La Bella Figura. The importance of making a good impression. Part 1. Writing

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Creativity and communication are inextricably linked in science. Ideas in isolation, stay in isolation. For such a visual science as geology, good communication is as much about graphical presentation as the clarity, depth, and veracity of scientific arguments. The current wealth of powerful graphics and mapping software should make this easier. There are certainly some impressive publications out there that maximize this power. But sadly, not all. This is all the more important when building commercial products, where the look and feel impact user perception as much as scientific correctness.

I have always been frustrated, if not a little impressed, that a client who has just bought a technical report will instantly find the one typo in 100 pages of text and imagery.

The concern, as a business, is that the client's view of that report will then be forever tarnished by that discovery. If the typo is compounded by scrappy graphics or a poor choice of color scheme, the reader may not get as far as the science and a failed sale is the result, or even worse, no future sales.

And yet, too many knowledge-based companies focus only on their scientific cleverness or just getting the project done.

Twenty years ago, that may have been enough. Hand-drawn figures, typed manuscripts and photocopied images from papers were accepted. That is no longer the case.

This is not only because of tighter copyright laws (understandably) but also because client expectations are much higher. Consequently, the overall look and 'feel' of a scientific report in knowledge-based businesses is critically important. It is about perception and most of all trust.

When thinking of form and function it is impossible to ignore the Renaissance and the rediscovery of the lessons of classical Greece and Rome.

In my last directorial role, I was fortunate to hire an excellent editor and a talented draftsman to make the process easier for all and ensure quality. But you need buy-in from all your staff to make this effective. Otherwise, the pressure will fall on your editing department who will spend more and more time making staff work fit the standards you have set.

Everyone involved needs to understand why a client's perception of their work is so important and through this to get them to care about what they produce.

The Italians have a wonderful phrase that encompasses my philosophy for writing and visualization, "La Bella Figura".

Although the phrase literally means "beautiful figure", it encompasses a far broader concept, the central importance of making a 'good impression' that makes what you do more meaningful.

With that in mind, and in the tradition of the internet, let me offer 10 tips for designing and producing knowledge-based products.

In this blog, the focus will be on writing. We will look at generating figures and digital products in a future article.

Start by caring about what you write and what you build

1. Care about what you build

This is the key starting point. If you care about your work and what others think of it, you will do all you can to ensure the quality of what you build.

This is fundamental to the concept of *la bella figura*.

One way to encourage this in business is to include the names of all those who built the product in an author list. This provides a sense of ownership but also of responsibility.

2. Define the take-home message from the start

Different readers will need/want to extract different levels of information from a technical report.

For senior managers it is about the key take-home message - they will not have time for anything more. Get this written up-front and make it clear.

This take-home message is the "elevator pitch" that you will frequently see referred to in marketing guides - you find yourself in an elevator with a potential client and have three floors to explain what you do and why they should buy it. The number of floors varies with the author and vintage of the elevator.

In a presentation, it is often useful to state the take-home message at the beginning of your talk, in case you lose management during the presentation, and then to finish your presentation with the same statement.

In print, the take-home message can form a key part of what is frequently called the "Executive Summary", aimed, as the name suggests, at executives with limited time.

The Executive Summary should be a distinct, independent printable page that can stand alone if necessary.

As an example of a summary with major ramifications, have a look at that of the IPCC who direct their summary to policymakers with a series of take-home headlines: https://www.ipcc.ch/2018/10/08/summary-for-policymakers-of-ipcc-special-

report-on-global-warming-of-1-5c-approved-by-governments/

If you search for "Executive Summary" on Google (other search engines are available) you will find numerous websites focused on the design of Executive Summaries.

3. Be organized: Everything has a beginning, middle, and end

Start by following the fundamental rules of writing. The most fundamental of which is that a report or presentation, just like a novel, will have a beginning, middle, and end.

In the beginning, you outline what you are going to say or do, in the middle you say or do it, and at the end, you conclude by saying what you have just done.

The simplest structure of any report, presentation or novel. Everything has a beginning, middle, and end.

In this final slide from AAPG 2019, there is the usual outcrop picture (a version of the photo that I began the talk with and which was used to set up the problem being addressed), here with a take-home which refers to the importance of using sketches and maps to manage and analyze diverse datasets. The sketch was animated to add a further dimension to the end of the talk and draw attention to the slide. This is also where you might include acknowledgments to funding bodies or other authors.

