

YSI 2007 Writing & Literature

Benjamin White

“The skill of writing is to create a context in which others can think.”

–Edwin Schlossberg

“Writing is easy. All you do is stare at a blank sheet of paper until drops of blood form on your forehead.”

–Gene Fowler

“Without words, without writing and without books there would be no history, there could be no concept of humanity.”

–Herman Hesse

Introduction

Whenever one writes, one writes for a particular audience, utilizing conventions, stylistic devices, and vocabulary aimed at helping that particular audience to understand the author’s ideas. This approach means that the quality of any piece of writing will be determined, in large part, by how well the author is able to concisely and clearly communicate his or her ideas to his or her audience. Consider four situations: a) keeping a laboratory notebook; b) writing to a community of scientists about a discovery you have made; c) writing about that same discovery for the general public; and d) writing about a technologically advanced world full of many futuristic inventions in a science fiction story. How do you think your writing style and process might differ in each situation? What is unique about the intended audience in each of these situations?

Even when writing for yourself, it is important to record details in such a way that you can reconstruct events and chronologies afterwards. A laboratory notebook should provide as much reliable and accurate information about the events themselves as possible. It should contain enough details that an informed reader (e.g., another scientist) would be able to understand what you have done. Keeping a good laboratory notebook is not only good writing practice, it makes writing about an event after the fact much easier and more accurate, and, in the event of a discovery, it can make sure that history credits the right person.

But what about when your audience is not yourself? When writing for a particular specialized community of scholars or researchers it is important to follow the conventions of that community. Scientists in general utilize a specialized set of vocabulary that is different from that of, say, literary critics. Writing for other scientists thus requires using the scientific terminology appropriate to your particular field of science and, more generally, but no less importantly, a clear and



concise style. How does this compare with writing about science for a general public audience of non-scientists? Concision and clarity are still essential in this situation, but it becomes necessary to ‘translate’ the specialized vocabulary of your discipline into language the common person can understand. And if you write a story that includes fictional scientific information (such as a sci-fi story), it is still important to be able to clearly describe the science presented, even if it is made up.

To become a better writer requires two things, both equally important. First is practice. Your writing will simply not improve unless you spend time writing. The more you write the more your writing will naturally progress. On the other hand, improving your writing requires deliberate and attentive *reading*. One learns to write both by actually doing it (actually writing) and by looking at and emulating the writing of those who are better writers than ourselves. By attentively reading the works of others it is possible for us to learn the conventions of a particular genre of writing, to build up our vocabulary, and to begin to participate in a common written conversation linking our own work with that of other scholars and scientists. With such goals in mind, during the Yerkes Summer Institute 2007, we will be aiming to become both better writers and readers.

Writing and Literature Labs

You will be participating in a series of exercises over the week of the Yerkes Summer Institute. Each day your lab notebook will be reviewed and commented upon. This activity is intended both to ‘keep you honest’ and to offer suggestions about how you might better organize your thoughts. Secondly, during the first half of the week, at the end of each day you will be asked to write a short essay in response to a “Big Question” arising out of that day’s lab. We will use these sessions as an opportunity to expand your scientific vocabulary by building up a working list of science terminology you should use in your own writing. Finally, during the second half of the week, we will come together for a series of short meetings in which we will read and discuss some fictional treatments of maps and mapping. These meetings will provide us with an opportunity to consider some of the underlying assumptions and conceptual background to maps and mapping that might not become immediately apparent in the actual process of mapping itself.

Thinking about Science Writing

From *The Council for the Advancement of Science Writing*

(<http://www.casw.org/booklet.htm>)

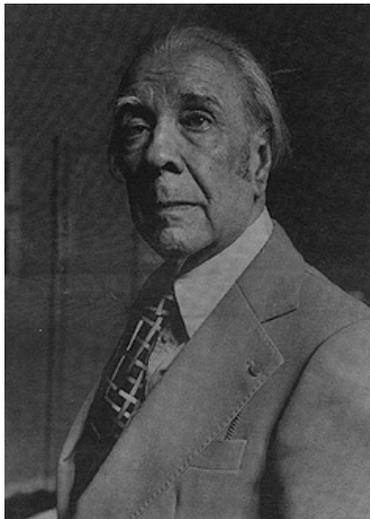
Of all the journalism professions, science writing may well be the most challenging and rewarding. Science writers are responsible for covering fields that are experiencing some of the most rapid advances in history, from the stunning advances in biotechnology to the exotic discoveries in astrophysics. A science writer's week may include coverage of new discoveries about viruses, the brain, evolution, artificial intelligence, planets around other suns, and the global environment, to name only a few topics.

Science writers not only must meet daily challenges of accurately translating the often arcane and complex news of such discoveries into lay language, but in many cases, their reporting must also attempt to objectively put those discoveries into historical, personal, political, economic, and social context. For example, while science writers have traditionally been faced with balancing the conflicting opinions of scientific experts, they must now include the influence of potential financial implications of scientific discoveries in their reporting equations, especially in biotechnology.

