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Mini Review

Predatory Publishing and the Dilemma of the Nigerian Academic

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ABSTRACT

Publication through the open access model has provided unrestricted global access to the latest scientific findings to anyone who has access to the internet. Although open access publishing was originally promoted because of the 'public good' it promises to deliver, concerns are being raised about this mode of publishing because of the emergence of dubious practices by publishers whose primary interest is profit and not the promotion of access to scientific knowledge. Predatory open access publishing is a phenomenon widespread in developing countries. This article summarizes the published literature on predatory open access publishing, discusses its potential impact on scholarship in Nigeria and offers suggestions to address the problem.

Keywords: Predatory publishing, Open Access, Nigerian academic, Journals

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BACKGROUND

Scholarly publication is a key performance indicator for academic achievement (Beall, 2017; Truth, 2012). The 'publish or perish' rule rings true today just as it was in the 1930s when it was first mentioned. It is through publication that the careers of scholars are initiated, nurtured and sustained. Peer-reviewed publication is a celebrated achievement for the academics because it is the 'fruits of their labor of research' (www.budapestopenaccessinitiative.org/read); products of the efforts exerted to conduct the research and the daunting task of publishing the results. For many academics it is a reality that not all results of their research endeavors get published because of high rates of rejections by journals. Some well-established journals are known to reject up to 70% or even more of submissions received (www.ifpp.org).

Of the channels, including conference proceedings, books, monographs, dissertations and theses, through which researchers disseminate results, journals are the most valued by scholars because articles appear in journals after rigorous peer review. Publications in journals are also highly regarded because they create visibility for authors and their institutions and, unlike books, journal articles take a relatively short time to publish. Finally, articles published in journals are indexed and archived making them permanently available to readers.

Traditionally, scholarly journals, published in print and owned by institutions and professional associations, are available on the shelves in libraries and accessible to members of professional associations who subscribe to them. Traditional journals have four key features: archiving/preservation, reputable board membership, indexing and peer review (Masten and Ashcraft, 2016). The advent of the internet has created the opportunity to publish journal articles online, which has increased global access to research findings. Today, through search engines, such as Google Scholar, access to articles presenting the latest scientific findings in all academic disciplines is no longer the exclusive preserve of members of professional associations but to anyone who has access to the internet. This global scholarly access breakthrough was achieved through the Open-Access (OA) model of online publication. The term OA refers to the unrestricted online availability of journal articles made possible by the convergence of tradition of scholarly publishing and the availability of the internet (www.cshl.libguides.com). Originally promoted because of the 'public good' to be derived from it, the OA model of publishing were endorsed by many scientists and publishers as

contained in the Budapest Open Access Initiative in 2002 (www.budapestopenaccessinitiative.org/read), the Bethesda Statement on Open Access Publishing in 2003 (www.legacy.earlham.edu) and the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities in 2003 (www.openaccess.mpg.de/berlin-declaration).

According to the statement in Budapest Open Access Initiative *'The public good they (OA) make possible is the world-wide electronic distribution of the peer-reviewed journal literature and completely free and unrestricted access to it by all scientists, scholars, teachers, students, and other curious minds'*. The statement went further to predict that *'Removing access barriers to this literature will accelerate research, enrich education, share the learning of the rich with the poor and the poor with the rich, make this literature as useful as it can be, and lay the foundation for uniting humanity in a common intellectual conversation and quest for knowledge'*.

To a large extent OA publishing has delivered on the ideals espoused in these statements. For example, through the efforts of model OA publishers like the Biomed Central (BMC) and Public Library of Science (PLoS) the latest scientific research findings are now available to millions of readers who have access to the internet. However serious concerns have been raised about this model of publishing during the last decade because of the emergence of dubious practices by publishers whose primary interest is profit and not the promotion of access to scientific knowledge. Jeffery Beall, a librarian at the University of Colorado, USA, has labelled publishers and the journals involved in such practices as 'predatory' (Beall, 2012).

This article summarizes the published literature on predatory OA publishing, discusses its potential impact on scholarship in the developing countries with special focus on Nigeria and offers interventions to address the problem.

NATURE AND PROBLEMS OF PREDATORY PUBLISHING

The bulk of what is available in the published literature on predatory OA publishing is attributable to the work of Jeffrey Beall who identified the features of predatory publishing and created a list of predatory publishers and journals as part of efforts to educate researchers and prevent scientific fraud (www.beallist.weebly.com). According to Beall (2013) predatory OA publishing is an exploitative business model that involves collecting article processing fees from authors without providing the editorial, peer review and publishing services expected from genuine journals. Predatory publishers promise a shorter submission-to-publication time, which weakens peer review processes, provided that authors are willing to pay a fee (See Table 1 for other features of predatory publishers and journals).

