CHAPTER 7
Publishing archaeological research results

INTRODUCTION
Isabelle Gérard[1]

No research, no fieldwork, no laboratory analysis is really finished until its results are shared with the scientific community, with disciplinary colleagues scattered around the world. It is the publication of the findings, analyses and conclusions that permits this communication, and that stimulates debate and deeper insights and even the continuation of the project.

Preparing the manuscript of an article, or even a monograph, is an exercise that involves a large number of rules and best practices, beginning with the use of English, the language of international scientific communication, and respect for orthographic, grammatical and typographic usages (see the specialized literature[2]). One should not hesitate to ask for help with translation, revision, and proofreading, and one should always have one or more colleagues review the submission: be open to their comments and corrections, step back from the text.

Then, as **Peter Robertshaw** says, one has to contextualize the text, by reading many of the publications about the subject or the project and in particular consulting articles appearing in the journal where the author would like to submit an article. Reading these latter will also make it possible to see concretely how the 'Instructions to authors' for the journal are used; these will have been downloaded or requested from the publisher before anything else is done.

To help choose the periodical or editorial collection for submission of a manuscript, one must ask the right questions: "How is my article relevant to the discipline? Which journals are read by my target audience? Are there impact factor journals in my field, and which one is best? Are there any indexed journals? Are they open access?" **Elena A. Garcea**, in her review, gives a description of the most representative journals and series for archaeology, and **J.-P. Devroey** explains in detail the characteristics of online and open access (OA) journals.

Nevertheless, it will be necessary to remain realistic: a junior scholar will often find acceptance of their first article difficult, especially in a journal with high impact factor. The more the author aims for the reputation of publication in an international journal, the more ruthless the evaluation by the editorial board and the peer reviewers and the higher the rejection rate (see **Robertshaw**).

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1   Royal Museum for Central Africa, Tervuren, and Royal Belgian Institute for Natural Sciences, Brussels.

2   Dictionaries, grammar guides, and style guides: an example for English woudl be the *Chicago Manual of Style,* University of Chicago Press. Also pay attention to the presentation of bibliographical references, which reflects your precision and your attentiveness to the author guidelines.

At the beginning of a career, it is useful to find the proper balance between the best disciplinary choice and the modesty of someone just starting in the field; it is sometimes better to first publish in a journal without a (high) impact factor, or to approach a local journal or one dedicated to development cooperation, for example. Armed with this first article, one can then progressively move towards more ambitious submissions... even though we know that today publications in high-ranking journals are an essential element in building a scientific career.

The submission process is not negligible in and of itself! The text must first be reviewed and verified in terms of its conformance to the journal's requirements. Today, most submissions are made online, using platforms like Open Journal System or Editorial Manager that are used by journal publishers. One must register, observe the procedures and read all of the notices, even small ones and those 'hidden' in a second screen window, because that is where the contractual conditions will be found: does the author have to pay Author Processing Charges? Does the author maintain rights to their text and data? What can be published in parallel in a university repository or on social networks dedicated to researchers, such as Researchgate (a preprint, a postprint or the publisher's final PDF of the article)? **J.-P. Devroey's** warning about the hybrid journals that have made Open Access a profitable business helps us to understand this unavoidable context of open access publishing, which may permit more frequent publications but sometimes in rather unsavory conditions!

PREPARING A MANUSCRIPT AND THE PROCESS OF PEER-REVIEW

Peter Robertshaw[1]

I. THE MANUSCRIPT

Let's assume that you have collected and analysed some archaeological data. Perhaps you have incorporated this work within your completed master's thesis or doctoral dissertation or perhaps this was a smaller-scale research project. Either way you would like to publish your work, both because you think that it is interesting and potentially important for our discipline and because it may help you to advance your career. Thus, the question is, how do you go about the task of getting published? First, it is important that you recognize at the outset that just because you have some archaeological data and academic qualifications that demonstrate that you are a bona fide archaeologist, this does not mean that your data and your work are worthy of publication.

To be worthy of publication your work must do more than add data to the store of knowledge, it must also advance our knowledge by contributing something new to a debate in our discipline or by filling in a gap in our knowledge that thereby helps us to understand the African past better and in more detail. Therefore, it is crucial that you can place your work within an academic context. You probably did this already when you wrote your thesis or dissertation or your grant proposal that funded your work. However, it is also possible that you obtained a contract to do some CRM archaeology, e.g. surveying the route of a new pipeline, that did not require you to think about the importance of what you might find. Well, now you have to think about the relevance of your work, which means that you should be familiar with the academic literature, not just that about the archaeology of 'your' region of Africa but also whatever broader issues and trends in our discipline that interest you. The ability to place your work within an academic context is a crucial component of successful publication. If you do not have access, in person or online, to good library facilities, remember that most of your colleagues who do enjoy these advantages will be very happy to help you by sending relevant articles electronically. Also, many researchers now make their papers available to everyone using websites like academia.edu and researchgate.net.

