



The Pressure to Publish More and the Scope of Predatory Publishing Activities

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Received: 19 August 2016

Accepted: 13 September 2016

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This article overviews unethical publishing practices in connection with the pressure to publish more. Both open-access and subscription publishing models can be abused by 'predatory' authors, editors, and publishing outlets. Relevant examples of 'prolific' scholars are viewed through the prism of the violation of ethical authorship in established journals and indiscriminately boosting publication records elsewhere. The instances of ethical transgressions by brokering editorial agencies and agents, operating predominantly in non-Anglophone countries, are presented to raise awareness of predatory activities. The scheme of predatory publishing activities is presented, and several measures are proposed to tackle the issue of predatory publishing. The awareness campaigns by professional societies, consultations with information facilitators, implementation of the criteria of best target journals, and crediting of scholars with use of integrative citation metrics, such as the *h*-index, are believed to make a difference.

Keywords: Predatory Publishing; Open Access; Authorship; Professional Societies; Citation Metrics; Best Target Journals

WHY SCHOLARS PUBLISH ARTICLES?

There are many reasons for publishing journal articles in our times. Scholarly articles are primarily required for career advancement and international recognition that can be reflected in values of several citation metrics (1,2). At the time of launching the first scientific journal *Philosophical Transactions of the Royal Society* in 1665, the main reason of publishing scholarly works (letters) was to distribute information among professionals, encourage formal discussion, and archive all related accounts for future generations. Such an idealistic approach to the scholarly communication at the time of limited opportunities for publishing and absence of citation metrics has facilitated preserving scientific wisdom, influenced scientific and technological progress, and left an enduring legacy of professional journal publishing. All top academic journals are now embracing that approach and serving platforms for scholarly communication. Most authors and readers take that for granted.

With the expanding opportunities for communication and a changing publishing landscape, the value of well-preserved journal articles is paradoxically much less appreciated than it was centuries ago. In fact, evidence suggests that the vast majority of abstracts (65%-79%) presented at congresses of professional societies never transform into full articles and do not influence the scientific discourse (3-5). Although bibliographic databases of Elsevier and Thomson Reuters are expanding coverage of conference proceedings and abstracts fulfilling certain quality criteria, such items are not counted as complete reports and are not recommended for citing (6). Given numerous deficiencies in reporting, even systematic reviews presented in the form of abstracts cannot be considered as reliable evidence-based accounts (7). Low rates of publishing full articles, which are based on congress abstracts, can be partly explained by the authors' indiscretion and their academic institutions' 'soft' policies towards publication activity. The uncertainties in distinguishing the quality and importance of abstracts

and full articles form a ground for flawed crediting schemes, acknowledging any type of publication. In such an environment, numerous 'predatory' congresses have emerged, providing ample opportunities for publishing abstracts for a fee without any selective approach and no chance of indexing by prestigious bibliographic databases (8).

ARTIFICIALLY BOOSTING PUBLICATION RECORDS

Unfortunately, academic advancement in most countries is currently dependent on the number rather than quality of scholarly works (9). In an attempt to boost publication records and get academic degrees and titles, some authors embark on either listing their names in solid research articles without fulfilling the authorship criteria or producing 'wasteful,' redundant items, just filling space in journals without any scientific purpose. A recent MEDLINE-based analysis revealed a highly questionable practice of publishing more than 1 research paper per 10 working days by some world-renowned authors (10). Such a prolific publication activity results in hundreds, if not thousands of articles recorded by scholars who often hold influential academic posts, head journal editorial boards, and abundantly publish in their own journals that serve as hubs for evidence accumulation.

Another instance of artificially boosting publication records was recently discussed on Jeffrey Beall's blog (11). He analyzed the case of an author with hundreds of editorials and redundant letters which were indexed by MEDLINE. The author pointed to a number of issues related to a wide variety of academic disciplines in the form of short (2-3 paragraphs) notes. None of these notes contained any rational or new point, being merely a recapitulation of already published facts. The same author also gained 'fame' for actively contributing to predatory journals by submitting his notes and heading editorial boards.

