

## Skillful writing of an awful research paper

As Editor I have from time to time in this column offered advice to authors on the desirable elements of a good research report. Like contrary children, for some authors such advice seems to vanish like smoke in a wind. So I take here a different approach, based on the idea that some folks have a knack for doing the opposite of what is recommended to them (like contrary children). I present some guidelines for how to prepare a research report that is variously boring, confusing, misleading, or generally uninformative. Whether the author's project is imaginative (or not) and the experiments are done with skill (or not) and the data are scientifically meaningful (or not) is irrelevant. My advice is solely based on principles of presenting the objectives, experiments, results, and conclusion in a fashion that as such no one will finish reading them or, if they do, readers will have little chance of understanding or remembering them. Like any form of skillful writing, following the rules below for awful writing requires practice and a lack of mental concentration.

- Rule 1. Never explain the objectives of the paper in a single sentence or paragraph and in particular never at the beginning of the paper.
- Rule 2. Similarly, never describe the experiment(s) in a single sentence or paragraph and never at the beginning. Instead, to enhance the reader's pleasure of discovery, treat your experiment as a mystery, in which you divulge one essential detail on this page and a hint of one on the next and complete the last details only after a few results have been presented. It's also really fun to divulge the reason that the experiment should successfully provide the information sought only at the very end of the paper, as any good mystery writer would do.
- Rule 3. Diagrams are worth a thousand words, so in the interest of writing a concise paper, omit all words that explain the diagram, including labels. Let the reader use his/her fertile imagination.
- Rule 4. Great writers invent abbreviations for complex topics, which also saves a lot of words. Really short abbreviations should be used for very complex topics, and more complicated ones for simple ideas.
- Rule 5. In referring to the previous literature, be careful to cite only the papers that make claims that would support your own, especially those that contain little evidence for the claim, so that your paper shines in comparison.
- Rule 6. It should be anathema to use any original phrasing or humor in your language, so as to adhere to the principle that scientific writing must be stiff and formal and without personality.
- Rule 7. Your readers are intelligent folks, so don't bother to explain your reasoning in the interpretation of the results. Especially don't bother to point out their impact on or consistency with other authors' results

and interpretation, so that your paper can be an island of original thinking.

So these are a few simple rules for poor scientific writing. If you follow them faithfully and your paper is rejected or never cited, irrespective of your native brilliance, you have nonetheless been successful as a poor writer.



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