

Article

Reflective Practice: Eight Stages of Publishing a Scientific Research Paper

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Abstract: This paper suggests a methodology of academic paper classification for the scientist intending to contribute to peer-reviewed scientific literature. This will enable the progress of the typescript through the publication system to be accurately determined at any stage. The publication process is split into eight subdivisions of differing worth and import: in navel contemplation; in preparation; submitted; in review; revision, revised, and resubmitted; accepted; in press; and publication. Papers in navel contemplation are referred to as in preparation by many, which can be an embarrassment when asked exactly what has been prepared. Rather than listing papers as in preparation in academic submissions, it is better to list them as unpublished data until published. Efficient authors keep a close watch on their papers between submission and the proof stage. They must be sufficiently organized to manage their publications and to be aware when things slow down. The methodology is flexible and, if it does not work for some authors, then they have a simple framework to adapt to their own preferences. In short, scientists need to show care and not be overly optimistic about the progress of any paper.

Keywords: academic publishing; in preparation; in review; in press; publication

1. Introduction

Scientific publishing, from the point of view of the author, can vary from the highly organized to the chaotic. Both extremes can occur amongst and between authors and their publishers. My experiences of the latter are varied, although generally positive. However, a book review that I was asked to write was never rejected, but never published. A critical review of some of the strange typesetting errors in a book (there was a destructive computer virus that was only detected after publication) was delayed by the journal editor for five years, waiting for a corrected edition that never appeared, and there are other such experiences [1]. Yet, I emphasize again that these are extreme examples: the academic publication process is commonly a portrait of efficiency.

Having demonstrated that at least some of us are not perfect, my focus is now readjusted to look hard at a much larger group with their own disorganized underbelly, namely academic authors in general and scientific writers in particular. Many authors are confused, not understanding what point of the publication process their paper has reached and what their responsibilities are at that stage. Scientists are trained to do science, after all, not to write or coordinate writing. Responsibility is an important word in this context; many otherwise responsible scientists and other academics are more or less irresponsible as authors, although, in part, this may be a result of their lack of education in the publishing process or, equally likely, their disinterest. For example, two papers which were reviewed and returned for correction before I took over as editor of a journal still had not been returned for publication after a year; they were scrubbed from the list of papers in process. If they ever were resubmitted, I would have treated them as new submissions and sent them for review. That is, not all scientific authors are responsive or attentive to their own responsibilities in ensuring the timely movement of their papers through the publication process.

This paper is presented as an educational text for all scientific authors who intend to or have submitted a paper to a peer reviewed journal. It is informed by my 36 years of experience as a scientific author, with a little less time as a reviewer and editor. It reflects on what I believe should happen and is influenced by what I know has happened in certain cases, for better or worse. I hope to show disorganized authors how to be more prepared or even constrained in how they submit papers. In short, it is their responsibility to know at what stage their paper has arrived and what this means for them.

2. Eight Stages

I have divided scientific, academic publishing into eight stages, from the good idea to the final publication. Another author might use more or less, or different subdivisions. The arrangement that I present herein is based on my own publication experiences and practices, I know that it works for me. Chances are it might do so for you as well.

2.1. *In Navel Contemplation*

Not a category that is widely used, but better than the authors who say a paper is ‘in preparation’ before they have written a word, drawn any of the diagrams or tables, and have not consulted with any of the possible co-authors. Obviously, this possible paper is not yet prepared in any definition of the word, but it is contemplated.

Let me give one example of how this confusion in terms may turn round and bite your ankle. When I was a post-doc, a colleague in the last year of their Ph.D. had a job interview and was invited at short notice to bring a draft copy of his paper ‘in preparation’ that was mentioned in his application. Oops, this paper was truly in navel contemplation. He worked all night on an incomplete, hand-written draft and found a willing typist in me the next day. He failed to land the job, but the paper was eventually published.

