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# Challenges Facing the DOAJ (Directory of Open Access Journals) as a Reliable Source of Open Access Publishing Venuess

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# Challenges Facing the DOAJ (Directory of Open Access Journals) as a Reliable Source of Open Access Publishing Venues

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#### Abstract

Academics in the post-Jeffrey Beall era are seeking to find suitable solutions to differentiating reliable from unreliable open access (OA) journals and publishers. After the controversial, vague and unreliable Beall lists of "predatory" OA journals became defunct on 15 January 2017, two main contenders stepped forward to fill that gap: Cabell's International blacklist and a newly revised Directory of Open Access Journals (DOAJ) whitelist. Although the DOAJ has in fact existed since 2003, it is only in recent years that it has reached prominence, garnering attention after the infamous 2013 Bohannon sting in Science revealed multiple, approximately one in five, Bealllisted "predatory" OA journals and publishers on the DOAJ lists. The DOAJ conducted a massive clean-up of its lists and continues to undergo constant reevaluation of its members and journals it lists. This paper highlights some of the changes that occurred in the DOAJ, as well as several challenges that remain, highlighting why this whitelist of OA journals and publishers is still far from perfection. Academics are cautioned against relying on any one list such as that held by the DOAJ to avoid repeating the serious errors and misguided approaches that took place when global academia placed blind trust in Beall's lists.

**Keywords:** Blacklists versus whitelists, Open access, Predatory behavior, Unscholarly publishing

## Jeffrey Beall Blacklists and the DOAJ Whitelist Are Intricately Linked via the Bohannon Sting

The open access (OA) movement is in turmoil, and while there is much to celebrate, there is also much to criticize and be concerned about. Jeffrey Beall understood that elements of the public or academia were abusing the opportunities afforded by the OA movement such as the wider expansion of information freely

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to the public, seeking instead to exploit the intellect of academics to advance their personal or financial agendas. In response to this, and to document his impressions, Beall initiated a blog to raise awareness of potentially unscholarly players. For a while, the Beall blog was useful, because it allowed academics to reflect on the fact that the OA movement was not only a positive opportunity, but that risks also lurked. The turning point was when Beall's hobby transformed into an attempt to instate his lists as policy, calling for example, for such players to be banned or struck entirely from the scholarly record (Beall, 2016), thereby potentially causing harm to innocent scientists. Even though some were able to understand and appreciate the danger of the Beall blacklists and their inaccuracies (Beaubien & Eckard, 2014; Bloudoff-Indelicato, 2015; Teixeira da Silva, 2017a, 2017b, 2018), how many entities may have taken advantage of this rise in anger against a fleet of unknown or unclearly specified OA enemies to exercise their frustrations and annoyance, or as a political or marketing strategy to solidify their own publishing market?

One of the most high profile cases that employed the Beall criteria and lists to establish if OA journals in a range of publishers were "predatory" or not, was a sting by John Bohannon, published in *Science* (Bohannon, 2013)<sup>1</sup>. When Bohannon launched his sting in 2012, the DOAJ contained 8,463 journals, and 9,804 in 2013 when his paper was published (Marchitelli, Galimberti, Bollini, & Mitchell, 2017). Filtering the 304 journals that Bohannon submitted to and using Beall's lists<sup>2</sup>, some incredulous conclusions were made about a whole series of OA publishers and journals, including 167 journals listed by the DOAJ (Directory of Open Access Journals)<sup>3</sup>, and 16 journals listed by both Beall and the DOAJ, i.e., these journals were both whitelisted and blacklisted<sup>4</sup>. The main conclusion that was made was that 73 of these 167 OA journals (Van Noorden, 2014), or approximately 45% of journals listed by the DOAJ that apparently<sup>5</sup>

<sup>&</sup>lt;sup>1</sup> Bohannon (2013) cites zero references, not even Beall's. Was this paper peer reviewed?

<sup>&</sup>lt;sup>2</sup> The Bohannon sting was launched in October of 2012, but the accuracy of Beall's lists in 2012 had not yet been assessed.

