Investigation of Predatory Journals

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Abstract

With the open access publishing model where the author pays the writing and editing costs, predatory publishers appear.The only goal of these is profit. They publish articles submitted without any proofreading, for the sole purpose of making authors who are too naive and too happy to see an editor accept their manuscript. The author is deceived by a well-honed speech and practices that make believe in rigorous scientific work.

Authors who submit their articles in these journals do not realize that the fruit of several months of research is definitely lost. Articles published in these journals can no longer be republished elsewhere.

Concerning the elements to focus on in order to identify them(predatory journals), we take the view that, Generally, the period between submitting and publishing the papers is very short, they have a broad advertisement plan in the form of spam e-mails and their websites are poorly maintained, include dead links, prominent misspellings and grammatical errors on their websites and e-mails as well as many other characteristics that can help to identify them.

The only watchword to guard against fake newspapers is to get information from existing data sources through, for example, the Beall's list and the open access journals directory (DOAJ) and the different checklists. existing.

Keywords: Predatory Journals, Fake journal, Open-Access publishing, Beall's list

Introduction

Scientists, as we know, have created their own version of the law of the jungle: publish or perish. This pressure to publish can cause great distress to aspiring researchers who have difficulty publishing their work and when there is distress, there is someone to exploit the people made vulnerable. It is here that the *predatory journals* appear. Indeed, they are fake scientific journals that pretend to be legitimate open access journals and will publish anything for a few hundred dollars. It may therefore be quite difficult for a student unfamiliar with the publication process to recognize a predatory journal.

Since there are indeed legitimate journals that charge a fee for publishing a scientific article, how do you protect against predatory journals? There is no magic recipe, for a good investigation, the resources on the Internet and the researches done previously by third parties were used to achieve our objectives. So to better understand our work we go to pre-work, works related to it; that is, those who also investigated predatory journals. Then we will present the general context of scientific journals, where we will highlight the publishing environments, the processes of creation and publication. We will enumerate the different existing sources that will allow us to say whether a predatory journal or not. This will therefore show the impact (positive and negative) they can present for scientific research. Finally we will analyze the predatory journals, with examples that we have more listed, to be able not only to distinguish them, but also to specify them.

Related works

One of the most essential work is the Jeffrey Beall's one . The criteria he used for his list are an excellent starting point for thinking about characterizing predatory publishers and journals. Beall has amassed considerable knowledge and greatly increased awareness of predatory publishing. He is recognized as a leading expert and has gone largely unchallenged, probably both because non-experts are eager for blacklists that seemingly obviate the need for individual analysis of publishers and journals, and because little empirical research has been done on the phenomenon of predatory publishing. However, in 2014, Walt Crawford took Beall to task in an article called "Ethics and Access : The Sad Case of Jeffrey Beall." Crawford criticizes Beall for not contextualizing predatory or low-quality publishing as a phenomenon that predates OA and is not exclusive to OA journals. He also points out that Beall favors toll-access publishers, specifically Elsevier, praising its "consistent high quality ." However, a simple Google search for "fake Elsevier journals" reveals Beall's position as tenuous. Furthermore, Beall conflates OA journals with "author pays" journals, and reveals his skepticism not hostility.

Shen and Björk have done a statistical analysis, scanning all predatory publishers and journals included in the so-called Beall's list at the time of their study and a sample of 613 journals was constructed using a stratified sampling method. Information about the subject field, country of publisher, article processing charge and article volumes published between 2010 and 2014 were manually collected from the journal websites. For a subset of journals, individual articles were sampled in order to study the country affiliation of authors and the publication delays.

Mehdi and al. discuss about a possible ranking of predatory journals. This ranking approach was based on Beall's criteria for detection of predatory journals and it can help editors to improve their journals or convert their questionable journals to non-predatory ones. To do

so, they have selected different metrics from the groups of Beall's criteria and assigned weight to them. However no precision or justification has been provide about how weight was affected to metrics.

Presenting bibliometric characteristics of 32 biomedical open access journals published by Academic Journals and International Research Journals, Nwagwu and al. considered the Nigerian context about Predatory journal in biomedicine from 2007 to 2012 by collecting data about the journals and the authors of articles from the publishers' website, Google Scholar and Web of Science.

