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Academic publishing in disaster risk reduction: past, present, and future

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Academic publishing in disaster risk reduction: past, present, and future

Nowadays there are approximately 80 Anglophone journals that deal primarily with disaster risk reduction (DRR) and allied fields. This large array signals a sustained, if uneven, growth in DRR scholarship but also competition between the offerings of different publishers and institutions. The purpose of this article is first to summarise the development of academic publishing on DRR from its early beginnings to the present day. The paper then evaluates the current state of publishing in this field and discusses possible future trends. Next, it identifies some possible opportunities, challenges, expectations, and commitments for journal editors both within DRR and academia more broadly, including those that refer to changes in the use of terminology, the relentless increase in the number of papers submitted, the expansion and dangers of predatory journals, different peer review models, open access versus paywalls, citations and bibliography metrics, academic social networks, and copyright and distribution issues.

Keywords: disaster risk reduction, academic publishing, journals, peer review

Introduction

On 6th March 1665 in London, the theologian, philosopher, and diplomat Henry Oldenburg published the first volume of *Philosophical Transactions*, the journal of the Royal Society. This was the beginning of a process of scientific and academic publication that has lasted, with remarkably few alterations, until the present day. *Phil. Trans.*, as it became known, rapidly established the format of the scientific paper: title, abstract, introduction, literature review, methodology, results, conclusions, and list of references. It has proved to be an enduring vehicle for the presentation of scholarly research and debate. However, since the establishment of modern scholarship during the Enlightenment (or perhaps much earlier in the case of China), there has seldom, if ever, been a time of greater change than at present.

The purpose of this article is fourfold: (a) to summarise the development of academic publishing on risks, disasters, and emergencies from its early beginnings to the present day; (b) to evaluate the current state of publishing in this field; (c) to discuss possible future trends; and (d) to discuss some possible opportunities, challenges, expectations and commitments for editors in

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3 the disaster risk reduction (DRR) field. We consider the field in terms of multiple dimensions
4 that include the prevention of hazards, the mitigation of vulnerability, the enhancement of
5 people's capacities and the study of all of these. In order to limit our analysis to manageable
6 proportions, we focus our attention on peer-reviewed journal publishing, rather than books,
7 reports, monographs, and the so-called “grey literature”. These publishing media are interesting
8 and important and they merit further consideration in their own right, but to be concise we limit
9 our observations on them to their interface with journal publishing. With the exception of two
10 significant titles in Spanish, we focus on journals that publish in the English language. We
11 recognise that this might be construed as a bias. However, it reflects the position of English as
12 the dominant language in academic publishing worldwide, its role as a lingua franca, and its
13 impact on how ideas are shaped in disaster risk reduction and cognate fields of study.
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24 We are editors or on the editorial boards of a diverse range of journals in the disasters field,
25 representing views from around the world. Although we do not claim to represent all possible
26 views of academic publishing in DRR, we believe our collective experience qualifies us to make
27 general statements about trends and developments in the field, and about the current state of
28 publishing therein. Our account begins by taking stock of the current situation in the publication
29 of peer reviewed journals that deal with DRR, emergencies, crisis management, the assessment,
30 analysis, and management of risk, and kindred fields.
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38 **A brief resumé of DRR publishing**

39 Currently, about 80 Anglophone journals deal primarily with disaster risk reduction and allied
40 fields. Two others in Spanish play an influential role in international scholarship in this field,
41 while most journals in other languages have limited readership outside their linguistic field of
42 influence. About ten journals have ceased publication, but these are balanced by the persistent
43 tendency to found new titles. As their scope varies from plenary coverage to limited issues, it
44 is difficult to classify journals by content. For example, the *Journal of Extreme Events*
45 (published by World Scientific) has a very wide brief, while the *International Journal of*
46 *Disaster Resilience in the Built Environment* (Emerald) has a much more restricted focus. In
47 terms of content, the main divisions are as follows: disaster risk reduction, emergency response,
48 humanitarian practice, emergency medicine and health, natural hazards, risk analysis,
49 management, mass communication, business continuity, and resilience. Papers in all of these
50 fields are also published in hundreds of journals that have purviews that do not explicitly focus
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3 on these issues. For example, *Geomorphology*, *Geoforum* and *Applied Geography* (Elsevier)
4 are plenary journals of geography that include a minority of papers on aspects of disaster risk
5 reduction. Foundational papers on hazards and disasters have also appeared in the *Journal of*
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8 *Hydrology* (Elsevier) and *Human Organization* (published by the Society for Applied
9 Anthropology).