<sup>&</sup>lt;sup>3</sup> https://doaj.org/

<sup>&</sup>lt;sup>4</sup> We caution readers about the following erroneous association: 1) just because a journal does not appear on a whitelist does not necessarily imply that it should appear on a blacklist, and vice versa; 2) the issue of journal quality is not a black versus white issue, there are various shades of gray in between (see, for example, Walt Crawford's 2017 Gray OA listing: https://walt.lishost.org/2017/10/cites-insights-october-2017-available-gray-oa-2014-2017/).

<sup>&</sup>lt;sup>5</sup> Bohannon has supplemented the files of all 304 submitted fake papers, as well as the emails sent to the journals, but there does not appear to be any public record of the "peer reviews" that he describes. It is unclear if any of the "peer reviewers" who "peer reviewed" any of Bohannon's fake 304 sting papers have taken credit for such on Publons (https://publons.com/home/), a peer reviewer recognition website.

completed the review process, fell for a sting operation in which fake papers with fake authors and fake affiliations were simultaneously submitted to 304 OA journals, to assess whether they would accept the paper automatically without conducting peer review. Hence, a high percentage of DOAJ journals fell for the fake papers, accepting them (Wicherts, 2016) after "discernible peer review", as Bohannon (2013) put it. However, the Bohannon sting was unsound at three levels: 1) it used a highly unethical methodology to trick journals (Teixeira da Silva & Al-Khatib, 2016); 2) it relied in part on Beall's flawed blacklists; 3) it had no control(s) (i.e., OA journal or publisher against which clearly defined scholarly quality was proven and guaranteed by independent experts)<sup>6</sup> (Wicherts, 2016). Despite this, many publishers who were negatively profiled by Bohannon's sting jumped immediately, and began taking reformative action. However, there are dangers in establishing academic reform based on stings, hoaxes and other fake operations, simply because conclusions derived from erroneous methodologies may themselves be wrong (Al-Khatib & Teixeira da Silva, 2016).

One of the groups to induce a full-scale reformation based on the conclusions of the Bohannon sting was the DOAJ, which asked all of its listed journals to reapply, implementing new questions and evaluation criteria that focused better on the transparency and quality of the editorial process (Bi, 2017; Gurov, Goncharova, & Bubyakin, 2016). However, although the DOAJ asked all journals that had been accepted into the DOAJ before March 2014 to reapply before an extended deadline which closed on 31 March 2016<sup>7</sup>, it is unclear precisely when and how verification took place, or who was responsible for reevaluating each entry, i.e., there is no transparency by the DOAJ regarding these issues, and only simple reasons for delisting are indicated, without verifiable and tangible proof, i.e., a case of blind "trust me", not unlike the problems that took place with the Beall lists, where precise criteria were not listed for each journal or publisher, and no supporting proof (Crawford, 2016), causing the public to distrust Beall's blacklists. Nonetheless, the DOAJ guaranteed that quality had been verified and that all OA journals and publishers it whitelisted had been suitably checked for, either in the form of a green tick or seal<sup>8</sup>, thereby ensuring that all DOAJ-listed OA journals and publishers were scholarly (Olijhoek, Mitchell, & Bjørnshauge, Educas

<sup>&</sup>lt;sup>6</sup> Alternatively, a totally independent control may be used in addition, i.e. non-OA journals/publishers whose quality is proven and guaranteed since academic quality is independent of whether a journal is OA or not.

<sup>&</sup>lt;sup>7</sup> https://blog.doaj.org/2016/03/30/final-call-journal-reapplications-to-doaj-close-31-march/

<sup>&</sup>lt;sup>8</sup> https://doaj.org/publishers#thetick; https://doaj.org/faq#seal; 88.97% of journals (10,395/11,683) have no seal while 67 have no tick (based on 20 June 2018 data from: https://doaj.org/faq#alldata; https://doaj.org/faq#metadata). The DOAJ updates data every 30 minutes.