2.2. *In Preparation*

“Do not use ‘in preparation’, which implies a promise that may never be fulfilled . . . ”
(O’Connor and Woodford, 1975, p. 53) [2]

‘In preparation’ may be either an exaggeration (see above) or a potential trap. In an ideal world, a paper is prepared and published, but there are many banana skins strewn for the unwary on the slippery slope to publication. Many papers are started, yet are forgotten as new projects take center stage. Co-authors may be slow to write their sections or provide essential data. A desire to do just one more experiment or read one more reference may be less constructive, not more. That is, there is always one more paper to read, one more experiment to conduct or whatever, and if it isn’t you, then your co-authors may have no urgent desire to submit.

Projects ‘in preparation’ may take many forms. I started to write a semi-popular book on Caribbean geology in the late 1990s, but then moved in other directions and failed to complete it. It remained ‘in preparation’ in a box file full of hard copy, discs, and relevant offprints until 2017—almost 20 years—until I read Jensen [3] and realized this to be what she calls a ‘toxic project’, not progressing, just collecting dust and unlikely to be finished. No more—I recycled the hard copy and trashed the disc.

When we are young (or perhaps not so young) and brimming with enthusiasm for new projects, we can publish papers which list forthcoming publications as ‘in preparation’. I strongly recommend that you resist this temptation by some Devil of Academic Deception. I am aware of papers and monographs that were ‘in preparation’ over 20 years ago that have not appeared and, I am sure, they have been forgotten by their purported authors. They will never appear. As an illustration, consider a folly by the young Donovan [4] (Figure 1 herein). The illustrated fragment of a reference list is fanciful. I had moved to a lectureship at the University of the West Indies in Jamaica in January 1986. I soon

immersed myself in the study of Jamaican fossil sea urchins and gave my first research talk on this project at a specialist conference in Victoria, Vancouver Island in 1987. In my enthusiasm for the project, the published paper included three papers 'in preparation' (Figure 1). Oh, dear. Only one paper was published in the predicted form and within a year or so [5]. I lost contact with Schmidt and, when eventually published almost 20 years later, he only received an acknowledgement [6]. Donovan's monograph on the sea urchins of the Coastal Group was instead published as a series of shorter, mainly co-authored, papers such as [7,8].

fossiles. Paris and Wiesbaden.
 Donovan, S.K. in prep. Echinoderms from the
 Coastal Group (Miocene to Pleistocene)
 and Pleistocene raised reefs of Jamaica.
 Donovan, S.K. & Carby, B.E. in prep.
 Disarticulated echinoid plates from the
 Paleocene of Jamaica.
 Donovan, S.K. & Schmidt, W. in prep. A
 nucleolitid echinoid from the Cretaceous
 of western Jamaica.
 Durham, J.W., Fell, H.B., Fischer, A.G.,

Figure 1. Three papers 'in preparation' from the reference list in [4]. Only one of these papers was completed in the form indicated here and published in a timely manner [5]. See text for fuller explanation.

The solution to such bibliographic hiccups is never to refer to any paper as 'in preparation'. Rather, I now refer to (Donovan, research in progress) or Donovan (unpublished data). These appear in the text or figure/table captions, but not in the reference list. Thus, the reader is reliably informed without being sent on a bibliographic wild goose chase. In short, 'in preparation' is a useful appellation for your *c.v.*, but it is a potentially misleading commitment in a publication.

2.3. Submitted

Congratulations! The job is done. Submission of a research paper is rarely premature. Rather, it is more likely to be delayed by a desire to proofread the completed text just one more time, when two minor errors of spelling are corrected and aspects of the punctuation revised.

In my youth, I would label any freshly submitted paper as 'in press' in my ignorance. At that time, I knew no better. If a paper is 'submitted', then call it so. You are waiting to hear from the editor. Your paper may be rejected at this stage, which is fine. A quick decision of this sort by an editor who is attentive enables you to reformat the text for your second-choice journal while the material is still in your head. Treat rejection letters at any stage as an opportunity, not a death knell. If rapidly rejected at this stage, the paper and the journal are mismatched.

But, in truth, you would rather hear that the editor has sent the paper for review. The editor has seen your paper as a potential match for the target journal, but now needs the input of one, two or more specialist reviewers. Hopefully, you supplied the electronic submission system with the details of several specialist reviewers who will be able to supply measured, positive comments on your paper.

