

# Beall's legacy in the battle against predatory publishers

Graham Kendall <sup>1,2</sup>



G. Kendall

<sup>1</sup>Computational Optimisation and Learning (COL) Lab, School of Computer Science, University of Nottingham, Wollaton Road, Nottingham, Nottinghamshire, NG8 1BB, UK

<sup>2</sup>University of Nottingham Malaysia Campus, Jalan Broga, Semenyih, Selangor, 43500, Malaysia

ORCID: 0000-0003-2006-5103

Email: graham.kendall@nottingham.edu.my

[Correction added on 25 February 2021 after first online publication: The second paragraph in column 1 on page 2 has been updated in this version.]

## Abstract

Between 2009 and 2012, Jeffrey Beall published four articles which analysed 18 publishers (17 of which he identified as predatory). He also introduced the term *predatory* in the context of scientific publishing. In 2012, he started Beall's List, which maintained a list of predatory publishers and journals. This became a valuable resource for those who wanted to know if a journal was legitimate, although others were very critical of the list. This article considers what he wrote and the list he developed and the criticisms that have been levelled against Beall's list. Beall's legacy can be considered to ensure that the problems of fraudulent or inappropriate publishing practices are highlighted and that the scientific community remains aware of the problem. Unfortunately, his legacy has not led to an eradication of predatory journals, and the problem appears to have become worse in the past decade. Although there is opportunity to build on his legacy, there have been few practical moves, and this article suggests that there is an opportunity for clearer, more universally accepted guidelines and approval criteria for quality journals.

**Keywords:** ethics, predatory publishing, publisher

## INTRODUCTION

Jeffrey Beall was an academic librarian at the University of Colorado who is largely credited with bringing the issue of predatory publishing to the attention of the scientific community. Over 10 years has passed since he first wrote about this subject, yet predatory publishers and journals remain a significant issue for the scientific community. Sorooshian (2017) and Memon (2018) both noted that there has been an increase in the number of predatory journals in recent years. When the issue was first raised by Eysenbach (2008), although the term predatory publishing was not used at that time, there has almost certainly been a significant increase. Many authors have provided advice and guidance on how to identify questionable journals, for example, Frandsen (2019).

In this paper, the legacy left by Beall is considered, who not only raised the issue of predatory publishing but also maintained

a website that listed predatory publishers and journals. Beall's list, as it became known, was closed down in January 2017. Although the list was not without controversy, it was a valuable resource to many, and its passing has left the scientific community without an easy way to validate if a journal is predatory or not, although other services do attempt to fill this void.

The Directory of Open Access Journals (DOAJ, <https://doaj.org>, last accessed 20 November 2020) provides a membership service for open-access journals. In the past, it inadvertently admitted predatory journals, but in 2014, many journals were removed as DOAJ members, and new journals had to apply using a revised criterion (see DOAJ, 2014). DOAJ is free for both the journals being indexed and users wishing to find out if a journal is a member of DOAJ.

The Open Access Scholarly Publishers Association (OASPA, <https://oaspa.org/>, last accessed 20 November 2020) represents

scholarly publishers and related organizations. It seeks to advance open access and preserve the integrity of scholarly publishing. OASPA is free to use for those wishing to find out if a publisher is a member of OASPA, but there is a membership fee for publishers.

DOAJ and OASPA can be viewed as providing a whitelist rather than Beall's blacklist.

Cabells (<https://www2.cabells.com/>, last accessed 20 November 2020) is a company that maintains a directory of over 11,000 qualified academic journals, spanning 18 disciplines. It also maintains a list of predatory reports, to highlight the deceptive practices that some journals employ. These used to be called white/blacklists (Bisaccio, 2018) but the terminology was changed in June 2020 in solidarity with the fight against racism. Accessing Cabells' database requires a subscription.

To provide an overview of the legacy created and left by Beall's initiative, this article first looks at Beall's initial articles, when he started to investigate "*predatory publishing*" and introduced that term. It will then look at papers published after 2013, when he turned his focus to mega-journals, and will then discuss some of his other papers. The section on Beall's list includes a discussion on some of the criticisms that have been levelled at Beall. The paper concludes with a discussion of suggested future work.

The Appendix provides what I believe is a complete list of Beall's papers in the area of predatory publishing, sorted by year for ease of reference.

## BEALL'S ANALYSIS OF PREDATORY PUBLISHERS AND JOURNALS

Others had talked about the practice of, what we now refer to as predatory publishing, as far back as 2008. For example, a blog post by Eysenbach (2008) and an article by Sanderson (2010) discussed the issue of low quality and potentially fraudulent publishing, using terms such as the "*black sheep among OA publishers*."

Four of Beall's early papers, which addressed predatory publishing, were all published in The Charleston Advisor. Each of these papers highlighted, and analysed, a number of publishers. Of the 18 publishers analysed, all but one was categorized as predatory.