Some authors have raised serious concerns about the threat of predatory OA publishing to genuine scholarship (Shamseer et al, 2017; Nwagwu & Ojemeni, 2015; Shen and Bjork, 2015; Xia et al, 2014; Omobowale et al, 2014; Bohannon, 2013; Truth, 2012). Others have discussed the ethical implications of predatory OA publishing (Ferris and Winker, 2017) and the phenomenal growth in the volume of papers published in predatory journals (Shen and Bjork, 2015; Nwagwu and Ojemeni, 2015). For example, Shen and Bjork (2015) found that the publication volume of predatory journals identified from Beall's list (www.beallist.weebly.com) rose from 53, 000 in 2010 to 420,000 in 2014. Not only have the volume of such publications increased, but also the citations of papers published in these journals. The study by Nwagwu & Ojemeni (2015) revealed that the articles published in the 28 Nigerian journals identified from Beall's list were cited 12, 596 times with the bulk of the citations originating from countries in Asia, Africa and Europe, in that order. These papers are being cited not only by the scientists who publish them but also by other scientists and researchers. Yet, citing articles from suspicious journals as legitimate publications misrepresent authors' scholarly efforts (Ferris and Winker, 2017). Furthermore, manuscripts published in predatory journals may have plagiarized and potentially fraudulent contents (Ferris and Winker, 2017).

Table 1
Characteristics of Predatory Publishers and Journals

1.	The journal has a title with disjointed scope, e.g. Journal of Education, Management & Philosophy
2.	The website of the journal has spelling and grammatical errors
3.	The website of the journal has distorted/fuzzy images
4.	The journal does not provide information on manuscript handling processes
5	Journals send unsolicited emails requesting for submission of manuscripts
6.	Journals request for submission of manuscripts using email addresses instead of online submission process
7.	Journals use non-professional or journal affiliated email addresses for correspondence
8.	Journals do not provide information on retraction, digitization and copyright policies
9.	The website of the journal does not provide sufficient information about members of editorial boards or include fake names as members
10.	The website does not reveal the physical address of the publisher/journal or uses an incorrect address
11.	The journal does not make full disclosure of fees to be paid for processing of articles
12.	Journals make unrealistic promise of rapid time-frame of peer review and publication

Sources: Beall, 2012; 2017; Mouton and Valentine, 2017; Shamseer et al, 2017; Erikson and Helgessson, 2017

Predatory publishers consider profit to be far more important than business, research, professional or publishing ethics (Beall, 2017). Authors have used phrases to describe predatory publishing such as 'pseudo-journals' (Shen and Bjork, 2015), 'pay-big-publish fast' (Truth, 2012) and 'hijacked journals' (Bohannon, 2013) to describe publishers who create websites with the same names as legitimate journals and then request manuscripts through spam emails (Bohannon, 2013).

Questions have also been raised about the quality of the articles published in predatory journals because of the

relatively large number of articles published in short period of time suggesting weak or complete absence of peer review which takes time if it is done properly (Beall, 2013; Shen and Bjork, 2015; Mouton and Valentine, 2017). Mouton and Valentine (2017) found that one predatory journal published an average of 780 articles in a year. More evidence of inadequate or non-existing peer review of contents of predatory journals comes from a sting investigation reported in *Nature* in which a manuscript from a fake research was sent to 255 OA journals with 62% accepting it for publication (Bohannon, 2013). Although some have criticized this method of investigation as unethical (Xia et al, 2015), the fact that the majority of the journals accepted a manuscript which the author of the fake research described as having '*scientific flaws so that they were both obvious and "boringly bad*' is a source of bad publicity because it undermine public confidence in research literature (Ferris and Winker, 2017). Publishers of predatory OA journals are willing to accept virtually any material as long as authors are ready to pay a fee (Shen & Bjork, 2015). Xia and colleagues (2015) assessed author profiles of some predatory OA journals identified from Beall's list and compared these with a group of well-established OA journals. Findings show that the majority of the authors who publish in OA predatory journals have weaker publication and citation record compared to their counterparts who publish in other well-established OA journals. Dubious publications through OA channels without proper peer review hit at the core and credibility of legitimate scientific endeavors. The peer review process is the strategy through which research are scrutinized, vetted and approved by peers before they are published.