Now, this may appear a little simplistic. It is. But starting with this simple structure can help facilitate your writing. You can add detail and embellishment later.

This also applies to presentations. Ending a talk with a blank screen – a particular bugbear of mine as Leeds students will know - is a missed opportunity, since this last slide will likely stay longest on the screen.

4. The What? Why? and How?

A beginning, middle, and end provide the overall structure. But what of the actual content?

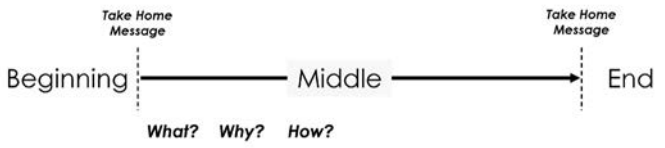
This will depend on the application and audience. For papers, reports, and presentations I usually approach this part in the same way, with an A2 piece of blank paper in front of me on which I sketch out the structure. A whiteboard will work equally well, or touch screen for those of you not familiar with paper and pen.

To start with, consider the following:

WHAT is the paper/presentation/report about?

WHY is it important and why are you writing about it?

HOW did you (will you) do the work?



Adding the "What?" "Why?" and "How?" forces the writer to think about their study. What it is, and most importantly why they are doing it.

I write these out first on my piece of paper or whiteboard.

Remember that the what, why and how will fit within the beginning, middle and end.

4.1. The "What?"

The "**What?**" can be divided into two sections/slides:

1. Aims
2. Objectives

And yes, there is a difference between aims and objectives:

- An **aim(s)** is a statement of intent. What you hope to achieve from the study.
- The **objectives** are the deliverable outcomes that are designed to help you achieve your aim(s).

For example, you might want to understand why the Earth's climate changes. That would be your aim. The objectives might then include (1) measuring CO2 in the atmosphere over 10 years and producing a table and/or graph to show this; (2) a review of past observed changes in climate written as text (or a graph); (3) running a climate model with different atmospheric CO2 concentrations with physical results.

The key differentiator is that each objective has a tangible outcome. The aim, in contrast, need not be achieved, frustrating as that will be (been there...). This also means that for any project, and certainly for a commercial report, you should be able to tick off each objective on completion within your project plan.

4.2. The "Why?"

The "Why?" is critically important. If you don't know why you are doing something, then why on earth are you doing it.

I usually include a section or slide with the title of "The Nature of the Problem". This includes a statement of the problem to be solved and its history.

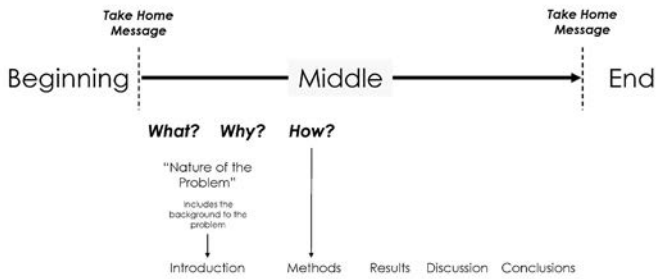
In a paper "the why" can include the background to the subject. Frequently the background will form a separate section to do service to those who have gone before, which is very important in understanding what needs to be done and why. Understanding the current and past literature is essential in my view.

(There is certainly a place for exploratory science, where you don't know the why, nor the possible outcomes, but such studies are not the easiest to get funded, for obvious reasons).

4.3. The "how?"

The "How?" relates to the "Data and Methods", usually included in any paper or presentation as a section in its own right. This includes the data used as input to whatever you are doing.

The methods include any techniques or workflows that will help the reader understand how you have solved the problem and also ensures that they could if needed, replicate what you have done. This is the basis of good scientific practice, whether academic or commercial.



4.4. Results

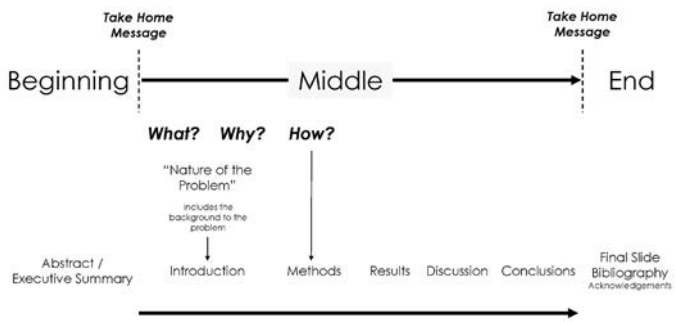
We have now posed the "What?", "Why?" and "How?", and it is time to show the results of the "What?". This is usually titled, unoriginally, but clearly as a "Results" section.

