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Publications in Scientific Journals – the New Face of Deception²

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Abstract

The review process of texts submitted for publication in scientific journals is one of the main ways of evaluating the scientific output of their authors. Any disruptions in this process can have serious and far-reaching consequences, not only in terms of the credibility and integrity of the author themselves, but – most importantly – in terms of the confidence in their achievements. Attempts to distort the review process have so far occurred most often in medical and exact sciences. The case of “The Critique of Law” discussed herein shows that attempts at scientific fraud affect also legal sciences. The purpose of the article is to inform the scientific community worldwide about subsequent attempts of unethical scholarly activities, to describe instances of malpractice, and to point out some of the possible ways to prevent the fraud in question.

Keywords: scientific fraud, fake reviewer, fake review process, fake author, “paper mill”.

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For scientists, their publishing output is a kind of certificate of their scientific skills and value. A proper output is the prerequisite for obtaining further degrees or academic titles, advanced positions at higher education institutions, and receiving grants. Hence, it is of utmost importance to make sure that the published output is reviewed and evaluated in a reliable manner. And this is the purpose of the recognised peer-review process of scientific papers, especially those which are to be published in scientific journals. Any disruptions in this process can have serious and far-reaching consequences, not only in terms of the credibility and integrity of the author themselves, but – most importantly – in terms of the confidence in their achievements, even if only some of them are poorly substantiated content-wise.

Attempts to distort the review process have been reported a number of times in the literature,³ even though they have mostly occurred in medical and exact sciences. The *modus operandi* in such cases usually has to do with the electronic editing systems that scientific journals use and which often make it possible to submit an article together with a list of recommended reviewers – who, as a rule, should themselves have a strong track record in their respective fields. The author submitting the text with the reviewer's details gives the name of a genuinely existing scientist, but instead of providing the actual e-mail address of the latter, they include a fake e-mail address crafted by themselves; or the name of a fictitious reviewer, often claimed to be affiliated with a reputable scientific institution and, as before, a manufactured e-mail. Interestingly enough, authors are not always the ones directly resorting to this malpractice because it sometimes occurs that there are third parties involved in the professional relationship between an author and the editorial board of a journal. These third parties are companies specialising

³ Cf. among others: J. Patel, *Who reviews the reviewers?*, 26.11.2014, Research in Progress Blog, <https://blogs.biomedcentral.com/bmcblog/2014/11/26/who-reviews-the-reviewers/> (access: 11.11.2022); C. Ferguson, A. Marcus, I. Oransky, *Publishing: The peer-review scam*, "Nature" 2014, 515, <https://www.nature.com/news/publishing-the-peer-review-scam-1.16400> (access: 11.11.2022); K. Novak, *Fake Peer Reviews Lead to Mass Retraction of Articles*, The AGA Journals Blog, 20.08.2015, <https://journalsblog.gastro.org/fake-peer-reviews-lead-to-mass-retraction-of-articles/> (access: 11.11.2022); S. Kaplan, *Major Publisher Retracts 64 Scientific Papers*, "The Washington Post" 18.08.2015, <https://www.washingtonpost.com/news/morning-mix/wp/2015/08/18/outbreak-of-fake-peer-reviews-widens-as-major-publisher-retracts-64-scientific-papers/> (access: 11.11.2022); J.A. Teixeira da Silva, *On the Abuse of Online Submission Systems, Fake Peer Reviews and Editor-Created Accounts*, "Persona y Bioética" 2016, 20(2), access via Researchgate – https://www.researchgate.net/publication/311581682_On_the_abuse_of_online_submission_systems_fake_peer_reviews_and_editor-created_accounts (access: 11.11.2022).

in promoting scientists and their output and achievements. Unfortunately, it does happen that this is done by fair means or foul.

Over the past six months, we have also seen attempts to influence the results of the review process in the editorial board of "The Critique of Law". Fraud attempts have been detected and none of the suspicious texts reported since May this year have been – and will be – published in our journal. This text aims at the same time to inform the legal scientific community of the world about a serious problem that has also occurred in this field of science.

In May, our editors started using a new tool called Scholar One Manuscript System. With its implementation came the possibility for authors to submit a list of so-called recommended reviewers. Although the editorial board's policy has always required reviewers to be designated by scientific editors, it was decided that some reviewers recommended by authors could possibly become part of the review base for other articles – on condition that the reviewers' scientific interests and achievements are compatible with the profile of "The Critique of Law".