However, not all articles that appear in predatory journals maybe fraudulent as some authors who have conducted legitimate research publish in predatory journals. Acknowledging the fact that some of its grantees have published results of funded research in journals of questionable practices, the National Institutes of Health (NIH) recently issued guidelines that encourage its grantees to submit their manuscripts to journals that follow best practices in scholarly publishing and avoid publishing in journals that do not have clearly stated and rigorous peer review process (www.nih.gov/new/globalhealthmatters/november/december 2017).

Predatory OA publishing is primarily a developing country phenomenon (Truth, 2012; Beall, 2013; Omobowale et al, 2014; Nwagwu and Ojemene, 2014; Xia et al 2015; Mouton and Valentine, 2017). Most predatory publishers, journals and the authors who publish in them are mainly from India, Nigeria and Pakistan (Xia et al, 2014). The poor social and economic conditions in many developing countries coupled with the intense pressure for publications for career advancement and difficulties in getting their manuscripts accepted in English language internationally circulated peer review journals are some of the factors contributing to the rise of predatory publishing in these countries (Nwagwu and Ojemene, 2014; Xia et al, 2014).

In Nigeria, predatory OA publishing is now a lucrative business. Nwagwu and Ojemeni (2015) reported that the two Nigerian publishers found in Beall's list established 28 active journals in five years and made an approximate income of $3, 360, 500 during the period. The studies by Shen and Bjork (2015) and Xia and colleagues (2014) showed that Nigeria had one of the largest number of contributors to the list of predatory journals the authors assessed. Corruption has permeated the Nigerian body politic and involvement of Nigerian publishers and authors in predatory publishing poses real threat to genuine scholarship in the country. As Omobowale and colleagues have put it '*scholarly Nigerian academics… publish articles that lack international intellectual acceptability*…' (2014; p. 679). The potential long-term consequence of this situation is that the global scientific community may receive even genuine research conducted in Nigeria with serious suspicion. Herein lies the bigger common shared burden and reason why all concerned Nigerian scientists should develop strategies to tackle the problem.

The OA predatory publishing has flourished in Nigeria due to the high demand for quick papers by academic staff who need publications for promotion (Omobowale et al, 2014). Many Nigerian universities require their academic staff to publish a certain percentage of articles in the so-called foreign or off-shore journals as a condition for promotion. In response to the demand for off-shore papers, unscrupulous publishers have created fictitious foreign addresses as countries of origin of locally produced journals (Omobowale et al, 2014). Young scholars who lack experience and mentorship are the main victims of predatory publishing (Xia et al, 2015), even though some authors (Shen and Bjork, 2015) believe many academics who publish in these journals may not be naïve. According to Shen and Bjork (2015) authors who send their manuscripts to predatory journals have a calculated risk that assessors of their papers will not scrutinize the credentials of the journals in which they are published.

Suggested Interventions

Given the rapid growth in the number of universities in Nigeria in the last decade coupled with requirements of scholarly publications as a condition for career advancement, the number of Nigerian researchers looking for credible journals to publish their research will continue to increase (Nwagwu & Ojemeni, 2015). For example, the number of universities in Nigeria rose from 152 in 2015 to 160 in 2016 (www.nuc.edu.ng). There is therefore need to develop interventions to address both supply and demand sides of OA publishing. Interventions are likely to work if they are developed with a good understanding of the conditions under which Nigerian researchers operate. The Nigerian academic is expected to measure up to global standards in scholarly publications but they face serious personal and structural challenges, some of which threaten their survival. For example, some lecturers working in state-owned universities have not been paid salaries for several months, laboratory and other infrastructure needed to conduct good quality research are either broken down or do not exist at all and locally available sources of funding for research are inadequate. Some may be forced to take the short-cut of sending poorly conducted research to dubious journals as a means of coping with these challenges. Government need to increase funding to improve the infrastructure in Nigerian universities to enable

Nigerian scholars conduct research that is required for good quality publications in credible journals.