SCOPE OF PREDATORY PUBLISHING ACTIVITIES

The digitization of publishing creates almost unlimited opportunities for streamlining the distribution of scholarly ideas, comments, research data and overviews through the journals of established and start-up open-access publishers (12). Publication activity of any individual in any corner of the world can be now realized without the amount of effort required 2-3 decades ago. The emerged 'cascading' schemes allow manuscripts, rejected by established and high-impact journals, to find their home in gold open-access periodicals of the same or other publishers with lower rank and/or lower submission rates. In a desperate attempt to attract manuscripts and make a profit, many start-up open-access publishers launch a large series of journals with ambitious titles, such as "International...", "World...",

"European," "American...", "Science...", which mimic those of established ones but add no value, receive no approval of prestigious professional societies, and only damage reputation of contributing authors and editorial board members. Both the cascading schemes and new open-access journals of unprofessional publishers often undermine the importance of basic ethical norms, peer review, and research reporting validation. The speed of publication in journals that circumvent ethical barriers is largely dependent on open-access charges, which is viewed by J. Beall as the main factor corrupting the publishing market (13).

On his blog (<https://scholarlyoa.com/>), J. Beall blacklisted English predatory journals exploiting gold open access and phishing articles of inexperienced authors from poor research environments, who are concerned with the quantity rather than the quality of their publications. These authors, their research facilitators and grant funders are to be blamed for prioritizing any 'international' English publication regardless of the indexing and archiving prospects.

Some predatory publishers have managed to get indexing by Web of Science and Scopus, and attracted numerous experienced authors willing to pay for indexed and widely visible articles. The subsequent dramatic increase in the volumes of these journals, however, was not followed by proportionate expanding of the reviewers' bank. The most relevant example is the *Life Science Journal* that lost its indexing status in 2014 after years of overly 'productive' publishing. Likewise, the *Asian Pacific Journal of Cancer Prevention* with its latest impact factor of 2.515 and 1,385 annual publication record (Journal Citation Reports®, Thomson Reuters, 2014) lost Web of Science coverage and related impact factor in 2015.

The number of predatory publishers and standalone journals blacklisted by J. Beall in 2016 stands at 923 (only 18 in 2011) and 882 (126 in 2013), respectively (14). Few prolific publishers with hundreds of ethical journals, such as Dove Medical Press (New Zealand) and Multidisciplinary Digital Publishing Institute (MDPI, China), which were initially categorized as predatory by J. Beall, were delisted from his blog after providing compelling evidence of adhering to the established ethical standards. However, the list still includes Frontiers and Kowsar Publishing with numerous indexed journals that claim to adhere to the recommendations of the Committee on Publication Ethics (COPE).

Predatory journals have diverse professional and geographical coverage. Multidisciplinary, research-intensive and rapidly developing disciplines with prospects of producing numerous articles are viewed as 'cash cows' by predatory publishers. The emerging scientific powers and low-income countries prioritizing international publications and incentivizing their authors for any English article are primarily targeted (15,16).

An analysis of the development trend of a large sample of predatory open-access journals, which were listed on J. Beall's

blog, revealed a rapid increase of the volume of articles from 53,000 in 2010 to 420,000 in 2014 (17). Interestingly, engineering, biomedicine and social sciences were the most active disciplines in terms of contributing predatory articles. Of 262 identified corresponding authors, 34.7% represented India, 16.4% were from Africa, and 9.2% from North America.

In a desperate attempt to add English publications to their CVs, non-native English-speaking authors may plagiarize or commit other forms of misconduct (18,19). The instances of translating Chinese publications and republishing them in English indexed journals have come to the fore recently (20). Brokering editorial agencies and individual agents, exploiting the pressure on unscrupulous Chinese researchers and academics to publish more, sell authorship and manipulate with author names in the by-lines of manuscripts accepted by prestigious journals (21). Brokering agencies are also actively operating in other countries with rapidly increasing volumes of publications, and particularly in Iran and Russia, where articles in high-ranked periodicals are offered for a fee (22,23).

