

## HOW TO WRITE A BLACKWOOD PREFACE

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To write mathematics is no feat. Any sequence of theorems and proofs will do, preferably arranged according to a logical order. Even if the order they follow is not strictly logical, or perhaps even confused, people will only assume you are too brilliant to care or notice, and leave it at that. Things too cumbersome to write out, you may safely leave to the reader as an exercise. You have to be slightly more careful when writing the introduction, but since this is essentially only a summary of the main text, it should not present too many hazards.

The really difficult part to write is the preface. Here, if anywhere, some literary skill is required. Ideally, the preface should contain no mathematical mumbo-jumbo, but rather be a coherent and artistically designed piece of text, containing motivation, applications, and acknowledgements.

We summarise below some points of interest, some of them applicable to articles, some to books, and some to both.

1. To start with, you need to bring out the importance of your subject, and, indirectly, yourself. A good first phrase, if not the very best (it is employed by Stanley), is the following: “Recent years have seen an explosive growth in pumping theory”, if pumping theory is indeed the subject of your exposition. Apart from immediately alarming the reader (you imply that pumping theory is a current trend, of which the reader knows nothing), it is very probably true. The sum of all human knowledge within a given field has a tendency to grow exponentially, and there is no reason why this principle should not apply to pumping theory.
2. Remember to mention applications. Stating in the preface that your theory has applications is almost as reassuring to the reader as it is to you. A fascinating fact about mathematics, and which might come as a pleasant surprise, is that, no matter the obscurity of the subject, there are always applications. See the general guidelines in Table 1. The difficulty is, as usual, with geometry, which has always suffered from its wide inapplicability. There is a field called “computer vision”, which could possibly count as an application, but note that some people consider computer vision to be a part of mathematics itself, and thus not an application. (These people usually do computer vision and nothing else.)

When thinking of applications, you will have to be creative, of course, and very unspecific. Keep in mind that readers are never interested in the applications anyway, just in the fact that they exist.

<i>If the subject matter is...</i>	<i>...there are applications in...</i>
Logic	Computer science
Analysis	Physics
Algebra	Cryptography
Geometry	Computer vision?

Table 1: Applications of different fields of mathematics.

For instance, we (the author) are currently preparing a monograph on polynomial functors. As this subject lies at the crossroads of module theory (algebra) and category theory (foundations), it is very likely that there exist applications in both cryptology and computer science. Of course, polynomials also show up in analysis, which opens up for applications in physics as well. These applications may not exist today, but, as everything finds its use eventually, we are confident that, at some point in the future, *there will be applications*. It is impossible, unthinkable, that this not be so. Naturally, no one can say what these applications are (or will be), and we shall be deliberately vague at this point.

3. Thank your wife, who (no doubt) “did a beautiful job in typesetting the final version of the manuscript”. If you do not have a wife, invent one.

You may also thank your secretary, but these days people rarely have private secretaries. Your university has to be a reasonably wealthy one, if people are to believe in her existence. Speaking of which, should you decide to invent one, she should have an ostensibly female name (preferably preceded by “Miss” or “Mrs.”, but such titles are not always customary outside of the English-speaking world). There is something very queer about a male professor being served by a male secretary.

For female professors, things are even more difficult. The recommended course of action is to invent a female secretary. A male secretary gives the wrong ideas, and claiming your husband did the typing for you will give a most unfavourable impression of your relationship. You *may* of course invent a wife, but people will then inevitably jump to conclusions. The question is an extremely delicate one.

Under all circumstances, you must make it absolutely clear that you *have not performed the actual typing yourself*. Only a professor of very low regard would resort to that. Directing another person, especially a non-mathematician, to do the typing for you also carries the additional advantage that you are not personally responsible for typos, which there assuredly will be plenty of.

*Exception.* Lars-Christer Böiers. No wives are present in his books, and no typos either. This might be a coincidence.

4. Make sure to thank Serge Lang. It is of no importance whether you have actually made his acquaintance, or not. If you have met him even once

(perhaps you listened to him lecture at a conference forty years ago) — all the better; then you can certainly think of a good reason to be grateful. If you do not know him at all, try to give the impression that you do. It is safe to assume that a man of his merit does not remember all of his acquaintances, and most likely, he will never read your book anyway. After he was deceased in 2005, there is an even further drop in probability.

5. Thank further colleagues, where appropriate. You do have colleagues, don't you? Surely, you can think of something to thank them for? The merest trifles will do, but make sure it becomes an extensive list of people. In addition to being a matter of scratching each other's backs, it gives the impression that you have a social life (involve it only other mathematicians).
6. Let the phrase "problem solving is the single most important aspect of mathematics" motivate the more than 59,000 exercises. Ideally, this should be pointed out in boldface on the front and back cover as well, as being a "unique feature" of the book.
7. Draw the reader's attention to the 8,000 carefully worked-through examples you have included to inflate page count.
8. You should normally translate the name of your affiliated university into English. Write "Stockholm University", rather than "Stockholms universitet".

*Exception.* Institutes of technology may not want to appear as such. In these cases, it is preferable to leave the school's name as is; the more unintelligible to an English-speaking person, the better. For instance, "Lunds tekniska högskola" or "LTH" do not appear too degrading, whereas if you write "Lund Institute of Technology", people might think you are only doing computer vision, and will not attach any significance to your work.

*Exception to the exception.* If you happen to work at a *royal* institute of technology, you may still want to translate your school's name. For example, if you state that you work at "Kungliga tekniska högskolan", you will fail to convey (to an English-speaking person) the impression that your school is owned by a king, who is actively involved in your research. Emphasise his participation by writing "Royal Institute of Technology", or, better yet, "Royol Istutite of Tecnholgy".

9. The preface should be dated, and it is recommended to choose quite a festive occasion to do so. Not because writing a book deserves celebration, but because only very busy people work on holidays.

For example, a quick glance at Lars-Christer Böiers's monumetary treatises gives at hand that he works on: Ascension Day (*Analys i en variabel*, 1st edition), Midsummer's Eve (2nd edition), All Hallows' Eve (*Analys i flera variabler*, 1st edition), and Midsummer's Eve again (2nd edition).

10. Close with the phrase “special thanks go to [*Insert name of respectable-but-not-very-well-liked-colleague here.*], without whom this book would not have been written”, so people will know whom to ultimately blame.