Background

Environments for publication

In academic publishing, a scientific journal is a periodical publication intended to further the progress of science, usually by reporting new research. Articles in scientific journals are mostly written by active scientists such as students, researchers and professors instead of professional journalists. There are thousands of scientific journals in publication, and many more have been published at various points in the past. Most journals are highly specialized, although some of the oldest journals such as Nature publish articles and scientific papers across a wide range of scientific fields. Scientific journals contain articles that have been peer reviewed, in an attempt to ensure that articles meet the journal's standards of quality, and scientific validity. Although scientific journals are superficially similar to professional magazines, they are actually quite different. Issues of a scientific journal are rarely read casually, as one would read a magazine. The publication ofof the the results of research is an essential part of the scientific method. If they are describing experiments or calculations, they must supply enough details that an independent researcher could repeat the experiment or calculation to verify the results. Articles in scientific journals can be used in research and higher education. Scientific articles allow researchers to keep up to date with the developments of their field and direct their own research. An essential part of a scientific article is citation of earlier work. The impact of articles and journals is often assessed by counting citations (citation impact). Some classes are partially devoted to the explication of classic articles, and seminar classes can consist of the presentation by each student of a classic or current paper. Schoolbooks and textbooks have been written usually only on established topics, while the latest research and more obscure topics are only accessible through scientific articles. In a scientific research group or academic department it is usual for the content of current scientific journals to be discussed in journal clubs. Public funding bodies often require the results to be published in scientific journals. Academic credentials for promotion into academic ranks are established in large part by the number and impact of scientific articles published. Many doctoral programs allow for thesis by publication, where the candidate is required to publish a certain number of scientific articles.

Types of articles

There are several types of journal articles; the exact terminology and definitions vary by field and specific journal, but often include:

- **Letters** (also called communications, and not to be confused with letters to the editor) are short descriptions of important current research findings that are usually fast-tracked for immediate publication because they are considered urgent.

- **Research notes** are short descriptions of current research findings that are considered less urgent or important than Letters.
- **Articles** are usually between five and twenty pages and are complete descriptions of current original research findings, but there are considerable variations between scientific fields and journals—80-page articles are not rare in mathematics or theoretical computer science.
- **Supplemental articles** contain a large volume of tabular data that is the result of current research and may be dozens or hundreds of pages with mostly numerical data. Some journals now only publish this data electronically on the Internet. Supplemental information also contains other voluminous material not appropriate for the main body of the article, like descriptions of routine procedures, derivations of equations, source code, non-essential data, spectra or other such miscellaneous information.
- **Review articles** do not cover original research but rather accumulate the results of many different articles on a particular topic into a coherent narrative about the state of the art in that field. Review articles provide information about the topic and also provide journal references to the original research. Reviews may be entirely narrative, or may provide quantitative summary estimates resulting from the application of meta-analytical methods.
- **Data papers** are articles dedicated to describe datasets. This type of article is becoming popular and journals exclusively dedicated to them have been established, e.g. Scientific Data and Earth System Science Data.
- **Video papers** are a recent addition to practice of scientific publications. They most often combine an online video demonstration of a new technique or protocol combined with a rigorous textual description.

Process of creation

Given below are some of the major decisions/actions that authors should take while creating a publication schedule.

- Decide the format of your paper
- Determine your journal strategy
- Ensure that you meet all the submission requirements of the target journal
- Take advantage of pre-submission inquiries

Process of publication

The authors of scientific articles are active researchers instead of journalists; typically, a graduate student or a researcher writes a paper with a professor. As such, the authors are unpaid and receive no compensation from the journal. However, their funding bodies may require them to publish in scientific journals. The paper is submitted to the journal office, where the editor considers the paper for appropriateness, potential scientific impact and novelty. If the journal's editor considers the paper appropriate, the paper is submitted

to scholarly peer review. Depending on the field, journal and paper, the paper is sent to 1–3 reviewers for evaluation before they can be granted permission to publish. Reviewers are expected to check the paper for soundness of its scientific argument, i.e. if the data collected or considered in the paper support the conclusion offered. Novelty is also key: existing work must be appropriately considered and referenced, and new results improving on the state of the art presented. Reviewers are usually unpaid and not a part of the journal staff—instead, they should be "peers", i.e. researchers in the same field as the paper in question. Writing for academic journals is a highly competitive activity, and it's important to understand that there could be several reasons behind a rejection. Furthermore, the journal peer-review process is an essential element of publication because no writer could identify and address all potential issues with a manuscript.

