Bothorship: AI chatbot authorship after two years

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223 PUBLICATIONS **4,142** CITATIONS

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Abstract

Purpose: Bothorship – "bot authorship", or the use of artificial intelligence tools to support writing activities – has transformed publishing in the few years since the emergence of ChatGPT in late 2022. The bane of the publisher's existence, but a boon for writers, these tools support enhanced writing quality and reduce the amount of time and effort needed to turn research findings into an acceptable manuscript. This paper discusses some of the key aspects of Bothorship as they have emerged in the past two years.

Design: This paper explores recent publications and discourse surrounding AI contributions to scholarly publications.

Findings: While there are substantial downsides to AI use in scholarly communications, there are also tremendous benefits. Bothorship can level the playing field for non-native English speakers having to navigate an arena (scholarly publishing) where English is the lingua franca.

Originality/Value: This paper discusses key issues related to bothorship and AI contributions to publications. It reviews and presents a perspective on the future of AI authorship and copyediting for manuscripts.

Despite the best efforts from editors and publishers, content generated by artificial intelligence (AI) chatbots has found its way into countless publications since the emergence of ChatGPT nearly two years ago. Oftentimes, it is impossible to definitively identify this usage, as AI checkers are anything but perfect, with the most obvious clue of misconduct being the generation of fictitious references. Nonetheless, publishers try their best to police its usage and require authors to acknowledge the support of machine learning models in composing their work. In Lund and Naheem (2024), we find that virtually all academic publishers have a policy about AI usage in publishing, with a few banning its usage altogether. Should this be the case, though? Are the policies and condemnation ill-placed?

Bothorship ("bot authorship") is often viewed as problematic or a nuisance – rarely as a potential positive. In the case of AI writing an entire paper based on a prompt, this criticism is warranted. However, this development of bothorship also represents a key step towards eliminating language and grammar differences as a major factor in determining the outcome of a manuscript. In that sense, it can be a significant tool for global equity. The objective of most works of literature and scholarship today is to convey information, not to demonstrate an author's aptitude for writing in grammatically correct English. In that case, why should it matter if the party responsible for the language and grammar behind the writing is a human author or digital bothor, as long as the ideas themselves come from the human(s) claiming intellectual contribution?

Song et al. (2013) and Boon and Pinxten (2021) both found that researchers only spend about 15 – 25% of their time writing papers; however, publishing is critical to obtaining tenure, promotion, and salary raises. This illustrates the time-consuming nature of the remaining obligations of researchers. If a researcher must invest greater time in writing activities, due to limitations in their understanding of English, the lingua franca of the publishing world, or spelling and grammar issues that are not germane to the actual outcomes of the research being conducted, then it consumes time that could be spent performing additional research, perfecting methodologies, and evaluating implications of this work. Additionally, the level of language issues for some authors may mean that high quality research cannot be accepted in high quality/highly visible publications. Not only are these researchers left behind compared to their peers, but the entire science ecosystem suffers due to the delay in dissemination of quality research findings.

Undoubtedly, it is critical that the research that is published be the intellectual creation of those claiming authorship, that the findings are trustworthy and the references are accurate. AI should not be responsible for the generation of entirely original content – conducting a literature review or analyzing results. Rather, AI can revise existing writing (of which the language and grammatical quality may be lacking) to create a well-written paper that encapsulates the original research of the researcher. Using AI ethically in the creation of a manuscript requires careful human oversight. Figure 1 proposes one path. In this case, all original "research" involved in the manuscript must be conducted by human authors or tools utilized and acknowledged by these authors. Human authors are also responsible for producing the first draft of the paper. They may then use an AI bot to revise the quality of the writing. However, they must then review the

revised manuscript to ensure that everything remains accurate and the bot has not changed the meaning or created false ideas, hallucinations, or references within the manuscript.

Figure 1. Principles for Ethical Bothorship

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One potential sticking point for many publishers is whether the use of AI tool must be acknowledged in a manuscript. Assuming that the above principles are followed, it could be argued that this acknowledgement should not be required. Acknowledging AI use, even when done so according to publisher policies, creates a dark mark – a symbol that these authors utilized assistance in writing the manuscript – that causes them and their work to unnecessarily stand out in a negative light. Ostensibly, if AI is used according to the above principles, it is no different than the usage of Grammarly, Spell and Grammar Check in Microsoft Word, or any number of other tools that millions of authors use without acknowledgement. Ultimately, uncertainty about AI and concern about those who abuse it cannot be allowed to influence policy for all authors. Notably, this does mirror the policy of *Library Hi Tech News* (2024), whose author guidelines state that, "Copy-editing an article using a generative AI tool/LLM in order to improve its language and readability would be permissible as this mirrors standard tools already employed to improve spelling and grammar, and uses existing author-created material, rather than generating wholly new content, while the author(s) remains responsible for the original work."

Publishers still appear to be unsure about how to address AI usage, as though they anticipate greater changes and challenges to come. Considering that the Generative Pre-Trained Transformer model behind ChatGPT has evolved from using 117 million parameters to over 1 trillion parameters in a period of just five years – an exponential growth in the capacity of these models – this belief is perhaps well-founded (Zhou et al., 2024). Hallucinations and fictitious references may soon be a thing of the past, and AI models drafting entire manuscripts may be but a few years away. If these developments come to fruition, the transformation to the publishing landscape will far exceed the scope of a simple policy. Yet, authors are impacted by policies of today and cannot operate in the arena of hypotheticals and futurism.

The integration of AI in manuscript preparation offers both benefits and challenges. Bothorship can expand opportunity and elevate the quality and pace of published work – highlighting works based on intellectual merit rather than polished prose – but the limitations of large language models must be acknowledged. Publishers may desire a comprehensive and permanent policy for bothorship, but with the pace that these models have evolved, that is unlikely to be a successful approach. Publishers must remain adaptable, updating their policies to reflect the current capabilities and limitations of these tools – seeing them not as a nuisance but rather a great opportunity to advance scholarly inquiry.

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