2015), in contrast to Beall-listed unscholarly OA journals and publishers. In addition, given that the deadline for reapplication to the DOAJ closed on 31 March 2016, it can be argued that from that date onwards, academics trusted the DOAJ and its whitelist as a reliable source of scholarly venues to publish their work. One example is the *Journal of Educational Media & Library Sciences*<sup>9</sup>.

## The DOAJ Rebrands the "Predatory" OA Publishing Movement

The DOAJ surely observed the negative consequences of creating blacklists, like Beall's, and the devastating results that can result from relying on such lists. Marchitelli et al. (2017) noted that 367 journals were Beall-listed from the entire DOAJ list of 12,595 OA journals, i.e., a small fraction of about 3%, while 158 journals that were listed as "predatory" by Beall from a total of 3,776 journals (i.e., 4%) were delisted by the DOAJ. These numbers support Bohannon's observation that "predatory" publishers managed to exist on the DOAJ list, suggesting that both Beall's blacklists and DOAJ's whitelist were or are unreliable. Potentially an entire generation of academics may have been aided, or harmed, by Beall's lists, and their use of those lists. However, since the DOAJ reformation was based in part on the flawed Beall's blacklists, it is unclear if academics might have also been victimized by the DOAJ, i.e., relying on its whitelist as being accurate and reliable, only to learn that it was/is not. This issue still needs to be assessed.

Part of the reputational damage is related to the use of the term "predatory", which carries a highly negative connotation. For example, an academic accused of publishing in a "predatory" journal, OA or not, or whether this be a Beall-listed journal, or a Cabell's blacklisted journal, carries a heavy weight of potential professional damage, even if unsubstantiated, simply by a negative association with these blacklists. As one example, a prominent and vocal science watchdog, Leonid Schneider (Teixeira da Silva, 2016), has frequently referred to *Science and Engineering Ethics*, published by Springer Nature, as "predatory" in public, on Twitter, without providing proof for those claims<sup>10</sup>. Springer Nature is a DOAJ silver sponsor<sup>11</sup>. Most likely recognizing these risks, the DOAJ sought between 2014 and 2018 to rebrand the image of "predatory" and of blacklists, through four main actions on its whitelist: 1) purging journals including those that were stung by the Bohannon sting and conducting annual purges and constant reevaluations, creating an Excel list of journals that were delisted, including the date and very

<sup>&</sup>lt;sup>9</sup> https://doaj.org/toc/1013-090X; http://joemls.dils.tku.edu.tw/index.php?lang=en

<sup>&</sup>lt;sup>10</sup> https://twitter.com/schneiderleonid/status/874972147759943680 ("A predatory journal 'Science & Eng Ethics' @SpringerLink publishes an article about saving research from predators")

<sup>&</sup>lt;sup>11</sup> https://doaj.org/sponsors

brief reason<sup>12</sup>; 2) establishing a set of principles and quality guidelines (the Principles of Transparency and Best Practice in Scholarly Publishing)<sup>13</sup>, in close collaboration with the Committee on Publication Ethics, the Open Access Scholarly Publishers Association (OASPA) and the World Association of Medical Editors, that its listed members have to respect and abide by<sup>14</sup>; 3) the employment of regional ambassadors<sup>15</sup> to market the DOAJ locally and regionally, and to promote the lists as a reliable list of OA publishing venues, i.e., rebranding<sup>16</sup>; 4) the adoption of sponsors, many of which are large for-profit commercial publishers<sup>17</sup>.

