Challenges to ethical publishing in the digital era

Mirjam Jessica Curno
Committee on Publication Ethics, UK and Frontiers, Lausanne, Switzerland

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Abstract

Purpose – The aim of this paper is to lay out some of the more complex issues arising in the area of publication ethics. The impact of electronic publishing and electronic information is a main focus of the paper.

Design/methodology/approach – The paper draws in particular upon the work of the Committee on Publication Ethics including illustrative cases discussed at the forum, guidelines and discussion documents.

Findings – Three areas are highlighted to stimulate discussion around challenges of publication ethics in the digital era. These are the role of the internet in facilitating misconduct, the issue of confidentiality in publishing and how incentives in research assessments drive author behavior.

Originality/value – The paper brings together a variety of issues discussed under the broader umbrella of electronic information and new technologies in publishing.

Keywords Ethics, Electronic publishing, Scholarly literature

Paper type Viewpoint

Introduction

In April 1997, Mike Farthing, who had taken over the editorship of *Gut*, met with fellow journal editors including the *BMJ*, *The Lancet*, *British Journal of Anaesthesia* and *Journal of Bone and Joint Surgery* to discuss several cases of misconduct that he had been confronted with in his first year. The discussions at this first meeting highlighted the wide spectrum of misconduct encountered by these editors in their daily work and the usefulness of exchanging experiences and advice. The first open meeting in November 1997 sparked the birth of the Committee on Publication Ethics (COPE). Mike Farthing commented in the annual report in 1998 "COPE is an experiment" and Richard Smith, the editor of the BMJ at the time, added "it may not prove useful in the long term, and we will be delighted if it is made unnecessary because the international profession produces an adequate response to research misconduct" (publicationethics.org). Nearly 20 years later, rather than becoming "unnecessary", COPE has grown into a global organization supporting over 10,000 member editors and publishers, and has become an internationally

The COPE cases included in this review are reproduced here with permission from COPE and were adapted for readability. All cases are freely accessible at www.publicationethics.org

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recognized authority on publication ethics, a topic that has become increasingly complex and wide ranging than ever.

COPE's mission is to provide a forum for editors and publishers of peer-reviewed journals to discuss all aspects of misconduct, to provide guidelines and education on good practice in scholarly publishing, and to lead the debate on publication ethics by offering a neutral, authoritative voice. The cases discussed at COPE fora are maintained in a database freely accessible on its website including the advice provided. A recent analysis of the cases over the last 16 years revealed interesting trends in the topics brought forward for discussion. In particular, the evolving complexity of cases was evident in the number of keywords that were used to describe cases, increasing steadily over the time span studied (Hames *et al.*, 2013). The evolution of information and communication technologies has certainly impacted the use and abuse of the scholarly literature.

This review will cover three topics that showcase the increasing complexity of publication ethics focusing in particular on different types of information and related technologies available to researchers and editors today. The questions raised are the role of the internet in facilitating misconduct, confidentiality in publishing and effect of incentives on researchers' publication practices. Each focal point is in addition illustrated by the discussion of a relevant COPE case. The review is not meant as an exhaustive reference of all types of publication ethics but aims to stimulate debate on how new media will continue to shape publishing, and how academic work is conducted and communicated to different stakeholders. Ethical frameworks are being challenged by how science is being incentivized and the perceived anonymity in how researchers and editors work using modern technologies.

Has the internet facilitated publication misconduct or led to increased scrutiny?

The internet has certainly brought the most profound change in scientific publishing since its early days around 350 years ago. The instantaneous availability of information and in particular its ease of retrieval have facilitated knowledge transfer. The currency however has remained the same: intellectual products, and with it the ethical framework of attribution and acknowledgement of the originator of the work. Intellectual theft in the form of plagiarism has certainly made headlines over the years (e.g. www.spiegel.de/international/germany/education-minister-schavan-has-ph-d-revoked-in-plagiarism-scandal-a-881707.html; www.ithenticate.com/plagiarism-detection-blog/bid/60500/Revocation-of-3-German-Politicians-Ph-Ds-For-Plagiarism-3-Reactions#.Vc8G4fmqqko) and most students will now have been warned of the consequences of cheating by misappropriating text for example.