Since the new system was put into operation, in the case of 21 articles, the submitting authors have provided the names of a total of 46 recommended reviewers from the world's top scientific institutions. However, since all of the reviewers' email addresses provided by the contributing authors were in yahoo.com, outlook.com or gmail.com domains, it was more than likely that there was an attempt to obtain fake reviews for the purpose of the review process. Our editors decided to look closer into those of the submitted articles that they considered suspicious.

The literature points to some elements characteristic of attempts to falsify reviews. These include: asking authors to exclude certain reviewers – then, the list includes actually almost all scientists in a given field; suggesting reviewers whose email addresses are not affiliated with any scientific institutions (usually free yahoo.com or gmail.com addresses) or reviewers who are very difficult to find on the web.⁴

In the case of "The Critique of Law", the editors were able to determine that just over half of the recommended reviewers were actual existing, real scientists with real affiliations, while the rest were fictitious reviewers.⁵ After establishing email addresses affiliated with scientific institutions, we were able to contact some of the scientists listed as recommended reviewers. They all denied to have ever created or used any of the email addresses provided by the authors and claimed to be valid.

Thus, it appeared that we indeed became the target of fraudulent practices. Our editors, driven by a desire to verify and prove the discoveries reported in previously

⁴ C. Ferguson, A. Marcus, I. Oransky, op. cit.

⁵ In the case of fictitious reviewers, the most common (mal)practice was to 'blend' the real names and surnames of people affiliated with the indicated scientific institution (the name of one scientist combined with the surname of another).

described cases, decided to see how the recommended “reviewers” work and sent them several requests for review.

In most cases, the reviews were submitted quickly and were generally enthusiastic,⁶ and even if some reviewer suggested that the reviewed text needed some changes, these changes involved mostly rather substantively irrelevant alterations. In virtually every case, the “reviewers” also praised the quality of the English language in the reviewed texts.

For comparison, we also sent these texts to our regular reviewers. The reviews we received from the actual reviewers from our database mostly pointed to the need for significant changes, suggested expanding the body of the included literary sources, or rejected some of the texts due to their low scientific and linguistic value and quality.

In several cases, the texts sent to recommended reviewers were not sent back to us – reviewed – by the set deadline. And these texts became cases that our editors decided to investigate in more detail. It turned out that all of them had already been published – also in reputable SCOPUS-indexed journals (in some cases, even in two different journals simultaneously). We decided to inform the authors of these texts of the fact that they violated the rules they acknowledged and accepted when submitting their texts to “The Critique of Law”, stressing in particular the fact that submitting the text to more than one journal at the same time was strictly prohibited.

The emails we sent came back with a notification from the mailing system, indicating that our messages could not be delivered due to the lack of a specific username in the target domain. In other words, such recipients did not exist.

We then decided to take a closer look at the names of the authors of the submitted texts.⁷ It appeared that it was possible to find people of science with these names online, and the vast majority of them did hold academic degrees or titles, but they were not necessarily lawyers.⁸ Yet, none of the email addresses provided by the contributing authors were an official address of any academic institution; moreover, all the addresses provided were composed to look credible. For example, the editorial address of our journal – krytykaprawa@kozminski.edu.pl – is an address in the domain kozminski.edu.pl. If there was an author using namesurname@edu.kozminski.pl as his address, they could appear to be an employee of Kozminski University. If the number of texts submitted to a given journal’s editorial office is significant, the above situation can be easy to overlook.

⁶ This is quite typical of fake reviews, cf. C. Ferguson, A. Marcus, I. Oransky, *op. cit.*

⁷ A total of 81 authors (each of the 22 texts submitted were multi-authored; one text was submitted with no recommended reviewers).

⁸ Among the authors of papers on legal subjects, there were also e.g. chemists or economists.

