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Text recycling reveals flaws in science's reward system

In 2015, the Dutch economist Peter Nijkamp was judged to have engaged in “systematic copy-pasting” by a committee organised by his institution, the Vrije Universiteit Amsterdam. Nijkamp is one of the most prominent scientists in the Netherlands, with more than 2,300 journal publications. Examining 261 of these, the committee found that 60 showed substantial and unacknowledged overlap with Nijkamp's other publications.

The controversy sparked a debate in the Netherlands about the permissibility of recycling previously published work. The absence of formal rules led to Nijkamp's acquittal, but also to new guidelines on acceptable reuse of text by the Dutch academy of sciences. Part of Nijkamp's defence was that recycling was common in economics.

The case highlighted the contentious position of academic text recycling—defined as the reuse of one's own writing in academic publications without proper reference, ranging from a sentence to entire articles—among the various forms of academic misconduct. It also raised interesting questions about how the reward systems of science influence the nature and causes of misconduct.

The extent and patterns of recycling in academia is not clear. In a recent study, we sought to shine a light on the practice, analysing 922 articles from scientists affiliated with Dutch universities, spread over four disciplines: biochemistry, economics, history and psychology.

We scanned articles using the Turnitin plagiarism detection software, and read those that were flagged up, removing any cases that properly referred to the original. If articles contained more than 10 per cent recycled text without references, we considered them to be a problem.

By this definition, about 6 per cent of the articles in our sample contained problematic text recycling. This included 14 per cent of economics papers, but just 0.5 per cent of the history papers examined. The levels in psychology, 5 per cent, and biochemistry, 3 per cent, were intermediate between these two.

We found that the most productive authors in each discipline recycled their previous work in 10.1 per cent of their papers, against only 2.5 per cent for their less productive colleagues. Papers with multiple authors were less likely to contain recycled text.

Our results suggest that text recycling deserves more attention from scientists and research managers.

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In the debate on reuse, the main concern has been for readers who might be, to quote a previous discussion, “deceived by false claims of originality”. However, in research systems that treat the volume of published output as an indicator of quality or productivity, text recycling is a concern to the system as a whole.

Recycling is particularly pernicious where productivity indicators determine the allocation of funding and positions, as in some Dutch universities. Simple output indicators will overestimate the productivity of researchers and groups in fields with high levels of text recycling, skewing resources in their benefit. Similarly, the high level of recycling among the most productive scholars raises questions about incentives to publish frequently and the career benefits that this yields.

On top of this, text recycling burdens the already stressed peer-review system with previously reviewed material. The inappropriate reuse of publications may damage the reward system of science, disadvantage co-authors, and burden colleagues, reviewers and editors.

Scientists and policymakers generally agree on the detrimental effects of practices such as plagiarism, falsification and fabrication, but there is no consensus about the precise conditions for legitimately recycling one's own work. Responses to our article have highlighted the varying attitudes: some view recycling unequivocally as a form of misconduct, while others have persuasively argued that a certain level of recycling is reasonable, such as with multiple publications from a large project.

The causes and risk factors that we have identified hint at potential measures to curb inappropriate recycling. These include the drafting and implementation of guidelines, for example in journal policies. Enhancing social controls among co-authors and turning attention on prolific authors' publication practices may also help to avoid undesirable text recycling.

Digital distribution is gradually turning the academic literature into one huge “meta-journal” in which papers are available to all. With any previously published article readily accessible, text recycling is becoming more and more silly and unnecessary—arguably serving little purpose than boosting one's publication record. Revisiting the scientific reward system to make it less dependent on productivity indicators would be the best way to avoid such undesirable incentives.

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‘Simple output indicators will overestimate the productivity of researchers.’