- Do not rush submitting your article for publication.
- Select an appropriate publication outlet.
- Read the aims and scope and author guidelines of your target journal carefully.
- Make a good first impression with your title and abstract.
- Have a professional editing firm copy-edit your manuscript, including the main text, list of references, tables and figures.
- Submit a cover letter with the manuscript.
- Address reviewer comments very carefully.

Electronic publishing

Electronic publishing is a new area of information dissemination. One definition of electronic publishing is in the context of the scientific journal. It is the presentation of scholarly scientific results in only an electronic (non-paper) form. This is from its first write-up, or creation, to its publication or dissemination. The electronic scientific journal is specifically designed to be presented on the internet. Moreover, electronic publishing of scientific journals has been accomplished without compromising the standards of the refereed, peer review process. One form is the online equivalent of the conventional paper journal. By 2006, almost all scientific journals have, while retaining their peer-review process, established electronic versions; a number have moved entirely to electronic publication. In similar manner, most academic libraries buy the electronic version, and purchase a paper copy only for the most important or most-used titles.

Predatory Journals

A predatory publishing is an opportunistic edition platform which exploit the academic publication, but offers little benefit for those using their services. Most of these publishers promise to publish your article in an open access platform. They take advantage of the business model that involves charging a publication fees without worrying to promote the long lasting results of the scientific research. In publishers called "predators" we observe a lack of academic expertise, intellectual seriousness or credibility. Their review process by the peers are fast and often false. They use aggressive practices to recruit publishers and reviewers. They

often send thousands of emails asking researchers to submit their papers for rapid publication. The lack of transparency in their operations and in their review process suggest an intention to deceive both authors and readers. These journals constantly publish already published articles(plagiarism), pseudoscience, false results, ethically questionable conclusions. In 2017, there are more than thousand potential predatory publishers on the web.

Causes and Impacts

Predatory journals are out to get you and your work. Awareness of predatory publishers and their practices is now much higher than even three years ago. It has also never been easier to identify which journals and publishers are predatory such as through Beall's list of predatory publishers (Beall 2016). As behavioral economists and evolutionary biologists would conclude: there must be reasons? Here we speculate on five (bad) reasons for so many nursing authors to ignore scholarly peer-reviewed journals and publish work in a predatory journal.

- **I do not care about my external reputation**
  Predatory journals, like most hunters, exploit the weaknesses of their prey. Academics express a rich variety of values in, but also through their work. This contributes welcome diversity to academic work and its settings. Yet, publication in peer-reviewed journals remains the most common currency of academic work and our main means to communicate with academic peers. Accordingly, jobs, progression and promotion depend heavily on the ability to continue to share research via journals. Predatory publishers particularly target inexperienced authors and researchers from poorer countries where higher education is less established (Xia et al. 2015). Such authors may assume that merely publishing will bring credibility and reputation to themselves and their employers. However, the worthiness of a publication is no longer inherent. The journal where your paper is published matters, and matters a lot. By definition, these predatory journals lack adequate peer-review procedures, do not have active editorial boards, and prioritize profit (via substantial and sometimes hidden author 'open access' fees) over quality and fit in the papers they publish (Pickler et al. 2015). As such, attaining a publication in a predatory journal is not neutral on a CV or resume but an active demerit that harms the external reputations of all those involved. It is very damaging to those seeking to establish their credibility, such as masters and doctoral students and early career researchers.To counter the risk of credible research being published in predatory journals, open discussions about publishing decisions should occur more often in academic settings. Students and/or new researchers, in particular, should develop skills and abilities around selecting optimal journals for their work. This could occur via open discussions with senior colleagues, mentors, supervisors and peers regarding the various criteria to reconcile when making decisions about where to publish particular manuscripts.