Now let's assume that you can place your work within an academic context, that you know the relevant literature, and that you are reasonably confident that you have something important to contribute. If you cannot answer 'yes' to all these assumptions, then perhaps you can still publish your data somewhere where it will not be peer-reviewed, perhaps in *Nyame Akuma* (the bulletin of the Society of Africanist Archaeologists) or even on a website that you yourself might create. Publications that are not reviewed, prior to publication, by your peers (often more senior professional archaeologists) may contain important data but they are perhaps unlikely to help you advance your career.

Thus, let us assume that you are ready to publish something that will be peer-reviewed. Well, will it be a book or a journal article? And who will publish it? Many archaeologists publish their doctoral dissertations as reports in the 'British Archaeological Reports' series of Archaeopress; this is perfectly acceptable and a good way to publish your dissertation rapidly, though the drawbacks are that these are cheaply produced books that are often not reviewed by major journals and unlikely to sell many copies. Your book will receive much more attention and more sales if it is published by a major academic publisher such as a well-known university press. The problem is, of course, that these publishers will hold your work to much higher standards and will require you to submit a detailed book proposal that explains why your work is important, an outline of the contents of each chapter, a discussion of the potential market for your book and of its competition from similar books. This proposal will be sent to several senior reviewers and, probably after some months, you may or may not be offered a contract to write the book by a deadline. Once the book is written – no small job – then your manuscript will again be subject to rigorous refereeing. This does not mean that you should not even try to have your work published as a book, but it does mean that you must be prepared to work very hard and be very dedicated and determined. Even if you do want to write a book, I encourage you first to write a journal article on some aspect of your work because this will also require hard work and determination but without

1 California State University, San Bernardino, USA.

your having to commit several years of your life to the project.

There are numerous archaeological journals to which you could submit your work, such as prestigious international journals that accept articles about archaeology all around the world; to name but a few and in no priority order: *Antiquity*; *Journal of Social Archaeology*; *Journal of Anthropological Archaeology*; *Current Anthropology*; *Journal of World Prehistory*; *Journal of Archaeological Science*. Perhaps your work would be more at home in a peer-reviewed journal that focuses on African archaeology; for example, *African Archaeological Review*; *Azania: Archaeological Research in Africa*; *Journal of African Archaeology*; *South African Archaeological Bulletin*. To choose where to submit your work, look at past issues of the journal and see what kinds of articles each publishes: where would your work fit best?

Once you have selected your journal, go to the journal's website, download and print the 'instructions for authors'. You should follow these instructions closely throughout the process of preparing and submitting your article; failure to do so will annoy the editors of the journal. These instructions will, however, probably not tell you how to structure your paper; editors assume that authors are the experts on how best to organize the presentation of their work. To help you, look at published papers: how are they organized and what headings and sub-headings do they use? Decide how best to organize your paper and then write it. Be ready to rewrite and revise your paper several times; writing is a skill that requires a lot of practice. Are your arguments and your presentation of your data clear and logical? Have you written about things that are not relevant to the goals of your paper? If so, get rid of them. Have you stayed within the journal's word limit? Some journals will accept longer papers but not if the editors and referees think that the length is not justified by the content. Be concise and precise. Have you included all the relevant references, not just articles and books that you have written? If you have quoted somebody or paraphrased their writing a little, have you put the quotation in quotation marks and cited the source? The worst thing that can happen to you is to be found guilty of plagiarism; then you may never publish anything ever again.

OK, now you have written a draft of your paper that you feel is good, so what's next? Have you presented some of your data or other information in tables? That is much better than having lists, especially lists of num-bers, in the text of your article. Never repeat in the text what is in a table. What about figures? Minimally you will probably need a map. If you cannot prepare a map yourself, e.g. by using Adobe Illustrator, you may need to pay somebody to do this for you. This is not the job of the journal's editors. The same is true of things like artifact illustrations. You can also include digital photos, which can often be published in color, but make sure that they convey information, have good contrast, and are at a high-enough resolution to satisfy the journal's publisher. Again, check the 'instructions for authors' and compare your work to published figures in the journal. Similarly, have you checked that your references are exactly in the format required by the journal? Finally, if you have not done so already, you need to write the abstract, again sticking to the word limit required by the journal. The abstract should concisely convey the subject of your paper and its major conclusions; write it in an active voice.