Beall's first paper (Beall, 2009) highlighted one publisher (Bentham Open) and reported some of its practices, such as membership fees, article processing charges, how the website was indexed and the ability to search it. Particular points that were drawn out included the number of journals that Bentham Open published (236), the quality of the articles (Beall was not complimentary as the papers that had been published appeared to be papers that would be unlikely to be accepted in other, more high-quality journals) and the journal impact factors (there were not any as the journals were less than 3 years old). The conclusion of the article says:

*"Bentham Open's emergence into scholarly publishing in 2007 has served mainly as a venue to publish research of questionable*

### Key points

- Beall's list, removed in 2017, remains a key resource and reference for the identification of predatory journals, although the list is increasingly out of date, and its maintenance is not secure.
- The term predatory, introduced by Jeffrey Beall in 2010, remains the key descriptor for substandard journals, although the term is also widely criticized.
- The legacy of Beall has not been built upon, and initiatives to identify quality and/or predatory journals in a robust way is still an open issue

*quality. The site has exploited the Open Access model for its own financial motives and flooded scholarly communication with a flurry of low quality and questionable research."*

His next article appeared in April 2010 (Beall, 2010a). This was the first time that Beall used the term "*predatory*" in a scientific article. It analysed a further nine publishers. The fees charged by the publishers ranged from \$99.95 to \$1,699, although there were different pricing mechanisms, so it is difficult to compare in a consistent way across all nine publishers. Four of the nine publishers did not provide their publication fees. Each publisher was evaluated against four categories (Content, User Interface/Searchability, Pricing and Contract Options).

Beall published another paper in 2010 (Beall, 2010b), which looked at another three predatory publishers.

In Beall, 2012c, he looked at another five publishers. Beall identified four of these as predatory publishers and one (AOSIS Open Journals) as legitimate.

These four articles Beall, 2009, 2010a, 2010b, 2012c named 18 publishers which, at that time, published 1,328 journals (1,312 excluding AOSIS Open Journals). The publishers and the number of journals they published are summarized in Table 1.

In 2013, Beall published a fifth, and final, paper in The Charleston Advisor (Beall, 2013g). Rather than investigating publishers, this paper focused on specific journals (*British Journal of Science, International Journal of Current Research, International Journal of Science and Advanced Technology, International Journal of Sciences and World Journal of Science and Technology*). According to Beall, these journals did not operate under the sponsorship of a publisher; they were stand-alone journals with a broad scope, little peer review and an apparent policy of accepting as many papers as possible.

The analysis included several aspects that are considered an indicator of potentially fraudulent behaviour today—for example, misleading addresses, not being truthful about the country from which the journal operates, web pages offering little detail, editorial boards that appear to be contrived, misleading (if not false) information about impact factors, poor grammar and assigning copyright to the journal even though the authors are paying to publish.

**TABLE 1** Publishers analysed by four of Beall's early papers

Paper and publisher(s)	Predatory <sup>a</sup>	Number of Journals
Beall (2009)		
Bentham Open	Yes	236
Beall (2010a)		
Academic Journals	Yes	106
Academic Journals, Inc.	Yes	53
ANSINetwork	Yes	31
Dove Press	Yes	76
Insight Knowledge	Yes	15
Knowledgia Review	Yes	20
Libertas Academia	Yes	80
Science Publications	Yes	28
Scientific Journals International	Yes	72
Beall (2010b)		
Medwell	Yes	35
International Research Journals	Yes	10
OMICS Publishing Group	Yes	68
Beall (2012c)		
Academy Publish	Yes	4
AOSIS Open Journals	No	16
BioInfo	Yes	300
Science Domain International	Yes	19
Scientific Research Publishing	Yes	159
Total		1,328

<sup>a</sup> As categorized by Beall.

## Other publications

Between 2009 and 2018, Beall published 40 articles which addressed predatory publishing. Many of these publications were short reviews, possibly invited, that warned against the dangers that predatory publishing presents (e.g. Beall, 2012b); some outlined specific problems of the open-access model (e.g. Beall, 2012a, 2013b, 2013c, 2013f, 2014d, 2015e, 2013h); some were published in discipline-specific journals (e.g. Beall, 2014c, 2015a, 2015b, 2016b, 2016c, 2016e, 2016f, 2017b; Beninger et al., 2016); and some extended the discussion beyond just predatory publishing to areas such as metrics (Beall, 2015b) and the lack of an Editor-in-Chief (Beall, 2013d).

A complete list of Beall's publications is shown in the Appendix.

**TABLE 2** Number of publishers and stand-alone journals on Beall's list, as reported in his 2017 blog update (<https://scholarlyoa.com/bealls-list-of-predatory-publishers-2017>)

Year	Number of publishers	Number of (stand-alone) journals
2011	18	—
2012	23	—
2013	225	126
2014	477	303
2015	693	507
2016	923	882
2017	1,155	1,294

## BEALL'S LIST

### Establishment and archive

In 2010, Beall set up his first blog, which contained fewer than 20 publishers. This list was largely ignored (Beall, 2013h).

In 2012, he moved his blog to a WordPress platform calling it “*Scholarly Open Access*,” but it is more usually referred to as “*Beall's List*.” The blog contained a “*Watchlist*,” but inclusion on the watchlist was perceived as the same as being as on the main list (Beall, 2017c). At the time the list was taken down, in January 2017, it contained 1,163 publishers and 1,310 stand-alone journals. These figures are from Beallslist.net (<https://beallslist.net/>, last accessed 20 November 2020), which is an archived version of Beall's list. This archived version is still being updated, including notes about the original entries, but I do not know who is maintaining the site. New entries are also being added, and at the time of writing (20 November 2020), 152 publishers and 189 stand-alone journals had been added since the original list was taken down.

When Beall took his list offline, it was archived in a number of forms. Beallslist.net has already been mentioned. The location of the original list appears to have been taken over by Stef Brezgov (<https://scholarlyoa.com/publishers/>, last accessed 20 November 2020). There is also an archive of Beall's annual analysis, reporting the number of publishers and stand-alone journals (<https://scholarlyoa.com/bealls-list-of-predatory-publishers-nnnn/>, last accessed 20 November 2020. Replace *nnnn* with 2015, 2016 or 2017 to view that year). The statistics presented from his 2017 analysis are shown in Table 2. Brezgov has also archived some of Beall's blog posts. For example, an August 2012 blog article is available where Beall describes his criteria for identifying a predatory journal (<https://scholarlyoa.com/criteria-for-determining-predatory-open-access-publishers>, last accessed 20 November 2020).

