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On (Conflating) Predatory Journals and Compromised Research Practices

Presenting the Tool 'Compass to Publish' and the (Im)possible Scalability Debate

Sur la confusion entre des revues prédatrices et pratiques prédatrices

Présentation de l'outil « Compass to Publish » et le débat sur la (im)possible expansion

Christophe Dony

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Article abstract

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Commentary

On (Conflating) Predatory Journals and Compromised Research Practices: Presenting the Tool 'Compass to Publish' and the (Im)possible Scalability Debate

Christophe Dony
University of Liège

This commentary critically presents and discusses some of the information-literacy and pedagogical principles underlying the development of 'Compass to Publish', a free online tool which helps users determine the possible predatory nature of open access journals requiring or hiding article processing charges (APCs). It then moves on to discuss the limits of the tool in terms of scalability possibilities based on user feedback. Finally, the commentary shares critical observations regarding the difficulties for future developments of the tool as they can relate to compromised research practices such as paper mill activity, authorship for sale, or fake peer review.

Keywords: predatory publishing, predatory journals, information literacy, scalability, paper mills, research ethics, research integrity

Introduction

Even after over twenty years of existence since Jeffrey Beall first alerted the scholarly community about so-called predatory journals (Beall 2010), calls for the need to fight and address the 'predatory problem' keep (re)surfacing today in various forms and in various outlets (e.g. Buitrago Ciro and Hernández Pérez 2024; Chandra and Dasgupta 2024; Kakamad et al. 2024; Khabour, Alzoubi, and Aldarabseh 2024; O´Rorke, White, and Bhujel 2024; Ungerfeld 2024; Wilson 2024). This is not surprising given that one of the issues underlying predatory publishing revolves around how and where to draw the line when it comes to determining what constitutes authentic and/or legitimate scientific publishing (Kratochvíl et al. 2020; Akça and Akbulut 2021; Teixeira da Silva et al. 2021). This non-exhaustive list of calls generally highlights the need to increase researchers' awareness of predatory publishing, often referencing various checklists or go-to resources such as the awareness campaign Think Check and Submit[1] or the Directory of Open Access Journals[2] (DOAJ), which can be helpful for researchers navigating these issues. In a similar effort to raise awareness, some even briefly review particular watchlists such as Cabell's paywalled database 'Predatory Reports'[3] or the anonymously maintained website 'Predatory Journals', [4] often pointing to more in-depth analyses and discussions of these watchlists (Dony et al. 2020; Akça and Akbulut 2021; Teixeira da Silva et al. 2024; Tsigaris and Teixeira da Silva 2021). Another relevant awareness-oriented resource that has generally slipped under the radar of such calls and reviews is 'Compass to Publish',[5] a free online tool which helps users determine the degree of authenticity of open access journals requiring or hiding article processing charges (APCs).

This commentary first aims to increase the international awareness of this 'Compass to Publish' tool by briefly describing how it works and commenting on some of the information literacy and pedagogical principles underlying its development. It then provides critical reflections on the most common feedback received from users since the tool was launched in November 2020, namely its limits in terms of scalability. Finally, the commentary provides concluding remarks about the difficulties for future developments of the tool as they can relate to newer forms of compromised research practices (e.g. paper mill activity, authorship for sale, fake peer review, etc.).

What 'Compass to Publish' is, and what it's not

'Compass to Publish' helps users determine the degree of authenticity of open access journals requiring or hiding article processing charges (APCs) using a criteria-based and transparent evaluation and scoring method.[6] Authenticity

Correspondence concerning this article should be addressed to Christophe Dony: cdony@uliege.be

[1] See https://thinkchecksubmit.org/
[2] See https://doaj.org/
[3] See https://cabells.com/solutions/predatory-reports
[4] See https://predatoryjournals.org/
[5] See https://services.lib.uliege.be/compass-to-publish/
[6] Scoring details can be found on the methodology page of the tool: https://services.lib.uliege.be/compass-to-publish/pages/7/

is a keyword here because it is not the same as the quality of a journal. The test indeed guides users through a series of questions regarding the journal's protocols, policies, and practices. As the test unfolds, the tested journal's degree of authenticity is calculated and shown on a dynamic scale comprising different colors ranging from shades of red (possible predatory character) to shades of green (no suspicion of deceptive behavior or fake character). This evaluation method thus draws primarily on what could be described as the envelope of a journal. That is, even if some questions of the test hint at article-level content analysis, the tool primarily examines a journal as a container meeting certain operational standards, technical requirements, and/or policy- and governance-related aspects.