II. THE SUBMISSION PROCESS AND PEER REVIEW

If you are writing a book and you have a contract from a publisher, then send your editor a draft chapter before you have written the whole book. If your editor likes your draft chapter, then you will be more confident about writing the rest of the book. Once you have finished the book manuscript, send it to your editor. However, unlike a journal article, you probably will not need to have completed all the figures before sending in the manuscript. For a journal article, everything, including all the figures, should be complete before you submit it, following the journal's submission instructions. Often journal articles are submitted electronically on the publisher's website.

Once submitted, the editors will send your book or article to at least two and often several referees. The editors might also ask you to suggest the names of some potential referees, but it is the editors' job, not yours, to contact those people. Some referees will read an article and provide a report to the journal editors within a few days but others may take weeks, perhaps months. Usually editors allow about a month for referees to respond, but the process can often drag on for longer. Be patient, though it is OK to inquire politely about the status of your submission after a couple of months. Eventually the moment of truth will arrive and you will open the email from the editors with trepidation. There are four possible outcomes: 1) acceptance; 2) acceptance with minor revisions; 3) major revisions; 4) outright rejection. Be aware that the

first outcome is very rare and so don't get your hopes too high. The second one is usually the best you can hope for. Do the minor revisions requested and resubmit your article as soon as you can. The editors will want to see that you made the requested revisions but they will probably not send the paper out to referees again. Outcome 3 is the most common response for major journals, especially where there are several referees. If you get this response, do not give up and do not take it as a personal attack or as an indication that your work is not worthy of publication. It is worthy but the referees believe that your paper can be considerably better. Believe them and do the revisions, but only after giving yourself a day or two to calm down and get beyond your initial disappointment. Work through the revisions methodically. The required changes may seem overwhelming at first, but do them one by one and they become manageable. You can disagree with the referees on some issues; if you do, when you resubmit your paper, make your case to the editors explaining why you rejected some suggested revisions. However, you cannot simply refuse to make all the revisions because you disagree with the referees. If you try to do that, your paper will be rejected. If your paper is rejected (outcome 4), you can be disappointed, even angry, but it will not do your reputation any good if you write an angry letter to the editors. The editors have used their professional judgment based on their knowledge and the referees' reports. They do not deserve your anger. Moreover, they are often unpaid and certainly underpaid for their work. They do the job out of their love for archaeology, which they share with you. If your paper is rejected, read the referees' reports and any remarks from the editors carefully; think about how you could make your paper better, not about what idiots the referees are. Perhaps you could revise it and send it to another journal, where a different set of referees may look at your work more favourably. Your paper might not be deemed good enough for *Science*, for example, but it might well be good enough for *Azania*. Remember that almost all your colleagues whom you respect have had papers rejected during their careers.

Finally, once your manuscript is accepted, make sure that you correct the proofs that you receive in a timely manner and following the journal's instructions. If you are prompt and easy to work with, the journal and its editors will be happy to work with you again.

WHERE TO PUBLISH?

Elena A.A. Garcea[1]

I. WHICH PUBLICATION FORMAT?

There are different formats for publishing scientific data: journals, chapters in edited books, contributions in conference proceedings, and monographic volumes. Chapters in edited books are usually compiled by ad-hoc editors of volumes who select the authors they consider to be knowledgeable and invite them to provide their contributions on a specifically identified subject. Among others, edited books on specific aspects of African archaeology include Shaw *et al*. (1993), Lenssen-Erz *et al*. (2002), Stahl (2005), and Mitchell & Lane (2013).

It is relatively easier to contact journal editors and the publishers of monographic volumes and this can be done individually, once an author is ready to submit his/her manuscript for publication (see Robertshaw, this volume, pp. 304-306).

The journals wherein to publish an article on African archaeology are virtually uncountable. **Table 1** provides a very partial, but sufficiently indicative, list of journals that have published articles on African archaeology from 2000 to early 2017.[2] However, there are many other archaeology journals with a worldwide scope, not included in this list, which can publish papers on African archaeology. The purpose of this list is to demonstrate that there exists a non-Africanist audience for papers devoted to African archaeology, and that publishers are increasingly keen on accepting contributions about this continent.

For reasons of space, this chapter cannot consider all these journals, but nevertheless seeks to provide a useful tool in mentioning some of them with their corresponding websites (**Table 1**), and in focusing on the major journals and book series entirely dedicated to African archaeology.