In addition to archiving Beall's list and blog posts, Brezgov also appears to be updating the list of publishers (<https://scholarlyoa.com/publishers/>, last accessed 20 November 2020) and stand-alone journals (<https://scholarlyoa.com/list-of-standalone-journals/>, last

accessed 20 November 2020). These two web pages were marked as last being updated on 27 May 2019, so their updates and maintenance may not now be continuing.

## List closure

Beall closed down his list, with no warning, on 15 January 2017. This was reported by Andrew Silver on 17 January (Silver, 2017). There has been much speculation as to why it suddenly disappeared. In his 2017 paper (published 15 June 2017), Beall (2017c) gave the reason for removing the content of his blog as being in fear of losing his job due to the intense pressure he was facing from his employer. Over the 5 years that he published his blog, many universities recommended the list as a way of identifying journals that their scholars should not submit to. This led to a backlash from publishers who used various methods to get themselves removed from the list. Over time, these pressures became more and more intense. Their methods included writing to Beall explaining why their journals should not be on the list, and they also wrote to selected individuals (including the Chancellor) at the university that employed him making accusations about his ethics and his judgement. Beall also says that he was attacked by his peers (other academic librarians).

Others have also reported why the list was closed. Basken (2017) presents a number of thoughts, including peer pressure, a Swiss publisher that Beall added to his list (see Schneider, 2017) and his own university being fatigued by constant complaints.

## Criticisms of Beall's list

There are a number of papers that are critical of the approach Beall took. Some of the most insightful, and which cover issues reported by a number of researchers, are Butler (2013), Crawford (2014), Teixeira da Silva (2017, 2019) and Kimotho (2019).

Kimotho (2019) surveyed 30 peer reviewed papers that were critical of Beall. Four major themes were identified.

1. *Methodological flaws*: Five areas were highlighted: (a) dubious basis for enlisting, (b) lack of transparency, (c) personal opinion and being highly subjective, (d) lack of criteria for individual entries and (e) casting suspicion on start-up publishers. Kimotho discusses each of these areas in some depth, supported by references to where the criticism was made.
2. *Beall's bias against open access*: A recurring criticism against Beall was that he tended to focus on open-access journals, with the move towards open access being the catalyst for predatory journals. Crawford (2014) has also spoken at some length on this issue but also notes that "*Beall seemed to be at least potentially positive about open access.*" Crawford has also referred to a blog post of Beall's (from 25 January 2012) which I was unable to locate, but from my reading of Crawford (2014), it says that an Elsevier journal (*Medical Hypothesis*) allowed those that deny the link between human immunodeficiency virus and acquired immune deficiency syndrome to publish without going

through peer review. This lack of peer review in a journal from a highly regarded publisher eventually led to the removal of the editor. This issue was reported in the *THE* (Corbyn, 2010) on 7 April 2010 and was responded to in a blog post by the editor on 11 May 2010 (Charlton, 2010). This case has been used as an example that poor editorial practices are not just confined to predatory journals.

3. *Discriminating against developing economies*: It is felt that publishers from developing countries and emerging economies are in danger of being unfairly treated by being added to Beall's list. India, China and Nigeria were specifically mentioned. Beall has been reported (Butler, 2013) as saying "*Look, when I discover a new publisher from Nigeria, I admit I am more suspicious than I would be were the publisher from, for example, the Vatican.*" Other researchers have reported that dubious and fraudulent journals are based in countries such as India "*where new predatory publishers or journals emerge each week,*" and publishers based in Pakistan and Nigeria often claim to be based in the United Kingdom or the United States (Memon, 2018).
4. *Beall's list being prejudicial against academic freedom*: Kimotho suggested that the use of the term "*predatory*" is a "*loaded and pejorative term,*" which is a threat to academic freedom. Teixeira da Silva (2017) posited that adhering to Beall's list reduced academic freedom, adding that "*since Beall's blog was officially shut down, the lists are now dysfunctional and should not be used.*"

Another issue that is often raised is that it is Beall himself who made the decision whether to include a publisher/journal on his list. This is exemplified in 2015 when *Frontiers* was added to Beall's list, which caused a debate on social media, with one of the Associate Editors of *Frontiers* remarking "*Frontiers being added to Beall's list reveals the big weakness of Beall's list: It's not based on solid data but on Beall's intuition.*" The editor added "*Having a single influential individual cast doubt on such a huge journal feels very unfair*" (Bloudoff-Indelicato, 2015). It has been argued that this case ultimately led to the list being closed down (Schneider, 2017).

A further issue around Beall's list is one of reputational damage. Having an article published in a journal on Beall's list can damage the reputation of scholars. This is especially unfair if the journal was added after an article has been published in good faith. An author could publish in what they believed (and may very well be) a legitimate journal. If Beall later decided (correctly or not) that the journal was predatory and it was added to his list, the author that had published in that journal could find that his peers, promotion panels, selection panels for vacancies, those looking for keynote speakers etc. could view his CV (Curriculum Vitae) in a negative way. It would have been useful if the date was provided when a journal was added to Beall's list to indicate whether an author could have been aware of the status of the journal at the time of submission and publication.

The same *Frontiers'* Associate Editor quoted previously said "*It could be, the articles people have published in Frontiers are no longer judged based on their own quality, but now seen as less valuable because Frontiers is on Beall's list*" (Bloudoff-Indelicato, 2015).

