Prospectus: "Writing for Telepathy", by S.B. Heard

Working title: "Writing for Telepathy: Practicing the craft of scientific writing"

Central message: The book has three major elements to its message.
1) The aim and purpose of good scientific writing is absolute clarity and ease of communication between writer and reader, or "telepathy".
2) Most writers aren't born with the gift of writing telepathy, but instead improve by deliberately practicing the craft of writing.
3) What many writers need is not long lists of prescriptive rules, but rather direct engagement with their behaviour as they write.

A reader of my book should come away not just with a set of tips and rules, but with an approach to the writing craft that includes a motivation and a way of knowing and modifying their own writing behaviour. The behavioural engagement is what makes the book more than just a list of rules – this should empower a writer to take charge of their own development in the craft.

Length: Planning 60,000 - 80,000 words, with 22 chapters organized into 5 parts (TOC attached).

Schedule: As of March 2012, I have completed two sample chapters and fragments of several others. The book is a major aim for my sabbatical, July 2012 – June 2013. I intend to complete the manuscript no later than June 2013 (assuming a contract is in place before June 2012).

Target audience: This book is primarily aimed at graduate students, postdocs and early-career researchers in the sciences. While the content is centred on the production of scientific writing, an explicit argument is included that mastering the craft of scientific writing will pay dividends for those with careers outside academia as well. The book would also be suitable for upper-level undergraduates in writing seminars, etc., particularly with the inclusion of a few text boxes addressing issues particular to writing for coursework (e.g., how to negotiate writing help from friends/colleagues without running afoul of academic regulations on doing your own work). The primary focus is on writing the journal article, as this is by far the most common kind of writing for early-career researchers in the sciences, but a chapter (5.2) is included on other writing forms.

I limit the scope of the book to the sciences for two reasons:
- While many of the attributes of good writing are the same across all fields, writing conventions and publishing practices do vary in important ways. Writers in the sciences share style and format conventions, data- and statistics-presentation challenges, and other concerns that differ significantly from writers in the humanities and other fields. Books like Becker’s Writing for Social Scientists and Booth’s The Craft of Research certainly contain much of value for writers in the sciences, but they also contain much advice that is irrelevant or counterproductive for such writers – and the more a writer needs help from writing books, the less able he/she is to distinguish the relevant advice from the other.
- Capturing and holding reader attention is an important challenge for any book, and shared experience between author and reader can help enormously with this. I have read Becker’s and Booth’s books carefully, because I’m already highly motivated to think broadly about writing technique, but this will not be a typical attitude among scientists. A book that requires reader effort to translate from an unfamiliar field risks losing readers. My book can speak directly to writers in the sciences because I share their concerns and their interests.
Why write this book?  As a faculty member, reviewer, and editorial board member I’ve read hundreds of draft manuscripts by grad students, postdocs, and colleagues. Over the years I’ve developed some reputation as a useful source of writing help, and I’ve also become increasingly conscious of looking at my own writing (both content and process) from an outsider’s perspective. I see common threads in a lot of writing deficiencies (including my own), and common kinds of behaviour in a lot of writers (including myself). When I am working with someone’s writing, I try to help the writer improve not just the manuscript in front of me (“take this detail out, and add this one”) but the next one they write too (“always ask yourself what your central story is, and which details the reader has to know to understand that story”). All this has convinced me that I have useful things to say to new writers, and even to experienced ones. Some of these things are pretty standard, and appear in many writing books, but don’t seem to be absorbed by the typical writer. Others are things that don’t seem to be covered in any book I’m aware of (see next section). I believe I can make a greater contribution to the profession by producing a book with broader reach than my commenting on manuscripts one at a time.

What distinguishes this book from the competition?  Interestingly, I find I still have much to say to writers who own, or have read, other books of writing advice. This doesn’t mean that existing books are useless, but it does mean that they do not fully do the job. In part this may reflect deficiencies in content, but I suspect that the major problem is that other books do an imperfect job of motivating writers to work hard at improving their writing, and of engaging the kind of writer behaviours that can either impede or drive their improvement.

No scientific-writing book that I’ve seen maintains an explicit, book-long focus on writer-reader “telepathy” (message point 1 above; in other books, at the very most this is addressed in a single short chapter or section). In my book, the introductory chapter (1.1, attached) sets this in a historical context and makes a strong case for the importance of telepathy – and then this is maintained as the central focus all the way through the book. This maintained focus motivates a writer to care about everything else, because every grammar rule and style convention, every step of the writing, revision, and publishing process makes sense and is worth toiling at only when it assists in writer-reader telepathy.