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13 In terms of publishers, the field is dominated by large, multinational corporations, namely
14 Elsevier, Springer, Taylor & Francis, Wiley-Blackwell, and Palgrave Macmillan. There are
15 smaller commercial publishers, such as Emerald (Bingley, UK), InderScience (Geneva), Henry
16 Stewart (London, UK, and Birmingham, Alabama), and Weston Medical Publishing LLC
17 (Weston, Massachusetts). Some journals are published by societies. These include the
18 Earthquake Engineering Research Institute (which publishes *Earthquake Spectra*), the
19 Seismological Society of America (*Bulletin of the Seismological Society of America*), the
20 European Geophysical Union (*Natural Hazards and Earth System Sciences*), the International
21 Sociological Association's Research Committee on the Sociology of Disasters (*International*
22 *Journal of Mass Emergencies and Disasters*), and the Southern Africa Society for Disaster
23 Reduction (*Jámbà: Journal of Disaster Risk Studies*). There are also journals published by
24 university research centres (e.g. the *Australasian Journal of Disaster and Trauma Studies* from
25 Massey University's Joint Centre for Disaster Research) and those issued by networks of
26 researchers and practitioners (*Desastres y Sociedad*, published by La Red de Estudios Sociales
27 en Prevención de Desastres en América Latina). Finally, there are journals that are managed by
28 private companies that, rather controversially, appear on the website "Beall's list of predatory
29 journal and publishers". These so-called "predatory" journals are alleged to charge significant
30 fees to publish manuscripts through a speedy process that is claimed to not involve adequate
31 control of quality or integrity (Beall, 2012).

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48 This large array of journals and publishers favours different approaches to peer review, which
49 we can regard as the bottom-line of academic publishing. Publications grounded in the
50 traditions of earth and engineering sciences mostly rely on a single-blind review process, in
51 which the reviewers know the identity of the author or authors of the paper they are reviewing,
52 but the authors cannot identify reviewers. Conversely, social science journals largely use a
53 double-blind review process, in which neither an author nor a reviewer knows the identity of
54 the other. New approaches are also being developed, notably the interactive public peer review
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3 fostered by *Natural Hazards and Earth System Sciences*. All these models have been criticized
4 for being biased for one reason or another and all seem to have been associated with some forms
5 of manipulation that ultimately threaten the reputation of the journals and academic publishing
6 at large (Weller, 2001). An example of this is where authors take advantage of loopholes in the
7 computer platforms used to handle the manuscripts in order to review their own papers
8 (Ferguson et al., 2014). Issues associated with peer-reviewing are not unique to disaster studies.
9 However, scholars researching disasters must navigate these different traditions and approaches
10 to academic publishing, which can be challenging and frustrating.

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19 Publication rates vary considerably between serials. The smallest may publish only three to six
20 papers per issue, with two to four issues a year (e.g. *International Journal of Mass Emergencies*
21 *and Disasters* and *Risk, Hazards, & Public Policy*). The largest are likely to have 1,000 to 2,000
22 manuscripts in progress (e.g. *Natural Hazards* and *International Journal of Disaster Risk*
23 *Reduction*). Acceptance rates are also quite variable. The most selective journals reject between
24 two thirds and 90 per cent of submissions, either before review or on the basis of negative
25 reports from referees (e.g. *Disasters* and *Disaster Prevention and Management*). The so-called
26 predatory publishers have been accused of accepting articles without adequate peer review,
27 providing that the authors pay substantial publication fees (Beall, 2012; Eriksson and
28 Helgesson, 2017).

