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The authors declare no conflicts of interest.

The role of ChatGPT in scholarly editing and publishing

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Scholarly debate on artificial intelligence (AI)–authorship reached prominence recently when a recent version (GPT-3) of chatbox software, ChatGPT,¹ was shown to provide not only a highly comprehensible output in response to a human query but a relatively high-quality textual output, comparable to that written by experts.²

Apart from the challenges to core principles of valid authorship, as espoused by the International Committee of Medical

Journal Editors (ICMJE) recommendations,³ namely whether AI can or should be a co-author (query 1, Table 1), a debate is required to address whether humans and AI should have the same standing within academic publishing. In this correspondence, we briefly debate the relevance of ChatGPT to scientific and scholarly editing and publishing.

We encourage the creation of AI that assists academics, enriches scholarly content, saves

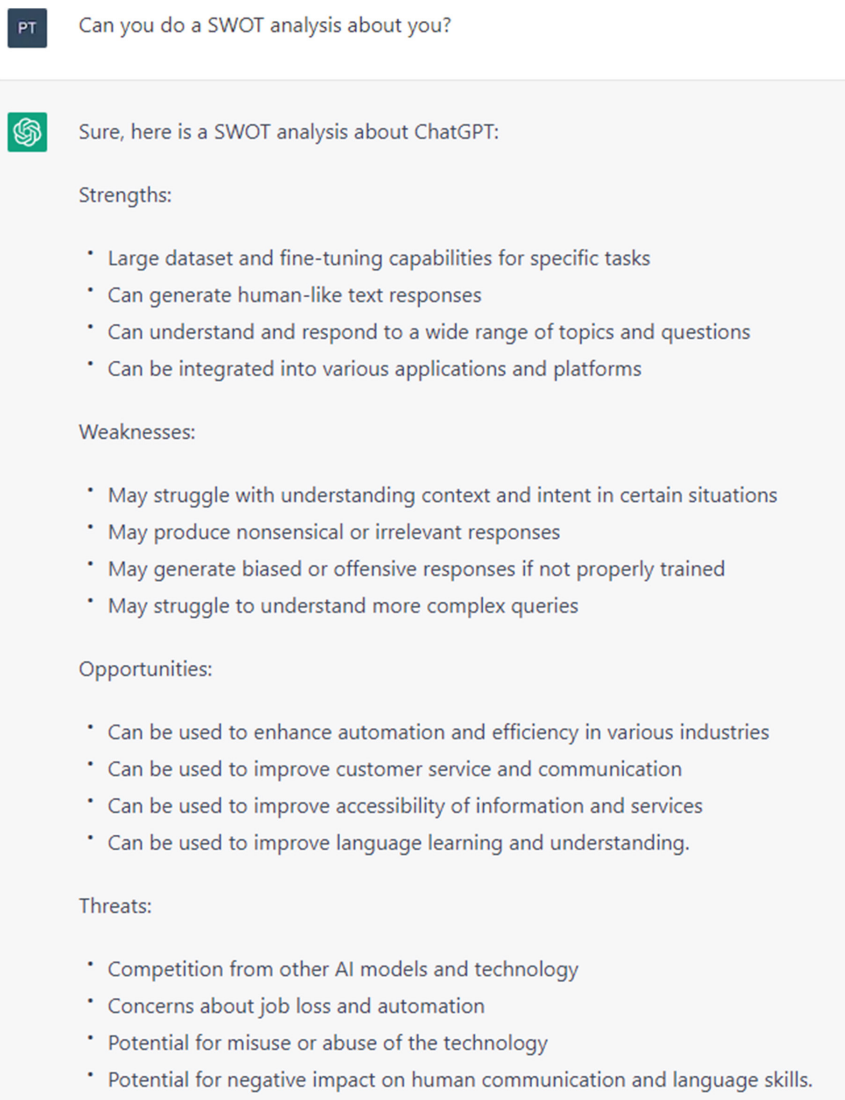


Figure 1. A query by the authors to ChatGPT, requesting it to evaluate itself using a strength, weaknesses, opportunities, and threats (SWOT) analysis, yielded some revealing, and rather frank, responses. The precise query was: “Can you do a SWOT analysis about you?” Date of query: 27 January 2023.