Predatory publishing practices can take different forms and involve non-English open-access and subscription journals as well (24). Non-English journals escape blacklisting because most Anglophone experts do not read and do not analyze contents of these journals. In contrast to English predatory journals, non-English ones rarely solicit articles by generating spam invitations, and often publish submissions from 'friendly' organiza-

tions and individual agents. Single issues of such non-English predatory journals may accommodate many articles from 'friendly' institutions with 'reviewer comments' written and presented by authors themselves, with decoratively posting submission and acceptance dates in the article footnotes.

TACKLING THE ISSUE OF PREDATORY PUBLISHING

Predatory publishing activities are here to stay as long as there is a pressure to publish more. Research and academic institutions crediting their faculty and fellows for prolific activities perpetuate the vicious circle of generating poor and inconclusive research data, redundant reviews, and pointless letters (25). Scientific authors' unawareness of what constitutes predatory activity and haphazard targeting of scholarly journals contribute to the flourishing of poor quality, useless, and unethical journals. The scope of predatory activities is diverse, and all those involved in scientific communications can be dragged into such activities (Fig. 1).

Fortunately, several professional societies have launched a campaign against questionable open-access publishers and journals by referring to J. Beall's list and increasing awareness of unethical publishers among new scholars (26,27). In 2015, global associations of editors and publishers, such as the COPE and the Open Access Scholarly Publishers Association (OASPA),

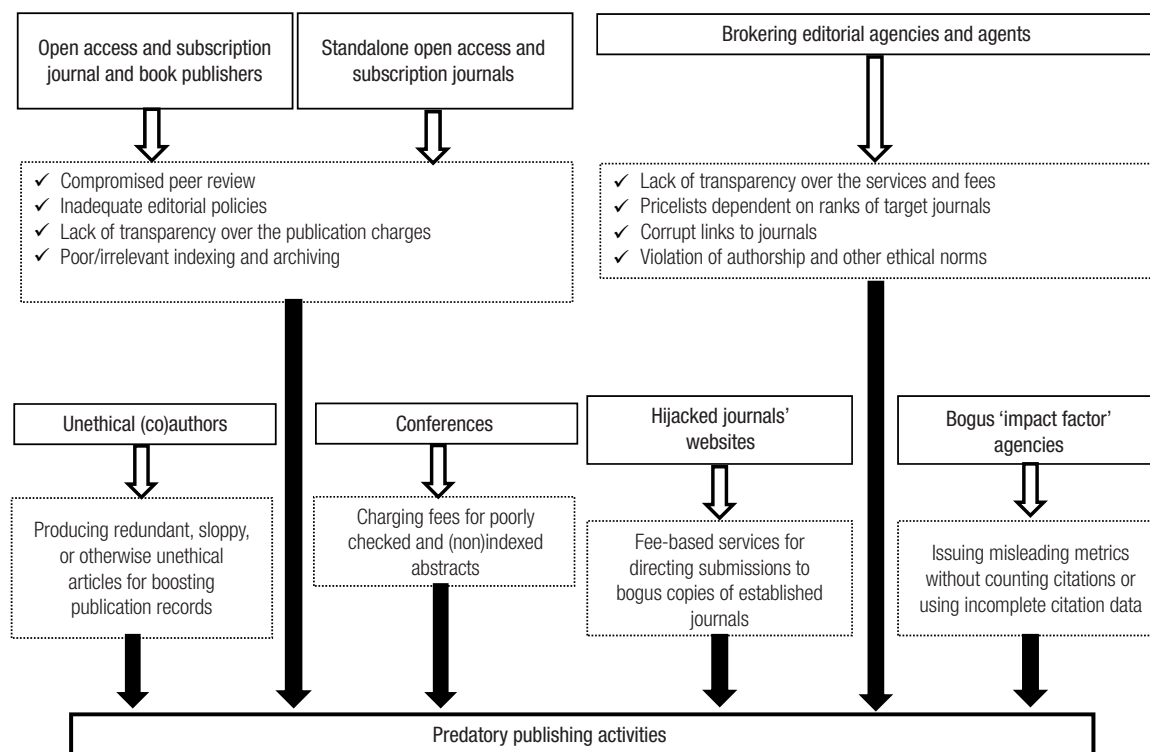


Fig. 1. Scope of predatory publishing activities.

