

To Write or Not to Write... a Book, and When?

Joseph H. Silverman

There are few academic pleasures that compare to holding in your hands a book that you've written, on a subject that you love, and seeing people teaching and learning and becoming inspired from your writing. So the answer to the initial question in the title of this article is "Yes, you should consider writing a book."

The answer to the second question, *when* to write a book, is trickier. Few methods of imparting advice are less effectual than those beginning with "Do as I say, and not as I do," but that's how I must start. I wrote my first book, a graduate-level textbook on elliptic curves that was published by Springer-Verlag, while I was a post-doc at MIT. The book was based on a course that I taught, and I foolishly believed that it would take about a year to turn my detailed course notes into a book. It took three years, which became my book-writing rule-of-thumb: books take roughly three times longer to write than the initial estimate. My book was well received, and even now, 30+ years later, it continues to be used, a source of considerable gratification. However, when hiring and promotion committees evaluate research accomplishments, textbooks, even those at an advanced level, tend to carry less weight than research articles. So I find it difficult to encourage early career mathematicians to write books. On the other hand, my own experience shows that one can go down that path and succeed, but it is important to continue publishing original research while writing your book.

What should your book be about? It should be on a subject that you are passionate about and on which you

feel that you have something to say. And if that's the case, don't spend time worrying about general criticism from people who tell you about the book that you "should" be writing. As Dot admonishes Seurat in Sondheim's *Sunday in the park with George*:

*Stop worrying if your vision is new.
Let others make that decision...
they usually do!
You keep moving on.*

Okay, you've chosen your topic, the time is now, and you're ready to start writing your magnum opus. I generally start with a rough outline of the material that I want to cover, first by chapter, then by section; but don't become too firmly wedded to your initial plans. The preliminary table of contents for my first book included topics that eventually filled two volumes, with 20% of the topics untouched!

A great way to generate the core of a book is to use lecture notes from a course that you developed. But keep in mind that lecture notes are not books, and it can be surprisingly more difficult to clearly explain mathematics on a printed page than in a classroom. Your book will require more explanation and more detail than your notes. However, keep in mind that it's also possible to go too far in the other direction and to provide so much detail that your reader loses sight of the forest for the trees. It's a delicate balance, and a good way to get it right is to put each section aside for a few days, and then try to read it as if you were learning the subject for the first time. Which leads me to one of the keys to good writing...

Reread every paragraph and every sentence and every word, and think about whether they are necessary and/or can be rewritten to better convey your meaning. This may mean writing a paragraph or a page or an entire section,

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DOI: <http://dx.doi.org/10.1090/noti1814>

then throwing it out and rewriting it now that you've figured out how to do it right. Yes, this can be time consuming, but it will immeasurably improve your exposition. And to help justify the added time, you can balance the extra hours that you spend writing a page against the hundreds of hours that your (hopefully) thousands of readers will spend reading and studying it.

Once you have a draft of your book, there is no substitute for using it to teach a course. You'll find yourself making lots of changes and correcting lots of typos. And be sure to ask your students for feedback. Another way to get invaluable advice is to find a colleague who's willing to test drive your book.

It's finally time to present your work to the world. The traditional approach, and the one most authors still follow, is to sign a contract with a publisher, who then handles the myriad details of converting your source file into a physical and/or electronic book. This includes copyediting, printing, marketing, and distribution. In return, the publisher gives you a percentage of the sales price as a royalty.¹ If you go this route, you should be prepared to provide (1) an introduction to your book that explains what it contains and how it fits into the existing literature; (2) the table of contents; and (3) a couple of sample chapters. This can be done via email, starting with a brief note asking the publisher if they might be interested. But even better, if you can attend the annual Joint Mathematics Meeting of the AMS/MAA, visit the booths of potential publishers such as the AMS, Springer-Verlag, Cambridge University Press, etc., and make appointments to speak with their acquisitions editors. And note that publishing a book is different from submitting a research article; it is quite acceptable to show your book to several publishers simultaneously. Finally, once you are offered a contract, be sure to read it carefully. Some items may be negotiable, while others are not.

Back in the dark ages of the pre-21st century, there were few alternatives to using a publisher to print and distribute your book, and even now, this path offers many advantages. But there are other options, including in particular self-publishing your book online. You can do this by simply posting it on your own website, or for wider distribution, you can upload it to a website such as AMS Open Math Notes (<https://www.ams.org/open-math-notes>). But be sure that the site lets you retain the copyright to your material.

There is far more to say, and people far more experienced than me have written entire books about how to write books. So the final lesson that I will impart, and which I will now follow myself, is to resist the urge to keep adding material and to wrap up your project when it has reached a suitable length.

Writing a book can be a daunting task, especially given the many other calls on your time. So in closing, I can do no better than reproduce a quote from someone who found time to write more than 30 books amidst an event-filled political career:

Writing a long and substantial book is like having a friend and companion at your side, to whom you can always turn for comfort and amusement, and whose society becomes more attractive as a new and widening field of interest is lighted in your mind.

—Winston Churchill



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Author photo is courtesy of the author.

¹But don't plan on quitting your day job and living off the royalties from your advanced mathematics textbooks!