SciSTIP

DST-NRF Centre of Excellence in Scientometrics and Science, Technology and Innovation Policy

Scale and Nature of Unethical Practices in Scholarly Publishing

J Mouton

NRF Workshop on Ethics in Publishing

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Background

- CREST was commissioned in March 2015 to undertake a comprehensive analysis of the state of journal and book publishing in South Africa. This commission was issued specifically to investigate how the revision in the funding framework of 2005 had impacted on journal, book and conference proceeding outputs in the country. The final report of this study was submitted to ASSAf in January 2017.
- In April 2017, we received a grant from the DHET to continue this research with a specific focus on the quality of SA's publications and the aim to develop a set of indicators to assess journal quality.
- Both in the ASSAf and DHET study we have come to realize that issues around quality in scholarly publishing are inextricably linked to issues about ethics.

Quality and ethics in science

When we think of 'quality' or 'excellence' in science we immediately think of the 'truthfulness' of our research and results. Will our findings stand the test of 'peer review'; the scrutiny of other scholars working on the same topics. In its 'primitive' form, scientific quality is an epistemological concept (how truthful is our knowledge claims).

But scientific research is also a process of human decision-making: from the initial choice of topics, research questions, methodological choices up to publication choices. In these processes scientists make choices that either conform to sound ethical principles (research integrity) or not. Examples of unethical choices manifest themselves in cases of fabrication of data, falsification of data, selective reporting of results, plagiarism, ghost authorship and various questionable practices in scholarly publishing (including predatory publishing). Needless to say that the consequences of unethical practice in science are far-reaching. At the level of the individual research study the consequences are clear: the results are demonstrated to be invalid and authors are 'forced' to retract their results. But perhaps more importantly: where such practices become pervasive and remain unchecked, they undermine our confidence in the authority of science and our (and the general public's) trust in its findings.

How did we come to identify unethical and questionable practices in SA scholarly publishing?

Inexplicable spikes in journal publication

Premise: Most journals maintain a steady and consistent rate of article publication. This rate of publication is both a function of the demand for publication in its domain and the journal's capacity to process and publish a specific volume of materials. Where the demand for publication in a specific field increases, the result is typically an incremental increase in the number of papers published. So when we observe exponential increases in the volume of papers published over a short period of time, it would most likely be the result of a significant investment by the journal in editorial resources OR the weakening (even relinquishing) principles of good publication practice (blind and independent peer review).

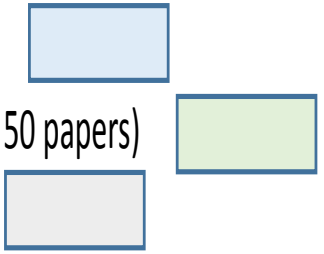
An example of the first is the huge increase in recent years in the number of papers published by *Plos One* where the business model has allowed for such a huge investment to be made. But *Plos One* is an outlier in scholarly publishing. Our attention hence focussed on those journals that exhibited these trends.

Four journal configurations

Based on the shape of the trendlines over the ten-year period we have identified four typical configurations:

Type 1: Consistent and stable publication output (Three sub-types)

- Consistently high levels of annual output (more than 50 papers)
- Consistently moderate levels of annual output (between 30 and 50 papers)
- Consistently low levels of annual output (less than 30 papers)

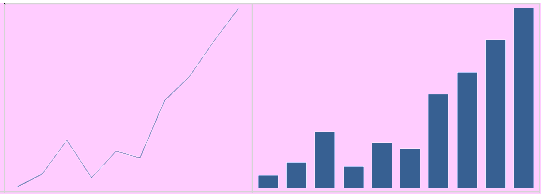


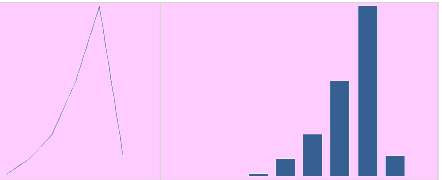
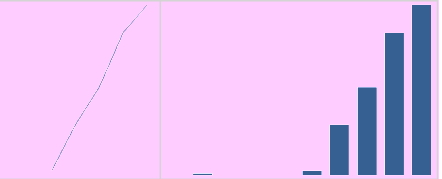
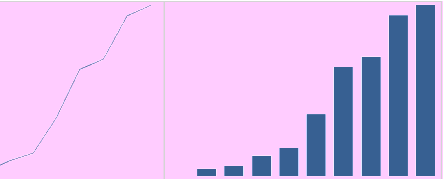
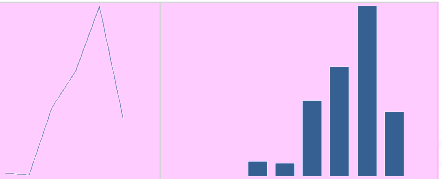
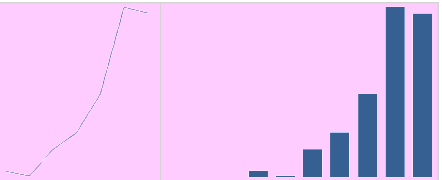
Type 2: Inconsistent and interrupted trends in publication

Type 3: Gradual and incremental increase in publication output

Type 4: Inexplicable spikes in publication trends which may be indicative of a predatory journal