have formed a coalition and initiated the “Think. Check. Submit” (TCS) campaign to help researchers assess the credentials of publishers and choose trusted journals for their research (<http://thinkchecksubmit.org/>). The TCS campaign offers a simple checklist of questions to help authors, and particularly those from non-Anglophone countries, identify reputable journals, which are endorsed by peers, have transparent editorial policies, relevant indexing and adhere to the ethical guidance of the global editorial associations. Additionally, a group of software specialists, researchers and publishers developed a digital platform to match English manuscript titles and abstracts with relevant and trusted journals (<https://www.journalguide.com/>). Finally, experts from various professional backgrounds have publicized statements on the ‘pollution’ of the scientific evidence accumulation (28,29) and proposed criteria of best target journals, which may sideline outlets with unethical publishing models (30,31).

The role of librarians or information facilitators with a broader look at publishers and the quality of their journals is becoming critical in our times (32). Their knowledge and expertise may help other stakeholders of scientific communications to choose a limited number of best references for reading, submitting manuscripts and citing, regardless of their access modes (33).

Research administrators who implement standards for research evaluation based on a combination of scientometric indicators can play their role in publicizing good research in periodicals with wide readership, high citation rates and endorsements from peers and minimize chances of artificially boosting publication records. At present, among numerous indicators for evaluation of an individual’s research productivity and impact, the *h*-index with its integrative approach to the number of articles and their citations in Scopus and Web of Science stands out as the most appropriate tool. That index has been used globally for more than a decade and proved to be a reliable indicator for authors with a long-standing career (34,35). The choice of a bibliographic database for recording the *h*-index depends on the indexing status of journals in a given discipline, peculiarities of research environments and regional priorities, with Scopus viewed as the most comprehensive platform for authors from Europe and non-Anglophone countries (36). Apparently, the *h*-index has its inherent limitations that should be taken into account for evaluating performance of early career researchers and those with a large number of multi-authored and self-cited articles (37,38). As showcased in an analysis of the Nobel laureates’ research performance, the *h*-index cannot be a proxy metric for assessing the innovativeness and scientific quality of articles (39). Additionally, the journal *h*-index, among other citation metrics, can help identify best journals with established traditions, wide visibility, and high citation rates and prevent submissions to predatory outlets that lose in the citation com-

petition.

Prestigious abstract and citation databases, such as Scopus and Web of Science, still index a number of open-access and subscription journals that are not transparent over the peer review and publication charges. Indexers of these prestigious databases, who are concerned with the ‘pollution’ of their platforms, regularly consult J.Beall’s list, take into account their users’ complaints, and delist journals embarking on various transgressions. For that reason, authors and research evaluators alike are advised to visit the updated list of indexed journals prior to publishing and crediting (40).

Many professional societies across the world publish periodicals in English and other languages that serve interests of relevant communities regardless of the indexing status and citation counts. Prestige of these periodicals is dependent on the use of published articles, which can be assessed by downloads, sharing on social media, and positive points received from the surveyed membership. Incentivizing professional society members for contributing to their journals can be an additional defensive measure against predatory journals (41).

Efforts aimed at improving skills for scholarly writing in English and local languages, systematically searching through bibliographic databases, and raising awareness of predatory activities are urgently needed in countries, where brokering editorial agencies and agents have streamlined flows of most manuscripts to predatory outlets and hindered science growth (15). Strengthening the positions of regional and local professional societies and encouraging their members to publish in local journals can be also viewed as a step away from predatory media.

DISCLOSURE

The authors have no potential conflicts of interest to disclose.

AUTHOR CONTRIBUTION

Conception: Gasparyan AY, Nurmashev B, Kitas GD. Design of the Figure: Voronov AA, Gerasimov AN. Support with reference selection: Koroleva AM, Kitas GD. Writing 1st draft: Gasparyan AY. Revision: Gasparyan AY, Nurmashev B, Voronov AA, Gerasimov AN, Koroleva AM, Kitas GD. Final approval and responsibility for the whole article: all authors.

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