II. AFRICAN ARCHAEOLOGY ORIENTATED JOURNALS AND MONOGRAPHIC SERIES

There are several journals and monographic series dedicated to African archaeology. Here, they are presented in alphabetical order with their aims and major topics of interest. Most of them, but not all, are peer-reviewed (Robertshaw, this volume, p. 304-306). This means that submitted manuscripts are subject to initial appraisal by the journal editor, and, if found suitable for further consideration, to peer review usually by one or two independent, anonymous referees.

A. Journals

African Archaeological Review

Published in collaboration with the Society of Africanist Archaeologists (SAfA, http://www.safa.rice.edu), this journal aims at highlighting the contributions of Africa to key global archaeological issues, as well as enhancing the place of Africa in world archaeology. Papers should present new field data liable to improve the understanding of inter-regional processes, major cultural changes, and transitions in Africa's past. They can also offer new interpretations on cultural continuities and discontinuities, interregional interactions, biocultural evolution, cultural dynamics and ecology, the role of cultural materials in politics and ideology, the application of ethnohistorical, textual, and ethnoarchaeological data in archaeological interpretation, conservation, management of cultural heritage, information technology, and public archaeology. Some of the topics include earliest manifestations of human culture, the emergence of modern humans, and the origins of African plant and animal domesticates. Papers can be submitted in either English or French and are peer-reviewed.

Afrique : archéologie & arts

It is dedicated to the study of the archaeology and the arts of Africa with an art history approach. Articles on archaeological artistic productions from the entire African continent are welcome. This journal accepts original and unpublished works, as well as summaries on specific topics. A place is also given to current university research by publishing summaries of dissertations and theses. This journal is now also available on the OpenEdition platform of Revue.org (http://www.openedition.org/13352). Papers can be submitted in either English or French and are submitted to a reading committee usually composed of members of the editorial scientific board and occasionally external reviewers.

Azania: Archaeological Research in Africa

As the journal of the British Institute in Eastern Africa, it was originally created to publish papers on the archaeology

and precolonial history of Eastern Africa, but now covers all aspects of African archaeology, as well as the connections between Africa and other parts of the world, regardless of temporal or spatial boundaries. It publishes original papers and briefer research reports on the results of fieldwork, new methodologies, syntheses of key topics or debates, issues of current theoretical concern, and connections of history, theory and methodology with other disciplines (for example, history, linguistics, genetics, etc.). Papers can be submitted in either English or French and are peer-reviewed.

Journal of African Archaeology
It is published in collaboration with the Society of Africanist Archaeologists (SAfA). Its main purpose is to provide scholars and students with a pan-African forum for discussing relevant topics on the cultural dynamics of past African societies. It publishes original papers on recent research and developments in African archaeology and related disciplines with no geographical, chronological, or thematic limitations. Theoretical considerations, synthesis, short notes, and reports on recent fieldwork are