Journal	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
AJPHERD: African Journal for Physical, Health Education Recreation and Dance	**22**	**42**	**94**	**36**	**76**	**66**	**155**	**192**	**246**	**298**	1227
Acta Crystallographica Section E: Structure Reports Online	**33**	**66**	**73**	**37**	**57**	**66**	**189**	**193**	**14**		728
Journal of Social Sciences		**1**	**1**	**3**	**4**	**17**	**73**	**130**	**111**	**145**	485
African Journal of Biotechnology	13	27	27	60	43	61	98	87	31	5	452



African Journal of Business Management				**3**	**22**	**53**	**120**	**214**	**26**		438	
Journal of Human Ecology		1				3	31	54	87	104	280	
Corporate Ownership and Control		3	4	8	11	24	42	46	62	66	266	
African Journal of Agricultural Research				8	7	41	59	92	35		242	
International Business and Economics Research Journal				3	1	13	21	39	80	77	234	

Evidence of unethical publishing practices

Subsequent journal-specific analyses suggested that these trends were most likely due to possible unethical or questionable editorial practices. We discuss three:

1. Predatory publishing
2. Questionable volumes of publication by journal editors in their own journals
3. Questionable volumes of publication by members of the editorial board of journals

Predatory publishing

A definition: The watchdog – Jeffrey Beall

- Predatory journal are OA journals that exist for the sole purpose of profit
- These predators generate profits by charging (excessive) author fees, also known as article processing charges (APCs.
- These journals typically solicit manuscripts by spamming researchers (especially Yahoo and Gmail accounts)
- These journals engage in highly suspicious editorial practices, such as promising very short turn-around, declaring fake information on journal indexing, and so.

https://scholarlyoa.com/2016/01/05/bealls-list-of-predatory-publishers-2016/

The watchdog – Jeffrey Beall

(now put to rest!)

Jeffrey Beall maintained two lists: A list of standalone predatory journal titles (1220 titles at the time of writing this report) and a list of predatory publishers. The former list was simply a list of individual journals which, according to Beall, are predatory journals. For some of these he provided additional information in support of his judgement. The latter list is much more comprehensive but at the same time arguably less reliable. This is a list of journal (and sometimes also book and proceedings) publishers. In this instance, Beall argued that a particular publishing house (such as *Academic Journals* or *OMICS*) has a demonstrated history of publishing questionable journal titles. Because of this, all journal titles listed by the publisher are hence regarded as being predatory journals. In January we estimated that there were just over 900 active publishers on the more recent Beall's list. If one sums the number of journals listed under these publishers, the number comes to a staggering 23 400+ titles!

After closing his website on the 15th of January, Beall broke his silence:
http://www.biochemia-medica.com/2017/2/273
The list can still be found at: http://beallslist.weebly.com/\

The extent of predatory publishing in SA

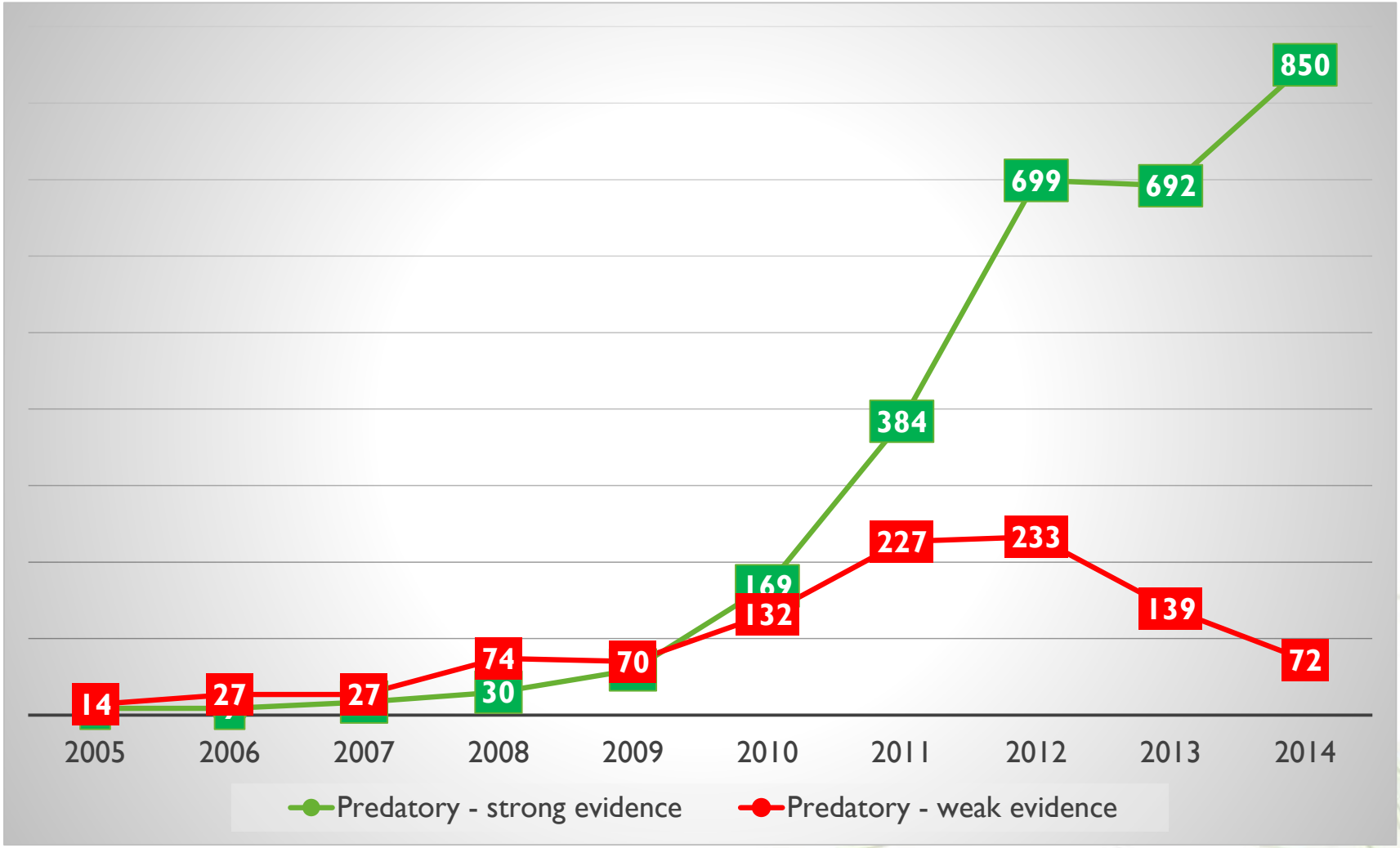
The CREST study took Beall's list as point of departure, but attempted to apply a more refined set of criteria to distinguish between predatory and non-predatory journals. We identified 57 journal titles in which 4245 SA-authored papers had appeared between 2005 and 2014. We subsequently assigned each of the titles to one of four categories:

- Not predatory: In these cases we believe that Beall was wrong in his classification of the journal as predatory
- Insufficient evidence: In these cases we could not find any pertinent evidence to make a judgment either way.
- Weak evidence for predatory: In these cases we found some evidence that the journal might be a predatory journal, but do not think the evidence is strong enough to make a conclusive judgment. We classified such journals as "possibly predatory"
- Strong evidence for predatory: In these cases we concur with Beall's classification and classified the journal as "probably predatory".

Results

Using this fourfold classification allowed us to estimate what the overall extent of predatory publishing in South Africa is. For this estimate we exclude the 339 papers in the 10 journals that we have classified as being either 'not predatory' or for which we had 'insufficient evidence' to make a definitive judgement. This left a total number of 3906 papers which constitute 3.4% of the total article production over the past 10 years. The disaggregation by evidence categories was as follows: 2891 papers (or 2.5%) appeared in journals which we classified as **probably** predatory (strong supporting evidence) and 1015 (or 0.09%) appeared in journals which we classified as **possibly** predatory (weak supporting evidence).

Increase in number of papers published by SA authors in predatory journals (2005 – 2014)



Beyond Beall

Beall closed down his website in January 2017. Since then various developments have taken place to continue his work:

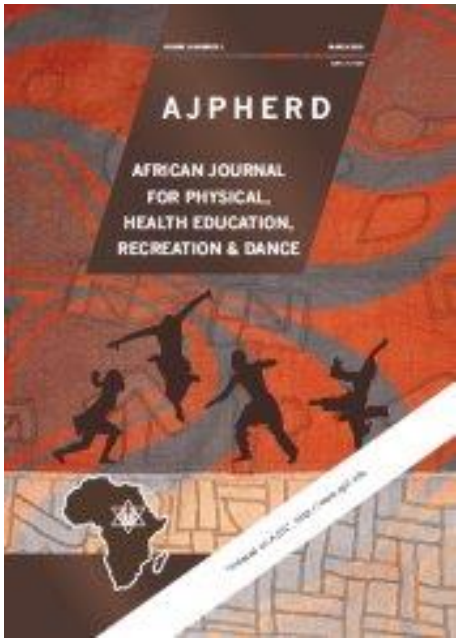
- Attempts are being made to continue the 'watchdog' role of Beall (Cabell's list)
- More articulated and scholarly approaches to identifying predatory journals (e.g. Petisor's work)
- Better understanding of the deeper issues around scholarly publishing

New websites/tools to identify predatory journals

- Stop predatory (https://predatoryjournals.com/)
- Cabell (https://cabells.com/about-blacklist)
- Predator vs Academator: https://predatorvsacademator.wordpress.com/2017/01/18/alleged-misleading-metrics/
- Consult the Directory of Open Access Journals (https://doaj.org/)
- New websites that list "fake" journals: (https://fakejournalss.wordpress.com/list-of-fake-computer-science-journals/)