Many books provide information writers need to improve their craft (message point 2 above) – for instance, rules about structure, style, and grammar. However, in almost all cases these books define what ought to be done, not why it should be done or how the writer should do it. To use a simple example, nearly every book explains that pronouns refer to antecedents, and most show examples of ambiguous or misleading antecedents. This is the “what ought to be done” part. A few books address the “why do it” part, identifying pronoun antecedents as a frequent cause of reader confusion and explaining why clear writing is desirable. But no book I’ve seen tackles writer behaviour to address how ambiguous pronoun antecedents creep into writing, and what a writer should actually do in order to produce manuscripts without antecedent problems. Chapter 4.1 (attached) relates antecedent problems to the psychological concept of “theory of mind” and shows how writers can detect such problems via the revision technique I call “reader simulation” (lines 109-138). The chapter details revision strategy for achieving reader simulation in general (lines 139-209) and dealing with antecedents in particular (lines 211-216). This narrow example illustrates the general approach of my book, one taken by no other scientific-writing book (Matthews et al., Successful Scientific Writing, is the closest model in terms of engaging writer behaviour). My book will speak directly to writers about how they can practice their craft to reach the goal of "telepathy".
In terms of content, some of the material in my book will be very distinct from competing books. For example, the motivational chapters (1.1, 1.2), chapters on managing writing behaviour (2.1), momentum (2.4), and philosophy of rules (3.1) will be very different from competing treatments. Parts IV (on revision) and V (a couple of miscellaneous topics including managing coauthorships) consist largely of material that is not well treated by anyone else. Treatment of the “response to reviews” document (Chapter 4.4) is something I’ve never seen in any writing book, and yet my experience as a reviewer and as an editor has taught me that this document is incredibly important to the fate of a submitted manuscript.

Of course, not all the content of the book will be unique. Just as every 1st-year biology textbook needs to cover DNA structure, every writing book needs to be concerned with some basics. So, for instance, I would expect my chapters on outlining (2.3), structure (3.2), word choice (3.5), and brevity (3.8) to contain advice not very different from that in competing books. However, my book will still be distinctive in its approach to this material: in the focus on writer behaviour and on the goal of telepathy.

How would a reader use this book? The book will be an alternative (I believe a better one) to other available writing guides for scientists. However, it is not primarily a composition book and will not exhaustively cover (for instance) the rules of English grammar. Therefore, one of its goals is to motivate the reader to obtain and use in addition a more technical reference on the construction of English prose. That is, I will explain why writers should care about technical aspects of writing, and I will cover some of the common sources of trouble in scientific writing, but I will not attempt to replace reference guides to grammar, punctuation, etc.

Some writing books adopt a style that is utilitarian and encyclopaedic (where the reader proceeds directly to an individual section to find information on a particular topic; Matthews’ Successful Scientific Writing is an example). Others adopt a style that is enjoyable and narrative (where the reader will likely read through from beginning to end; King’s On Writing: A Memoir of the Craft is an example). The strength of the encyclopaedic style is that readers can find exactly what they need when a particular problem arises – but its great weakness is that readers receive only the advice that they realize they need. Some of the most useful writing advice I’ve ever received has solved problems I didn’t know I had, and the narrative style can deliver such advice. My book will hit the middle ground here so as to combine the strengths of both stylistic approaches. It will be highly structured, with a table of contents (attached) arranged to follow the sequence of tasks through a writing and publishing project; this will permit encyclopaedic access by readers who need that. But my book will be readable as a narrative, too – rewarding the reader who starts at Chapter 1 and enticing him or her to continue. To achieve this, I begin with the historical and motivational chapters 1.1 and 1.2, and I make liberal use throughout the book of anecdotes about personalities (e.g. Chapter 1.1, lines 69-87; 4.1, 76-80), interesting linkages between science writing and science itself (e.g. 4.1, 121-128 and 149-157), and even entertaining asides (4.1, footnote 1). In teaching, I have a natural tendency to wander away from core facts into such interesting “extras”. Early in my career I worked hard to suppress this tendency – but I’ve since learned that these extras grab and hold my students’ attention, and thus make it easier for them to absorb the core facts. I use the “extras” similarly in the book. I have shown the sample chapters 1.1 and 4.1 to a number of senior PhD students, and the most rewarding thing I’ve heard back (from several students) is that they wanted to keep reading.
Attached materials: Three other documents accompany this prospectus:
- an annotated Table of Contents showing some theme and content points for each chapter
- sample chapter 1.1 "On Bacon, Hobbes, and Newton, and the selfishness of writing well"
- sample chapter 4.1 "Self-revision"

Capsule summary of some competing books:

- Alley, *The Craft of Scientific Writing*. States goal of clear communication well, but only about 10% (Part V) is about writing behaviours. Heavily rule-based with little about how to actually bring writing into compliance.
- Booth et al., *The Craft of Research*. Much broader book with a lot of material on defining a research problem, bibliographic research, logical argument, etc. Only Part IV is really comparable to my proposed book. Heavily Arts-focused.
- Elbow, *Writing with Power*. Very much like the book I propose in rhetorical approach: lots of direct engagement with writer behaviour. However, strongly focused on arts writing (both fiction and non-fiction). "Power" is not the same as "clarity" - the book recommends distinctive style that doesn't work well in scientific writing. Dated.
- Harmon and Gross, *The Craft of Scientific Communication*. Excellent for describing what a clear, structured article looks like, but heavily rule- and example-based without direct approach to writer behaviour. Does not include much to help someone having trouble sitting down to write or revise.
- Katz, *From Research to Manuscript: A Guide to Scientific Writing*. One of the stronger books, with good focus on practical how-to, at least in terms of lists of tasks to accomplish; however, this stops short of much engagement with the psychology of writer behaviour. Some of the style/content recommendations themselves are dubious (e.g. guidelines for figure design).
- Matthews et al, *Successful Scientific Writing*. Perhaps the closest in overall approach to my proposed book. Chapters 1 and 3 offer excellent direct engagement with writer behaviour, while other sections tend more to lists of rules and examples. Narrowly focused on biomedical fields.
- Rogers, *Mastering Scientific and Medical Writing: A Self-Help Guide*. Very similar to Katz: many well presented and very useful rules, but little about writing behaviour to reach compliance with them. Little about revision.
Annotated Table of Contents

The topic points listed here are intended to be representative, not exhaustive.

Part I. What this book is about

1.1 On Bacon, Hobbes, and Newton, and the selfishness of writing well.
   - "telepathy": clear, effortless receipt of your message by the reader
   - this is not something you do as a service to science (although it is that); it's what you do so that you will have readership and impact. Hence, 'selfishness'.

1.2 Genius vs. practice
   - while there are a very few "natural writers" out there, for nearly all of us writing is a craft, one that we can get better at by practicing.
   - recognizing that one is a practitioner, not a genius, can be very empowering.
   - importance of deliberate, conscious attention to writing, not just content.

1.3 What this book is, and isn't, about
   - this isn't a book about grammar rules, or citation formatting, or table layouts. It's about how an ordinary, normal scientific writer can learn to write better and better, so that his/her readers can get the message easily and go on to give the work impact.

Part II. Actually writing: behaviours

2.1 Managing your writing behaviour: Scheduling, etc.
   - including brief homage to "How to Write a Lot"

2.2 Starting
   - easing into writing to build momentum
   - integrating writing with the rest of your scientific activities

2.3 Outlining
   - informal vs. formal outlining
   - determining content: including data/analyses based on the story you want to tell, not on the total amount of work you've done.

2.4 Keeping going
   - strategies to keep momentum and evade "writer's block"

Part III. Actually writing: content and style

3.1 Rules: when to follow them, and when to break them
   - why they matter, even though this book isn't about them
   - rules matter because, and only when, they work to help achieve telepathy.
3.2 Structure and Sections
- hourglass structure and flow
- conventional and unconventional paper structures

3.3 Paragraphs
- independence, topic declarations, length, etc.
- transitions

3.4 Sentences
- active voice, sentence length and complexity, etc. (heavy nod to Strunk and White)
- importance of sentence structure that's simple and clear; avoid ambiguity or misleading (eg danglers)

3.5 Words
- vocabulary, terminology, word choice, etc. (more heavy nod to Strunk and White)
- use of jargon when it achieves clarity and thus telepathy; avoid it when it does not: 'use', not 'utilize'; but 'polyacrilimide', not 'gel'
- importance of word meanings: why Humpty Dumpty was wrong

3.6 Figures and tables
- clear design
- appropriate level of detail
- when should you use colour?

3.7 Literature Citations
- when citations are needed, and how many; and when they are not
- keeping track of citations as you write
- brief coverage of citation styles (mostly, that one defers to journal style)

3.8 Brevity
- why concision in important to publishers, readers, and writers
- some enemies of concision: redundancy, padding, jargon, parentheticals, etc. (with references back to chapters 3.2-3.6)

Part IV. Revising

4.1 Self-revision
- when not to revise: holding your nose to complete the first draft
- "self-revision" is not polishing. It's critical self-destruction and reconstruction.
- the importance of letting go: removing material that doesn't work/fit, even if it took blood, sweat, and tears to produce it
- Key: reading your MS as if you were the reader, not you. This is much harder than it sounds; discuss techniques for thinking as the reader

4.2 "Friendly" reviews
- how to get reviews from friends and colleagues, and at what writing stage
- how to use them to best advantage
- “iterated” friendly review – the special case of serial revision for supervisors, etc.

4.3 Formal reviews
- what to expect from journal/press reviewers
- how journal reviews differ from "friendly" ones
- how to suggest reviewers
- interpreting constructive reviews
- how apparently unconstructive reviews are actually constructive too

4.4 The "response to reviews"
- possibly the most important part of a resubmission
- how to write one that makes it easy, if not irresistible, for the handling editor to accept your paper

Part V. Miscellaneous

5.1 Managing coauthorships
- how to write and revise as part of a team
- determining who merits authorship, and what order authors are listed

5.2 Writing forms other than journal papers
- differences in writing style and publishing process for different forms of writing
- the importance of understanding and providing what a specific audience needs
- journal paper vs. book chapter vs. monograph
- technical reports
- nontechnical writing (essays, blogs, magazine articles)

5.3 The next project
- maintaining momentum and bridging one writing project to the next