4.5. Discussion

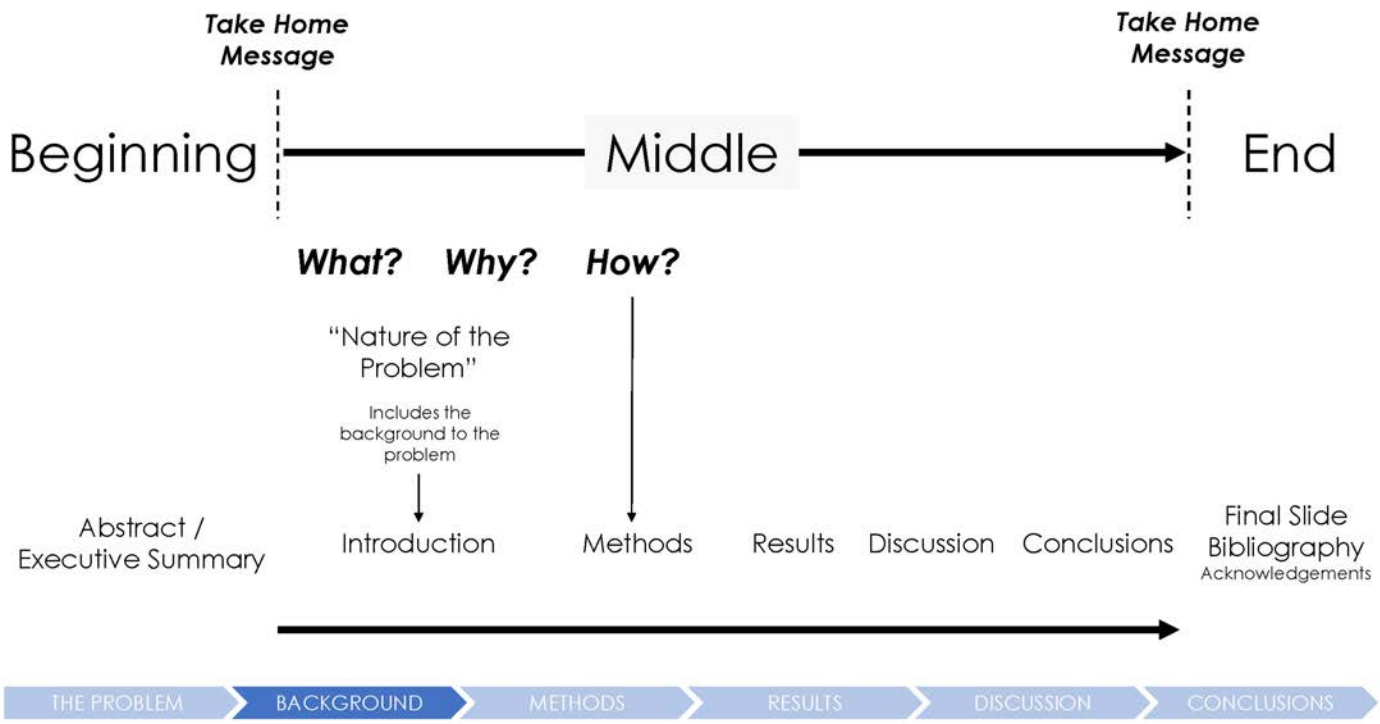
A "Discussion" can follow which takes the results of the objectives (part of the "What?") and discusses it within the context of aim(s) (the "What?"). This is the section in which you as the author get to the nitty-gritty of the project and what it means.