Journal	Website	No. of articles
African Archaeological Review	http://link.springer.com/journal/10437	175
Afrique : Archéologie & Arts (since 2001)	http://etudes-africaines.cnrs.fr/prez_revue/afrique-archeologie-arts; http://www.openedition.org/13352; Contact: revue.aaa@mae-u-paris10.fr	64
Almogaren	www.almogaren.org	25
Antiquity	http://antiquity.ac.uk	47
Archéologia	http://www.archeologia-magazine.com	14
Azania: Archaeological Research in Africa	http://www.tandfonline.com/loi/raza20	236
Bulletin de la Société préhistorique française	http://www.prehistoire.org/515_p_21855/le-bulletin-de-la-spf.html	11
Bulletin du Musée d'Anthropologie préhistorique de Monaco	http://map-mc.org/bulletin	5
Bulletins et Mémoires de la Société d'Anthropologie de Paris	https://bmsap.revues.org	11
Cahiers de l'Association des Amis de l'Art rupestre saharien	http://aars.fr/cahiers_18_en.html	26
Comptes Rendus Palevol	http://www.sciencedirect.com/science/journal/16310683	12
Current Anthropology	http://www.press.uchicago.edu/ucp/journals/journal/ca.html	36
Geoarchaeology	http://eu.wiley.com/WileyCDA/WileyTitle/productCd-GEA.html	14
Ikosim	http://www.lemag.ma/english/Ikosim-journal-of-North-African-archaeological-studies-is-published_a1693.html	7
International Newsletter on Rock Art	http://www.icomos.org/en/about-the-centre/periodicals/periodiques-en-ligne-2/165-articles-en-francais/centre-de-documentation/557-inora-international-newsletter-on-rock-art	4
Journal of African Archaeology (since 2003)	**http://www.african-archaeology.de**	153
Journal of African Earth Sciences	http://www.sciencedirect.com/science/journal/1464343X	148
Journal of Anthropological Archaeology	http://www.sciencedirect.com/science/journal/02784165	19
Journal of Archaeological Science	http://www.sciencedirect.com/science/journal/03054403	129
Journal of Human Evolution	http://www.sciencedirect.com/science/journal/00472484	211
L'Anthropologie (Paris)	http://www.journals.elsevier.com/lanthropologie	12
Nature	http://www.nature.com	29
Nyame Akuma	http://safa.rice.edu/NyameAkumaBulletin	260
Palaeogeography, Palaeoclimatology, Palaeoecology	http://www.sciencedirect.com/science/journal/00310182	60
PLoS ONE	http://www.plosone.org	53
Préhistoires méditerranéennes auparavant Préhistoire Anthropologie méditerranéenne)	http://pm.revues.org	21
Proceedings of the National Academy of Sciences of the United States of America	http://www.pnas.org	64
Quaternaire	http://quaternaire.revues.org	17
Quaternary Geochronology	http://www.sciencedirect.com/science/journal/18711014	14
Quaternary International	http://www.sciencedirect.com/science/journal/10406182	181
Quaternary Research	http://www.sciencedirect.com/science/journal/00335894	23
Quaternary Science Reviews	http://www.sciencedirect.com/science/journal/02773791	56
Sahara. Preistoria e Storia del Sahara	arrêté	62
Science	http://www.sciencemag.org	47
South African Archaeological Bulletin	http://www.archaeologysa.co.za/saab	231
Sudan & Nubia	http://www.sudarchrs.org.uk/resources/publications/bulletin-sudan-nubia	261
The Holocene	http://hol.sagepub.com	15

Table 1. Indicative list of journals and total number of papers published on African archaeology from 2000 to early 2017 (modified from the database of the library of the Laboratoire méditerranéen de préhistoire Afrique Europe - Lampea: http://lampea.cnrs.fr).

also accepted. Papers can be submitted in either English or French and are peer-reviewed.

Nyame Akuma

It is the bulletin of the Society of Africanist Archaeologists (SAfA). It aims at publishing short articles on all aspects of African archaeology and at providing a regular update on current fieldwork in Africa. It is not refereed by peer reviewers and is not intended for the publication of major articles. Papers can be submitted in either English or French.

Préhistoires méditerranéennes

Previously called *Préhistoire Anthropologie méditerranéennes*, it welcomes any original contribution on the prehistory of the Mediterranean basin, including North Africa and the Sahara. It aims at offering a space for theoretical debates and at encouraging a lively forum for scientific discussions and diverging opinions. All articles in the new series of this journal are available online on the open-access portal OpenEdition (http://pm.revues.org) and are printed on paper in yearly issues. Special issues on specific topics can also be published in the form of supplements. Papers can be submitted in either English or French.

South African Archaeological Bulletin

It is the journal of the Association of Southern African Professional Archaeologists (ASAPA). Its founding principles were to balance so-called 'academic excellence' with a 'fight against embroiled and over-complicated jargon' and to offer a longstanding commitment to public archaeology. Its main purpose is to raise the profile of African archaeological research and to demonstrate the key importance of archaeology within post-colonial Africa. It publishes original research articles, field and technical reports, and discussion forum contributions on all aspects of African archaeology. Papers can be submitted in English and are peer-reviewed.

Sudan & Nubia

It is the bulletin of the Sudan Archaeological Research Society (SARS) and is dedicated to the archaeology of Sudan, South Sudan, and Egyptian Nubia. It includes short papers on recent fieldwork, including reports on just finished surveys and excavations. It presents the British archaeological activities in those areas, but also welcomes contributions by foreign scholars working in the areas. Papers can be submitted in English.

B. Books

Scientific volumes are also subject to peer review, usually consisting of a preliminary evaluation by the editor and, if approved, of at least two qualified outside reviewers familiar with the specific topics and areas who provide constructive commentary and advice regarding the manuscript.

'Journal of African Archaeology Monograph Series'

This series is a supplement to the *Journal of African Archaeology*. It has been created to offer a platform for more extensive contributions on African archaeology and related disciplines, such as ample research data, refereed conference proceedings, and other collections that are too long and detailed to fit the journal's scope. Volumes may take the form of monographs or multi-authored works including thematically diverse contributions. Manuscripts can be submitted in either English or French and are peer-reviewed (http://www.african-archaeology.de/?page_id=160).

