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Letter to Editor

The blurred lines of plagiarism and AI authorship in scientific publishing

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For years, plagiarism has been a persistent thorn in the side of scientific publishing. Reviewers and editors-in-chief have long meticulously scrutinized manuscripts for copied content, unattributed sources, and intellectual dishonesty. Before the rise of Artificial Intelligence (AI), the primary concern was human authors appropriating others' work without proper acknowledgment. While AI has significantly influenced the use and efficacy of plagiarism-detection tools like iThenticate and Turnitin, it has not rendered them obsolete. Instead, their role has evolved to address new challenges posed by AI-generated content. This evolution marks a significant paradigm shift: manuscripts are increasingly being generated with the assistance of AI, raising profound questions about authorship, originality, and the very definition of plagiarism in the digital age.

The current role of AI in scientific writing is both revolutionary and disruptive. Tools like ChatGPT, GPT-4, and other Large Language Models (LLMs) can generate coherent, seemingly original manuscripts with minimal human input. While these technologies offer efficiency and accessibility, they also blur the lines of authorship and intellectual contribution. Unlike traditional plagiarism, where human intent is clear, AI-generated content complicates accountability. Is the human who prompts the AI the author? Or is the AI itself a co-author? The scientific community must confront these questions to uphold the integrity of scholarly communication.

Alongside AI, novel forms of plagiarism have emerged. These include AI-assisted plagiarism, where authors use AI to paraphrase existing work to evade detection, and AI-generated plagiarism, where entire manuscripts are produced by AI without disclosure. More insidiously, AI-augmented plagiarism combines human and AI contributions in ways that obscure originality. Traditional plagiarism-detection tools, designed to flag copied text, are ill-equipped to identify these new variants. The lack of transparency in AI-generated content exacerbates the problem, as these tools often produce text that appears original but is derived from vast, uncredited datasets. Consequently, AI-assisted writing complicates the definition of misconduct, blurring the line between plagiarism and a simple lack of transparency.

AI authorship also challenges traditional publishing norms. For instance, AI can generate literature reviews, methodologies, and even fabricated data with a sophistication that is deeply concerning. While some argue that AI democratizes scientific writing by assisting non-native English speakers or early-career researchers, its potential for misuse is substantial. Preventing AI-generated plagiarism hinges on transparency and accountability. Journals must mandate disclosure of AI use in manuscript

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preparation, and authors must be held responsible for the content they submit, regardless of its origin. However, the rapid advancement of AI means deterrence strategies must evolve just as quickly.

Addressing these challenges requires multifaceted strategies. First, publishers should develop AI-detection tools tailored to identify machine-generated text. Second, authorship guidelines must be updated to explicitly address AI contributions, requiring declarations of AI use and delineating human versus AI roles. Third, peer reviewers and editors must be trained to recognize signs of AI-generated content, such as unnatural phrasing or overly generic summaries. Finally, ethical frameworks must be established to govern AI's role in research, ensuring its use enhances rather than undermines scientific integrity.

In light of these challenges, editors and reviewers must embrace their role as gatekeepers of scientific integrity. This includes fostering a culture of transparency, where authors are encouraged to disclose AI assistance without fear of stigma. The scientific community cannot ignore AI's radical impact but must harness its potential while mitigating its risks. By proactively addressing the novel forms of plagiarism enabled by AI, the publishing ecosystem can adapt to this new reality, ensuring that the pursuit of knowledge remains rooted in originality, accountability, and trust."

Ethical considerations

Not applicable.

Artificial intelligence utilization for article writing

During the preparation of this work, the authors used ChatGPT (OpenAI) to enhance English language fluency and for grammatical editing. After using this tool/service, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

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Conflict of interest

The authors declare no conflict of interest.

Author contributions

NS contributed to the conceptualization and methodology of the study and wrote the original draft, while KA was responsible for reviewing and editing the manuscript.

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