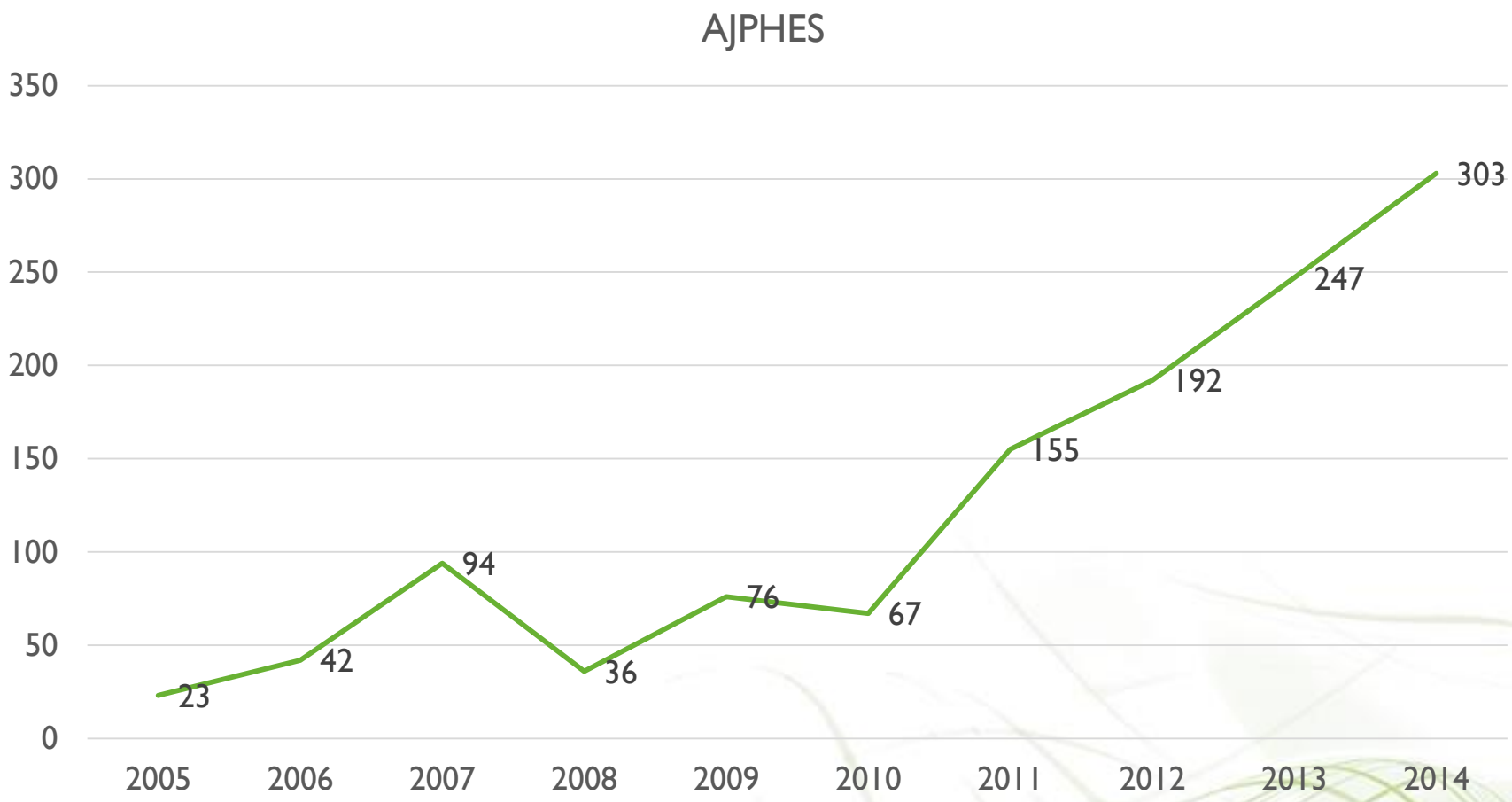
Questionable editorial practices

The South African Journal that published the most articles between 2005 and 2015



African Journal for Physical Health Education, Recreation and Dance (AJPHERD), continued by the African Journal for Physical Activity and Health Sciences (AJPHES) in 2016