37 **The birth and development of DRR journals**

39 Books and reports on disasters have been issued since the start of field endeavours by the
40 nascent scientific societies. Thus, the Royal Societies of London and Naples enquired into the
41 southern Italian earthquakes of 1783 and 1857 and the Smithsonian Institution and the Dutch
42 Government sent investigators to the eruption of Krakatau in 1883. They all published
43 voluminous reports and articles in journals such as *Philosophical Transactions* and *Nature* (e.g.
44 Hamilton, 1783; Mallet, 1862; Verbeek, 1886). Continuity in academic work on disasters
45 perhaps began in 1920 with the publication of Samuel Henry Prince's study of the Halifax ship
46 explosion of 1917, entitled *Catastrophe and Social Change* (Prince, 1920). In the 1930s and
47 1940s, disaster scholarship diversified with, for example, foundational pieces published by the
48 geographer Gilbert White (1936, 1945) and the sociologist Lowell Juilliard Carr (1932). In the
49 1950s, series of reports on disasters were issued by the US National Opinion Research Centre,
50 based at the University of Chicago, and the US National Academy of Sciences-National
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3 Research Council, based in Washington, DC. However, no journals were dedicated to disasters.
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7 In 1975, a group of academics and humanitarian specialists (known informally as the London
8 Technical Group) decided to found *Disasters*, a journal that would bring the fruits of rigorous
9 research to front-line humanitarian and emergency response organisations. With the help of the
10 publisher Robert Maxwell, *Disasters* first came out in 1977 under the imprint of Pergamon
11 Press (Wisner, 2017; Davis, 2019). At the same time in the United States, sociologists at the
12 Disaster Research Center, then based at Ohio State University, founded a home-grown journal
13 entitled *Mass Emergencies*. It lasted for four volumes, 1975-79, but after a hiatus of nearly four
14 years it was revived as the *International Journal of Mass Emergencies and Disasters*, an early
15 example of desktop publishing (i.e., work produced using a home computer). Meanwhile, the
16 International Society for Natural Hazards came into being and in 1988 the Dutch publisher
17 Kluwer began *Natural Hazards*. The society faded away and Kluwer was taken over by the
18 German multi-national Springer (formerly Springer-Verlag), but the journal grew to be one of
19 the largest in its field.
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31 Other journals were to follow. In some instances this has involved direct competition, for
32 example between the *International Journal of Emergency Management* (InderScience) and the
33 *Journal of Emergency Management* (Weston Medical), as well as the *International Journal of*
34 *Emergency Services* (Emerald). There are also journals that have a regional focus (but perhaps
35 global content), such as *Disaster Advances* (Indian subcontinent), *Jámbà: Journal of Disaster*
36 *Risk Studies* (Africa), *Australasian Journal of Disaster and Trauma Studies* (Australasia and
37 the Pacific), and *Revista de Estudios Latinoamericanos sobre Reducción del Riesgo de*
38 *Desastres* (Latin America). At the other end of the spectrum, recent arrivals include serials,
39 such as *Resilience* and the *Journal of Extreme Events*, which have a very loosely defined scope
40 and aim to take advantage of what are currently popular ways of looking at events and
41 phenomena.
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51 Journals that have ceased publication have done so largely because of lack of commitment by
52 publishers and editors, and certainly not because of lack of author potential or opportunities to
53 attract a readership. For example, neither *Emergency Management Review* (Emergency
54 Planning Society) nor *Planet@Risk* (Global Risk Forum Davos) were adequately supported so
55 that they could survive and grow after the initial burst of activity when they were launched. The
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3 hardest part of establishing a journal is not its inauguration but inducing it to grow until it
4 reaches a critical mass that will ensure its sustainability in terms of authors, readers, and the
5 editorial and publishing support it requires. Overall, the development of the field in terms of
6 research journals has so far occupied less than half a century, but it has been characterised by
7 sustained if uneven growth, competition between the offerings of different publishers and
8 institutions, rapid response to changes in fashions and terminology, and relentless increases in
9 the numbers of papers submitted. For example, submissions to *Disaster Prevention and*
10 *Management* increased from 98 in 2011 to more than 400 in 2018. Meanwhile, submission to
11 the *International Journal of Disaster Risk Reduction* grew from a handful in mid-2012, the year
12 it was launched, to 1,543 in 2019.