4.6. Conclusions

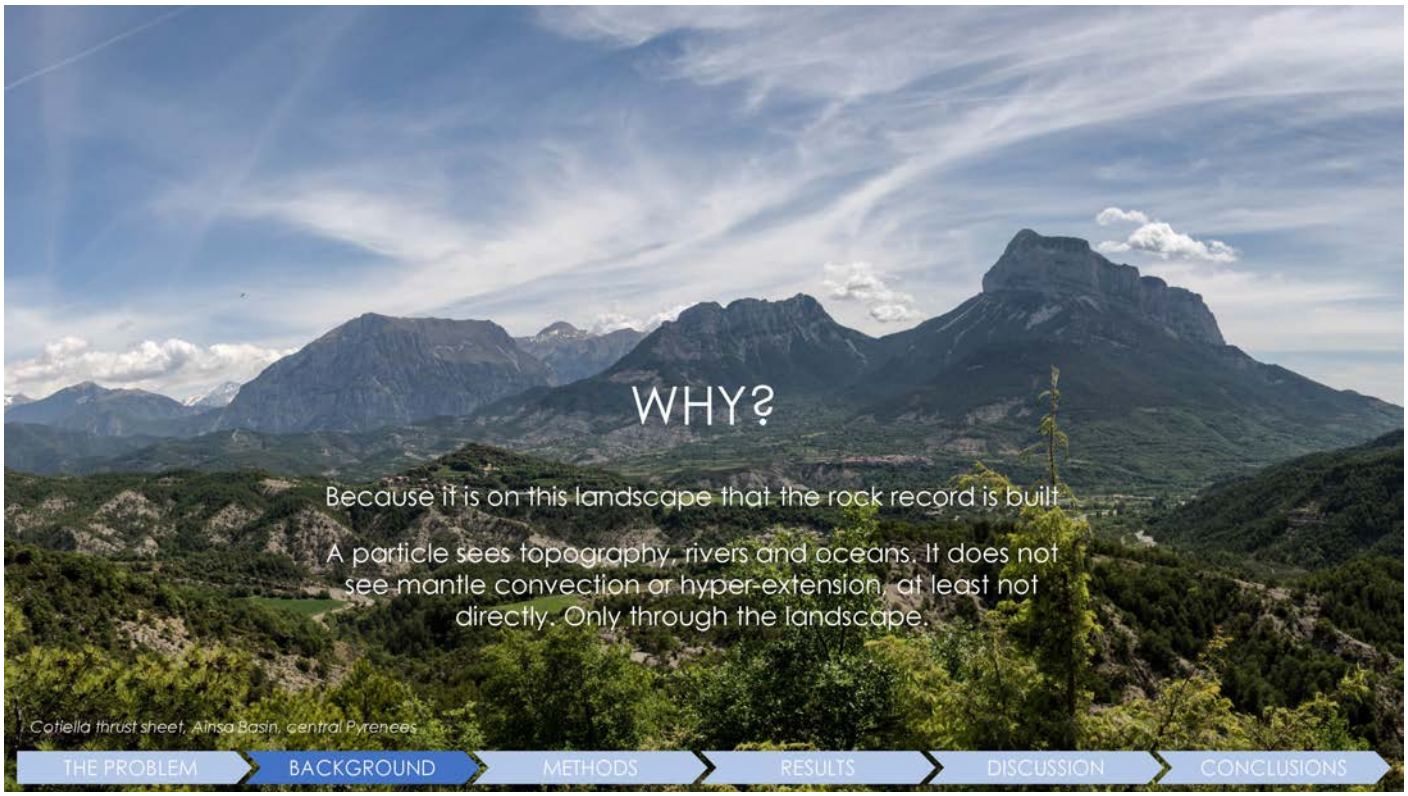
The conclusions bring the report, paper or presentation to an end. Here you succinctly reiterate the take-home message, and any other key headlines you want your audience to walk away with.



We can then top and tail the report with the "Executive Summary" and bibliography, acknowledgments and appendices.



In presentations, we can provide a talk structure for the audience to follow. For my talks, I will frequently use labels at the bottom of the screen that shows where in the talk we are (darker blue fill in this case). The overall structure is the same.



Here, we can see this structure applied to an actual slide from a talk. In this case a talk on paleogeography.

In reports or papers, we think of the ordering from top to bottom as given in a Table of Contents, rather than as the left to right progression in a presentation.

5. Hyperlinks and document navigation

As a reader, it is important to be able to find information quickly within a text or database(s). This is similarly important in a report.

Navigating within this structure and through the content is much easier in the digital world. Software such as Adobe InDesign or Microsoft Word will allow you to quickly add sections, tables of contents, bookmarks, and indexes.

In digital products, the use of hyperlinks is common and very useful, but do check that hyperlinks work. The use of relative paths and a systematic folder structure for your associated files is strongly recommended and something to establish before you start a project.