Equally important is the fact that 'Compass to Publish' is not designed for open access journals that explicitly state that they do not require APCs. The tool highlights this aspect on its landing page so as to insist that the test is not suited for open access journals that are not APC-led. The premise behind this idea is that journals that do not implement best or standard practices in terms of metadata registration, indexation, or editorial policies should not be considered predatory if they explicitly mention that they do not charge APCs. This may sound counter-intuitive at first, but many journals run by well-meaning small groups of academics or organisations are simply unaware or may not have the necessary resources to cater to particular transparency practices or technical requirements as outlined, for example, by the Committee on Publication Ethics (COPE), DOAJ, the Open Access Scholarly Publishers Association (OASPA), and the World Association of Medical Editors (WAME) (see COPE et al. 2014). In fact, this particular provision of the tool resonates with the findings of the OA Diamond Journals Study (Becerril et al. 2021), which emphasizes the need to better streamline technical support as a "large share of OA diamond journals are not included in established indexes" (Becerril et al. 2021, 18). In a similar line of reasoning, the adoption of this hedging strategy overcomes one of the common caveats associated with existing lists of possible predatory journals, namely the fact that these watchlists have struggled to distinguish poor-quality journals from deceptive ones, thereby often discriminating against journals from the Global South (Berger and Cirasella 2015; Swauger 2017; Olivarez et al. 2018).

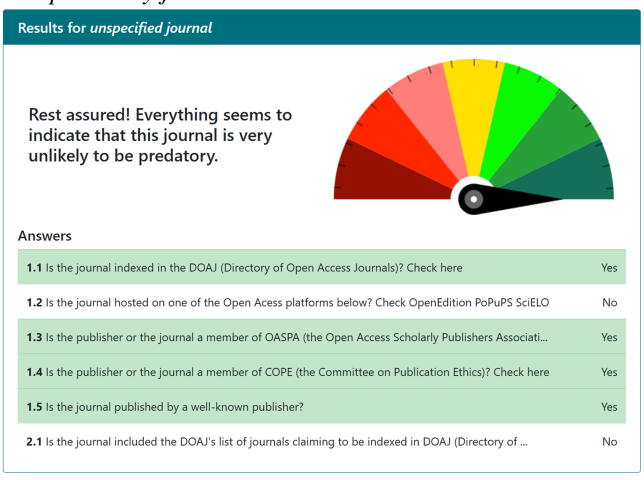
Beyond a binary logic: A multi-level scale of authenticity

When testing a journal in 'Compass to Publish', its degree of authenticity will be displayed on a quantified scale with a needle virtually moving from -20 (dark red, most likely predatory) to +20 (dark green, no signs of deceptive behavior) according to the answers you enter for the different questions of the test. The results of the latter will vary based on how you answer the 26 questions organized in seven thematic categories (see further detail below). Every answer you enter will generate positive points, negative points, or no points at all depending on how the answers are weighed in the final result. The scoring can exceed the -20 or +20 boundaries but this will not be shown to users. After the test is ended, a result page will be displayed with a summary of the particular category the journal belongs to, allowing users to see the details for which points were subtracted or added in the test (see Figures 1 and 2).