- **I do not believe in myself or my work**
  Predatory journals exploit the fears many academics have about personal failure (Clark & Sousa 2015). Frequently, through our careers, our manuscripts and grant applications are rejected. Students get negative feedback. Our research does not produce the findings we expect. Our inputs do not lead to the outputs we want for career progression. Over their careers, scholars establish and refine their sense of what they and their work should 'stand for their so-called scholarly identities (Kamler& Thomson 2006). However, in the face of ongoing failure, it feels so much like 'I' get rejected each time. With frequent

failure, this confidence and the scholar's sense of competence in research may be at risk. Faced with regular failures in response to manuscript submissions to influential journals, publishing in predatory journals provides an antidote to the unpredictability and lack of quick payoff experienced in academic publishing. It provides an important counterweight to underlying fears of failures. A healthy level of confidence is required to write and submit a credible and authoritative paper to a well-established journal.

- **Publication numbers count most**
  Predators exploit their prey's distraction. While it may be alluring for established researchers to exclaim that they had 20 publications this year, chasing ready paper acceptances (such as predatory journals provide) provides a guaranteed means to chalk up another rapid resume entry, but at what cost? Counting your publications was valid when all publications counted, but not every publication counts anymore (Clark & Thompson 2012). Academic reputation is built mostly on what is published and where it is published, not how much is published (Clark & Thompson 2012). Focusing predominantly on number of publications not only speaks to the success narratives researchers establish or seek for themselves but also what they are rewarded for in their workplaces.

- **I cannot be bothered to read**
  Predators exploit careless, apathetic or lazy practices. Predatory journals cleverly camouflage themselves by closely approximating the forms of existing credible journals via having similar titles as very well-established or -credible journals. They catch some authors unawares with this confusion. Sometimes the journals are not fully transparent about the fees involved in publishing. The journals also tap into (or possibly exploit) well-intentioned but vague enthusiasm for the open access publishing movement. In short, it is vital for authors to proceed to submission with care and diligence. Authors should ascertain the probable costs of publishing open access papers – notably article processing charges – before they make their submission. Information over the processes for applying for waivers to these charges (such as for students or the nonsalaried) should be provided on journal websites and queried with editors where appropriate or unclear. A small amount of effort prior to submission can address or avoid many problems.

- **I have given up**
  Do some academics willingly sacrifice themselves to predatory journals? Aware of the long-term harm they are doing themselves, their employer and their discipline, they continue to publish in predatory journals. This prioritizes every long resumes, places expedience before quality, and favors internal recognition from ill-informed colleagues before external national and international credibility. If nursing is to be part of true academe, publishing in predatory journals is a practice that must be challenged and questioned at every turn by everyone.

Dataset sources

There are many resources that help to recognize the predatory journals we have among others:

- The Ottawa Hospital Research Journalology Center has published an online guide to guide decisions about which newspapers to submit an article to.

- List of Predatory Journals and the List of Predatory Publishers produced by **Stop Predatory Journals**: this site introduces us to the predator journals;
- check if the journal is present in the **DOAJ** (Directory of Open Access Journals) : is an online directory organized by the community that lists and provides access to quality, open access and peer-reviewed journals. DOAJ is independent
- **Scopus**:`https://www.scopus.com/sources?zone=&origin=NO%20ORIGIN%20`: it's a web interface to analyze an article or a newspaper;
- **Web of science** :`http://ipscience.thomsonreuters.com/mjl/?utm_source=false&utm_medium=false&utm_campaign=false`
- **EBSCO**: `https://www.ebscohost.com/title-lists`
- **Library of the University of Geneva** - Predatory publishers: `https://www.unige.ch/biblio/openaccess/en/home/editors-predators/`

Feature engineering

Study of samples from Beall's list

It would have been impossible, due to the time and efforts needed to do so, for us to elaborate a new list of criteria and explore the Internet for journals fulfilling them. Instead, the work knowing as "Beall's list", resurrected by a small group of scholars and information professionals operating under the name "*Stop Predatory Journals*" was used as the starting point for data collection. Jeffrey Beall, an American librarian, has gathered lists of potentially predatory publishers and standalone journals as well as a detailed list of criteria to identify predatory Open-Access publishers. After Jeffrey Beall took down his list of predatory journals in January 2017 in order to avoid continued harassment and threats, the "*Stop Predatory Journal*" was launched anonymously rebuilding and resurrecting that list. For our study, 50 publishers and standalone journals have been retained for our study in order to identify :

- the current number of predatory journals;
- the number of articles published;
- the distribution of articles over scientific fields;
- their localization.