Plagiarism is considered alongside fabrication and falsification as part of the core definition of research misconduct as stated, for example, by the Office of Research Integrity in the USA. The definition of plagiarism itself varies depending on the source. The Office of Research Integrity defines plagiarism as "[…] the appropriation of another person's ideas, processes, results or words without giving appropriate credit" (https://ori.hhs.gov/). Helgesson and Eriksson in a recent paper propose an updated definition, which reads: "an instance of someone using someone else's intellectual product (such as texts, ideas, or results), thereby implying that it is their own". Their aim was to provide a specific definition that would sufficiently describe normative issues associated with

plagiarism at the same time as being relevant in the everyday usage of the expression (Helgesson and Eriksson, 2015).

The question poses itself of whether ease of information retrieval and technological functions facilitating copy-paste actions would lead to a rise in incidences of plagiarism. Manipulation of text and images have become increasingly simple and one may argue in parallel easy to misuse. There definitely appears to be the sentiment that the internet has facilitated plagiarism, though interestingly not many empirical studies have been undertaken that directly link incidences of plagiarism with an increase in the use of the internet. Ison tried to address this point in his study on doctoral theses written before widespread internet use and more recently, comparing the incidences of plagiarism between these two timespans. The results suggest that accessibility to the internet has not had an effect on the incidences of plagiarism in theses (Ison, 2015).

It can be argued then that though the internet and other computer technologies have the potential to facilitate plagiarism, incidences may not be increasing, though plagiarism detection may be. Automated text-matching detection grew out of universities' vigilance regarding student assignments. It was only adopted more widely in the publishing industry in recent years made particularly popular by the service CrossCheck, a CrossRef product using iParadigms' iThenticate software, which is also used by Turnitin (www.crossref.org/crosscheck/index.html). There are several different types of these computational originality-verification tools now available that use databases of scholarly literature as well as trawling the internet and with it grey literature to analyze text similarity to available sources (Li, 2013).

Many journals use plagiarism detection software routinely in their editorial workflows. This quality control check can be implemented at different stages of a manuscript's journey through the publishing process such as after submission, after acceptance but before publication, or based on concerns raised during peer review. The choice of when this step is performed depends in many cases on the volume of submissions and the rejection rate of a journal. High-throughput journals with a low rejection rate benefit from screening at submission, whereas journals that only accept a small proportion of submissions may prefer to wait until acceptance. One of the main concerns raised in regards to the routine use of such software is the reliance on the similarity score provided. The temptation clearly exists to substitute manual checks and human judgment with machine-generated percentages.

Introna and Hayes (2011) argue that transferring the responsibility of deciding when evidence of plagiarism exists to a "technical actor" creates a situation where there is an important risk of false positives and false negatives, i.e. accusing the "innocent" and letting the "guilty" parties escape. Editors see plagiarism checks as a safeguard against future issues arising in their publication record, as well as an educational tool to foster good citation practices amongst authors. It remains true though that verbatim text-matching does not eliminate other types of plagiarism and favors authors with the linguistic skills to sufficiently rephrase source texts. According to Introna and Hayes, automated software single out non-native speakers to a higher degree as well as those who have not been sufficiently trained in 'Western' educational practices. Most importantly, a high similarity score finally does not always indicate a real case of plagiarism (Introna and Hayes, 2011).

Editors do take "mitigating" circumstances into consideration when evaluating manuscripts by non-native speakers and more junior authors (Nature, 2010). In addition,

some editors also attribute different weights to textual overlap in the methods section versus the results section for example. Nuanced evaluation of text-matching reports is needed, but differing standards for journals may add to the confusion for authors of what are acceptable writing practices and what are not. The fronts are not clear cut when it comes to the influence of the internet on misconduct, but have driven increased scrutiny in the editorial office, whether by (wo)man or machine is still a balancing act. As Introna and Hayes warn:

> […] through the uncritical adoption of [plagiarism detection software] […] a particular view of plagiarism is becoming institutionalized […] we are implicitly legitimizing the […] assumptions of the technical (Introna and Hayes, 2011).