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22 The last of these phenomena reflects two developments. The first is that disaster studies have
23 grown to be a self-sustaining, transdisciplinary field with academic and professional leanings.
24 It is a subject that covers dozens of disciplines and professions (Alexander, 2013), and it has
25 gathered together thousands of scholars and practitioners. The second is that the “publish or
26 perish” model of academic life has disseminated all over the world (Altbach, 2013). It has a
27 particular emphasis on publishing in English and in specific journals that are endorsed by
28 universities and research institutes. In this respect, it is possible that the most concerted
29 motivation of academic publishing, although certainly not the most idealistic one, is for
30 personnel reasons: to gain a post, a promotion, or job security by demonstrating to colleagues
31 that one is a prolific scholar.

41 **Challenges and developments: Our editorial viewpoint**

42 Seldom, if ever, is the founding of a new journal in this field supported by an assessment of
43 need among the academic community. This is surprising, in that a report by a task force
44 convened by a major publisher found that disaster science (as the team defined it) represented
45 only 0.22 per cent of scholarly output around the world (Elsevier Project Team 2017, p. 39).
46 Hence, the best rationale for a new journal is that it be able to compete successfully with existing
47 serial publications which cover the same material. What “compete successfully” means differs
48 amongst the parties. Most commercial publishers and many societies rely on selling journals
49 for income. They seek success through profitability, while editors may look for prominence in
50 their fields and authors are typically hoping for rapid, successful publication and high rates of
51 citation. It is difficult to assess whether the field is in a steady state regarding the number of
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3 journals, although there is no doubt that it is expanding relentlessly in terms of the number of
4 papers submitted for publication.
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8 One of the leading debates in journal publishing at the moment concerns open access. In brief,
9 the paywalls that constrict free access to journals have been contested and a new model of open
10 access is demanded (Schiltz, 2018). The situation is complex. Commercial publishers have
11 gained handsome profits by limiting access to readers who pay fees. However, learned societies,
12 for example, derive vital income streams from such revenue. Publishing is easier and more
13 flexible than ever before, but it is not free of charge. 'Hybrid' access models involve a paywall
14 and the granting of 'gold' open access to authors, or institutions, that pay a publication fee. This
15 has a certain element of paying twice for the same service, a process called 'double dipping'.
16 Paywalls tend to affect institutions more adversely in less wealthy countries. The library of a
17 major research university in somewhere like the United States may purchase bulk subscriptions
18 to the majority of the 30,000 journals that currently exist, but the most well-endowed Indian
19 university subscribes to 16,500, and in many African universities there are even fewer journal
20 subscriptions. The University of Indonesia subscribes to 1,040 journals. This is, of course, an
21 issue that affects all scholarship and it certainly thwarts the dissemination of useful knowledge
22 that may help to reduce the impact of disasters. Such a situation is ironic, given that disaster
23 studies urgently requires knowledge and information to be disseminated to the world's poorest,
24 most vulnerable, and most marginalised communities.
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39 The imperative to gain visibility for one's research and publications has favoured the emergence
40 of academic social networks such as Academia and ResearchGate. There are also cognate
41 citation tools such as Mendeley and Zotero that offer social networking functions. These online
42 platforms allow authors to upload accepted but pre-formatted versions of their manuscripts (as
43 permitted under most copyright agreements) so as to make them accessible to anyone who has
44 registered. They also provide an opportunity for open review of and comments on published
45 works, sometimes leading to the retraction of articles, as demonstrated by the widely-publicised
46 Obokata et al. (2014) case, in which a Japanese biologist was accused of having manipulated
47 images that supported results from cell experiments. Reach and visibility depend on the network
48 of researchers and how many colleagues they have connected with. For traditional academic
49 publishers, these social networks are both a challenge and an opportunity. On the one hand,
50 they directly threaten revenues. On the other hand, they can indirectly boost citations of the
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3 articles published. It appears that this is why Elsevier purchased Mendeley in 2013 (Shaw,
4 2013). Although they often face legal battles with traditional publishers, unlike ‘pirate websites’
5 such as Sci-Hub, academic social networks are generally legal. The ‘pirate’ sites provide free
6 access to hundreds of thousands of research articles and books in their published format, which
7 further complicates the academic publishing landscape.
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13 There are undoubtedly inequities in the ways that authors, reviewers, and editors provide their
14 labour for free, while private companies reap the financial rewards. Many academics have jobs
15 with regular salaries at their institutions, which should mean that journal-related work is part of
16 their remit. A growing proportion of scholars consists of people who are on short-term contracts
17 or in adjunct positions where they are paid mainly for teaching duties and are often poorly
18 remunerated. Their work as authors, reviewers, or editors will not be recognised as part of their
19 duties. Aside from the innumerable hours put in during holidays, evenings, and weekends by
20 academics with regular jobs, those bouncing from contract to contract have little time in which
21 to build up their publishing, reviewing, or editing profiles. Thus, they may be working entirely
22 for free in a profit-making environment.
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32 One response to this predicament is the rise of journals published independently by academic
33 institutions or societies; for example, *Jámbà: Journal of Disaster Risk Studies*, *Australasian*
34 *Journal of Disaster and Trauma Studies*, and *Revista de Estudios Latinoamericanos sobre*
35 *Reducción del Riesgo de Desastres*. This entails either having volunteer copy and layout editors,
36 who do all tasks manually and correspond via individual emails rather than automated systems,
37 or having generous sponsors (as is the case of *Jámbà*, which is financially supported by the