2.4. In Review

Your paper is in review and it is a time for waiting. The reviewers and editor are working on your behalf, and they need time to do a competent job. As a general rule, the more that you have written, the longer it will take to review. But I have reviewed a monograph in under two weeks and have waited six months for an editorial decision (reject) on a short note. Use this waiting period to work on your next paper.

Eventually, the editor will forward the review(s) and the editorial decision. This may be an outright rejection (so, reformat the paper for another journal and submit); rejection, but with an invitation to resubmit following major revision in the light of the review comments; conditional acceptance, the paper

requiring either minor or major revision; or, most rarely, acceptance ('publish as is') [9]. Whatever the decision, deal with it accordingly and do it sooner than later. You have already spent enough time working on this paper; act immediately to propel it towards publication [10].

2.5. *Revision, Revised, and Resubmitted*

More waiting, but, hopefully, not too much.

2.6. *Accepted*

More congratulations! Until you have corrected the proofs to your own satisfaction the paper is not truly 'in press', but there are other jobs to complete at this time, including the paperwork for transfer of copyright, deciding if your grant is big enough to pay for gold open access and buying offprints, if required [9]. Complete the various forms associated with these tasks when they arrive in your in-box and wait, patiently, for your proofs.

2.7. *In Press*

The proofs arrive and it is essential that you make adequate time to correct them. Find a quiet place where you can concentrate while reading them. You are checking the text for two sources of error: mistakes introduced by an over-zealous copy editor and the type setter; and your own inaccuracies that have been overlooked and somehow slipped through until now. Once your paper is typeset, it looks different from before and that will give you a new perspective, emphasizing the less obvious errors in the text.

If you are a scientist, your paper may be littered by formulae, tables, text-figures, and photographic plates. Each of these presents potential problems and pitfalls to even the most conscientious of proof readers, so take it slowly and carefully. That is, less haste, more speed. Chemical formulae are easily typeset incorrectly as, say, CO₂ for CO₂. I have seen similar errors in print. Tables may be complex and data can be transposed within or between columns. A common problem is that illustrations can be reproduced too small; for example, see Figure 178 in [11]. A common fault is a figure, intended for reproduction at full page width, being reproduced at a smaller size while the last page of the paper includes a significant blank space. Request that the typesetter reproduces the figure at full page width, which can be done without increasing the length of the paper. Space will thus be used to better effect.

2.8. *Publication*

What is publication in 2018? Some journals only appear in electronic format, others are published only in hard copy. Thus, publication in these journals is a unique event—it happens just once and your paper is published.

But many—perhaps most—journals now publish each paper twice, first electronically and later in hard copy. Publishing in such journals is no longer a unique event. I treat such publishing doubles in a simple way. When the electronic version appears on-line, the paper is still 'in press' on my c.v., but supplemented by the DOI (digital object identifier). Only when the paper appears in hard copy does the year of publication replace 'in press'. And, of course, the electronic and hard copy versions may be published in different years, so I ignore the year of publication of the former.

3. Discussion

This paper suggests a methodology of academic paper classification for the aspiring scientist and other academics who intend to publish their ideas and results in the peer reviewed scientific literature. The methodology is flexible and, if it does not work for you, then you have a simple framework to adapt to your own requirements and preferences.

All of my scientific papers, up to the point of publication, can be fitted in one of the 'boxes' discussed above. Certainly, papers 'in preparation' do not appear on my c.v., but did when I was

younger (Figure 1), for better or worse. Papers ‘in navel contemplation’ are likely to appear first as a conference paper and maybe reference to that abstract is all that is needed until the full paper is submitted.

The real test is in keeping track of papers between submission and the proof stage. Where is it? Who is dealing with it right now? Is it me or a co-author, editor, reviewer(s), copyeditor, typesetter? Whoever, are they doing their job or has the paper slipped between the cracks? In short, you must be sufficiently organized to manage your paper and to be aware when things slow down. I use a simple list in Word, but a spreadsheet may be more flexible. I present this paper so you will have an improved feel for exactly when to give the mechanism a kick. Good luck for all your submissions.

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