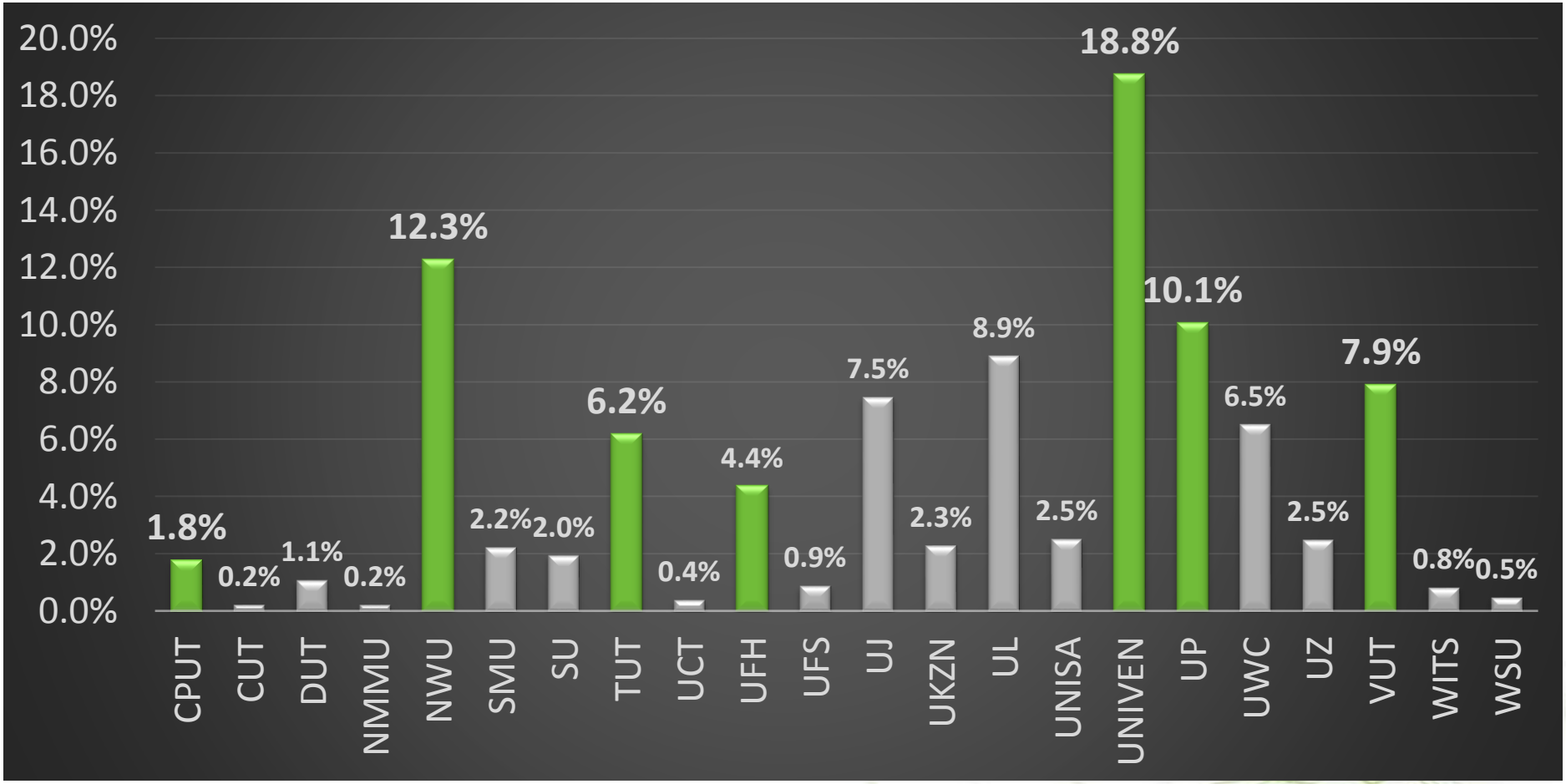
Increase in number of papers by year (AJHPES)



AJHPES (2011 – 2015)

Institution	2011	2012	2013	2014	2015	Total
UNIVEN	94	56	155	176	166	647
NWU	30	56	58	49	57	250
UP	21	99	13	47	48	228
UL	13	17	73	85	89	277
VUT	57	58	30	26	18	189
UJ	17	45	51	55	56	224
UWC	34	4	15	102	41	196
TUT	28	51	27	31	5	142
UFH	1		33	32	86	152
UNISA		7	30	23	19	79
UZ	13	16	21	11	18	79
UKZN	16	20	9	12	1	58
Sefako Makgatho Health Sciences University (SMU)					78	78
CPUT	1	26	11	10	14	62

AJPHERD / AJHPES: % of Papers per university



Note: The editorial board consists of members from the following South African universities (past & present): UNIVEN, NWU, VUT, UFH, UP, TUT & CPUT **(= 63.9%)**

African Journal of Business Management

The AJBM is an open access journal published by Academic Journals in Lagos, Nigeria. It is one of the journals that we flagged because of the anomalous increases in its publications over very short time frames thereby raising the question about their capacity to undertake rigorous and appropriate peer review. Truth records how the journal has expanded exponentially between 2007 and 2011: 'In 2011 it reached a startling 13,579 pages, and has grown by some 28% in 2012. In 2010, its total volume was 4,229 pages, while in 2009 it had 997 pp., in 2008 242 pp., and in its founding year 2007, 243 pp'. Thomson-Reuters was asked in 2010 to review the AJBM and finally removed the journal from its list in Feb. 2012, some 18 months after serious questions regarding the journal's practices were submitted to the knowledge firm.

AJBM

A total of 451 papers with SA authors were published in the journal between 2005 and 2014. These papers were produced by a total of 443 unique authors. The vast majority of authors produced only one or a fraction of a paper. A few authors produced larger numbers. But one of the striking findings was that the Editor authored 69 papers between 2005 and 2014 in the journal.

Other examples of high volumes of publication by journal editors or members of editorial boards in their own journals

Source	Position	Papers **(2005 – 2014)**
South African Journal of Botany	Editor	140
South African Family Practice	Editor	52
HTS Teologiese Studies	Editor	48
Journal for Contemporary History	Editor	45
Bothalia	Member of Editorial Board	45
Journal for Christian Scholarship	Member of Editorial Board	43
HTS Teologiese Studies	Member of Editorial Board	43
Journal for Christian Scholarship	Editor	40

So what are the main challenges that we face?

Two challenges

- The demarcation challenge (Can we distinguish with acceptable levels of certainty between predatory and non-predatory journals AND between ethically acceptable and questionable editorial practices?
- The quality assurance challenge (How do the major actors (universities/ DHET/ ASSAf/NRF) assure that scholarly publishing in SA maintains high levels of quality?