38 South African National Disaster Management Centre, and the *Australasian Journal of Disaster*
39 *and Trauma Studies*, which is supported by Massey University). There are also journals
40 published by commercial publishers that have partnered with professional societies to cover the
41 cost of open access publication. For example, the *International Journal of Disaster Risk Science*
42 is supported by the China Association for Science and Technology, *Geoenvironmental*
43 *Disasters* is sponsored by the International Consortium on Geo-Disaster Reduction, and the
44 *Journal of International Humanitarian Action* is associated with the Network on Humanitarian
45 Action. Most of these initiatives are still relatively new. Hence, the sustainability of this model
46 has yet to be confirmed. Meanwhile, editors and reviewers may or may not be given credit for
47 their work by their institutions. Recognition may feed into promotion, merit raises may be added
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3 to salaries, or employment may be confirmed, but more often those involved see the work as a
4 hobby sustained by effort expended entirely within their own leisure time. The degree of
5 recognition that they receive for it from their institutions is highly variable.
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10 Another source of inequity concerns the popularity of bibliometric measures. Most of these are
11 based on notional measures of impact derived by counting citation rates. Typically, private
12 companies control the agenda, determine the algorithms, and set the standards. The most widely
13 used and well-known measure is the Thompson-Reuters impact factor (IF). Many governments
14 and institutions demand that publications be in journals with an impact factor that exceeds a
15 certain threshold value. This can lead to a situation in which metrics control the agenda, rather
16 than giving space to other forms of quality assessment (Wilsdon et al., 2015). Many opponents
17 of bibliometry argue that it is thoroughly unscientific (Moustafa, 2015). It is indeed paradoxical
18 that scientists who demand high standards of accuracy and objectivity from their own work,
19 and that of their peers, are willing to accept flawed models of impact assessment with hardly a
20 murmur of protest. As impact factors are only assigned to journals which have been in regular
21 publication for some time, new journals are started at a disadvantage. Meanwhile, established
22 journals can consolidate their position as leading serials in their field.
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34 An additional concern related to indexing and the use of bibliometric measures is the increasing
35 trend of many national research evaluation systems to rely on quantitative indicators to gauge
36 the performance of researchers. This has led to quickly-increasing 'publishing and citation
37 inflation'. Career progression and funding depend on these metrics, affecting, if not modifying,
38 what, how, and why authors publish. This has greatest impact on young scholars and those
39 without permanent positions. While the efficacy of such evaluation systems is still largely
40 unknown, it has already produced evident changes of behaviour amongst authors (Baccini et al,
41 2019). Deceitful methods to increase the number of publications and citations (e.g., salami
42 slicing, crony citations, and citation clubs) are distorting individual and overall metrics
43 (Abraham, 2000; Baccini et al., 2019). Such strategies affect all scientific fields, including
44 disaster risk reduction. One initiative seeking to overcome such problems is the *San Francisco*
45 *Declaration on Research Assessment* (DORA; <https://sfdora.org>) for which the first numbered
46 clause recommends "Do not use journal-based metrics, such as Journal Impact Factors, as a
47 surrogate measure of the quality of individual research articles, to assess an individual
48 scientist's contributions, or in hiring, promotion, or funding decisions".
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5 The combined hegemony of the English language and the Anglophone traditions of
6 international academic publishing can marginalise scholars whose native language is not
7 English (Canagarajah, 2002). They face three major challenges. First, in many branches of the
8 engineering, medical, and social sciences, articles are expected to follow standardised formats
9 structured around an introduction, a review of the literature, description of methods,
10 presentation of findings, discussion, and conclusions (i.e., the 17th century *Philosophical*
11 *Transactions* model described earlier in this article). In fact, some journal websites explicitly
12 state that manuscripts to be submitted are required to conform to such a format. This excludes
13 other traditions of academic writing. It is one of the reasons why many social scientists, who
14 are used to structuring their articles in a very different way struggle to gain acceptance in
15 Anglophone journals (Canagarajah, 2002). Second, for non-Anglophone scholars, publishing
16 in English also means filtering their ideas through translation which may entail losing the
17 essence of their argument in order to fit it into Anglophone concepts and frameworks. In the
18 worst case, these scholars have to use alien concepts and terminology in order to increase the
19 potential for citation of their work. Third, non-native speakers of English often have to rely on
20 the very expensive services of translators or copy editors, many of whom are associated with
21 commercial publishers. If such costs are acceptable for scholars from wealthy institutions, they
22 may be unsustainable for researchers based in less affluent countries. Furthermore, non-native
23 speakers of English are often at the mercy of native English-speaking peer reviewers, who are
24 often harsh in their treatment of errors of grammar, syntax, and usage. Such reviewers may
25 discredit a manuscript on linguistic grounds rather than on its scholarly contribution to
26 knowledge.
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44 Over the last century, and particularly since the Second World War, disaster studies has become
45 very international. It is widely accepted that countries and regions have much to learn from
46 other parts of the world concerning how to reduce the risk of, prepare for, manage, and recover
47 from emergencies and calamities. Moreover, as disasters are ubiquitous, the field is especially
48 polyglot. The growing body of academic literature has clearly shown that there are similar
49 phenomena, problems, dilemmas, techniques, and theoretical issues in many different countries
50 and settings. Some claim that the hegemony of English is probably necessary in order to ensure
51 that the field has an adequate lingua franca for the exchange of ideas (Faber 2010). Much needs
52 to be done to extend the sensitivity of scholars to problems encountered and solutions developed
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3 in cultural settings that are not their own (IFRC 2014).
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6 **What does the future hold?**