## Contradictions, Problems and Challenges: The Road Ahead for the DOAJ

Any academic who would have selected and published in a DOAJ-listed OA journals prior to 19 March 2014, only to find that their selected OA journal or publisher had been delisted (i.e., delegitimized as a valid scholarly venue) would surely have felt anger and betrayal, not only at the journal or publisher, but also at the DOAJ for misleading them, even more so for removals after the reapplication date (31 March 2016). Similarly, there is increasing two-fold frustration by academics regarding OA journals and/or publishers that were branded as scholarly and legitimate by the DOAJ, i.e., using their supposed quality control and strict selection criteria: the first frustration is at the DOAJ for clearly failed selection criteria, leading to delisting at a later stage; the second frustration is at the OA journals or publishers that failed to reapply. Any OA journal or publisher that was branded as a legitimate publishing source but that was delisted by the DOAJ, for whatever reason, insinuates that any academic who may have published in such a venue may have selected an illegitimate scholarly venue for publication. The removal of approximately 68 OA journals between 1 March 2018 and 28 June 2018, even as 875 OA journals were added, fortifies our argument that the DOAJ whitelist is in flux and thus has a certain level of unreliability. This also suggests that the DOAJ lists have not yet stabilized, even as stricter measures of quality control are implemented, and continue, at least until June 2018, to be an unreliable source of target OA journals for academics to publish their work,

<sup>&</sup>lt;sup>12</sup> https://docs.google.com/spreadsheets/d/183mRBRqs2jOyP0qZWXN8dUd02D4vL0Mov\_ kgYF8HORM/edit#gid=0

<sup>&</sup>lt;sup>13</sup> https://doaj.org/bestpractice

<sup>&</sup>lt;sup>14</sup> https://doaj.org/publishers

<sup>&</sup>lt;sup>15</sup> https://blog.doaj.org/category/doaj-ambassadors/

<sup>&</sup>lt;sup>16</sup> http://www.allea.org/wp-content/uploads/2018/02/LBjoersnahuge\_Questionable-and-Unethical-Publishers-How-To-Sport-Them-and-Enable-Researchers-To-Avoid-Being-Trapped.pdf

<sup>17</sup> https://doaj.org/sponsors

primarily because of this flux and uncertainty. The DOAJ has yet to address this issue, which can damage its reputation as a reliable "whitelist", even though it does not wish its list to be branded as such<sup>18</sup>, if it does not offer transparent responses to valid academic concerns in the public domain. On the same page, the DOAJ prefers to use the term "questionable" rather than "predatory", possibly to distance itself from any association with Beall, claiming that "questionable publishing practices" are not limited to OA. Given this ebb and flow of listed then delisted OA journals, the DOAJ in fact has an OA Excel file which lists the date of listing and delisting and a reason for the latter, but the reason is often opaque and cannot be independently verified, suffering from the same weakness that Beall's lists suffered from, i.e., the lack of public evidence to support several of the claims, such as "Suspected editorial misconduct by publisher", or "Journal not adhering to Best practice".

The second problem relates to sponsorship. The FAQ page<sup>19</sup> indicates that the DOAJ considers itself an independent whitelist of OA journals. The DOAJ is partly transparent by declaring that it gets sponsorship, either as gold<sup>20</sup>, silver or bronze sponsors, including big for-profit publishers such as Springer Nature, Wiley-Blackwell, Taylor & Francis Group, Sage, and others<sup>21</sup>. The DOAJ 2013-2017 financial statement also reveals that 38% of estimated funding comes from its sponsors publishers and aggregators while the remaining funding comes from libraries, research funders and small publishers<sup>22</sup>. Within a three-month period, the profile of sponsor has changed considerably, including the inclusion of a gold sponsor (Table 1). The DOAJ claims that all funding is used for operations and

<sup>&</sup>lt;sup>18</sup> https://doaj.org/faq#predatory ("DOAJ prefers to use the term 'questionable' instead of predatory. We do not believe in black lists and we do not discuss details of individual publishers or journals, with the public, whether they are in DOAJ or not. We will provide advice, when asked, on improvements a journal can make to meet our own high standards.")

<sup>&</sup>lt;sup>19</sup> https://doaj.org/faq#owns "Who owns DOAJ? DOAJ is entirely independent and is managed, not owned, by Infrastructure Services for Open Access. DOAJ is not connected to, owned by, or influenced by any other organisation or business. DOAJ does receive sponsorship monies from its sponsor, many of whom are large publishers, but 100% of those monies goes towards the running and technical development of DOAJ."