Finally, initiatives by companies to now also provide plagiarism-screening tools directly to authors throw up concerns in turn. Though certainly of value to the conscientious researcher to iron out any unintentional overlaps, for those who seek to intentionally deceive this may suddenly facilitate the deed; a "smarter plagiarism" (Li, 2013) may throw back detection of redundant publications and misappropriation of scientific work to the dark ages unless the software keep up the arms race.

The COPE forum discussed a case in 2012 (case number 12-28) brought forward by one of its member journals, which showcases the use of text-matching software in uncovering a serial plagiarist. The case started off with a reviewer raising suspicions about a manuscript by commenting that some of the passages in a submission from Author X were similar to an earlier paper published in the same journal by the same author. An iThenticate check of the manuscript in review indicated a similarity index of 60 per cent. However, it turned out that the overlap was not from the earlier paper as indicated by the reviewer, but from another source by a different author accounting for 41 per cent of the material presented in the paper. This prompted an iThenticate check of the published paper, which gave a similarity index of 57 per cent, with 45 per cent of the material taken from three papers by other authors. It should be noted that this paper was reviewed and accepted before iThenticate was available for checking incoming submissions.

It was clear to the editors that the new submission should be rejected. The key issue was the action to be taken about the paper that had already been published. The editor of the journal in which two of the key sources had been published helpfully provided copies, and the published paper was checked manually against these two earlier papers. This check established that the iThenticate report was reasonably accurate. It appeared that one of the plagiarized papers had been used as a means to improve the quality of the English, while the other had provided a framework for the reporting of the statistical results. Author X had substituted new figures in the running text of the earlier paper.

COPE guidelines were followed and a carefully worded letter was sent asking Author X for an explanation. In summary, his reply said that:

- he was building on the work of the earlier authors;
- he did not understand or mean to do it; and
- he was very sorry and would not do it again.

Author X had made six other submissions to the journal, all of which had been rejected on the grounds of quality. iThenticate checks on these revealed similarity indexes between 66 and 77 per cent. Typically, up to three sources had been plagiarized to

contribute up to 63 per cent of the material. A search using Google Scholar identified that Author X had published over 20 other papers in different journals since 2005. In light of this information, Author X's explanation of naivety was considered to be implausible and the decision was taken to retract the published paper. Author X was given a final opportunity to respond and gave the same explanation for the overlap. The retraction was published in the next issue of the journal and on the journal website. In view of the extent of the plagiarism, the decision was also taken to inform the president of his institution.

Following this incident, the journal reviewed its policy to detect and discourage plagiarism in submitted work. As a matter of routine, the journal now checks all of the work submitted for publication using iThenticate. Submissions that appear to include a significant amount of previously published material are investigated further to establish whether that material has been referenced and attributed appropriately. Where the overlap is found to exceed an acceptable level, the journal writes to the author(s) providing a link to the full report and inviting them to withdraw the submission, or alternatively to revise it extensively to reduce the overlap and to indicate where they are quoting the work of others (or their own previously published work). The editors also request an explanation for the overlap. If the author cannot provide an acceptable explanation or where the overlap is very significant, the journal immediately rejects the submission. The issue of plagiarism has also been included in the Journal Reviewer Development Program to heighten awareness of the problem within the Reviewer Panel. The editors also started to engage in discussions and the exchange of information on plagiarism with editors of other journals in the field.

In addition, the journal retrospectively checked the overlap of all submissions that were in review and identified several others with unacceptably high similarity indexes. Of the 231 submissions that the journal had checked to date, 71 per cent had an iThenticate similarity index of less than 30 per cent. Over 12 per cent had a similarity index in excess of 40 per cent – the level at which iThenticate gives a plagiarism alert. Excluding the eight submissions from Author X, there were 9 per cent falling into this category. The remaining 16 per cent fell in the range 30-39 per cent and were investigated. In all of these cases, the overlap was in acceptable quotations and in the bibliography and no further action was taken. The editors did pose themselves the question of whether these figures are typical for an international journal.