Many literary sources from around the world speak of a study on the issue of the use of institutional and non-institutional email addresses (e.g. @gmail.com or @yahoo.com),⁹ arguing that in the case of the number of citations, articles with an institutional email address were cited over two times more often than those whose authors used a non-institutional email address.¹⁰ The authors of the study emphasised that non-institutional addresses were used mainly by authors from China and India, attributing this often to the high unreliability of the mail systems of their respective institutions.¹¹ Studies seem to show that, based on citation results and review fraud, an email address – institutional or non-institutional – can be considered an indicator of institutional prestige or publication quality, which will still be a measure not entirely authoritative¹² and requiring confirmation through further analysis.¹³

In the case of “The Critique of Law” discussed herein, the contributing authors did not use non-institutional addresses from free domain service providers. What’s more, the addresses were composed in such a way as to be misleading in terms of their owners’ affiliation with particular institutions. A more in-depth analysis of the texts made it possible to claim that most of them were probably sent from the same source. All the texts were formatted in a very similar way, and tracing the correspondence coming to the editorial office from the “authors” revealed that they all used the same expressions, formulas, and phrases. One might assume that the texts were formatted by all authors in accordance with the editorial guidelines posted on the journal’s website. Yet, the striking and very telling thing was that they were uniformly formatted in a manner that was clearly inconsistent with those guidelines. The same recommended reviewers from different countries tended to repeat their opinions and remarks regarding texts on completely different subjects, and the authors’ email addresses were quite clearly created in the same several domains whose registration details were easy to determine.¹⁴

All this seems to suggest that “The Critique of Law” has begun to receive submissions from so-called *paper mills*.

These paper mills are companies that produce manuscripts to order. It has long been suspected that some publishing scientists buy articles from companies involved

⁹ Cf. S. Shen, R. Rousseau, D. Wang, *Do papers with an institutional e-mail address receive more citations than those with a non-institutional one?*, “Scientometrics” 2018, 115, pp. 1040–1050.

¹⁰ Ibidem, pp. 1048–1049.

¹¹ R. Rousseau, *Institutional versus commercial email addresses: which one to use in your publications?*, Ronald Rousseau’s Blog, 21.06.2018, <https://blogs.lse.ac.uk/impactofsocialsciences/2018/06/21/institutional-versus-commercial-email-addresses-which-one-to-use-in-your-publications/> (access: 12.11.2022).

¹² Ibidem.

¹³ S. Shen, R. Rousseau, D. Wang, op. cit.

¹⁴ Using the search engine – for instance <https://myip.ms/>.

in this business.¹⁵ Interestingly enough, such companies are easy to find online. They usually offer e.g. paid assistance in writing texts to be published in SCOPUS – or WoS-indexed journals (including e.g. writing the article, selection of sources and references, editing, selection of the target journal) or a guaranteed increase in the h-index value. The problem with texts produced by paper mills is serious. More and more texts worldwide are suspect and more and more already published texts are being withdrawn (we are talking thousands).¹⁶ So far, as with fake reviewers, the problem has mostly concerned the medical and exact sciences. Yet, the case of “The Critique of Law” shows that other fields of science are at risk as well.

What makes the case of “The Critique of Law” particularly interesting is that the cases described so far have concerned fake reviewers or fake texts. It seems that the phenomenon of fake authors has been rare or non-existent. A fake author in this context means an author who cannot be contacted directly – i.e. it’s impossible to determine the author’s valid institutional address (some universities do not publish the email addresses of researchers/scientists affiliated with them on their websites) or the author has not proven their non-institutional address to be valid otherwise. In the case which the editors of our journal came to deal with, we have the entire package, so to speak. There are fake reviewers, most likely fake texts (i.e. produced by a paper mill), and – even though it may sound bizarre – fake authors.

From a legal point of view, this poses a rather special problem. Whatever decision the editors make, the authors are more than likely to go basically unpunished in any situation. If a text is published in any journal, the list of the author’s achievements becomes longer, more impressive. If a text turns out to be plagiarised or the editors discover that it has been published before, it’s impossible to contact the author (for instance, the email the author has provided does not exist anymore). Even if our editors notify the authorities of the institution to which a given text is affiliated, we are unable to prove that the person appearing as the author of the submission in the system is indeed the researcher/scientist who has submitted the text to our journal. The only way to act then is to involve law enforcement agencies (the malpractice discussed here meets a number of criteria of various types of crime, including identity theft), who may try to track down the entity that e.g. registered the domains where the fake authors’ email addresses were set up (if these are domains registered for specific purposes, e.g. with this malpractice in mind, as was the case with our journal, and not free domains like yahoo.com or gmail.com). It is also

¹⁵ For example, as early as 2010, a team of Chinese researchers from Wuhan University warned against websites offering ghostwriting of papers on bogus research or bypassing peer-review systems for a fee, and in 2013, “Science” reported of the existence of a market of authored research papers in China, cf. Else H., Van Noorden R., *The Battle against Paper Mills*, “Nature” 2021, 591, p. 517.