Others questioned the way that Beall acted. For example, Teixeira da Silva (2019) questioned the ethics of Beall in remaining silent about why he closed down his list and not offering an apology to those affected and also for leaving a vacuum for those that used the list to advise and/or make decisions and for still talking about his blog even after taking it down.

## Objectivity

It is interesting to note that one of the papers cited in Kimotho (2019) is Fiebert (2014), saying that “*Indeed, Fiebert suggested that Beall’s lists should be ignored altogether* (Fiebert, 2014).” In fact, if you look at Fiebert (2014), that paper actually quotes Crawford (2014), but that is not the point I want to make. The URL (Uniform Resource Locator) for Fiebert (2014) is hosted at [www.longdom.org](http://www.longdom.org). Looking at [beallist.net](http://beallist.net) and searching for Longdom shows that this publisher was added to Beall’s list *after* Beall had stopped updating it. It is marked as being updated on 18 November 2020. Looking at the paper itself, it was published by the Global Institute for Research & Education (in the journal *Global Journal of Interdisciplinary Social Sciences*). Searching for this publisher on the same website (replacing “&” with “and”) shows that it was on Beall’s original list. I do not wish to comment on the validity of Fiebert (2014), the journal and the publisher or express any views, but this does demonstrate the difficulty of knowing with certainty that what you are reading is a valid, peer reviewed article that can be relied upon.

As Beall (2018b) and Kimotho (2019) both suggested, there is a need for a new model. Perhaps this will provide more external oversight of open-access publishers/journals and support organizations such as DOAJ (Directory of Open Access Journals), COPE (Committee on Publication Ethics) and OASPA (Open Access Scholarly Publishing Association). Perhaps there is also a need for more oversight of non-open-access publishers. It may also be useful if reporting is more robust rather than using informal outlets such as blog posts, anonymous comments and grey literature, which is difficult to track down at a later date since it is not part of the scientific archive.

Finally, on the subject of objectivity, in this article, I have tried to be neutral in my reporting of both the positive and negative points of Beall’s list. I have attempted not to “cherry pick” comments that support one side of the argument against the other and to present a balanced view. I appreciate that there are strong views on Beall’s list and arguments both in favour and against its assertions.

## DISCUSSION

Regardless of whether people endorse or criticize Beall’s work, it must be recognized that it has been the catalyst for many other studies, research and comment.

For example, Dadkhah and Bianciardi (2016) drew on the Beall’s concept of criteria to identify predatory journals. Dadkhah and Bianciardi define 14 criteria, which are spread across four major groups. Each criterion has a number of attributes, with each

one being assigned a weight which can take values of 0, 1 or 2. The values are used to derive a *Predatory Rate*, which can be used to make a judgement about the journal. This methodology has subsequently been criticized by Eriksson and Helgesson (2018), arguing that the approach makes it difficult to decide if the predatory rate is a measure of quality or whether it can actually be used to determine if the journal is predatory.

The discussions have revealed that it is extremely difficult to come up with a way to identify a predatory journal with absolute certainty, especially if you are striving to get broad agreement from the scientific community. Many have provided suggestions (e.g. Frandsen, 2019), but it remains an open challenge. However, unless the community is able to agree, it is difficult to see how this pernicious practice will be eliminated, which is undermining the scientific process and infecting the scientific archive with papers that have not been subject to high levels of peer review.

In the meantime, predatory publishers/journals continue to operate, with new ones being established, without being called to account. There are a number of ways that this could be addressed, but it needs positive action from our community rather than just ignoring it or hoping that somebody else will deal with it. For example:

1. An international organization could be formed to maintain a register of every scientific publisher/journal. Before admission, various checks are undertaken, and the database is made freely accessible so that authors and others can quickly establish the legitimacy of a journal. Organizations such as DOAJ (Directory of Open Access Journals), Cabell’s, COPE (Committee on Publication Ethics) and OASPA (Open Access Scholarly Publishing Association) already provide some of this functionality, but they do not cover every journal/publisher, and it is not mandatory to register with them.
2. The scientific community could be much more open to publishing case studies, supported by evidence, that look at journals and publishers. The community does not appear to want to do this at the moment. I have recently submitted a paper that drew out, supported by strong evidence, the faults that I could see with an academic publisher. I have tried to publish this study in a number of journals but have yet to get the paper even sent out for review. The typical reaction is “*We do not publish this type of expose.*” Whilst I respect the journals’ decisions, and it is understandable that individual publishers will not want to risk potential litigation, this relegates such reporting back to the informal channels or buries such reports, which is not helpful to the scientific community.

Perhaps there is room for a new journal that publishes these type of expose articles, also giving the right of reply to the publisher/author before the paper is published.

A good example of the failing of the current system is the OMICS court case (see <https://www.ftc.gov/enforcement/cases-proceedings/152-3113/federal-trade-commission-v-omics-group-inc>, last accessed 20 November 2020). The case summary says

*“In April 2019, the FTC announced that a federal district court judge ordered Srinubabu Gedela and his companies to pay more than \$50.1 million to resolve FTC charges that they made deceptive claims about the nature of their conferences and publications, and hid steep publication fees.”* To my knowledge, this fine has not been paid, and the OMICS group continues to operate with impunity. If the U.S. judiciary system is unable to stop a publisher acting in this way, what hope is there for the rest of us?

Callaghan and Nicholson (2020) reviewed the scientific literature on predatory publishing and predatory journals. Among the issues they raised was that over half (55.84%) of the predatory journals sampled had names similar to existing journals, and 52.38% named a country in the journal's title that was different to the country in the journal's contact information. Most (36%) predatory publishers were based in India, 25% were in the United States, and 25% did not have a verifiable address. In many other aspects of our lives, and certainly when publishing the results of our research, we come under close scrutiny, but there appears to be a backdoor that enables unscrupulous publishers to operate without anybody being able to call them to account, question their practices and take action if necessary. Most other sectors would not tolerate this.