Two lists (publishers list of "*Stop Predatory Journals*" and journals list of "*Stop Predatory Journals*") were downloaded on 23 April 2018. At that time, the publishers included 1176 items and individual journals list 1317 items. The both of them was coupled, leading to a total number of 2493 publishers as a starting point. The next step was to take a sample of that population and collect the corresponding information for each element.

Sampling

It would have taken a lot of effort to manually collect publication volumes and other data for all journals, so the only practical solution was to make a sample of journals to generalize them. Our approach was a random sampling, with each journal having the same chance of being selected.

After that, a random number (50) of journals were chosen among the included publishers.

Data Collection

The following data were extracted for each sampled journal: registered in the Directory of Open Access Journals (DOAJ), the ISSN portal and on the website of the journal : article volumes; subjects covered and the localization.

The discipline breakdown is based on a previous study .

Results

Geographic repartition of publisher. From the 50 items of our sample, around 38 % were located in India and 12 % in the rest of Asia totaling 50 % for Asia. Also 32 % of the publishers' location were not specified: we have no or non-conclusive information about their localization. Finally, 6 % were located in United Kingdom; 4 % in Eastern Europe and 2 % in United States of America, Canada, Nigeria and Austria. A chart presenting these information can be observed at Figure 1.

Geographic repartition of articles. On a total of 12,660 articles, approximately 38 % have been published by a journal located in India, 18 % and 19 % of the volumes of publication have been published in the rest of Asia and a non-specified location respectively. Austria come with 12 %, United States 1.3 %, United Kingdom 8 %, Canada 0.4 % and Eastern Europe 1 %.

Figure 2 provide a graphical overview of the result presented above

Features to characterize a predatory journal

The fake publishers or journals generally have the following features:

1. they publish the papers without any revision or peer-revision process.
2. They have weak websites with a simple submission format.
3. Generally, they have no specific scientific scope and work in a multidisciplinary way
4. The period between submitting and publishing the papers is very short.
5. They never mention the requested fee in order to publish the papers on their sites, and notify the Authors privately in a separate letter.
6. Commonly, they publish repetitive papers or even papers from other journals.
7. They have a broad advertisement plan in the form of spam E-mails.
8. The names of such journals commonly contain grand adjectives e.g. world, international and global. To this this list we can add Beall's criteria
9. The publisher charges authors for publishing but requires transfer of copyright and retains copyright on journal content. Or the publisher requires the copyright transfer upon submission of manuscript.
10. The publisher has poorly maintained websites, including dead links, prominent misspellings and grammatical errors on the website.
11. The publisher makes unauthorized use of licensed images on their website, taken from the open web, without permission or licensing from the copyright owners.