The criteria for promotion of university lecturers must emphasize quality over quantity in evaluating publications for promotion. Universities also need to educate newly recruited staff on the need to publish in credible journals. As part of their mentoring role, senior faculty and supervisors need to educate younger faculty on the dangers of predatory publishing and help them make informed decisions on where they disseminate their research (Mouton and Valentine, 2017). Nigerian universities may adopt a policy implemented in South African universities, where a subsidy is paid to researchers who publish in accredited journals listed in credible sources, such as the Institute of Scientific Information, Science Citation Index, Social Sciences Index and Arts and Humanities Index as a reward and incentive for their scholarly output (Woodis, 2012). This is likely to encourage prospective authors to send their manuscripts to credible journals which have been vetted and accredited by librarians. However, the findings from the study by Mouton and Valentine (2017) indicate the need to constantly vet the status of journals to prevent infiltration of predatory journals into accredited list by the regulating authorities.

Part of the dilemma Nigerian scientists' face when searching for appropriate channels to publish their research is how to raise the Article Processing Charges (APC) demanded by OA journals under the gold publication plan that permits immediate and free access to the paper once it is published. Although most reputable journals require payment of the APC after peer review and acceptance of the manuscript, the amount (which may range from $1, 000-$2, 500 per article) charged by these journals is exorbitant by local standards because many of the researches conducted by Nigerian academic are self-sponsored. Some reputable OA journals offer a waiver for authors from a number of low and medium income countries, but Nigeria has been removed from this list since the country's national income has exceeded the cut off for countries that can benefit from such program. This is another reason why financial support to pay APC by government and universities is desirable.

In addition, Nigerian researchers need adequate funding to conduct good research, which, in turn, has a good chance of being published in credible journals. Although government has launched the Tertiary Education Trust Fund as part of efforts to improve research funding in the country, the amount provided is still not sufficient given the increasing number of researchers available in the country. Programs such as the Senate Research Grant and the Research Foundation operated in the University of Ibadan need to be expanded and adopted by other universities as part of efforts to provide funding support to academic staff to enable them to conduct preliminary research which is often required to succeed in bigger funding applications.

As the professionals responsible for the selection of journals available in the libraries, academic librarians have four important roles to play in educating their clients to make informed choices in publishing in legitimate and not in predatory journals. First, librarians need to assess and vet OA journals and remove those without transparent information about editorial board, physical address and areas of operation, from their list of online catalogues (Beall, 2013). To this end, librarians must consider issues such as relevance and recommendations from the faculty they serve when selecting OA journals for inclusion in their catalogue. Second, in settings where the libraries control funding to support authors on payment of APC, priority for support in payment of APC should be given to authors whose papers have been accepted in the library-accredited journals. This is likely to encourage prospective authors to send their manuscripts to credible journals that has been vetted and accredited by librarians.

Third, librarians can inform and educate researchers and scholars they serve in carefully checking Beall's list and other lists to identify credible from 'possible' and 'probable' predatory journals and publishers in circulation that have emerged from empirical studies (PCG, 2014) to ensure that such researchers make informed decisions on where they send their manuscripts. Librarians can also confirm the credibility of journals by using the Directory of Open Access Journals (DOAJ), an online directory that indexes and provides access to credible quality OA peer review journals. Since libraries often have access to directories and databases that list bona fide publications, librarians can help researchers in their institutions to check their preferred publishing venue (Royal Society of New Zealand, 2017) to ensure that manuscripts are not submitted to a predatory journal. Furthermore, librarians can assist researchers and faculty in their institutions by helping them to select publishing venues. This has become imperative as there are many high quality journals with reliable editorial practices, effective peer review, and scientific merit, but, often difficult for faculty, researcher-author to evaluate these factors (Marill, Funk & Sheehan, 2017*)*, a task librarians can do with ease. Four, librarians and libraries can educate members of their constituents (researchers, faculty and students) of alternate way of attaining OA which is, to self-archive their published work in an institutional repository.

The Nigerian National University Commission and institutions that own journals should develop strategies for assisting genuine publishing organizations willing to add value to scholarly publishing to improve their operations and bring them up to standard in the areas of technology support (Nwagwu and Ojemeni, 2015) for online submission and strengthening of peer review process.

In conclusion, genuine scholarship is threatened in Nigeria by the massive growth in the number of predatory publishers and OA journals of dubious quality. This industry has flourished in Nigeria primarily because of the increasing demand by academic staff who need to publish for promotion purposes. With the growing number of researchers in the country, the need to publish will continue to be high and academic institutions and other regulating agencies must take actions to educate young scientists about the need to publish in credible journals, support them with appropriate incentives, provide funding for young faculty to conduct good quality research and assist genuine publishing organizations willing to add value to scholarly publishing in the country.

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