It is unrealistic to expect authors to navigate through these issues, and many more, when deciding where to submit their research. They want, and deserve, one “go-to” place, which tells them whether a journal is legitimate or not. The peer review system is supposed to validate the research that is published, yet the scientific community does not oversee who is allowed to peer review and publish research results, with the consequence that anything (literally) can be published, and the unwary reader might suppose that it is valid, peer reviewed science.

## CONCLUSION

The legacy of Jeffrey Beal, in my view, is three-fold. Firstly, he introduced the scholarly community to the term “*predatory publishing*” and became the leading voice in bringing this practice to the attention of researchers and librarians. Secondly, probably his most significant contribution was the development of Beall's list, which became an invaluable resource for many stakeholders; not only researchers and librarians, but it was also of interest to those that appeared on the list which demonstrated the impact it was having and, perhaps, led to its withdrawal in January 2017. Thirdly, Beall raised concerns in other areas such as impact factors, the fact that the tradition of having an Editor-in-Chief is missing in some journals (leading to the question of who is making the accept/reject decisions) and the fact that some journals make it difficult to reject a paper, and Beall also questioned the robustness of the peer review process in questionable journals.

Beall published widely in the area of predatory publishing, which drew criticism, some of which, in my view, is too personal, not supported with evidence, is anonymous and attacks the person rather than the ideas (see, e.g. <https://scholarlyoa.net/>, last accessed 20 November 2020). There is some peer reviewed

criticism, for example, Teixeira da Sliva, 2019 which, in my view, is how these issues should be approached.

Jeffrey Beall has done a great service to the community by highlighting the practice of predatory publishing. More than 10 years have passed since he first wrote about the subject, yet it is still with us and, if anything, is growing rather than receding. Beall's legacy will be in raising this issue. It is up to all of us to ensure that his legacy is the catalyst for change before it is too late.

## FUTURE WORK

In Beall (2010a), the journal editor noted *“Since so many publishers are covered in this single article, it is necessary to keep the profiling for each publisher to a reasonable length. However, we believe that seeing such an overview in a single article is very useful.”* I would support that view—that analysing publishers/journals in peer reviewed articles is valuable. I would encourage publishers and journal editors to be open to these type of reviews.

One of the criticisms levelled at Beall was that he operated alone, and the classification of a journal/publisher was his decision alone. If any classification, or the methodology to classify, is subject to peer review, this would provide oversight of the process and the eventual classifications. It would be useful for the scientific community to agree on what constitutes a predatory journal and, perhaps more importantly, what action can be taken against predatory journals.

In four of his first articles, Beall named 18 publishers, which published 1,328 journals. It would be interesting to look at these publishers again. Are they still publishing, how many journals do they now publish, and have they transitioned from a predatory publisher into a more legitimate publisher? Given that the publishers would now have been publishing for more than 10 years, it would be beneficial to reflect on their track record, the quality of their articles and the impact they are having.

Beall's list offered a free service to scholars who wanted to check whether a journal was predatory or not. When the website was taken down in January 2017, the scientific community lost a valuable resource. Others have emerged, such as the Cabell's service, but as this is a subscription-based service, it is not available to all. It would be useful to be able to just ask if a journal could be predatory or not. If there are any doubts, there are usually many other journals that can be approached, so why take the risk? Just move onto the next one. I recognize that maintaining such a database is a significant undertaking, especially if it is freely available, but it would be a valuable resource for the community.

There have been several criticisms against Beall's list, for example, that he focused on gold open access in the context of predatory publishers. Others have argued that predatory publishers are not the sole preserve of gold open access. It would be an interesting study to look at predatory publishers/journals that do not operate under a gold open-access model and how their business model operates.

There have been many papers that have given advice on predatory practices and how predatory journals can be avoided. It would be useful if the scientific community came up with a standard way of gauging a journal that provided a binary decision (i.e. yes, the journal is definitely predatory or definitely not). If such a clear-cut answer is not possible, then a value between 0 and 1 could be returned where 0 means that the journal is not predatory and 1 means that it definitely is. The higher the number, the more caution should be expressed by the author in making a decision where they will submit to.

I believe that many governments have drawn up their own white/blacklists, which define which journals their academics should (or should not) be targeting. Many draw on widely recognized lists such as those journals that are listed in Scopus, Clarivate (i.e. ISI) or the Australian Business Deans Council (ADBC) list. But these only define what they consider high-quality journals. There is no one list that contains all legitimate journals, regardless of perceived quality. If this whitelist could be drawn up, then it would be easy for governments and other stakeholders to specify that only journals on that list will be recognized. No doubt there would be pushback if journals did not appear on the list, but in my view, it would be better for journals to be excluded rather than the situation we have today where anybody can set up a scientific journal, start to seek submissions and for those articles which are accepted to be seen as part of the scientific archive.