'SpringerBriefs in African Archaeology: contributions from Africa'

'Contributions from Africa' is a subseries within the series 'SpringerBriefs in Archaeology', which has been recently enlarged with a subseries devoted to African archaeology. It is sponsored, though not financed, by the Society of Africanist Archaeologists (SAfA), whose sponsorship with the publisher seeks to enhance the dissemination of knowledge about Africa's past and to highlight the scientific relevance of African archaeology in broader archaeological debates. Contributions focus on the global implications of African archaeology with diverse theoretical and conceptual views and aim at developing the significance of African archaeology for readers unfamiliar with this continent. They cover all periods – from the earliest archaeological traces to the significance of contemporary material practice for archaeological interpretation – and encourage innovative thinking across traditional boundaries. Manuscripts can be submitted in English and are peer-reviewed (http://www.springer.com/series/13523).

'The Sudan Archaeological Research Society's Fieldwork Publications'

This is the series of the Sudan Archaeological Research Society (SARS), which also publishes the journal *Sudan & Nubia*. Like the journal, it is focused on the archaeology in Sudan, South Sudan, and Egyptian Nubia. Volumes are published with the purpose to provide a prompt

publication of the results of fieldwork projects and other works in those regions. Manuscripts can be submitted in English (www.sudarchrs.org.uk/resources/publications).

III. PUBLICATIONS FOR THE WIDER AUDIENCE

A final word should be said about the importance of publications aimed at a different but equally important audience than the scientific community. In fact, the ultimate purpose of archaeological research is to offer the public a better understanding of the human past. Regional and general syntheses on African archaeology have a vital role to play both in Africa and outside (see, for example, Connah 2001, 2004). Scholars should not forget that African archaeology can fulfil a dire need of dissemination of knowledge on the centrality of the African past for humankind. To quote V.G. Childe, archaeology helps people 'to think more clearly and so to behave more humanly' (Childe 1956: 127).

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ON-LINE PUBLICATION AND OPEN ACCESS
Jean-Pierre Devroey[1]

From the end of the 1990s, scholarly communication has increasingly borrowed from electronic publishing, first in parallel with paper publications. Since the mid-2000s, an increasing number of traditional journals and new emerging publications have adopted the 'born digital' approach (Erway 2010), eliminating any reference to paper. The principal actors in the publishing market have multiplied the number of journals through increasing specialization, in order to inflate their content and justify increases in subscription prices. Between 1986 and 2003, increases of more than 200% on average were observed, while during the same period inflation in the United States (CPI) did not exceed 68% (Panitch & Michalak 2005). The growing concentration in the scientific publishing sector, and in particular the purchase of many periodicals previously published non-profit by learned societies, naturally favoured this inflationary tendency, which was slowed but not stopped by the consolidation of libraries into purchasing consortia. Faced with these economic developments, which exclude some scholars and some segments of the general public (especially those in developing countries) from access to information and hinder the free flow of ideas and knowledge, new forms of publication and dissemination of knowledge have developed in academic circles, as part of the Open Access movement.

FIRST FREE ACCESS INITIATIVES AND *PEER REVIEW*

Begun in 1991, arXiv.org laid the foundation for a dissemination model different from the traditional publishing system, providing immediate dissemination and open access for scientific articles which were often published later in conventional journals. The model was also original insofar as it replaced the submission process with the principle of moderation by a community of users, invited to judge whether the text was of the necessary quality and offering reactions on its content ex post facto. Initially covering physics, the server has gradually opened to other related subjects: mathematics, computer science, nonlinear sciences, quantitative biology and statistics (arXiv.org 2014).

In 2002, the Budapest Open Access Initiative (BOAI), begun by the Open Society Institute, marked the beginning of a global campaign 'in favour of open access for any new peer-reviewed research' (BOAI 2012). Highlighting the impediments to the dissemination of scientific literature defined as a 'public good', the declaration defines OA as the 'free and unrestricted online availability' of publications. It is important to note that for its initiators, OA did not call into question the existence of peer-reviewed journals, which are the guarantors of the transparency and quality of scientific publication. The declaration also underlines the individual benefits that open access brings 'to the author and his work [by giving them] a new visibility, a new impact, and a new, expanded and quantifiable audience' (BOAI 2012). It should be added that OA is accelerating the dissemination and citation of results, to the benefit of authors and research in general. These reflections, as we shall see, retain their full relevance.