6. Keep it simple and succinct

Clarity and simplicity are key if you want to be fully understood. Do not try to prove your cleverness by making what you produce only decipherable by you.

As someone who can be rather 'Victorian' in my writing style, this has been a hard-learned lesson - one of my colleagues recently referred to my writing style as "chatty". I do not think that this was meant as a compliment.

In the age of social media and especially Twitter, attention spans are short, and you need to convey your message as quickly and precisely as possible to your audience.

Most scientific journals now provide a supplemental data section that will allow you to place additional information outside of the main paper. This shortens the main text, whilst still enabling fellow scientists to replicate what you do, which is fundamental to the scientific method.

7. Choose your font(s) with care

Frequently, choosing a font is something of an afterthought. That is a shame because much of what your reader will see is what is written, i.e, the font (typeface).

Journals will have their own preferred sense over which you will have no control, but if you are setting up a business you may want to consider the look and 'feel' of your written word.

In choosing a font, think about how you want your clients and readers to view your work. A classic, academic look (viz., Times New Roman font) or a more modern fresher look (such as Century Gothic or Avenir).

Also, consider whether the font will be used online or printed or both. There are a number of websites that can help you chose the right look. But in so doing also bear in mind that some fonts are freely available on all platforms (Windows, Mac), others are not, or, worse, will require a license.

Once you have a font assigned with a look that is 'yours', keep to it.

My preference has been to go with Century Gothic for online work (I prefer Avenir, but it is not freely available on Windows) and Garamond for printed text. Both are readily available and free.

One further point on fonts, if you will forgive the pun, is not to mix too many fonts in the same document or presentation.

Century Gothic

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Times New Roman

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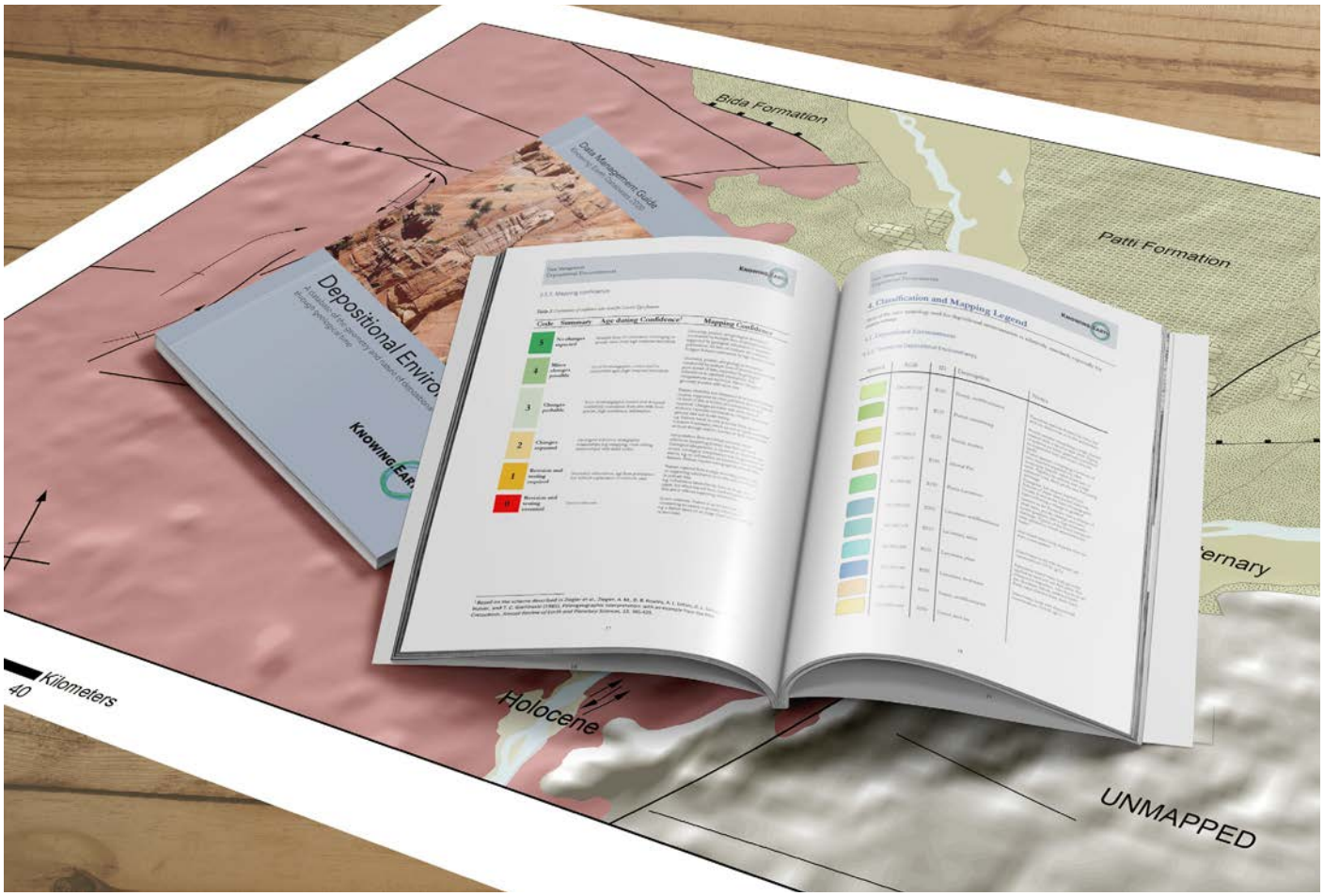
A comparison of three different fonts with different 'feels' and applications.