## REFERENCES

- Basken, P. (2017). Why Beall's blacklist of predatory journals died. *University World News*, September 22, 2017. Retrieved from <https://www.universityworldnews.com/post.php?story=20170920150122306>
- Beall, J. (2009). Bentham open. *The Charleston Advisor*, 11(1), 29–32 Retrieved from <https://charleston.publisher.ingentaconnect.com/contentone/charleston/chadv/2009/00000011/00000001/art00008>
- Beall, J. (2010a). "Predatory" open-access scholarly publishers. *The Charleston Advisor*, 11(4), 10–17 Retrieved from <https://www.ingentaconnect.com/contentone/charleston/chadv/2010/00000011/00000004/art00005>
- Beall, J. (2010b). Update: Predatory open-access scholarly publishers. *The Charleston Advisor*, 12(1), 50. <https://doi.org/10.5260/chara.12.1.50>
- Beall, J. (2012a). Predatory publishers are corrupting open access. *Nature*, 489(7415), 179. <https://doi.org/10.1038/489179a>
- Beall, J. (2012b). Predatory publishing: Overzealous open-access advocates are creating an exploitative environment, threatening the credibility of scholarly publishing. *Scientist*, 26(8) Retrieved from <https://www.the-scientist.com/critic-at-large/predatory-publishing-40671>
- Beall, J. (2012c). Five scholarly open access publishers. *The Charleston Advisor*, 13(4), 5–10. <https://doi.org/10.5260/chara.13.4.5>
- Beall, J. (2013a). Scholarly publishing free for all. *College Quarterly*, 16 (2) Retrieved from <http://collegequarterly.ca/2013-vol16-num02-spring/beall.html>
- Beall, J. (2013b). Avoiding the peril of publishing qualitative scholarship in predatory journals. *Journal of Ethnographic & Qualitative Research*, 8(1), 1–12.
- Beall, J. (2013c). The open-access movement is not really about open access. *TripleC*, 11(2), 589–597. <https://doi.org/10.31269/triplec.v11i2.525>
- Beall, J. (2013d). Predatory publishers threaten to erode scholarly communication. *Science Editor*, 36(1), 20–22 Retrieved from <https://www.csescienceeditor.org/article/predatory-publishers-threaten-to-erode-scholarly-communication/>
- Beall, J. (2013e). Predatory publishing is just one of the consequences of gold open access. *Learned Publishing*, 26(2), 79–84. <https://doi.org/10.1087/20130203>
- Beall, J. (2013f). Unethical practices in scholarly, open-access publishing. *Journal of Information Ethics*, 22(1), 11–20. <https://doi.org/10.3172/JIE.22.1.11>
- Beall, J. (2013g). Five predatory mega-journals: A review. *The Charleston Advisor*, 14(4), 20–25. <https://doi.org/10.5260/chara.14.4.20>
- Beall, J. (2013h). Medical publishing triage - chronicling predatory open access publishers. *Annals of Medicine and Surgery*, 2(2), 47–49. [https://doi.org/10.1016/S2049-0801\(13\)70035-9](https://doi.org/10.1016/S2049-0801(13)70035-9)
- Beall, J. (2014a). Corrupt and questionable practices in the scholarly publishing industry. *Editorial Office News*, 7(10), 10–13 Retrieved from [https://cdn.ymaws.com/ismte.site-ym.com/resource/resmgr/EON/Nov\\_2014.pdf](https://cdn.ymaws.com/ismte.site-ym.com/resource/resmgr/EON/Nov_2014.pdf)
- Beall, J. (2014b). Don't let predatory publishers get you down. *AEJMC News: The Newsletter of the Association for Education in Journalism and Mass Communication*, 47(4), 12–14 Retrieved from <https://issuu.com/aejmcnews/docs/july2014issue>
- Beall, J. (2014c). Scholarly open-access publishing and the problem of predatory publishers. *Journal of Biological Physics and Chemistry*, 14(1/2), 22–24. <https://doi.org/10.4024/O2BE14F.jbpc.14.01>
- Beall, J. (2014d). Unintended consequences: The rise of predatory publishers and the future of scholarly publishing. *Editorial Office News*, 7(1), 4–6 Retrieved from <https://ismte.site-ym.com/resource/resmgr/eon/february2014.pdf>
- Beall, J. (2015a). Behind the spam: A spectral analysis of predatory publishers. *Proceedings of the International Astronomical Union*, 11 (A29A), 166–171. <https://doi.org/10.1017/S1743921316002684>
- Beall, J. (2015b). The "metric" system: Yet more chaos in scholarly publishing. *The Journal of Physical Chemistry Letters*, 6(11), 2020–2021. <https://doi.org/10.1021/acs.jpclett.5b00910> 2626 6495.
- Beall, J. (2015c). Predatory journals and the breakdown of research cultures. *Information Development*, 31(5), 473–476. <https://doi.org/10.1177/0266666915601421>
- Beall, J. (2015d). Response to "beyond Beall's list". *College & Research Libraries News*, 76(6), 340–341. <https://doi.org/10.5860/crln.76.6.9334>
- Beall, J. (2015e). What the open-access movement doesn't want you to know. Retrieved from <https://www.aaup.org/article/what-open-access-movement-doesn%E2%80%99t-want-you-know>
- Beall, J. (2016a). Ban predators from the scientific record. *Nature*, 534 (7607), 326. <https://doi.org/10.1038/534326a>
- Beall, J. (2016b). Best practices for scholarly authors in the age of predatory journals. *Annals of the Royal College of Surgeons of England*, 98(2), 77–79. <https://doi.org/10.1308/rcsann.2016.0056>
- Beall, J. (2016c). Dangerous predatory publishers threaten medical research. *Journal of Korean Medical Science*, 31(10), 1511–1513. <https://doi.org/10.3346/jkms.2016.31.10.1511>