The question put to the forum was whether the editors of the other journals in which Author X had published work should also be informed of this case by the journal. The Forum agreed with the editor's course of action and also agreed that the editor could contact the editors of the other journals. The editor could inform the other editors that he is retracting the paper, stating the reasons (e.g. sending the retraction notice) and saying that he noticed that their journals had also published papers by this author. One suggestion was that the editor could run the other papers (from the other journals) through the plagiarism detection software, but this may be time-consuming. COPE does not recommend using percentages as cut-offs for detecting plagiarism, and recommends that each paper should be judged individually and by eye after an initial screen. Percentages can mean very different things in different disciplines and in different sections of papers.

Where does confidentiality of information stop in publishing?

When one speaks about confidentiality in publishing, the immediate thought turns towards patient confidentiality and consent for publication of clinical data. However, this is only one aspect of confidentiality that editors deal with in their daily work. This section will focus on the responsibilities of editors, reviewers and authors in keeping the editorial process confidential to ensure fair competition amongst scientists and fair treatment of what could be called an author's "bid" to be published in a specific journal.

Maintaining confidentiality in publishing should never preclude necessary transparency and accountability that is required for an ethical review. Most journals now enforce conflict of interest declarations for all parties involved in the review. Authors are required to state conflicts of interest in regards to their work, which the editor and reviewers can take into consideration when assessing the manuscript. Editors and reviewers are likewise asked to declare conflicts of interest and may have to recuse themselves from the process in cases of direct conflict. Other factors related to transparency range, for example, from the completeness of the study methodology to correct authorship attribution.

The trend towards increased accountability and transparency in publishing can be seen in stricter requirements of journals for complete author contribution statements that are also included in the final article. In 2013, the International Committee of Medical Journal Editors added a fourth criterion to their widely adopted authorship definition. Point four reads:

> Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved (www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html).

This additional criterion certainly highlights the expectations for researchers to take responsibility for all of the published work when they are listed as authors particularly when that work is called into question.

Investigations into potential cases of misconduct discovered during the review process of manuscripts can often result in situations where confidentiality of documents or the identity of parties involved may be challenged. COPE recently released guidelines for sharing information among editors-in-chief which state:

> […] it must be acknowledged that confidential treatment of author submissions is a fundamental aspect of scientific publishing, and sharing of information concerning a specific journal submission with individuals who are outside the journal's review process is inimical to the principles of confidentiality.

However, the ulterior mission of editorial oversight is the integrity of the scholarly literature, which can justify sharing of confidential information. In addition, collaboration across journals "may lead to faster resolution of investigations, as well as strengthen the pursuit of those where further investigation is warranted" (http://publicationethics.org/files/Sharing%20_of_Information_Among_EiCs_guidelines_web_version_0.pdf).

Collaboration between journals and institutions can often be more complex and usually involve the transfer of an investigation from the journal to an institution. The journal's further actions are then reliant on the outcomes of the investigation by the accused author's institution. There is very little standardization of institutional investigations, and in serious cases, these may even be transferred further to national

regulatory bodies. Cases can become very complex when they involve legal issues and when outcomes of investigations cannot be shared with editors because of confidentiality clauses or information is requested by investigators from editors that they are unwilling to disclose, such as the identity of peer reviewers. The COPE guidance on *Cooperation between research institutions and journals on research integrity cases* acknowledges the need for confidentiality "Both institutions and editors should generally ensure that communications relating to ongoing misconduct investigations are kept confidential between parties". However, it also concedes that "editors may be obliged to protect the identity of whistleblowers or of peer reviewers" (http://publicationethics.org/files/Research_institutions_guidelines_final_0_0.pdf).

For journals that operate blind review processes keeping the identity of reviewers confidential is an integral part of ensuring that reviewers continue to be willing to review for a journal that claims to operate an anonymous review process. However, there are instances where reviewers themselves have actually revealed their name publicly or to the authors directly. This also extended to even making their review reports public. Interestingly, the topic of who owns the review reports has only recently sparked wider debate, despite the long existence of anonymous review. It is possible that with a more pronounced online identity researchers now have and seek, as well as claiming recognition for their academic contributions that go beyond publications, has led to increased incidences of reviewers posting their reports on the internet. This trend is facilitated by the occurrence of "portable" reviews, such as those offered by Rubriq (www.rubriq.com/), or by platforms offering researchers means to publicly declare reviewer activity such as Publons (https://publons.com/).