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8 At the time of writing this article, the future of academic publishing in general is far from clear.
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10 Even with the massive upheaval to science, scholarship, and society of the digital revolution,
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12 the models of article structure and peer review have proved to be remarkably robust. This might
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14 be more the product of inertia than any especially positive outcomes obtained from the
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16 dominant model. Some significant changes are evident, such as graphical abstracts, summary
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18 highlights given in bullet-point phrases, hyperlinks to supplemental material such as supporting
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20 video clips, demand for all raw data to be accessible to the readers of the paper, and a freely
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22 accessible online review process in which the journal's website publishes the article along with
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24 the reviews, readers' comments, authors' responses to the reviews, and (if the paper is accepted)
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26 the final work.

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28 For the most part, printed journals are on the way out. Digital publication offers massive
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30 flexibility which can be seen in the new elements mentioned here. First, digitalisation eschews
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32 the page budget that so constrained the relationship between cost and size for printed journals.
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34 Second, it allows creative use of colour and hyperlinks, as well as the integration of articles
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36 with external or multimedia material. Hyperlinking to web-based material and the use of digital
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38 object identifier (DOI) data have revolutionised the way we read, although they have also
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40 introduced the frustration of continually clicking through to broken links or to websites that
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42 have been taken over by spam, viruses, and non-academic material. Third, digital publication
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44 allows 'accepted' and 'in-press' articles to be uploaded on the publisher's web platform shortly
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46 after acceptance, thus satisfying the increasing appetite of authors and their host institutions for
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48 the speedy dissemination of research findings.