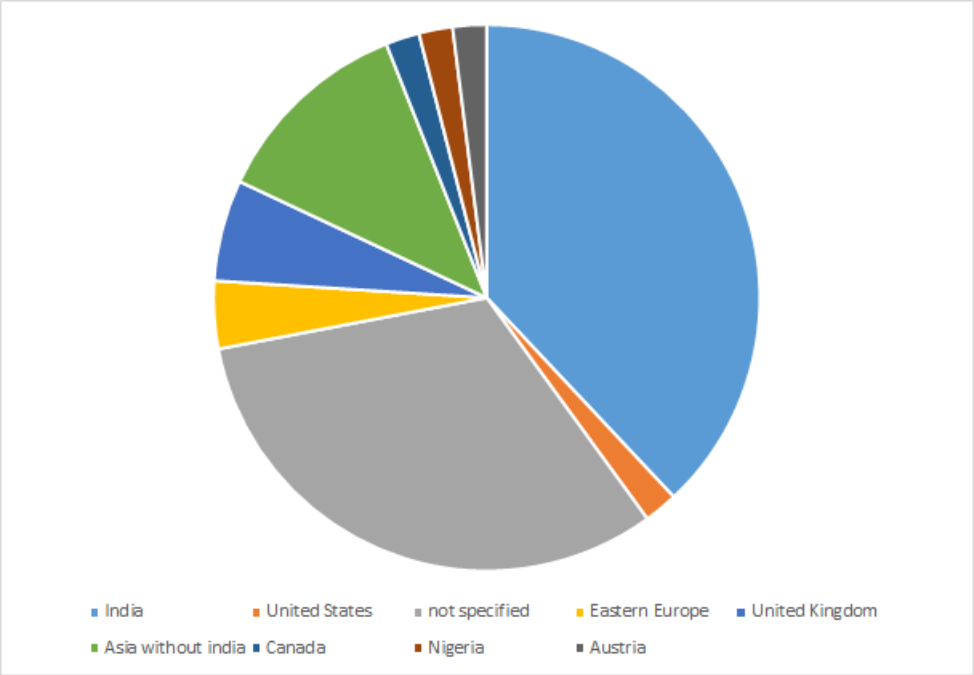

Figure 1: The distribution of publishers (n=50) by geographic regions

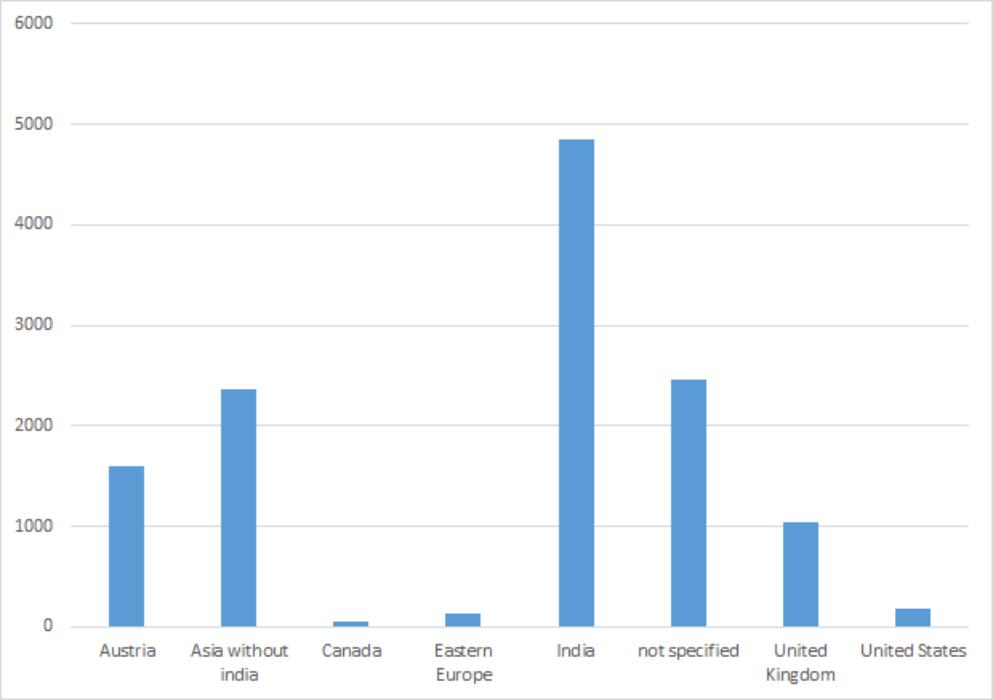

Figure 2: The distribution of articles (n=12,660) by geographic regions

How to detect a fake journal?

1. Check Beall's list of predatory publishers and logs to see if the log is on the list.
2. Search the log in an internet search engine to see if there is fraud information.
3. On the log site, verify that the complete publisher's contact information, including the address, is displayed.
4. Consult the editorial board to see if it includes experts in the field. Contact one or two of them to see if they are aware of the dashboard.
5. Check if the magazine's website is transparent about copyright fees.
6. Check the previously published documents and evaluate the quality.
7. Be wary of extremely fast submission with publication periods, such as 3 weeks.
8. Check if the journal is a member of an association such as Directory of Open Access Journals (DOAJ) or Open Access Scholarly Publishers Association.
9. Ignore spam invitations to submit your work to journals or to become a member of editorial boards.
10. If in doubt, ask a more experienced colleague to help you.

To this check list, we can add some check list from "*Think. Check. Submit.*" Initiative*

- Do you or your colleagues know the journals?
- Have you read any articles in the journal before?
- Is it easy to discover the latest papers in the journal?
- Can you easily identify and contact the publisher?
- .....