Journals do not ask for a transfer of copyright for the review reports, and, in their guidelines, most journals do not appear to dictate to reviewers whether they can be made public by their author. Review reports can be seen as an intellectual achievement by a reviewer, which would attribute their ownership to the reviewer. However, if it is seen as personal communication between the reviewer and the editor, this would suggest increased confidentiality expectations by both parties. The COPE guidelines for peer reviewers reiterate the standard expectation of confidentiality of reviews by writing:

> […] respect the confidentiality of peer review and not reveal any details of a manuscript or its review, during or after the peer-review process, beyond those that are released by the journal (http://publicationethics.org/files/Peer%20review%20guidelines_0.pdf).

This may be a future area for a COPE discussion or guidance document sparked by cases like the one described (case number 12-32) below that have been brought to the forum. In this case, the authors of a manuscript sent an official complaint to a journal regarding a breach of confidentiality by an associate editor, of which the authors had been informed by the supervisor of a reviewer of the manuscript. After submission of the review, the reviewer received a confidential email from the associate editor asking whether the favorable recommendation made by the reviewer would have been different if the reviewer had been aware that the group submitting the manuscript had been recently queried by two journals on ethical issues. The reviewer, a junior member of the research group, did not respond to the email of the associate editor, but instead informed her supervisor. The supervisor then informed the authors of the manuscript, who in turn filed a formal complaint with the journal.

The journal acknowledged receipt of the complaint and requested details and evidence of the accusations against the associate editor. The editor received an email from the supervisor of the reviewer confirming the complaint made by the authors and also sent an edited copy of the email the reviewer had received by the associate editor. The journal informed the associate editor about the complaint that he had divulged to one of the reviewers of the manuscript after she had completed her review the past history of the author group. The associate editor was asked to comment and provide an explanation, and was told that manuscripts will not be assigned to him until a resolution had been reached.

The reply from the associate editor contained apologies for the "wrong behavior" and a plea to be able to continue his work as associate editor. He did not offer his resignation to the journal. The editor and the editorial team (deputy editors and managing editor) considered all aspects and came to the conclusion to uphold the complaint and as a consequence stop the collaboration with the associate editor. In particular, the journal provides formal training for associate editors, so there was no question for the journal that the associate editor was not aware that his behavior was wrong. The editor believes that professional competition was the motive behind the inappropriate follow up disclosing confidential information to a reviewer.

The forum agreed that the associate editor should have declared a conflict of interest and excused himself from the review process. The forum advised that it is up to the editor to make the decision of whether to keep the associate editor, and that he needs to consider how valuable he believes the associate editor is and how likely he is to repeat this behavior. Can the editor trust the associate editor now? In addition, the Forum suggested that the editor might want to re-emphasize the journal's policy on conflicts of interest to the other associate editors, which the journal implemented.

Every action has a reaction or how we incentivize researchers through metrics

In June this year, phys.org ran a news story with the headline "Top scientists call for improved incentives to ensure research integrity" (http://phys.org/news/2015-06-scientists-incentives.html). The story summed up the challenges facing science today:

> […] the problems that exist at every level, from the notion that science is self-correcting to academia's incentive structures that encourage researchers to publish novel, positive results, to the greater opportunities […] to publish less-scrutinized studies. In addition, a lack of data sharing leads to the inability to replicate results, universities that want to make headlines exaggerate findings, and the media's quest for ratings and readership often trumps quality reporting.

A bleak outlook that is finally eliciting a more robust response from stakeholders involved, including funding agencies and universities.