The demarcation challenge

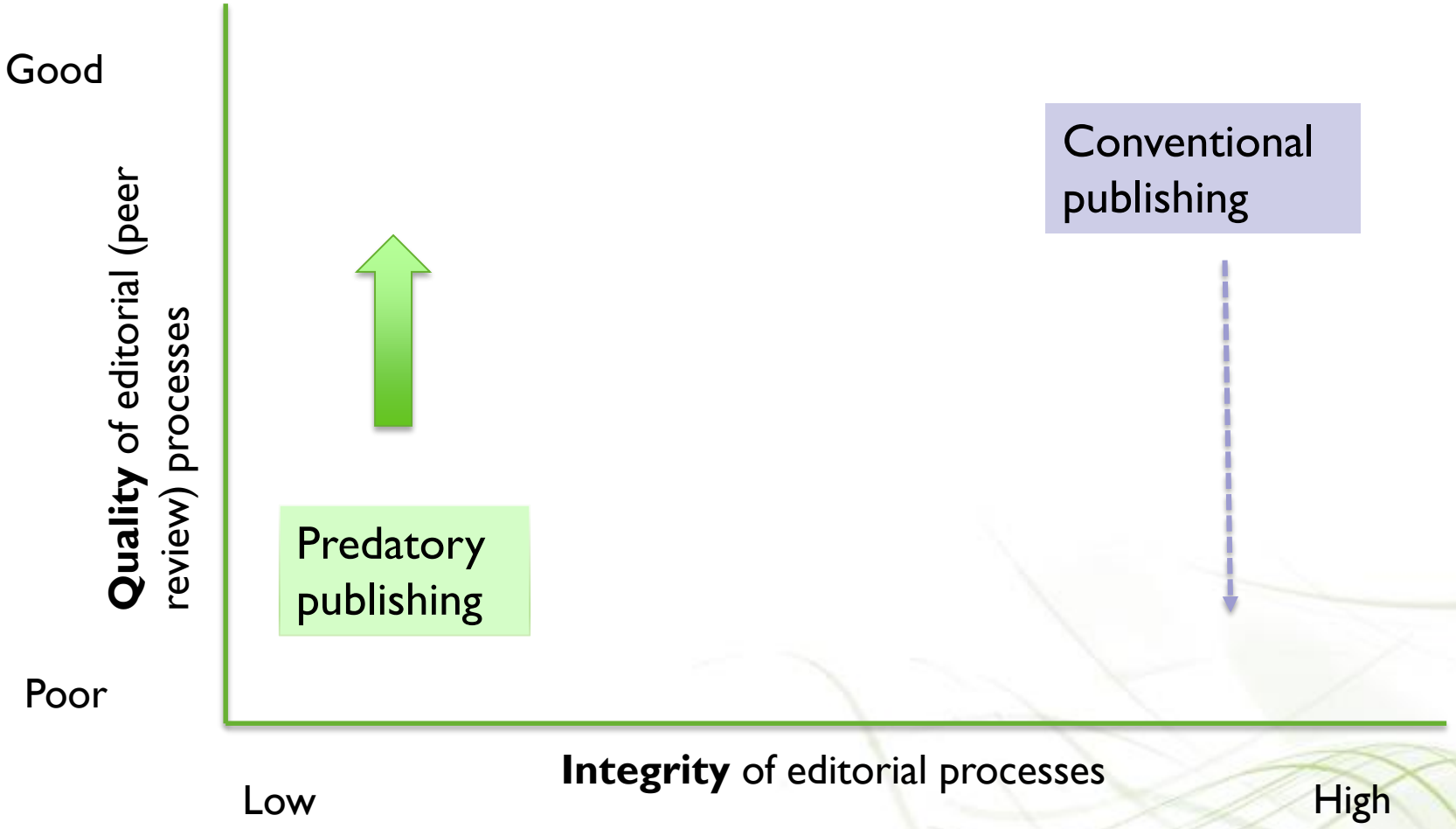
One of the recurring themes in current scholarship concerns the clarity and robustness of our 'indicators' of predatory. In order to address the challenge of demarcating clearly between predatory and non-predatory journals we believe it is important to separate out issues of quality from issues of ethics:

- Distinguish between good and poor editorial practices (Editorial quality)
- Distinguish between compliance with norms of research integrity (honesty, transparency and truthfulness) and the suspension of rules of ethical integrity (deception and fraud) (Editorial ethics)

Editorial quality versus ethics

- Conventional publishing practices must conform BOTH to high standards of editorial quality AS WELL AS to norms of research integrity. A good journal adheres to good practices in quality publication (independent and blind peer review/ sufficient editorial controls/ high technical quality). In addition the editorial team conforms to principles of research integrity such as honesty, transparency and truthfulness.
- The archetypical predatory journal is characterised by its violation of rules of research/publishing integrity and also of falling short of achieving acceptable levels of editorial quality. The specific aim of the predatory journal/ publisher is to make money out of publishing without conforming to good, conventional editorial practices. This means that they typically deceive authors about key aspects of their journal and their editorial policies and practices.