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50 An example of a useful outcome is the 'virtual special issue'.¹ Whereas papers on a theme
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52 published in a printed volume must be collected and must remain physically together, journals
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54 are making use of online publishing by grouping relevant papers, even if they were not solicited
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56 as components of a special issue. If, for example, Jamaica is struck by a major earthquake or
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58 hurricane, merely by hyperlinking, a journal can quickly publish a virtual special issue that
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60 groups together all papers it has published about vulnerability and impacts in Jamaica.
Similarly, at the end of the year, the journal can group by hyperlinking a virtual special issue

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3 of the editor's selection or of papers that have received awards. Along the same line, digital
4 publication facilitates the gathering of ad-hoc original special issues in response to a particular
5 demand.
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10 These approaches have significant positive aspects. Publishers are no longer bound by yearly
11 page budgets and word counts, nor are they constrained by printing costs to limit or exclude the
12 use of colour or multimedia. The negative side is exemplified by the advantage given to scholars
13 who can afford sophisticated electronic devices and fast, cheap internet connections. In
14 addition, present-day growth appears unsustainable, as there are too many articles and too few
15 editors and reviewers. Nor is there time to read enough of the published work. The trend towards
16 interdisciplinarity calls into question the expertise of referees and editors who are asked to judge
17 the content and quality of articles submitted for publication, as a work can have a very broad
18 remit, which is a problem that challenges anyone who lacks a basic grounding in part of the
19 field covered by the research.
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29 In terms of citation and depth of scholarship, the new material on disaster risk reduction that is
30 being published on an almost daily basis by academic journals tends to favour recent articles at
31 the expense of older pioneering material. Neophilia abounds in modern academic scholarship
32 and it is often vigorously promoted under the mistaken assumption that science advances in a
33 linear manner that tends to assimilate or cancel out the achievements of the past. In
34 consequence, in disaster studies there is an enduring tendency to 'reinvent the wheel', or in
35 other words to repeat work that was carried out a long time ago because the modern scholar is
36 not sufficiently aware of the roots of the subject (Wisner et al., 2015). This is partly because
37 the leading scholars in the field have not defined a core curriculum that answers the question
38 "what should an academic specialist in disaster studies have read in order to have an adequate
39 basic understanding of the subject?" (Alexander, 2017). Many of the milestone papers, reports,
40 and books in the field are downloadable, but access to some may be limited by paywalls and a
41 need to pay subscriptions. Sadly, there is no central repository of essential reading.
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53 In practical terms, much has been done to speed up publication. On-line submission now
54 predominates. In fact, a minority of journals require authors to prepare manuscripts in near
55 camera-ready copy that the submissions software transforms into a facsimile published work.
56 The solicitation of peer review is similarly automated. *Natural Hazards and Earth System*
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3 *Sciences* has moved peer review into the public domain by enabling it to be conducted online
4 in open access format. Copy-editing and typesetting are now both 'virtual' activities aided by
5 machine learning and artificial intelligence. Volume, issue, and page numbers are beginning to
6 disappear as articles are regarded more and more as free-standing pieces of scholarship
7 identified by reference numbers and the unique universal locator or DOI. Meanwhile, research
8 is taking place into how to achieve further transformations of the traditional journal article and
9 the processes that extend from submission to final publication (Zudilova-Seinstra, 2013). The
10 pace of publication has accelerated enormously, but has this occurred at the expense of quality
11 control?
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20 For scholars, the key to success has become the ability to publish and be cited. In this, there is
21 a risk that quantity will take the place of quality (Wilsdon et al., 2015; Benedictus and Miedema,
22 2016). In his last, posthumously published book, Stephen Hawking (2018) estimated that ten
23 papers will be published every second if the growth in academic publishing continues at its
24 current pace, raising the question of who will have the time to read them. Because the mass
25 media may pick up on a story or a paper may be debated on social media, publishers are
26 stimulated to publish controversial papers and dramatise results. Some journal websites
27 prominently display the number of clicks and downloads, which creates a self-reinforcing
28 system. People click on, download, and cite an article (with or without reading it) because it is
29 listed by the journal as the most highly cited or most frequently downloaded paper, which adds
30 to the paper's metrics and keeps it listed prominently. Google Scholar mainly lists search results
31 by citations, which assumes, perhaps wrongly, that a highly cited paper must necessarily be
32 worth citing. Yet, the significant number of articles that remain uncited are not necessarily of
33 poor quality (van Noorden, 2017). This begs the question of who assesses intellectual quality
34 and if anyone really has the right to do so. Subjective quality assessments can become self-
35 reinforcing. Moreover, one suspects that evaluators prefer papers that resemble the ones they
36 themselves would write.
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53 **Conclusions**