A 2014 report by the Nuffield Council on Bioethics in the UK that examined research culture concluded that tough competition for positions and grants led to ethically compromised research and publications. In addition, researchers also perceived that a high number of publications and publications in high-impact factor journals were important for a favourable outcome by assessment committees for funding and jobs (http://nuffieldbioethics.org/wp-content/uploads/Nuffield_research_culture_full_report_web.pdf). Kovacs similarly remarks that quantitative metrics such as number of publications, impact factor of journals published in and number of

citations of articles lead to wrong incentives for ethical authorship attribution. He argues that the use of these metrics have led to an honorary authorship epidemic, as multiple author publications are more favorable in increasing these indicators, and discriminates against single-author endeavors (Kovacs, 2012).

This issue was already raised by Rennie *et al.* (1997) back in who called for a radical change in how researchers were acknowledged in published work by replacing authorship with a contributorship model. Despite nearly two decades elapsing the idea for replacing authors with "film-type" credits has not taken over to date. Journals do require author contributions statements, a step in the right direction, but the scientific publishing culture did not seem ready yet to overthrow their traditions in this regard. In June 2014, Project CRediT picked this idea back up again in earnest and established a taxonomy to provide a standard for describing contributions to published research http://credit.casrai.org/).

In addition to wrongly incentivizing authorship attribution driven by the hunt for citation counts, are ethical issues that arise due to incentives related to the number of publications. Redundant publications including "salami" publications have been noted as a consequence of these metrics being used in assessments of researchers. A 2006 study of text similarities in the literature in the discipline of Fractals concluded that:

> [f]ar more pervasive than redundant publications are publications that do not violate the letter of redundancy but rather violate the spirit of redundancy. There appear to be widespread publication maximization strategies (Kostoff *et al.*, 2006).

Institutions themselves are not immune to the pressures exerted by national research assessment exercises. Berry coined the term "institutional plagiarism" to describe instances where institutions benefited from including work in assessment exercises by researchers who transferred to their institution though where the work assessed was actually carried out at a different institution. In looking at data of the UK Research Assessment Exercises from 2001, Berry surmises that strategic recruitment of staff notably increased certain institutions' ratings. The conclusion that "imported publications in these submissions, made a disproportionately large contribution to the overall Impact Factor total of the submitting department" may suggest that universities also know how to manipulate the system geared towards winning the publication metrics game (Berry, 2013).

Both the European and North American COPE seminars in 2015 covered how metrics influence publication behavior. In her talk at the European seminar, Lisa Colledge from Elsevier described how publishers now offer a "basket of metrics" to foster a balanced approach to performance indicators. The Nuffield Council on Bioethics also called for a broader recognition of a researcher's performance taking into consideration activities such as peer review, mentorship, teaching responsibilities and public outreach (http://nuffieldbioethics.org/wp-content/uploads/Nuffield_research_culture_full_report_web.pdf). The aim is to foster scientific integrity and good publication practices contributing to trustworthy scholarly literature by setting incentives that are aligned to these goals. The Leiden manifesto published in Nature in 2015 outlines ten principles that were drafted to encourage best practice in metrics-based research assessment. The sixth principle for example reads: "Account for variation by field in publication and citation practices" (Hicks, 2015). This is an important point that this review does not treat

in-depth but is meant to remind readers of the diversity of academic endeavor and varying practices across disciplines that editors encounter in their work.

It should not be overlooked though that of course indicators only gain validity and meaning when being used in the actual research context (Dahler-Larsen, 2013). Science can be seen as a trade that is handed down to the next generation through a cultural transmission of practices. Depending on the discipline, one may argue that research groups are units within which the actual interpretation of performance metrics is played out. Rushforth and de Rijcke use "folk theory" to frame practices they observed during their study on how the Impact Factor shapes knowledge production. Their results suggest that the Impact Factor as a metric helps researchers in choosing a journal to submit to, as it is used as a proxy for quality by being equated to demands of novelty and competitiveness and as it simplifies the large choice of journals on offer particularly for those who lack more in-depth knowledge (Rushforth and de Rijcke, 2015). Therefore, a change in culture may not only be brought about by providing more varied metrics and by adapting criteria of assessment committees, but require additional adaption of mindsets and practices within the research groups.