The success of arXiv obviously stimulated the various actors in the field of academic publishing. Authors saw a means of decisively speeding up the dissemination of their publications by depositing them in open and free archives, even before their submission to a journal (in a preprint version; see below). The principle of peer ex post facto moderation remained for the most part confined to physics and related sciences. Recently, peer discussion has been implemented at social networking sites such as ResearchGate or Academia.edu, for example, where access is however conditional on individual registration. It should be noted that such sites tend to operate as archives by encouraging their members to deposit copies of their academic publications and make them freely downloadable, at the risk of encouraging the digital redundancy associated with such supplementary archives or of encouraging authors to disregard the embargo periods imposed by some journal publishers.

THE TWO ROUTES TO OPEN ACCESS

The implementation of Open Access is based on two possible avenues:

1. Self-archiving, that is the deposit by their authors of journal articles or texts (see below) in open electronic archives (Harnad 2001). This practice has been made possible by the establishment of institutional archives ('repositories'; see below) in universities.

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1   Emeritus Professor at the Université libre de Bruxelles and Académie royale de Belgique.

2. The creation of new journals engaged in open access and the transition from existing journals toward OA. 'Since journal articles should be disseminated as widely as possible, these new periodicals will no longer invoke copyright to restrict access and use of the material they publish' (Budapest 2002).

Because of the limitations of copyright (a somewhat misleading name, since it in fact involves often-exclusive rights granted by the author to the publisher), which limit its scope, self-archiving has moved away from the ideal of archiving the article in its definitive form (pubprint); some publishers allow only self-archiving and OA of publications as originally submitted (preprint) or as modified after peer review (postprint). These practices are a source of nuisance, since several versions of an article may be made public.

Open archives, 'repositories' in English, exist in the form of institutional archives, gathering for example all the scientific publications produced within a university, or thematic archives where publications are deposited by their authors. In universities, the policy of open access and repository of scientific publications is frequently defined by an institutional mandate, which precisely delineates the obligations of researchers with regard to their institution in terms of self-archiving. Such mandates can also be defined by a national agency (for example FNRS 2013) or an international research funding body, such as the European Union for example (European Commission 2013). In 2012, via a recommendation, the European Commission encouraged member states to make publicly-funded research results available in the public sphere, in order to strengthen science and the knowledge-based economy (European Commission 2012). At the end of 2014, the Registry of Open Access Repositories reported some 3,830 open archive repositories (ROAR 2014).

The free and open access provided by repositories is labelled the 'green road' (Suber 2013). It differs from a second category of OA, known as the 'golden road', mainly in that the archive is not restricted to items that have been peer reviewed but is extended to any type of scientific publication, without additional and specific verification.

The *Gold OA* principle assumes the publication of articles in peer-reviewed journals and their open and free access, without requiring an obligation to self-archive. A number of commercial publishers and learned societies have opted for this OA, but since it is above all a question of making money, they have linked this free access to payment by the author of a defined sum. If the author cannot or does not wish to pay this amount, then the article is only available through payment by the reader (via library subscriptions), which gives this model a hybrid character that must be resisted.

We should not confuse the open/free OA alternative, which defines the rights of users, with the green/gold alternatives, which distinguish modes of diffusion (archiving, publication in a periodical) (Suber 2013).

OA ECONOMIC MODELS

The opportunities offered by digital publishing and OA, but also the threats that they pose to the profits of commercial publishers, have led to many innovations in academic publishing business models and practices.

Concerning copyright, OA has led to a clarification of relations between authors and publishers and undermined the model of the exclusive assignment of copyright to the publisher which prevailed since the 1980s in the commercial publishing sector. Contracts now define the extent of the rights granted, for example by reserving the right of self-archiving and free access ('green OA'). The policies followed by publishers are conveniently gathered by sites such as SHERPA/RoMEO (2014). Authors, when confronted with requests for exclusive assignment of rights, can offer to the publisher an alternative institutional mandate.

Concerning publishing costs, some publishers have opted for financing in advance, by charges to authors (author-pays) or to research funding institutions/agencies (Suber 2013). These publication fees are commonly referred to as 'article processing charges (APC)'.

Since 2003, the Directory of Open Access Journal lists OA periodicals on the criteria of quality and accessibility. University libraries frequently integrate the Directory in their online catalogues or discovery portals. At the end of 2014, the DOAJ had 508 periodicals in anthropology and 60 in archaeology, giving access to more than 105,000 articles (DOAJ 2014).