Because existing initiatives do not provide error-proof methods for determining the status of a particular journal, individuals who aim to gain a high level of assurance about a journal's status need to investigate further. WAME developed the framework illustrated in Figure 3 for such investigation. This framework begins with assessing whether the journal has any of the characteristics Beall viewed as potentially problematic, its presence in the DOAJ, and presence of "Think. Check. Submit." features, with further investigation guided by these initial indicators. Assessment remains subjective, but reviewing the journals' website and practices/policies for evidence of the "warning sign" features will help inform this judgment. The more "red flags" that are present, the more hesitant one should be to consider the journal a desirable publication venue.

Discussions

Because of the heterogeneity of predatory publishers in terms of their journal size; most publishers are relatively small with less than ten journals, but there are several publishers with large fleets of journals, then the choice made at the sampling stage of the Beall's list study seem not to be a good one, instead a stratified sampling like in Shen and Björk's work would have been more adequate for this study. Likewise, always for the study of Beall's list, the size of the sample is very small for an overview of predatory journals this is why certainly we have not been able to present the significant part of potential predatory journals located in Nigeria althought present in Beall's list.

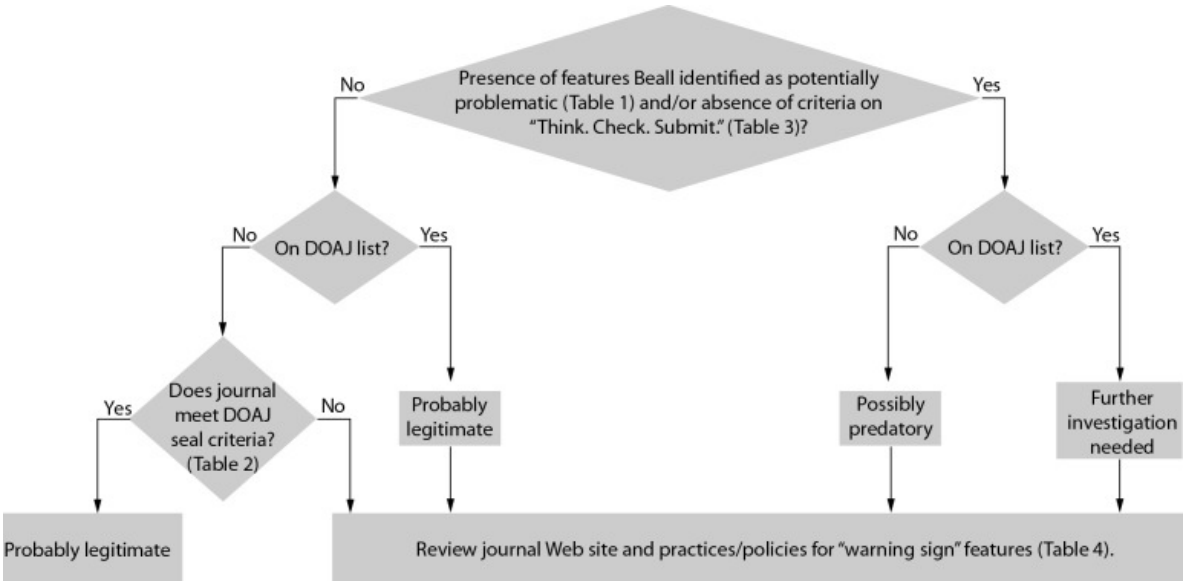

Figure 3: WAME algorithm

Conclusion and Perspectives

We have talked about investigating predatory journals by showing the methods used to guard against them and their limitations. We note that predatory journals take advantage of the model of Open Access publication. Their goal is mercenary, without seeking to promote or sustain the results of the research. They do not care about quality or scientific integrity. The articles are published in a short time without thorough control of the scientific content or practices of certain authors. These can host results already presented elsewhere (plagiarism), false results, false authors, unacceptable conclusions. To guard against these in general we can say that one must always check the quality of a magazine before submitting or revising an article, to join the editorial committee or to animate a special issue.

As a perspective, we hope that especially in Africa, conferences and seminars explaining to researchers how to recognize the predatory journals and not get trapped by them should be set up. Similarly, a study on identifying the weight that can be assigned to each criterion in Beall's list could be used to rank them by importance, which could save time in identifying predatory journals.

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