A COPE case (number 13-11) was discussed at the forum in 2013 that dealt with salami publication by an author. It started off with a reviewer of the journal noticing similarity between a published paper (P1) and a manuscript under review (P2). At the same time, a member of the editorial team noticed similarity between another accepted manuscript for publication (P3) and both paper P1 and manuscript P2. All three papers were submitted by the same authors based on the same trial, reporting three different endpoints measuring the same effect. The earlier paper P1 reported the results on the most accepted and validated efficacy measures. The latter manuscripts reiterated the findings of the published paper but did not cite the same.

The editor-in-chief decided to hold P2 and P3 and follow the COPE guidelines. The editorial team asked clarifications from the authors, who in reply stated their ignorance about publication practices and argued that the two other efficacy measures will substantiate the results of P1. The results of the papers were contradictory to current practices, and hence, the editorial team decided to be lenient with the authors. The editors suggested combining the two manuscripts under review (P2 and P3) into one short communication and asked the authors for appropriate modifications (e.g. reporting ancillary data). The authors modified the manuscript but quoted a guideline for analysis, which had not been used previously, was not present when the authors completed their study and was not related to the topic. This raised questions about the overall integrity and reliability of the authors. The editorial team decided to hold the manuscript and refer the case to the COPE forum for further consultation.

The journal had the following questions for the forum:

Q1. What should be the stand of the editorial board, especially if authors want to withdraw the paper?

Q2. Should the editors share the review information with editors of other related journals?

Q3. Should the editors disclose the names of the authors to other journals in the same field?

Q4. Should the journal maintain a watch list for such authors?

The Forum agreed that even if the authors wished to withdraw the paper and they do have the right to do so, this does not mean that the issue itself would be resolved. If the editor has concerns, he/she retains the right to follow up with the author and/or the institution. The editor can still contact the author's institution and ask them to investigate. COPE always advises that even if a paper is rejected or withdrawn, the editor has a duty to follow up any issues relating to suspected misconduct. The editor can explain this also to the authors in case this is needed. It may be necessary to share the information with related journals, but the editor may need to assess the scale of the problem first by doing a search for other articles by the same authors and determining what other journals are involved. Regarding a watch list, COPE always advises against blacklisting authors or sharing watch lists with other editors because of the risk of litigation and the danger of harming other innocent associated authors.

After the forum discussion, the editor asked the authors for clarification, but did not get a reply even after several reminders. The editor also contacted the author's institution and asked them to investigate the case but received no reply. The article was rejected on the grounds of compromised publication ethics. The case was also discussed by the editorial team members. The journal has improved the editorial review methods of the journal to filter out possible cases of plagiarism and salami slicing. The editor discussed the case (without revealing any of the author's details) with the editors of related journals who said that they had also experienced similar cases and expressed the need for efforts to create awareness to avoid publication misconduct.

Concluding remarks

There are many additional challenges to publication ethics in the digital era than covered in this review, which is meant to serve as a discussion starting point for some of the topics that affect the scholarly literature today. The public interface with science and how this affects reporting, as well as the responsibilities over data, are topics among others that are also timely in this debate.

Digitization has allowed publishing to enter a new phase of innovation, with rapid dissemination and internationalization taking place. The work of editors fundamentally has not changed since the advent of peer review as we know it. However, technological advances have provided important tools in facilitating publishing and challenging ethical conduct of authors, reviewers and editors alike. It is often not for a want of guidelines, software, checklists, policies and so on, some even discipline-specific, for editors and researchers; however, implementation can be time-consuming and costly in a competitive environment.

In addition, the offers available be it journal choice, dissemination model or peer-review process add complexity to a researcher's publishing endeavor. Similar to the concept of the "expert patient" who becomes versed in current medical research, one can speak of the "expert author" that researchers are now asked to become to navigate the current publishing landscape. Education will remain a key element in strengthening the skills and ethical conduct of authors and editors. Keeping pace with the developments in publishing and the ethical debates that these bring to light continue to be an important challenge. COPE's mission remains as current now as nearly 20 years ago and likely for a few more decades to come.

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Corresponding author

Mirjam Jessica Curno can be contacted at: mirjam.curno@yahoo.com