Kilometres or Kilometers? British English or American English?

8. Check your spelling.

With spell checkers built into Microsoft Word and other programs, there is no excuse for typos.

There are also 3rd party programs that are worth considering. I can recommend using the free version of Grammarly (https://www.grammarly.com) which I have found to be accurate and informative. This is the software I use regularly.

9. Choose your language and keep to it

This is becoming increasingly contentious given increasing nationalistic buffoonery, especially for English speakers where the language can be quite fluid and varies by region. I live in Yorkshire… enough said…

The main choice for those of us writing for the international market is whether we use American English or British English. Having spent eight years of my life in Chicago and having academic co-workers across the US and many clients in Houston and around the world, I do find myself mixing these two English variants.

At one level, this does not matter. At the risk of being trolled for suggesting such a thing, bear in mind that prior to Noah Webster's first Webster dictionary English in the 18th century, spellings and pronunciations were interchangeable across the Atlantic, gray and grey, labour and labor, etc.

Journals and publishers will have their own strict rules about spelling and language that you will need to keep to. But if you have a choice in setting up a business, then go with one and stick to it. I suggest that If you do international business that you use 'American' English because it is now more widely accepted and the form that most people learn and experience via the internet, film, and TV.

Ask yourself one simple question "would I pay monies for this?"