This multi-level scale has two main objectives. First, it is meant to go beyond the outdated binary logic of safelists and watchlists. Safelists and watchlists may indeed reinforce a false dichotomy between legitimate and questionable journals. This does not mean that these lists should be considered useless. Rather, they should be integrated into a more holistic evaluation process to build a more "complex view" (Kratochvíl et al. 2020) of predatory publishing. Integrating the results of these lists into a more thorough and detailed assessment seems particularly apt given that both safelists and watchlists can use questionable criteria, implement problematic verification processes, and/or lack dynamicity (Strinzel et al. 2019; Dony et al. 2020; Tsigaris and Teixeira da Silva 2021). Second, the scale is intended to reflect a spectrum of predatory practices or behaviors, thereby hopefully providing users with a more nuanced picture of the predatory publishing landscape. This objective falls in line with the diversity of practices identified by Siler in the predatory publishing landscape (Siler 2020), which contains "ambiguous niches between predation and legitimacy"(Siler 2020, 1386).

Figure 1

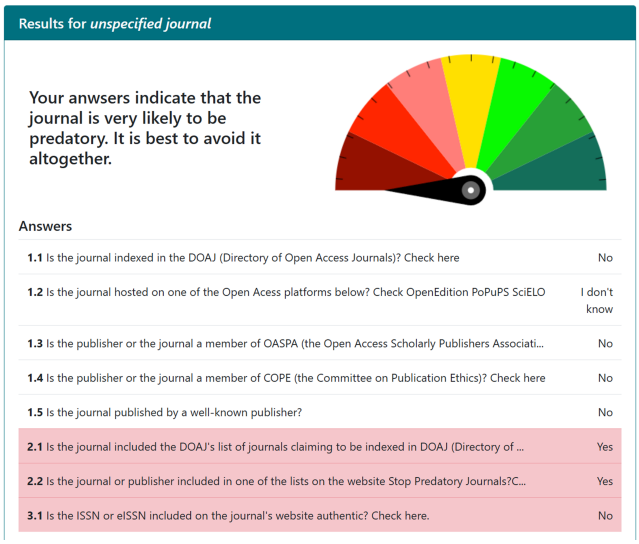
An example of a test summary with details of answers for a non-predatory journal.



Methodology.

Figure 2

An example of a test summary with details of answers for a problematic and possibly predatory journal.



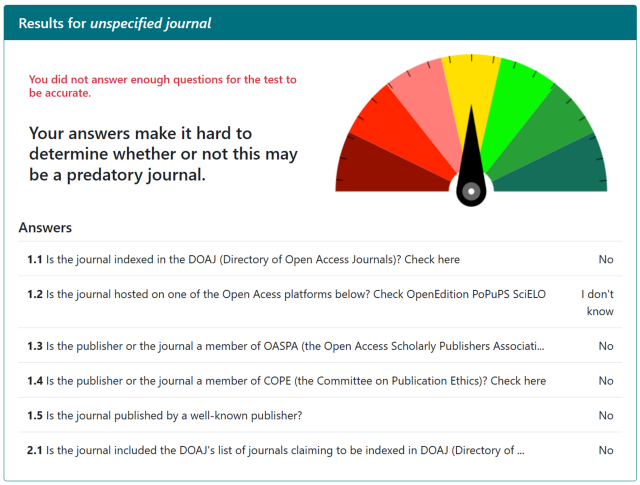
Educating as first objective

One of the objectives behind 'Compass to Publish' is to educate researchers and help them better understand predatory publishing and its orbiting issues, including how tricky and controversial this process of identification and evaluation can be. This is why the tool adopts a Do-It-Yourself (DIY) approach with a rather significant number of questions that are divided into seven themed categories[7]: trusted lists, lists of alleged predatory journals and publishers, hijacked journals, indexing and metrics, editorial board and peer review, content and presentation, and communication strategies.

Users do not have to answer all the questions and can end the test when they want. They can also skip questions. This is why objective questions with verifiable information appear first in the first four thematic categories of the test (trusted lists, lists of alleged predatory journals and publishers, hijacked journals, indexing and metrics). More subjective questions appear later in the three later thematic sections (editorial board and peer review, content and presentation, and communication strategies). Within each section, a secondary logic of organization places questions with a high relevance or degree of severity first. This is to ensure that users can get a quick idea about the possible predatory nature of a journal after covering a couple of sections only. However, if they haven't at least answered a particular number of questions, excluding the answer "I don't know", users will be notified that their test may not be precise enough when they have ended it (see Fig. 3), with the underlying idea that the more questions are answered, the more accurate a test will be. This is meant to make users accountable for their own test and making sure that they do not use the tool as a (too) quick proxy for journal evaluation.