- Beall, J. (2016d). Essential information about predatory publishers and journals. *International Higher Education*, 86, 2–3. <https://doi.org/10.6017/ihe.2016.86.9358>
- Beall, J. (2016e). Medical publishing and the threat of predatory journals. *International Journal of Women's Dermatology*, 2(4), 115–116. <https://doi.org/10.1016/j.ijwd.2016.08.002>
- Beall, J. (2016f). Pharmacy research and predatory journals: Authors beware. *American Journal of Health-System Pharmacy*, 73(19), 1548–1550. <https://doi.org/10.2146/ajhp160150>
- Beall, J. (2017a). Predatory journals, peer review, and education research. *New Horizons in Adult Education & Human Resource Development*, 29(1), 54–58. <https://doi.org/10.1002/nha3.20173>
- Beall, J. (2017b). Predatory journals threaten the quality of published medical research. *Journal of Orthopaedic and Sports Physical Therapy*, 47(1), 3–5. <https://doi.org/10.2519/jospt.2017.0601>
- Beall, J. (2017c). What I learned from predatory publishers. *Biochemia Medica*, 27(2), 273–278. <https://doi.org/10.11613/BM.2017.029>
- Beall, J. (2018a). Scientific soundness and the problem of predatory journals. *Pseudoscience: The Conspiracy Against Science*, 183–300. <https://doi.org/10.7551/mitpress/10747.003.0018>
- Beall, J. (2018b). Predatory journals exploit structural weaknesses in scholarly publishing. *4open*, 1, 1–2. <https://doi.org/10.1051/4open/2018001>
- Beall, J., & DuBois, M. (2016). Scholars beware. *Monitor on Psychology*, 47(4), 42.
- Beninger, P. G., Beall, J., & Shumway, S. E. (2016). Debasing the currency of science: The growing menace of predatory open access journals. *Journal of Shellfish Research*, 35(1), 1–5. <https://doi.org/10.2983/035.035.0101>
- Bisaccio, M. (2018). Cabells' journal whitelist and blacklist: Intelligent data for informed journal evaluations. *Learned Publishing*, 31(3), 243–248. <https://doi.org/10.1002/leap.1164>
- Bloudoff-Indelicato, M. (2015). Backlash after frontiers journals added to list of questionable publishers. *Nature*, 526(7278), 613. <https://doi.org/10.1038/526613f>
- Butler, D. (2013). The dark side of publishing. *Nature*, 495, 433–435. <https://doi.org/10.1038/495433a>
- Callaghan, C. W., & Nicholson, D. R. (2020). Predatory publishing and predatory journals: A critical review and proposed research agenda for higher education. *Journal of Further and Higher Education*, 44(10), 1433–1449. <https://doi.org/10.1080/0309877X.2019.1695762>
- Charlton, B. (May 11, 2010). RIP medical hypotheses. Blog post. Retrieved from <http://medicalhypotheses.blogspot.com/2010/05/rip-medical-hypotheses.html> (Permanent link: <https://web.archive.org/web/20210104152322/http://medicalhypotheses.blogspot.com/2010/05/rip-medical-hypotheses.html>)
- Corbyn, Z. (April 7, 2010). Editor digs in over Medical Hypotheses reform. Times Higher Education blog post. Retrieved from <https://www.timeshighereducation.com/news/editor-digs-in-over-medical-hypotheses-reform/411168.article> (Permanent link: <https://web.archive.org/web/20210104152757/https://www.timeshighereducation.com/news/editor-digs-in-over-medical-hypotheses-reform/411168.article>)
- Crawford, W. (2014). Ethics and access 1: The sad case of Jeffrey Beall. *Cites & Insights*, 14(4), 1–14 Retrieved from <https://citesandinsights.info/civ14i4.pdf>
- Dadkhah, M., & Bianciardi, G. (2016). Ranking predatory journals: Solve the problem instead of removing it. *Advanced Pharmaceutical Bulletin*, 6(1), 1–4. <https://doi.org/10.15171/apb.2016.001>
- DOAJ (May 22, 2014). DOAJ publishes lists of journals removed and added. Web log post. Retrieved from <https://blog.doaj.org/2014/05/22/doaj-publishes-lists-of-journals-removed-and-added/>
- Eriksson, S., & Helgesson, G. (2018). Time to stop talking about 'predatory journals'. *Learned Publishing*, 32, 181–183. <https://doi.org/10.1002/leap.1135>
- Eysenbach, G. (2008). Black sheep among open access journals and publishers: Gunther eysenbach random research rants blog. Retrieved from <http://gunther-eysenbach.blogspot.ca/2008/03/black-sheep-among-open-access-journals.html>
- Fiebert, M. S. (2014). A look at open access publication and Beall's list of "predatory" journals. *Global Journal of Interdisciplinary Social Sciences*, 3(4), 5–6 Retrieved from <https://www.longdom.org/articles/a-look-at-open-access-publication-and-bealls-list-of-predatory-journals>
- Fox, M., & Beall, J. (2014). Advice for plagiarism whistleblowers. *Ethics & Behavior*, 24(5), 341–349. <https://doi.org/10.1080/10508422.2013.866047>
- Frandsen, T. F. (2019). How can a questionable journal be identified: Frameworks and checklists. *Learned Publishing*, 32(3), 221–226. <https://doi.org/10.1002/leap.1230>
- Gutierrez, F. R. S., Beall, J., & Forero, D. A. (2015). Spurious alternative impact factors: The scale of the problem from an academic perspective. *BioEssays*, 37(5), 474–476. <https://doi.org/10.1002/bies.201500011>
- Kimotho, S. G. (2019). The storm around Beall's list: A review of issues raised by Beall's critics over his criteria of identifying predatory journals and publishers. *African Research Review*, 13(2), 1–12. <https://doi.org/10.4314/afrrev.v13i2.1>
- Memon, A. R. (2018). Predatory journals spamming for publications: What should researchers do? *Science and Engineering Ethics*, 24, 1617–1639. <https://doi.org/10.1007/s11948-017-9955-6>
- Sanderson, K. (2010). Two new journals copy the old. *Nature*, 463(7278), 148. <https://doi.org/10.1038/463148a>
- Schneider, L. (2017). Frontiers: Vanquishers of Beall, publishers of bunk. Blog post from For Better Science (September 18, 2017). Retrieved from <https://forbetterscience.com/2017/09/18/frontiers-vanquishers-of-beall-publishers-of-bunk/>
- Silver, A. (2017). Controversial website that lists 'predatory' publishers shuts down. *Nature*, (18 January 2017). <https://doi.org/10.1038/nature.2017.21328>
- Sorooshian, S. (2017). Scholarly black market. *Science and Engineering Ethics*, 23, 623–624. <https://doi.org/10.1007/s11948-016-9765-2>
- Teixeira da Silva, J. A. (2019). The ethical and academic implications of the Jeffrey Beall (www.Scholarlyoa.Com) blog shutdown. *Science and Engineering Ethics*, 26, 3465–3467. <https://doi.org/10.1007/s11948-017-9905-3>
- Teixeira da Silva, J. A. T. (2017). Jeffrey Beall's "predatory" lists must not be used: They are biased, flawed, opaque and inaccurate. *Bibliotheca*, 6(1), 425–426. <https://doi.org/10.6092/issn.2283-9364/7044>
- Tsuyuki, R. T., Al Hamarneh, Y. N., Bermingham, M., Duong, E., Okada, H., & Beall, J. (2017). Predatory publishers: Implications for pharmacy practice and practitioners. *Canadian Pharmacists Journal*, 150(5), 274–275. <https://doi.org/10.1177/1715163517725269>