ADVISORY NOTE CONCERNING PREDATORY PUBLISHERS

The author-pays system has led to the emergence of an increasing numbers of actors who are parasitizing upon the model of peer-reviewed academic publishing, by introducing the questionable practices of 'vanity press' book publishing. Between 2005 and 2012, the number of OA periodicals increased from 2,000 to 8,355 (Enserink
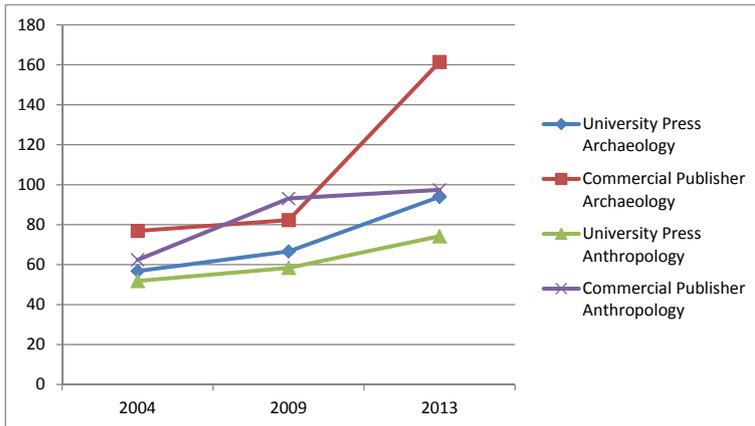
Fig. 1. Trends in monograph prices in the US domestic market (average price, in USD). Source : YPB Library Service 2014.

2012), including many scientific 'pseudo-periodicals'. At the end of November 2014, Jeffrey Beall's list of predatory publishers contained the names of 664 publishers and 480 isolated periodicals (Beall 2014).

These predatory publishers put authors who trust them doubly at risk, by: a) jeopardizing their reputation and scientific career; and (b) drowning their research in a mass of publications tainted by plagiarism and republication, or by pseudoscience ('junk science'). Yet the electronic image of 'vanity publishers' is carefully constructed to deceive potential authors and induce them to pay publication costs, which cumulatively generates substantial profit:

- the name of the publishing house or the title of the periodical imitates or borrows some of the keywords of scholarly communication (University Press, Academic, World/International/Scholarly Journal of, etc.);
- the official address of the publisher is a simple mailbox located in a country or a city with a strong academic profile. In reality, the publisher is located in an emerging country with a strong digital industry, such as India or Pakistan;
- the editorial boards are composed of people without a strong academic reputation, often coming from relatively lower-ranked universities;
- the editorial board promises a peer review process in just a few weeks, which hides the fact that most submitted papers are accepted;
- a spontaneous solicitation was sent to the author on the part of an alleged editorial board or publisher: this does not happen in scientific 'real life'!

In order to identify these OA predators and, more generally, to make the best choices about where to publish, a certain number of indices can be used by authors to measure the reputation of a periodical in OA (besides the general criteria of scientific profile of the editorial committee and the transparency of the peer review system):

- is the journal included in a general bibliometric index, such as the Web of Science or Scopus, or specialized indices? Note that a presence in Google Scholar only means that the digital trace of an article has been collected by this search engine, without any filter for quality;
- can the quality of the journal be measured by indicators such as the h-index, impact factor, SJR, SNIP and Eigenfactor (see definitions in University of California Santa Barbara Library 2014);
- is the journal archived in an academic database (such as JSTOR, Perseus, SCIELO, etc.) or is permanent access guaranteed by organizations such as PORTICO or LOCKSS (see definitions below)?

For a long time, the human sciences sector was spared the price over-inflation that characterized publications in the sciences. Unfortunately, this is a thing of the past.

Practices like the exclusive transfer of distribution rights, an absence of editorial effort by unscrupulous publishers who prefer to simply place articles on paper or on-line ('camera-ready'), lobbying against OA with public authorities, a disproportionate increase in prices (see figure 1) which results in a reduction in article views, may on the contrary lead to a vicious circle publishing of 'more expensive/fewer sold' in the human sciences, whether it involves books or magazines.

In 2006, a commercial periodical was 2.52 times more expensive than a non-profit periodical in the field of sociology, while the first of these journal categories was 2.6 times less cited than the second (Dewatripont *et al.* 2006)! During the period 2010-2014, the average increase in periodical cost was 6.24% per year, continuing the chronic over-inflation in the field. If these percentages, reduced by 2 to 3% in the case of purchases of full periodical portfolios by libraries, no longer reach the double-digit inflation which characterized the 'serial crisis' up to 2008, they still illustrate the relevance of the OA objectives defined by the BOAI in 2012.

All of this should encourage researchers to maintain and use their right of self-archiving and to create and publish widely (see for example SCIELO in the Luso-Hispanic world, and Revues.org and Érudit in French) in journals that adhere to OA and support non-profit models of scholarly communication.

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