<sup>&</sup>lt;sup>20</sup> A new sponsorship model was introduced by the DOAJ in January, 2018 which included a new gold category for sponsors: https://blog.doaj.org/2018/02/02/new-sponsorship-model-from-2018/

<sup>&</sup>lt;sup>21</sup> From the big 5 oligopolistic publishers, Elsevier had 346 OA journals listed and Wolters Kluwer including Wolters Kluwer Medknow Publishing has 168 OA journals listed (see footnote 24 for time of data access). These two commercial publishers are not DOAJ sponsors.

<sup>&</sup>lt;sup>22</sup> Expected expenditures for 2017 was estimated at \$346,500. For details see: https://is4oa.files. wordpress.com/2017/12/doaj-financials-2013-2014-2015-2016-and-2017-expected2.pdf; Oddly the DOAJ top-page indicates 40% at the end of June 2018 comes from sponsors and 60% from members and publisher members. See https://doaj.org/ "All funding is via donations, 40% of which comes from sponsors and 60% from members and publisher members."

the development of the DOAJ. What is missing is clear evidence that the DOAJ is not influenced by organizations and business, including these big publishers, especially their OA fleets. One way to examine a necessary, but not sufficient, condition for independence is to see if the DOAJ whitelists include journals of

Sponsors in June 2018	Website	Sponsors in March 2018
GOLD		
EBSCO	https://www.ebsco.com/	None
SILVER		
Federation of Finnish Learned Societies	https://tsv.fi/en/frontpage	
Frontiers Media S.A.	https://www.frontiersin.org/	Yes
Hindawi	https://www.hindawi.com/	Yes
National Library of Sweden	http://www.kb.se/english/	Yes
MDPI	http://www.mdpi.com/	Yes
Norwegian Centre for Research Data	http://www.nsd.uib.no/nsd/english/index.html	
OCLC	https://www.oclc.org/en/home.html	
PLOS	https://www.plos.org/	Yes
Springer Nature	https://www.springernature.com/gp/	Yes
Vetenskapradet - The Swedish Research Council		
Ministry of Higher Education and Science - Danish Agency for Science and Higher Education	https://ufm.dk/en/the-ministry/organisation/ the-ministry	1
BRONZE		
1science: Advanced Research Information Systems	https://1science.com/	
American Physical Society	https://www.aps.org/	Yes
Brill	https://brill.com/	
Chaoxing.com	https://www.chaoxing.com/	
Copernicus Publications	https://publications.copernicus.org/	Yes
Cottage Labs	https://cottagelabs.com/	
Emerald Publishing	http://www.emeraldgrouppublishing.com/	
International Standard Serial Number	http://www.issn.org/	
Lund University	https://www.lunduniversity.lu.se/	
Sage Publishing	https://us.sagepub.com/en-us/nam/home	Yes
Scielo	http://www.scielo.org/php/index.php?lang=en	Yes
Taylor & Francis Group	https://taylorandfrancis.com/	Yes
Tecnologico de Monterrey	https://tec.mx/es	
Thieme Open Access	http://open.thieme.com/	
Wiley	https://www.wiley.com/en-us	Yes

 
 Table 1 Shift in DOAJ Sponsor Profiles (March versus June 2018)\*

Source: DOAJ (2018).

\* The values that are paid in order to become a gold, silver or bronze sponsor are unclear. The value to become a member is clear (https://doaj.org/ membership), but not a sponsor. The difference in this three-month period could be due to DOAJ's delay in changing information on their website. the publishers and are DOAJ sponsors. Using DOAJ's spreadsheet<sup>23</sup>, we found 128 journals listed for EBSCO, the gold sponsor. All the silver and bronze publishing sponsors had many of their OA journals listed in the DOAJ. We conducted a small analysis of the number of journals based on sponsors listed in the spreadsheet, which included the gold sponsor, EBSCO, while the silver and bronze sponsors have changed considerably: 7 PLOS, 273 Hindawi, 175 MDPI AG, 55 Frontiers Media SA and 206 Springer Nature OA journals, all of which are silver sponsors; 300 SciELO, 80 Wiley, 126 Sage, 128 Taylor & Francis Group, 36 Copernicus Publications, and 5 American Physical Review journals, all of which are bronze sponsors. However, even as recently as March 2018, there was no gold sponsor listed on DOAJ's website, and the silver and bronze sponsors have changed considerably from being mostly commercial publishers earlier to now also including libraries and research funders as sponsors (see Table 1 for details). This change in sponsorship is a move in the right direction but the listing of major publishers as sponsors still suggests that the DOAJ may not be as independent as it claims, i.e., a direct financial conflict of interest exists, or can be perceived in the future, because it suggests that paying (i.e., sponsoring) publishers may be given preferential treatment and/or automatic indexing and listing in the DOAJ as well as difficulty of delisting journals if they do not adhere to best practices. In order to show clear evidence of independence, we recommend that the DOAJ primarily seeks sponsorship from the public sector and not from for-profit organizations. The financial sustainability funding plan seems to be a very promising path for DOAJ to take in the near future<sup>24</sup>.