54 Overall, we welcome the diversity, creativity, and opportunity which new forms of publication
55 and approaches to the process have given us. We are concerned that the profit-seeking models,
56 and those that exalt metrics, heap further disadvantage upon those who are already short-
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3 changed by publishing. The same risk can occur as a result of the hegemony of Anglophone
4 academic traditions. There is a risk that this state of affairs will exploit the labour of those who
5 can least afford to provide it. It may end up burying the solid scholarship that founded the DRR
6 field, a body of knowledge that is rich in insights that are all too easily forgotten and which
7 have wide applicability to other fields such as climate change, resilience thinking, development,
8 and sustainability science.
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15 Rather than identifying and praising scholarship, the current means of assessment may cause it
16 to degenerate as a result of the pursuit of metrics that have little inherent meaning. Our
17 experience also suggests that quality control of the whole publication process - by authors,
18 editors, production teams, and publishers - is vital to the success of any journal and its ability
19 to carry important research. This will always be a labour intensive process, but sloppy
20 scholarship and inadequate attention to the quality of procedures and products are not
21 acceptable routes to the future of our field.
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29 Finding solutions that genuinely improve the situation without causing more problems is the
30 current challenge, and one that has so far proven to be particularly intractable. We respect and
31 are encouraged by free and critical discussions that have embraced topics such as open access,
32 predatory publication, bias, publishing ethics, and sexism and nepotism in peer review.
33 Ironically, these matters are often served up in the most interesting ways when the debate is
34 published in peer-reviewed papers. Initiatives such as 'Retraction Watch' monitor journals,
35 while many journals are open to letters, responses, and corrections, which is exactly how
36 science should operate. We are discouraged by self-appointed elites which control journals as
37 if they were fiefdoms, by self-published papers that represent inadequate scholarship, by the
38 occasional refusal to acknowledge concerns that are meticulously documented, and by abuses
39 of power when early career researchers or others rightly call into question unethical practices.
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50 One of the great risks of modern academic publishing is that the rush into (digital) print and the
51 heavy emphasis on quantity over quality will lead to a general deterioration of scholarship. We
52 should all examine our own practices in terms of how equitable and ethically justifiable they
53 are. We need the courage to identify and address ad hominem attacks, blatant re-inventions,
54 degradation of the peer-review process, crass self-referencing, manipulation of citation indices,
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3 and disregard for basic critical processes, among other threats to the mechanisms of science. In
4 large measure, the future of academic publishing is reflected in the choices we make now.
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8 Scholarly publishing of articles in the field of disaster risk reduction faces a double challenge.
9 First, the field is changing rapidly as society itself evolves and mutates, natural and other
10 hazards produce various forms and magnitudes of disaster, and vulnerabilities to impacts
11 generally increases in many ways. In order to propose solutions to urgent problems, research
12 must rise to the challenge of recognising and interpreting these phenomena. Second, academic
13 publishing is in a phase of rapid change as the digital revolution opens up new possibilities and
14 threatens to radically change the format of publication for the first time since the mid-17th
15 century. The sociologist Enrico L. Quarantelli saw this revolution as a development every bit
16 as important as the invention of printing. In a foundational paper (Quarantelli, 1997), he noted
17 that for every predictable consequence of the digital revolution there would be unpredictable
18 consequences, as technology both does what its designers expect and what they have not
19 anticipated. This represents both an opportunity for greater creativity in DRR scholarship and
20 a risk that standards will slip and vital research will be lost to a wider audience. These are the
21 challenges we face as academics who study disasters.
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51 ⁱ See, for example, *Disasters* virtual special issues:
52 <https://onlinelibrary.wiley.com/page/journal/14677717/homepage/virtualissuespage.html>
53 or those of the International Journal of Disaster Risk Reduction:
54 <https://www.sciencedirect.com/journal/international-journal-of-disaster-risk-reduction/special-issues>
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