Figure 3

An example of a test summary with too little information provided.



Making users responsible for investigating the journal of their choice and checking information on their own is part of the pedagogical ethos of the tool and how it aims to drive information literacy. If users only spend little time and only answer a few questions, the test result will inevitably reflect this and users won't be confronted with the diversity of aspects that can weigh in on the evaluation process. In contrast, the more users engage with questions across categories, the more likely they are to learn about new or external resources and the publishing landscape. The main idea behind the tool is indeed to empower researchers to educate themselves in discovering and engaging with new resources, tools, policies, or procedures that they may previously have not been familiar with. Moreover, this conceptual strategy is meant to offer possibilities for active learning as it encourages users to build on existing knowledge and gain new perspectives on scholarly publishing in an interactive manner (cf. Walsh 2018). Admittedly, this strategy is risky in that it can be time-consuming and may rebuke users. To mitigate this, however, help or

[7] These categories were established by a group of librarians at the University of Liège (Belgium) who, in developing the tool, examined the practices of a significant number of predatory journals while looking at various sets of criteria used for both safe lists and watchlist (e.g. COPE et al. 2014; Eriksson and Helgesson 2017; Toutloff 2019; Strinzel et al. 2019). These categories and the 26 questions they comprise are not meant to represent an exhaustive list of possible detection criteria. Rather, they are a selection of the most salient and recurrent criteria observed by the developing team during the qualitative analysis and benchmarking phase of the development process. Questions with similar themes were then grouped for better readability and convenience purposes.

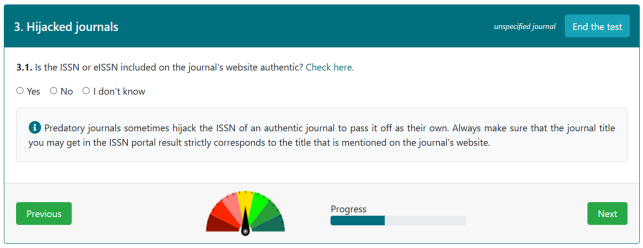
support about how and why check particular information is provided in many cases and in various forms (see Fig.4 and Fig. 5).

Figure 4

An example of user support included as a pop-up message.

Figure 5

An example of user support with contextual information provided in a text box.



To further promote knowledge expansion and active learning, the tool also offers users the possibility to look at the results of other tests for the same journal (see Fig. 6), provided that they have filled in the optional fields for journal identification before starting their test and that one or several matches for said journal have been found in the tool's administration history database (Fig. 7). For each result displayed, an indicative number of significant answers is shown to users so as to put said results into perspective. Moreover, each available test for said journal can then be explored in further detail by simply clicking on any evaluation of the results page, as shown in Fig. 6. This extra information is intended to encourage users to compare and contrast their results with other evaluations and to recontextualize their own test and results to possibly put them into perspective. If available, these other existing results are only shown after a user has completed their test so that users do not blindly trust journal assessments done by other users.

On the (im)possibility of automation and scalability

Since its launch in November 2020, several users, including stakeholders in scholarly communications, have recurrently asked questions revolving around the possible developments of the tool in terms of scalability. What follows below is a brief critical commentary on two such questions.

Figure 6

An example of a test summary page for a journal tested multiple times and with multiple results.

