "Accordingly we may ask the student also to accept the various views we put forward in the same spirit; for it is the mark of an educated mind to expect that amount of exactness in each kind which the nature of the particular subject admits," (Aristotle, ca. 350 B.C.E./1926, p. 9, trans. H. Rackham). This author shares Aristotle' conclusion: it is the scholar's moral obligation to pursue and, above all else, ascertain *the truth* to its most granular and atomic fineness (Aristotle, ca. 350 B.C.E./1926).

References

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