¹⁶ In more detail – *ibidem*, pp. 516–519.

important to bring the matter to the attention of the scientific community. At the same time, it may also occur that there has been a skilful attempt to discredit some actual publishing researcher or scientist by making them appear to have resorted to illegal practices in the domain of scientific publishing.

The impact of the activities described above on science is devastating. Not only because the results presented in the publications may be unreliable or because the texts submitted by scientists from certain countries may be rejected at the outset due to the large number of identified cases of publishing fraud committed by authors from these countries,¹⁷ but mainly because it undermines the entire system of showcasing and disseminating scientific achievements. So far, the evaluation of a scientist's publishing record has largely determined their scientific standing. In a situation where this element of evaluation may be based on false grounds (some of "our" authors have managed to publish several hundred publications in a few years – including many in highly reputable journals), it would be appropriate to consider the implications for other scientists – if only in the area of applying for and obtaining research grants (where achievements play an important role), getting permanent academic positions, educating the next generation of scientists, etc. – as well as for higher education institutions and science in general – if only in the case of evaluating institutional scientific entities.

Notwithstanding the increasingly widespread use of algorithms (including AI) that enable publishers to search for and identify suspicious publications, there is no doubt that more efforts should be invested in "vetting" those who submit texts to scientific journals. Background-checking and verifying the authors of the submitted articles should be a must, an industry standard. And it does not always have to involve making sure that they have a valid institutional address, but at least an address that is made public on the pages of the scientific institution they claim to be affiliated with. An alternative solution could be to allow authors to use an appropriate-level electronic signature (e.g. the "trusted profile" [PL: *profil zaufany*] service or, better yet, a qualified electronic signature). What is important here is that such authentication should be required not only of the author submitting the text, but also of all other authors – in the case of multi-author publications (of course, not all addresses need to be published later on, but they should be disclosed at least to the editors). And this should work in a similar way in the case of reviewers. If a list of recommended reviewers is submitted with a text, then an institutional address should be a mandatory requirement – the absence of such an address

¹⁷ Cf. the problems that Chinese scientists – especially medical doctors – have faced when trying to publish in reputable professional journals after the disclosure of the huge number of texts coming from paper mills – *ibidem*, p. 518.

should result in an automatic rejection of the submission due to suspicion of fraud. A step in the right direction would also be having editors of scientific journals work closer together and share and exchange more information with each other.¹⁸

The fight for the truth and integrity of science is entering a new stage, made all the more challenging due to the fact that unethical activities will be increasingly supported by advanced technology – including AI systems designed to generate texts.¹⁹ Also, publishers still have no common information-sharing systems. At a minimum, a more extensive cooperation and popularisation of initiatives such as Retraction Watch²⁰ would definitely be a step in the right direction.

Also worth mentioning here is the initiative of the International Association of Scientific, Technical and Medical Publishers (STM), which announced in December 2021 that it is developing the STM Integrity Hub (in collaboration with publishers – including Elsevier, Sage Publishing, Taylor&Francis, Wiley), which will provide tools to enable editors from any publisher to check submitted articles for research integrity issues.²¹

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¹⁸ Publishers say they are limited in what they can do to have their journals share and exchange information with each other because even if a single publisher owns several journals, these journals have separate, independent editorial boards. They are reluctant to share information that could be defamatory, and data protection rules make it also difficult to share authors' personal details. Cf. *ibidem*, p. 519.

¹⁹ An example of such a system can be the ChatGPT released by OpenAI.

²⁰ A blog launched in 2010, providing information on retraction (invalidation) of scientific papers and related topics. The blog is run within the framework of the Center for Scientific Integrity, a non-profit organisation whose goal is to promote transparency and integrity in science and scientific publishing, as well as to disseminate best practices and increase the level of effectiveness in science – <https://retractionwatch.com/> (access: 14.11.2022)

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