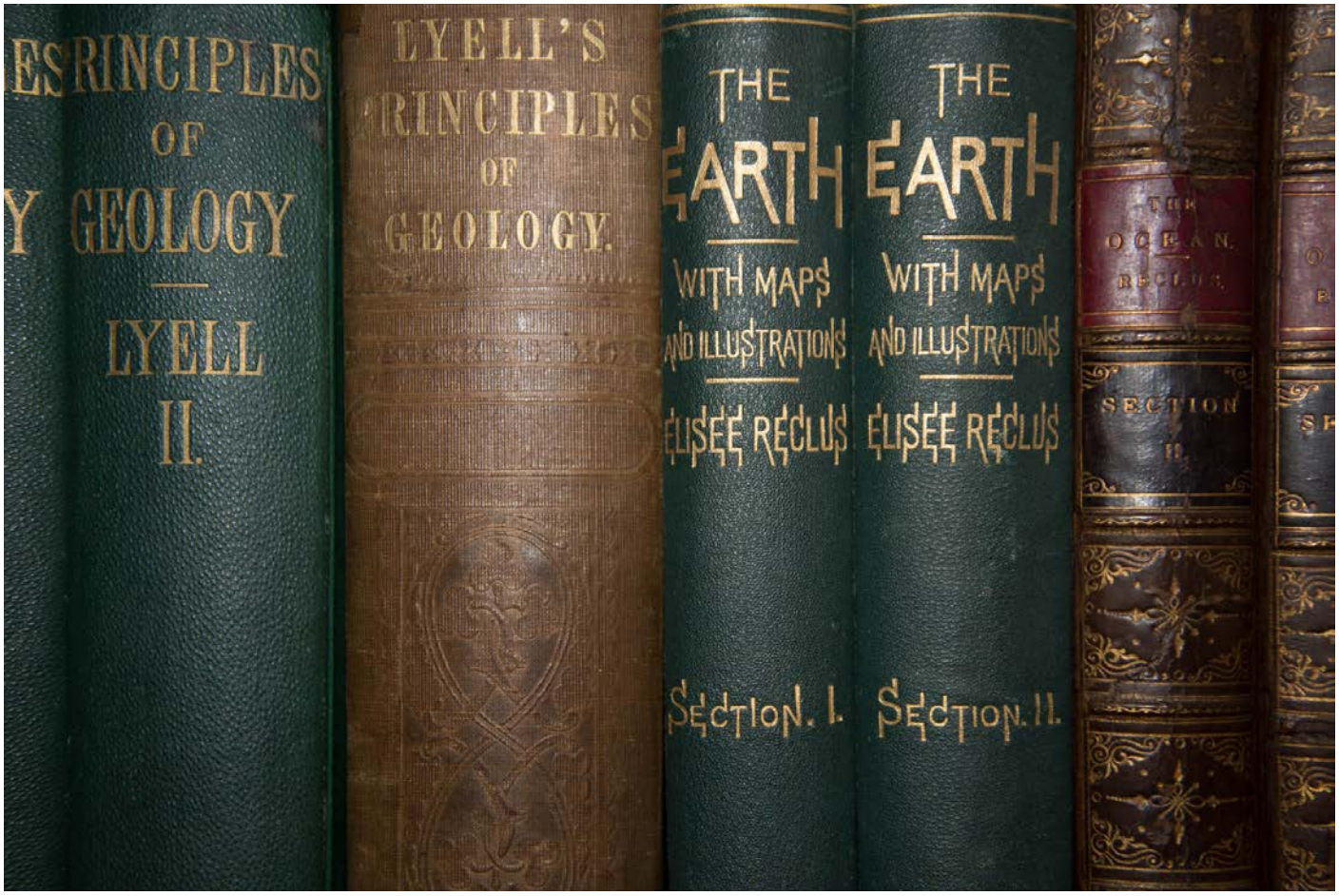
10. Print out the final results and ask yourself one simple question: would you pay monies for this?

I find it useful to print out what I produce to give me a sense of what the reader will experience. This can be especially important where you are binding material in a book or magazine format and where margins become very important but may not be so onscreen.

Looking at the results are you proud of what you have written and produced?

Think *la bella figura*

Always print out what you write and create and ask yourself one simple question: would I pay for this?



Will your work still be read in 100 years?

Further Information

There are a large number of guides to writing, including physical books and online resources.

I can recommend "*The Elements of Style*" by William Strunk, Jr. This is concise, and an easy read (a few hours).

"*The Chicago Manual of Style*" produced by The University of Chicago, is a more comprehensive reference book and one that sits on my shelf for emergency reference. This book is now in its seventeenth edition.

For a discussion on the meaning of the phrase "*bella figura*" have a look at this interesting article by Carol King (2012). Italy Magazine. "*Bella figura and brutta figura: Italy's beauty and the beast*"

http://www.italymagazine.com/featured-story/bella-figura-and-brutta-figura-italys-beauty-and-beast

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A pdf version of this blog is available here for download

About the author

Paul is CEO of Knowing Earth Limited, as well as a Visiting Lecturer at the University of Leeds and Visiting Research Fellow at the University of Bristol. He graduated from St. Edmund Hall, Oxford University in 1987 and received his Ph.D. from The University of Chicago in 1996.

He worked for two years at BP's Research Centre in Sunbury-on-Thames before moving to Chicago, where Paul studied with Professor Fred Zeigler's oil industry-sponsored Paleogeographic Atlas Project. This was followed by a post-doctorate at the University of Reading researching the exploration significance of the paleoclimatic and drainage evolution of southern Africa using computer-based climate models with Professor Paul Valdes. He then moved to Robertson Research International Limited, now part of CGG, as a Staff Petroleum Geologist, where he developed global predictive models of source and reservoir facies. In 2004 Paul moved to Getech Group plc, to set-up the Petroleum Systems Evaluation Group with Dr. John Jacques. From 2006 to 2017 Paul served on the Getech board overseeing the strategic technical direction, which saw the business transition and grow from an academic research group to a multi-million-pound company with four offices, 120 staff and an international client base.

His active research interests include global tectonics, palaeogeography, palaeoclimatology, the history of geology and depositional modelling. Paul is the author of over 100 published scientific papers and articles.

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