Before

&After

Simple rules for turning your technical and
research work into great writing

Before and After: Simple rules for turning your technical and research work into great writing

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I live a dual life. Part of it is spent helping science and technology professionals develop refereed journal papers, monograph chapters, trade press articles, and books. The other part involves writing popular non-fiction books under my own byline, including several successful titles for major publishers over the last few years.

So what do successful technical publications and top selling books have in common with each other? If you are guessing that it is inspiration – or perspiration – you are only partially right. And perhaps not even the greatest part. Both involve a known *methodology*, just like your technical work.

This article will walk you through the methodology behind a successful technical publication, by showing you what happens **before** and **after** you follow several simple rules. Follow them, or have your writers follow them, and you have a high probability of being published – and more important, disseminating your important work to a much wider audience.

Rule no. 1. You've got 30 seconds

The single biggest flaw that I see in most technical publications is the "intro that isn't an intro" - an opening that talks about the history, details, and minutiae of your topic, and *then* finally shares the value proposition. Here is how the introduction to a typical technical paper reads:

> Psoriasis is a major public health problem. Since it was first discovered in 1872, people have struggled with what they now call "the heartbreak of psoriasis", bla, bla, bla.
> Previous studies on psoriasis have shown that bla, bla, bla (Dull 1994, Boring 2003, Longwinded 2004). Other researchers have found bla, bla, bla. This has led to other studies, bla, bla, bla.
> This paper discusses a concept map of physician attitudes toward the treatment of psoriasis. It looks at bla, bla, bla.

Here is how I edit this introduction so it grabs your attention:

- I move the last paragraph (e.g. the chapter purpose) to become the first one.
- I boil this section down to be no more than a manuscript page and a half in length, with short, clear paragraphs.
- I make sure that every sentence and every paragraph supports a clear purpose and outcome
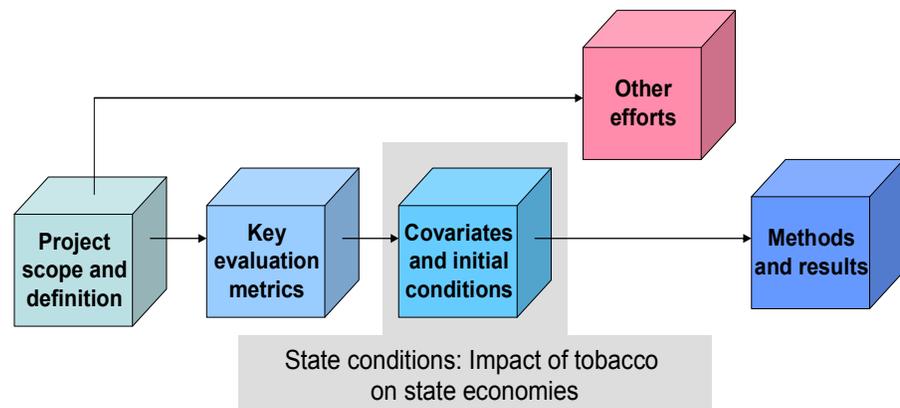- I move the background and history to a subsequent section.

Whether you are submitting a refereed journal paper, or a book proposal to a major publisher, it is an accepted rule of thumb that you have no more than *30 seconds* to make an impression – good or bad – on the person reviewing your project. So think about how you will make the most of that critical first sentence, first paragraph, and first page, so that it serves as an "elevator speech" (i.e. what you would tell someone on a 30-second elevator ride) about what is new, different, and important with your paper.

Rule no. 2. Plan it out

Scientists often use charts and graphs to make their points clear. In much the same way, a visual "map" of your publication can help flesh it out into readable, high-impact content.

The figure shown here is a section plan for a recent monograph volume I was involved with. Note that it defines a logical order of sections, and more important, a sense of the flow from section to section, including one section outside this normal flow.

(Adapted from: National Cancer Institute. Evaluating ASSIST: A Blueprint for Understanding State-level Tobacco Control.Tobacco Control Monograph No. 17. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute. NIH Pub. No. 06-6058, October 2006.)

In much the same way, a plan for the sections of a paper helps frame its content, which brings me to the second most common thing that I do editing a technical paper: turning a deathless list of studies and results into a *story*, with a beginning, a middle, and an end:

- The **beginning** of your paper – the introduction and background sections – should make the case for your research and briefly summarize prior work.
- The **middle** of your paper discusses your methodology, the study itself, and a summary of the results.
- The **end** of your paper – i.e. its summary and conclusions – should represent a short, readable synthesis of the outcomes from your work.

Many if not most refereed journal articles are subject to word limits, so one more important benefit to a good outline is that it helps you plan estimated word counts for each section. As an author you have a nearly infinite level of flexibility in the level of detail and content you use, making this outline a game plan for a clear, effective paper.