Table 1. Hypothetical queries (two per category) related to broad scientific-based themes directed by the authors (humans) to ChatGPT (GPT-3) (AI/software)

Authors' query #1 (input)	ChatGPT (GPT-3) response (output)
Is ChatGPT a valid author in a scientific publication as a co-author?	No, ChatGPT is not a valid author in a scientific publication as a co-author. It is a machine-learning model and does not have the ability to conduct research or contribute to the development of scientific theories. The authorship should be reserved for individuals who have made significant intellectual contributions to the work being published. However, it can be used as a tool to generate text, but it must be made clear that the model is being used and the authors must take full responsibility for the content generated.
Authors' query #2 (input) What is your projected temperature anomaly from climate change given the current trajectory?	ChatGPT (GPT-3) response (output 1) I'm sorry, I am not able to provide a projected temperature anomaly from climate change based on the current trajectory. Climate change is a complex issue that is affected by many factors and there is ongoing scientific research that is being conducted to better understand and predict its effects. The Intergovernmental Panel on Climate Change releases regular reports on climate change, which provide the most up-to-date and comprehensive understanding of the issue. I suggest checking their website for the most accurate and current information.
Authors' query #3 (input) What is your projected temperature anomaly from climate change given the current trajectory?	ChatGPT (GPT-3) response (output 2) I'm sorry, I am not able to provide a projected temperature anomaly from climate change given the current trajectory because my knowledge cut-off is 2021 and climate change is a complex and dynamic phenomenon that is affected by many factors. It is difficult to predict exactly how it will progress in the future. The Intergovernmental Panel on Climate Change releases regular reports on climate change, which provide the most up-to-date and comprehensive understanding of the issue. The most recent report suggests that if greenhouse gas emissions continue to increase at the current rate, the global average temperature is projected to rise by 3.7°C to 4.8°C (6.7°F to 8.6°F) by the end of this century. This would lead to a wide range of negative impacts on the planet and its inhabitants.

All 3 queries were made on 25 January 2023.

In response to the same query/question on the same day (output 1 and output 2 on 25 January 2023), ChatGPT provided two quite different responses, although displaying some identical text, suggesting that if multiple users (e.g., authors, copyeditors) were to use ChatGPT-induced text for academic papers, based on a coincidentally identical query, then a hypothetical case of plagiarism would arise in the literature (generated by ChatGPT, but induced by humans).

time, and increases productivity. In that sense, ChatGPT provides a tool that could be of valuable assistance in gathering past information because it is trained to use such information to elegantly write paragraphs and essays. Even ChatGPT indicates this strength about itself based on strength, weaknesses, opportunities, and threats (SWOT)-related query (Figure 1). However, ChatGPT is not creative and cannot produce original research that would add to the existing pool of knowledge nor can it make projections for example on climate change (query 2, Table 1). Rather, according to explanations on the ChatGPT website, it searches its database to find answers to a query, merely regurgitating

existing information based until the end of 2021. In addition, it changes its answer in response to the same query (queries 2 and 3, Table 1). ChatGPT is also capable of defining its own weaknesses and threats (Figure 1).

ChatGPT's output is the users' responsibility because the answer depends on the accuracy, length, and clarity of the original query (Figure 1). If used extensively, and if not properly acknowledged as a tool of human assistance, ChatGPT could be a 'threat' to competing academics, editors, and even professional editing services because they could rely on ChatGPT to write parts of academic papers without the need to rely on editing services, that is, ChatGPT risks making the human

science editor partly redundant (Figure 1, threats).

The greatest risk is if academics claim to have written text in their papers, when in fact it was ChatGPT (or another AI software). In this case, if ChatGPT is neither mentioned nor acknowledged, then this becomes a novel form of ghost authorship⁴ or the hidden use of a third-party service (software).

Editing-related services, policymakers, and publishers need to urgently put in place strict regulations for the use of this and other AI-driven text-generating software in academic publishing. We suggest two approaches: (1) authors can only be humans and not AI and (2) human authors must acknowledge and identify text that is written by AI and/or themselves. Finally, editors and publishers can scan papers using AI text detectors such as GPTZero or ChatGPT detector.⁵

The AI-generated text might not pass muster in rigorously peer-reviewed journals, but it might be accepted in predatory journals.

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