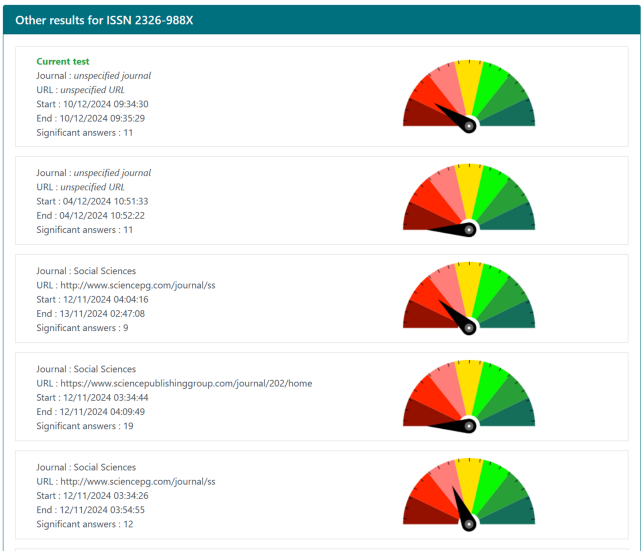
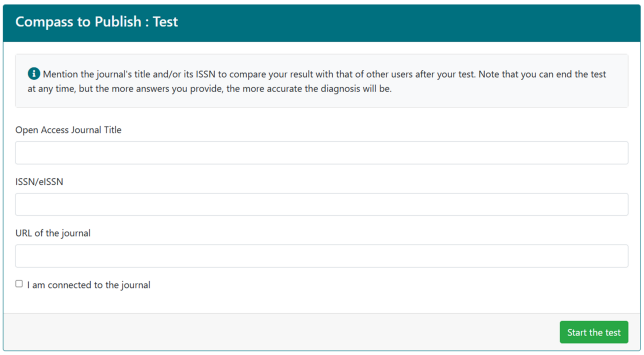


Figure 7

Optional journal identification fields that users may fill in before starting a test.



A first recurring scalability-oriented question concerns the implementation of automated verification for particular questions, so as to possibly speed up the journal evaluation process for users. Technically, this could have been implemented, though at a certain human and financial cost. But this implementation would defeat the purpose of the Do-It-Yourself philosophy of the tool, which conditions the possibilities of user engagement and active learning. Automatic verification for users indeed prevents them from critically engaging with the evaluation process in a self-reflexive manner and, therefore, from contemplating how hard and tricky this process can be. Moreover, the accuracy of the data obtained through automatic verification processes based on external sources depends on how fast said sources update their data and on

how fast these updates are integrated into said sources' data access points (e.g. by means of an API or a data dump). More generally and theoretically speaking, scaling up journal evaluation procedures based on automated processes runs the risk of reproducing existing selection and inclusion biases of indexes, directories, and databases.

A second common scalability-oriented question revolves around the possibility to reuse some of the tool's data, in particular how often particular journals have been tagged with a color code indicating a possible predatory nature. This particular request usually emanates from stakeholders in the field wishing to scale up the identification process of possible predatory journals for the creation or revision of their own lists or directories. Again, technically, this particular data could be shared as the administration portal of the tool records every test, its final result, and any given answer to any question of any test. However, data regarding the results for journals tested have so far not been shared for several reasons.

First, the results of the test are user- and context-dependent and may, therefore, not always be entirely accurate or even similar for identical journals (cf. Fig.6). The later sections of the test indeed leave room for some more subjective questions and interpretation. The points obtained for these questions do not heavily weigh in the overall scoring method. But they may influence the overall results for a journal. Second, most users do not fill in the optional journal identification fields available before starting a test (title, URL, and ISSN). This means that many tests' results cannot be mapped to clearly identifiable journals in the tool's historical database. As a result, many tests' results would be useless for stakeholders wishing to scale up the size of their safelists or watchlists. Finally, sharing past test results with other stakeholders would go against the dynamic nature of the tool, which is often noted as a methodological limit of watchlists of predatory journals (Dony et al. 2020; Tsigaris and Teixeira da Silva 2021). Theoretically, the tool's conceptualization indeed leaves room for the downgrading or upgrading of a journal's score over time if it can be objectively verified that said journal has changed particular procedures or technical standards. For example, if a previously tested journal was not indexed in the DOAJ suddenly gets indexed in said directory, then the results of the new test of this journal will change accordingly.

Future perspectives: On conflating predatory journals and compromised research practices

In light of recent mass retractions (Kincaid 2023; Van Noorden 2023), concerns about publication ethics and research integrity issues, and the exponential growth of "compromised" scientific publications (Hanson et al. 2024), recent feedback has also unsurprisingly focused on the possibilities to scale up the tool's perimeter by integrating indicators reflecting such issues. As of now, one of the conceptual limits of the tool is that it does not take these aspects into consideration, or only peripherally at best, as it primarily focuses on the envelope of journals, i.e. journals as containers with particular technical aspects, procedures, and protocols.