Rule no. 3. Break it up

The shorter the sections of your document are, the better.

You are highly intelligent. You may have a graduate degree. You make a career of doing important work that is helping to improve the world. So what is your attention span as a reader? According to studies, *less than five minutes* – a figure that is, in fact, much better than that of the unwashed masses who will actually be reading your publications.

This means that the single most productive thing you can do to create a readable paper or article is to *think short* – because we all read and understand short bursts of information much more easily than a "wall of words." Here are some guidelines:

- Paragraph lengths should ideally be no more than 150 to 200 words.
- Create sections and subsections so that none of your lowest level sections are more than two to three manuscript pages.
- For trade press and popular articles, use bullet items like these to outline key points and break up large blocks of text.

Within limits, the general rule is that the more you break things up, the merrier.

Rule no. 4. Highlight the good stuff

Sidebars, bullet items and tables add structure and readability.

What do you give your young children to read? Books with lots of pictures, games, and activities? Or an unabridged manuscript of *War and Peace*?

The reality is that your readers and reviewers are not that much different from these children from a cognitive standpoint: we all like to be engaged and entertained. So aside from using short paragraphs and sections, using lots of "eye candy" – such as figures, tables, and sidebars – is the next most important thing you can do to insure reader interest and retention. (I am doing exactly the same thing here in this article!)

Sidebars are a great way to highlight important text, or interesting sidelights, in a way that breaks up your story and keeps the reader interested. Here is an example of one:

Sidebars and summaries: The low-budget, high-impact rewrite

Once I was called in to edit a technical volume that had received numerous peer review comments that its chapters were long, disjointed, and didn't come together to tell a good story. There was no budget for what the reviewers recommended, which was a complete rewrite. Instead, we created a visual "roadmap" of the volume, summarized each chapter relative to the overall goals of this roadmap, and created numerous sidebars highlighting key chapter issues in shaded boxes.

The end result? A volume that now flowed visually, allowed readers to "skim" the key points quickly, and was ultimately published with much better reviews.

Rule no. 5. Sum it up

A good summary should be exactly that: a summary.

Former Chrysler CEO Lee Iacocca once described his formula for a speech as follows: "I tell them what I'm going to tell them. Then I tell them. Then I tell them what I've told them."

This brings me to the third most common thing I edit in technical papers: the summary-that-isn't-really-a-summary. You should close your paper with a synthesis of the work you have done in it, its significance for the reader, and possible future directions – and then ruthlessly delegate any further issues or tangential discussions to the body of the paper. In short, tell them what you have told them.

Pulling it all together

Now it's my turn to "tell you what I've told you." There is a process behind taking good ideas from your technical work and turning them into successful publications, that involves five simple steps:

- Create a clear introduction that frames your paper topic.
- Develop an outline that tells a clear story and guides your word count.
- Keep paragraphs and sections short.
- Break up your paper with figures, tables, bullets, and sidebars.
- Have a short summary that synthesizes the results of your work.

I intentionally used the same process for this article, and guess what? Here you are reading it to the end! This is what I want for your own work: to engage people, to teach them something new, and ultimately to help them – and you – benefit from the fruits of your technical work. Best of success in your own publishing efforts!

About the author

Rich Gallagher is a freelance writer whose projects include serving as a style and content editor for the National Cancer Institute Tobacco Control monograph series, editing books and refereed journal papers, ghostwriting a thought leadership book for a major corporate CEO, creating web content, developing conference proceedings, and many other projects.

Rich is also a popular author on communications skills and workplace culture, with four book club selections, two books reaching the Amazon.com top 3000, and nearly $1/2 million in gross sales. His recent books include *The Soul of an Organization* (Dearborn, 2002), *Great Customer Connections: Simple Psychological Techniques That Guarantee Exceptional Service* (Amacom, 2006), business fable collection *What to Say to a Porcupine* (Amacom, 2008), and a forthcoming book on the psychology of how we give people feedback.

About R.S. Gallagher and Associates

R.S. Gallagher and Associates creates national-caliber written communications for technical and business clients nationwide, and specializes in making complex subjects understandable. Headed by an Ivy-League engineering graduate and former software executive whose own writing ranges from prestigious technical journals to best-selling non-fiction books, our services include:

· Science, technical and business writing
· Ghostwriting books and articles
· Edited conference proceedings
· Web content
· Training and marketing materials
· Client reports
· and many other projects

We are consummate professionals who work quickly, listen to your needs, never ever miss a deadline - and put your ideas into professional written content for any target audience. Contact us for a no-obligation discussion of your written communication needs and discover what we can do for you!

Visit us on-line at www.rsgallagher.com, or call us at 607-564-9878.