#### Conclusions

A post-publication peer review of the Beall literature and of the literature that was impregnated by Beall's influence, especially the use of his blacklists to draw some rather unpalatable conclusions, is underway because those lists have had a tremendous impact on ethics, academic conduct, and scholarly choice in OA (Teixeira da Silva, 2017c). Part of that analysis involves examining the organizations that are proposing an alternative solution to Beall's "predatory" OA lists. Even though the DOAJ is trying desperately to disassociate itself from Beall and from his lists, and from the term "predatory", or blacklists and whitelists, it

<sup>&</sup>lt;sup>23</sup> https://doaj.org/faq#alldata; https://doaj.org/faq#metadata (11,701 OA journals listed on 29 June 2018). The last time the data were accessed was on 28 June 2018 at approximately 2:45 p.m. Pacific time. The exact timing is important because this metadata file is updated every 30 minutes by the DOAJ. Updating the metadata file as often as every 30 minutes supports our view of the DOAJ being in a constant state of flux and uncertainty reducing its reliability as a whitelist for scholars to find quality OA research outlets.

<sup>&</sup>lt;sup>24</sup> https://doaj.org/scoss

is a **de facto** whitelist (Berger & Cirasella, 2015) and it will never be able to fully disassociate itself from all of these facts, despite a massive rebranding campaign. This is because, very simply, reform at the DOAJ was definitely historically based on Beall's blacklists and on the Bohannon sting (as one example, MDPI<sup>25</sup>). The DOAJ has established a set of 16 criteria<sup>26</sup> to determine whether a journal should be included or excluded, but we are concerned that: 1) the criteria are insufficient and can lead to false positives or false negatives; 2) the process of selection or inclusion/exclusion is opaque, and cannot be independently verified. These two weaknesses are problematic and may diminish trust in the DOAJ whitelist.

This brief communication provides evidence that the DOAJ, while having taken large strides to clean up its list of acceptable OA publishing venues (journals and publishers), still has several flaws and weaknesses: 1) lost trust that must be regained; 2) an academic base that considers the DOAJ lists to be unreliable because the listing is in a constant state of flux, suggesting poor and/or lax quality selection criteria and/or constantly changing quality-related parameters; 3) the infusion of corporate interests via financial sponsorship and potential financial and/or academic bias. Global academia, the public and DOAJ members<sup>27</sup> and member publishers<sup>28</sup> need to be aware that there is debate at the grass-roots level about the reliability of the DOAJ as a guiding source of choice of OA publishing venue. The DOAJ would do academics a service if it provided an accurate list of journals that were considered by the DOAJ to be "valid" scholarly venues for publication for any year or month within any year, prior to being reevaluated and delisted. By doing so, academics who published in a DOAJ-listed OA journal or publisher in the past can argue, for whatever reason, that their choice of publishing venue was valid, based on the fact that it was whitelisted by the DOAJ.

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<sup>27</sup> https://doaj.org/members

<sup>&</sup>lt;sup>25</sup> https://www.universityaffairs.ca/letter-let-us-set-record-straight/

<sup>&</sup>lt;sup>26</sup> https://doaj.org/bestpractice

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