The demarcation issue

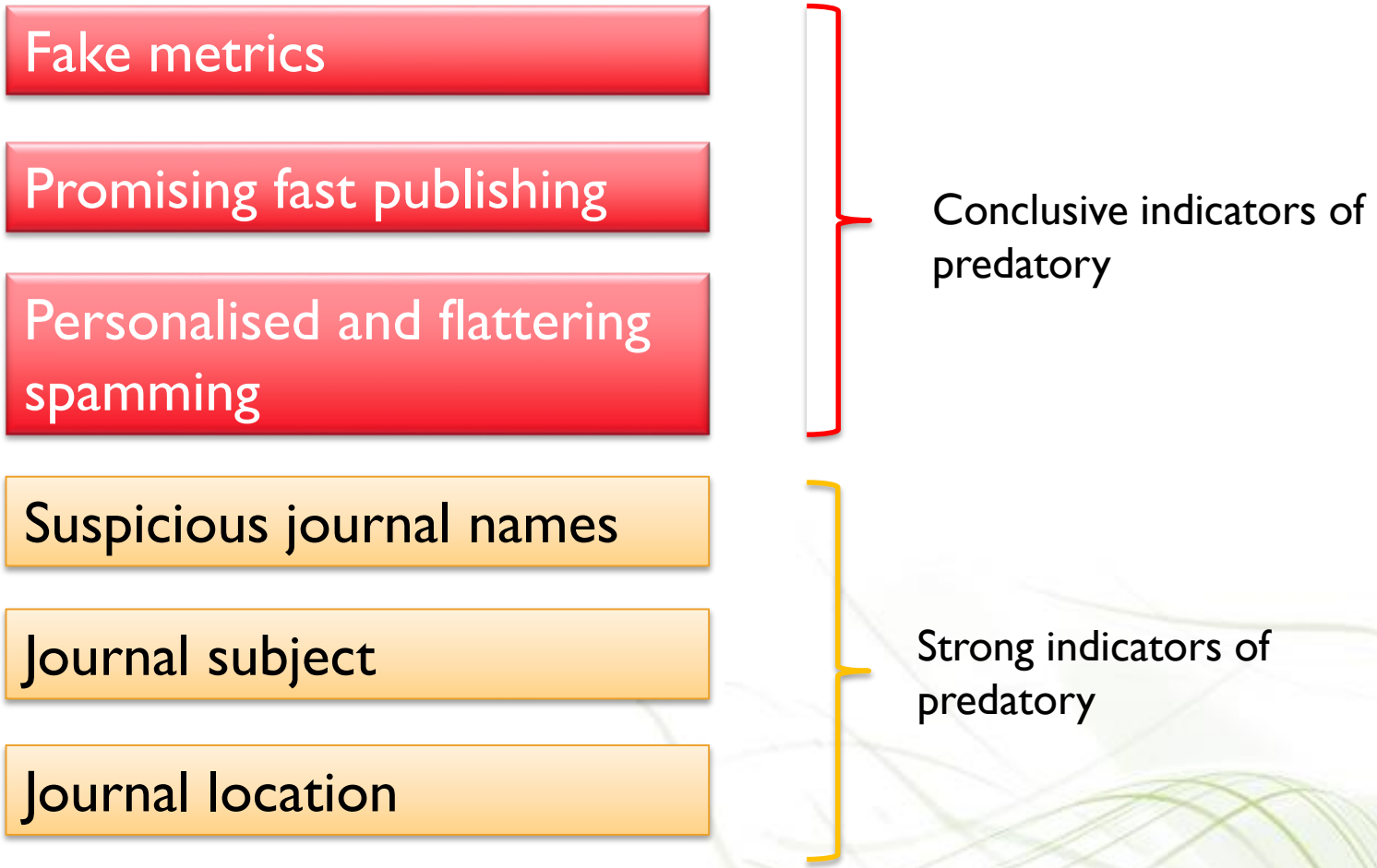


But the picture is slightly more complex

The arrows in the previous slide point to the fact that predatory journals are located on a continuum (as far as technical quality is concerned). Some are easily identifiable as predatory because they obviously violate rules of technical quality (poor language/ poor design/ inadequate websites, etc.) AND research integrity (promising impossibly short time periods to publishing, using fake metrics and deception on indexing, members of editorial boards, and so on). But some predatory journals actually conform to reasonable standards of quality and hence it becomes more difficult to identify them as predatory.

All of this means that we need a set of criteria or indicators that allow us to make credible and defensible claims about whether a journal is predatory or not.

Ranking of indicators of predatory



Fake metrics

This is often used as a principal attractor; some of the oldest predatory journals (African Journal of Business Management, African Journal of Biotechnology, and African Journal of Agricultural Research) were indexed in Thomson-Reuters – Institute of Scientific Information (ISI) database, although they were unlisted later; starting with 2013, fake indexes were created; although they are often listed as 'ISI', in fact they are GISI – Global Institute for Scientific Information; the Impact Factor (IF) is replaced by Google-based Impact Factor or invented factors, such as Global Impact Factor (GIF), Universal Impact Factor (UIF), Journal Impact Factor (JIF), or Morocco-based Scientific Journal Impact Factor (SJIF). Furthermore, in order to look credible, such indices have values which would not draw any particular attention if they were impact factors (i.e., between 1 and 2), although they are dubiously defined. For example, the Global Impact Factor considers "factors like peer review originality, scientific quality, technical editing quality, editorial quality and regularity" (http://globalimpactfactor.com/).