Investigating possible developments for the tool along more content-oriented lines of inquiry as they relate to research integrity issues and article-level criteria is one way forward for 'Compass to Publish'. But it raises several critical and often cascading questions, some of which go well beyond the tool's development. Consider, for instance, that the tool integrates a criterion based on the number of retractions due to paper mill activity or fake peer review. Should this criterion be applied at the journal level or at the publisher level? Should a threshold number of articles for journals or publishers showing such activity be determined? And if so, how could or should this threshold be defined? Would it be user-friendly to ask researchers to track down this very specific piece of information? How should or could this specific criterion weigh in the overall scoring method? Finally, wouldn't this criterion discriminate against other uncompromised content published in the same venue(s)? More generally speaking, isn't the retraction process a sign of a healthy, well-functioning, and therefore non-predatory scholarly publishing system, albeit a fallible and imperfect one? Or does this mean that predatory journals should be thought of in newer terms so as to include various indicators of compromised or fake research such as so-called "tortured phrases"(cf. Cabanac, Labbé, and Magazinov 2021; Martel, Lentschat, and Labbé 2024), authorship for sale (Porter and McIntosh 2024), or citation misconduct (see Fong and Wilhite 2017; COPE 2019; Besançon et al. 2024)? Pushing this line of reasoning a bit further, should we extend the scope of compromised research to endogeny-related issues, i.e. how ties between (guest) editors, authors, and reviewers may affect the reliability or authentic character of particular articles or journals at various stages of the scholarly publishing process?

These are tough questions that deserve further scrutinizing from the global scholarly communications community and beyond. Fundamentally speaking, I believe that these breaches of ethics or research integrity issues can be said to point to newer forms of particular compromised research practices in scholarly publishing. But characterizing these as predatory reaffirms the ambiguous nature of the 'predatory' cognate and reminds us of its contested nature altogether (see Anderson 2015; Eriksson and Helgesson 2018; Siler 2020). These newer forms of compromised research need not be conflated with predatory journals per se, especially so given that they both shape and reflect different realities. For example, predatory journals may go to great lengths to try and gain visibility and credibility in the research ecosystem by infiltrating databases (Severin and Low 2019), building their own fake archive by using parts of past portfolios of legitimate journals (Abalkina 2021), or sending aggressive email solicitations. In contrast, paper mills are precisely defined

as "covert organizations" that "are likely to take deliberate steps to conceal their activities and products" (Byrne et al. 2024, 1). Similarly, whereas a predatory journal usually presents itself as a visible end-product container, paper mills can be said to function as 'ghost intermediaries' between more complicit authors and (guest) editors buying or accepting compromised research on the one hand, and less regarding journals on the other. Finally, it is worth noting that recent research shows that papermill products mostly find their way into non-predatory journals (Candal-Pedreira et al. 2022), thus suggesting again how inadequate it may be to conflate predatory journals with compromised research practices.

While there are some obvious overlaps between predatory journals and more wide-ranging compromised research practices, the latter need to be better studied and examined in their own right and on their own terms. This would obviously require the development of new detection or evaluation tools (Byrne et al. 2024),[8] as much as the creation of new awareness and literacy programmes and workshops. Academic libraries and scholarly communications researchers and staff can definitely play a role in this endeavor (see Brundy and Thornton 2024). But as the landscape of scholarly communications is increasingly connected to wider concerns of discoverability and research assessment practices, other stakeholders, including discovery platforms and directories, institutions, as well as research and funding agencies, should also contribute to this effort. One possible way forward for 'Compass to Publish' may be to collaborate with stakeholders to see how to drive the tool's capabilities towards more content-oriented aspects and research-related workflows and issues.

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[8] Guillaume Cabanac's problematic paper screener may be useful in this respect as it selects suspect publications for post-publication (re)assessment based on various indicators of compromised research (see Cabanac, Labbé, and Magazinov 2022).

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