## APPENDIX: BEALL'S PAPERS

the blog articles he wrote as part of the Scholarly Open Access web site (Table A1).

This is the list of Jeffrey Beall's papers which address predatory publishing. I believe that it is a complete list. I have not included

**TABLE A1** List of Jeffrey Beall's papers (I do not include his Scholarly Open Access blog posts)

Citation	Year	Title
Beall (2009)	2009	Bentham Open
Beall (2010a)	2010	"Predatory" Open-Access Scholarly Publishers
Beall (2010b)	2010	Update: Predatory Open-Access Scholarly Publishers
Beall (2012c)	2012	Five Scholarly Open Access Publishers
Beall (2012a)	2012	Predatory publishers are corrupting open access
Beall (2012b)	2012	Predatory publishing: Overzealous open-access advocates are creating an exploitative environment, threatening the credibility of scholarly publishing
Beall (2013b)	2013	Avoiding the Peril of Publishing Qualitative Scholarship in Predatory Journals
Beall (2013g)	2013	Five Predatory Mega-Journals: A Review
Beall (2013h)	2013	Medical Publishing Triage - Chronicling Predatory Open Access Publishers
Beall (2013d)	2013	Predatory Publishers Threaten to Erode Scholarly Communication
Beall (2013e)	2013	Predatory Publishing Is Just One of the Consequences of Gold Open Access
Beall (2013a)	2013	Scholarly Publishing Free for All
Beall (2013c)	2013	The open-access movement is not really about open access
Beall (2013f)	2013	Unethical practices in scholarly, open-access publishing
Fox and Beall (2014)	2014	Advice for Plagiarism Whistleblowers
Beall (2014a)	2014	Corrupt and Questionable Practices in the Scholarly Publishing Industry
Beall (2014b)	2014	Do not let predatory publishers get you down
Beall (2014c)	2014	Scholarly open-access publishing and the problem of predatory publishers
Beall (2014d)	2014	Unintended Consequences: The Rise of Predatory Publishers and the Future of Scholarly Publishing
Beall (2015a)	2015	Behind the Spam: A Spectral Analysis of Predatory Publishers
Beall (2015c)	2015	Predatory journals and the breakdown of research cultures
Beall (2015d)	2015	Response to "Beyond Beall's List"
Gutierrez et al. (2015)	2015	Spurious alternative impact factors: The scale of the problem from an academic perspective
Gutierrez et al. (2015)	2015	Spurious alternative impact factors: The scale of the problem from an academic perspective
Beall (2015b)	2015	The "Metric" System: Yet More Chaos in Scholarly Publishing
Beall (2015e)	2015	What the Open-Access Movement Does not Want You to Know
Beall (2016a)	2016	Ban predators from the scientific record
Beall (2016b)	2016	Best practices for scholarly authors in the age of predatory journals
Beall (2016c)	2016	Dangerous predatory publishers threaten medical research
Beninger et al. (2016)	2016	Debasing the Currency of Science: The Growing Menace of Predatory Open Access Journals
Beall (2016d)	2016	Essential Information about Predatory Publishers and Journals

**TABLE A1** Continued

Citation	Year	Title
Beall (2016e)	2016	Medical publishing and the threat of predatory journals
Beall (2016f)	2016	Pharmacy research and predatory journals: Authors beware
Beall and DuBois (2016)	2016	Scholars Beware
Beall (2017b)	2017	Predatory journals threaten the quality of published medical research
Beall (2017a)	2017	Predatory journals, peer review, and education research
Tsuyuki et al. (2017)	2017	Predatory publishers: Implications for pharmacy practice and practitioners
Beall (2017c)	2017	What I learned from predatory publishers
Beall (2018b)	2018	Predatory journals exploit structural weaknesses in scholarly publishing
Beall (2018a)	2018	Pseudoscience: The Conspiracy Against Science