Fast publication

Most predatory journal promise a shorter review cycle, or provide the author an option to shorten it by paying a certain amount. To illustrate this statement, the *International Journal of Emerging Technology and Advanced Engineering* mentions in its CFP for Volume 5, Issue 2 of February 2015 that the submission deadline is February 05, 2015, and the publication date, February 20, 2015. The 'record' shortest times are mentioned by *Ambit Journals* (48 hours) and *Indian Journal of Research* (3 days).

Flattery

Example: *First of all we would like to congratulate you for your consistent and incessant efforts till now in the field of ... Being aware of your eminence in the related field, we cordially invite you for your valuable contribution towards our journal (Geoinformatics & Geostatistics)*

'Predatory conferences' use even more bombastic phrasing, when calling for speakers; an invitation to the 3rd World Congress on Cell Science & Stem Cell Research includes the following text: "Dear Dr... Greetings. First of all, our Organization wants to honor you for your achievement and Awards. Your path and experience may guide many young researchers to be a successful scientist in the world. With your majestic presence which will take the conference to a supreme level and also will support to harness the current and future research in Cell Science & Stem Cell Research."

Journal Name

Several words are common to many titles: 'advanced', 'scientific', 'scholarly peer-reviewed', 'leading publisher'. Furthermore, Crawford (2014) found out that there are 74 'Indian Journal of...', 247 titles starting with 'Global', 300 with 'Open' (176 'Open Journal...' and 228 'The Open...'), 114 'Research Journal of...', 131 'Research Open Journal of...', and 2,208 'International Journal...'. Titles often repeat or overlap: Scientific Research and Essays, Standard Scientific Research and Essays, or International Journal of Scientific Research and Essays. Emerging common words are 'Modern', 'Innovative', 'Green', 'Progressive', 'Ingenious', and 'Standard'. Relatively recently, famous journals were hijacked by creating fake predatory websites or online sites for journals which exist only in print form: Wulfenia, Archives des Sciences, Jökull, Bothalia, Pensée, Sylwan, Ciencia e tecnica vitivinicola, or CADMO.

Journal subject

In most cases, predatory journals have a broad coverage of subjects and topics, combining fields that are more or less related, or even lacking a specific field (*Journal of Comprehensive Research*, Scientific Research and Essays, *Standard Scientific Research and Essays*, or *International Journal of Scientific Research and Essays*). For example, the Journal of Scientific Research and Studies covers, according to the CFP, "Biomedical and Life Sciences, Chemistry and Materials Science, Computer Science and Communications, Earth and Environmental Sciences, Engineering, Medicine and Healthcare, Physics and Mathematics and finally Social Sciences and Humanities" through "Research Papers, Working Papers, Short Communications, Case Studies and Literature Surveys". Also, the Global Advanced Research Journal of Arts and Humanities "is dedicated to increasing the depth of the subject across disciplines with the ultimate aim of expanding knowledge of the subject", although the subject is not stated.

Journal location

Several authors have noticed that most current names include words like 'global', 'international', 'universal', or 'world'. This strategy can be seen as an attempt to mask the real location, in addition to faking it in the title or address, included in the invitation of found on the website: the address is in the US, UK, Australia or Canada. Most of them seem to be located in India, "where new predatory publishers or journals emerge each week", Pakistan or Nigeria. Also, the address is not always mentioned in the CFPs or on the websites. An emerging strategy is to rent office addresses in the US or the UK, and include American or British in the journal name, although the business is run from another country (India etc.). A ridiculous situation is the resulting oxymoronic name American International Journal of...(Biology, Contemporary Scientific Research, Research in Formal, Applied and Natural Sciences etc.)

JOURNAL FOR MEDICAL SUBJECT

PRINT ISSN NUMBER : 2250 - 1991

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The quality assurance challenge

How do we ensure publishing quality in a science system (and specifically in SA). The DHET by default performs this role when it accredits journals or recognizes lists of indexes for subsidy purposes. In fact the DHET has the authority (as encapsulated in the Research output policy) to accredit but also de-accredit journals that do not meet acceptable levels of editorial quality and integrity.

ASSAf also performs a related and complementary function when it uses instruments like the Editor's Forum and its journal review panels to produce journal assessments.

The problem at the moment is that there is insufficient co-ordination of effort between these agencies (and other stakeholders) and information is not shared between them.

Assuring quality: Some proposals

- The DHET should use its authority to establish whether a SA journal falls short of acceptable levels of quality and ethics. It can do this quite easily by requesting appropriate information on editorial and peer-review processes
- The National Editor's Forum should be requested to formulate a declaration about quality and integrity in scholarly publishing
- A platform should be established between DHET, ASSAf, NRF and CREST to share information on scholarly publishing and ways to identify questionable publishing practices in the country.

In conclusion

Perhaps the new way of making science, turning it into a business, is one of the causes that gave birth to predatory journals. Another cause might be a re-interpretation of the classical 'publish or perish' goal distorted by science metrics; several consequences are the need to publish abroad and, if possible, in a country with higher-rated journals, the need to be visible in order to be cited (in the context of an evolving electronic 'publishing ecosystem'), and the need to publish fast. If this is the case, a return to the science for the sake of science or the benefit of society is a possible solution.

Petrisor (2016): *Evolving strategies of the predatory journals*.

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Thank you