# How Might Artificial Intelligence
## Affect Scientific Publishing?

By publication time for this Quarterdeck column, ChatGPT will already be old news. When the first stories about this artificial intelligence (AI) language tool came out early this year, much of the discussion was focused on how the classroom might change if non-beings can write credible essays. Instructors covering the spectrum of student ages questioned whether students who handed off assignments to robots would still learn to express themselves in writing. Some schools considered banning ChatGPT, though how that would work is not clear, while some instructors began to ask students to hand write their assignments.

Lately, news coverage about ChatGPT has turned toward the scarier conversations people are having with the language robot. Despite initial guardrails built into the platform, it appears that ChatGPT can be tricked quite easily into having darker discussions. For my part, instead of trying to be clever with this new tool, I decided to ask it a simple question pertinent to my work as editor of this journal: How might ChatGPT affect scientific publishing? I enlisted TOS Executive Director Jenny Ramarui, ever on top of the latest technology, to put the question to ChatGPT for me. Here is the robot's response:

*As an AI language model, ChatGPT can potentially change the science publishing industry in a number of ways, although the full extent of this change is difficult to predict. Here are a few potential ways in which ChatGPT could have an impact:*
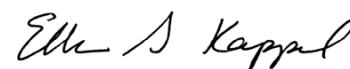
1. *Improved accuracy and quality of scientific writing: One of the major advantages of using an AI language model like ChatGPT in scientific publishing is that it can help improve the accuracy and quality of scientific writing. ChatGPT can suggest edits, correct grammar and syntax errors, and provide feedback on writing style and clarity, helping authors to produce more polished and error-free manuscripts.*

2. *Faster review and turnaround times: Peer review is a critical component of the scientific publishing process, but it can be a time-consuming and sometimes subjective process. AI language models like ChatGPT could potentially help speed up the review process by automatically identifying potential issues with a manuscript and providing feedback to reviewers. This could lead to faster turnaround times for reviews and ultimately, faster publication times.*

3. *More accessible and personalized scientific writing: Another potential benefit of using an AI language model like ChatGPT in scientific publishing is that it could help make scientific writing more accessible and personalized. ChatGPT could be used to automatically generate summaries of scientific papers in plain language, making the research more accessible to a wider audience. Additionally, ChatGPT could be used to tailor the language and writing style of scientific papers to specific audiences or readers, making the research more engaging and easier to understand.*

4. *New forms of scientific writing and research: Finally, AI language models like ChatGPT could potentially lead to new forms of scientific writing and research. For example, ChatGPT could be used to generate new hypotheses or research questions based on existing data or to explore alternative explanations for existing findings. Additionally, ChatGPT could be used to generate new forms of data visualization or to create interactive scientific content that engages readers in new ways.*

Language tools such as ChatGPT are no doubt here to stay, and they can be helpful if used with caution. While speeding up peer review is a noble goal, simply identifying potential issues is only the first step in the review process. Good peer reviewers would read manuscripts more than once. In addition to checking whether the issues AI flagged were indeed valid, they would use their deep subject knowledge to identify other, more nuanced problems. This process still takes time. For scientists burdened with numerous peer review requests, will AI wind up being a substitute for truly scrutinizing a manuscript? Can an article be called "peer reviewed" if the review was largely or completely conducted by AI? If two or three reviewers rely on AI to review the same manuscript, will all three reviews largely be the same? If that were the case, our science would be the loser.

ChatGPT is an alluring tool. It took no more than a minute to answer my question about scientific publishing. If I proposed a subject, it could probably write a Quarterdeck column in the same amount of time. But it is no substitute for human experience and judgment. For the publishing industry and our scientific community, these new and emerging AI language platforms generate as many questions as answers.

*Ellen S. Kappel, Editor*