Science writers' work is important because they remain the chief conduit between scientists and the public. Their reporting not only can bring exciting news of remarkable scientific achievements, but also inform the public about critical issues to aid public debate on areas of science involving ethics and policy questions, for example. Science writers also provide the scientific background on breaking news from earthquakes to oil spills and alert the public to medical and environmental dangers.

Of Exactitude in Science
by Jorge Luis Borges (1899-1986)
(Translated from the original Spanish)

In that Empire, the craft of Cartography attained such Perfection that the Map of a Single province covered the space of an entire City, and the Map of the Empire itself an entire Province. In the course of Time, these Extensive maps were found somehow wanting, and so the College of Cartographers evolved a Map of the Empire that was of the same Scale as the Empire and that coincided with it point for point. Less attentive to the Study of Cartography, succeeding Generations came to judge a map of such Magnitude cumbersome, and, not without Irreverence, they abandoned it to the Rigours of sun and Rain. In the western Deserts, tattered Fragments of the Map are still to be found, Sheltering an occasional Beast or beggar; in the whole Nation, no other relic is left of the Discipline of Geography.



Borges was an Argentine writer famous for his unique fiction short stories, many of which read like non-fiction. In his writing, Borges was obsessed with labyrinths, mirrors, infinity, and time. His career as a writer was troubled by difficulty with his eyesight: over the course of his adult life, he steadily lost his vision until he became completely blind in his early fifties.

From "Flatland: A Romance of Many Dimensions"
by Edwin A. Abbott
(available in full at <http://ibiblio.org/eldritch/ea/F01.HTM>)

Of the Nature of Flatland

I call our world Flatland, not because we call it so, but to make its nature clearer to you, my happy readers, who are privileged to live in Space.

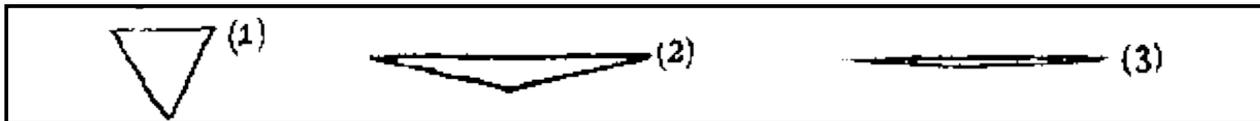
Imagine a vast sheet of paper on which straight Lines, Triangles, Squares, Pentagons, Hexagons, and other figures, instead of remaining fixed in their places, move freely about, on or in the surface, but without the power of rising above or sinking below it, very much like shadows--only hard with luminous edges--and you will then have a pretty correct notion of my country and countrymen. Alas, a few years ago, I should have said "my universe:" but now my mind has been opened to higher views of things.

In such a country, you will perceive at once that it is impossible that there should be anything of what you call a "solid" kind; but I dare say you will suppose that we could at least distinguish by sight the Triangles, Squares, and other figures, moving about as I have described them. On the contrary, we could see nothing of the kind, not at least so as to distinguish one figure from another. Nothing was visible, nor could be visible, to us, except Straight Lines; and the necessity of this I will speedily demonstrate.

Place a penny on the middle of one of your tables in Space; and leaning over it, look down upon it. It will appear a circle.

But now, drawing back to the edge of the table, gradually lower your eye (thus bringing yourself more and more into the condition of the inhabitants of Flatland), and you will find the penny becoming more and more oval to your view, and at last when you have placed your eye exactly on the edge of the table (so that you are, as it were, actually a Flatlander) the penny will then have ceased to appear oval at all, and will have become, so far as you can see, a straight line.

The same thing would happen if you were to treat in the same way a Triangle, or a Square, or any other figure cut out from pasteboard. As soon as you look at it with your eye on the edge of the table, you will find that it ceases to appear to you as a figure, and that it becomes in appearance a straight line. Take for example an equilateral Triangle – who represents with us a Tradesman of the respectable



class. Figure 1 represents the Tradesman as you would see him while you were bending over him from above; figures 2 and 3 represent the Tradesman, as you would see him if your eye were close to the level, or all but on the level of the table; and if your eye were quite on the level of the table (and that is how we see him in Flatland) you would see nothing but a straight line.

When I was in Spaceland I heard that your sailors have very similar experiences while they traverse your seas and discern some distant island or coast lying on the horizon. The far-off land may have bays, forelands, angles in and out to any number and extent; yet at a distance you see none of these (unless indeed your sun shines bright upon them revealing the projections and retirements by means of light and shade), nothing but a grey unbroken line upon the water.

Well, that is just what we see when one of our triangular or other acquaintances comes towards us in Flatland. As there is neither sun with us, nor any light of such a kind as to make shadows, we have none of the helps to the sight that you have in Spaceland. If our friend comes closer to us we see his line becomes larger; if he leaves us it becomes smaller; but still he looks like a straight line; be he a Triangle, Square, Pentagon, Hexagon, Circle, what you will – a straight Line he looks and nothing else.