

Writing papers people remember

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Can you recall the papers you read last month? Probably not. You invested the time and have very little to show for it. It's not your fault. Chances are, from inception these papers were headed toward your personal recycle bin. Certainly not all published papers can be landmarks, but why are so many forgettable?

It's probably not for lack of effort. Most papers spawn from major research efforts. It's not because of poor language. Substandard manuscripts either get rejected or are reworked until they reach a minimal level of acceptability. Maybe a few substandard ones get through, but most are acceptably written. And it's not because of shoddy science. Reviewers are good at rejecting substandard science.

So, again, what makes published papers forgettable? Recently I found part of the answer. I was reading a paper, had come to the Conclusion section, and there was nothing to conclude. In place of a conclusion was a vague, generalized, five-sentence summary—something I didn't need, because I had just read the paper; in fact, it deflated the paper. That's when it hit me: Memorable papers build to memorable conclusions. Memorable conclusions explicitly show readers value, i.e., things worth remembering. The paper I read had nothing to conclude because the authors never put the research into the reader's perspective. The authors equated their research with their paper, and left it there. That was a fatal mistake. Successful authors separate research and writing.

Let me explain. You research for specific reasons. All these reasons fall into one basic category—generating new information (i.e., solving a problem). If you have studied a field site, the problem is determining what is below the surface. If you have computer modeled, it's how to justifiably match ground-truth data. Finding the means to solve the problem is the purpose of research. It is not the purpose of your paper.

The general purpose of your paper is to show, in the readers' scope, the values, benefits, and utilities of the problem solved. In a paper, research has one function: validate and verify the values, benefits, and utilities of the new information. Introduction and Conclusion have complementary functions; they must explicitly discuss the values, benefits, and utilities. Papers that fail to discuss these explicitly, expecting the reader to find them, are usually forgettable. To create a memorable paper you have to know the purpose of your paper and distinguish it from the purpose of your research!

Let's explore purposes of papers. Showing how hard you worked, or how many examples or figures you can generate are not valid purposes. Volume is not value. Similarly, adding publications to your resume or showcasing with complicated mathematics or intricate notation are not valid purposes. Your purpose is to write an article that readers can verify, validate, evaluate, and use, if so chosen.

Verify, validate, and use are easy to understand, but evaluate, as in determine value? Most likely your paper asks readers to abandon an existing solution, approach, information, etc. and invoke yours. For readers to abandon old (i.e., comfortable) knowledge requires hard data. Formally it requires liberating resources (i.e., time, money, people, equipment,

etc.). To liberate resources, managers need hard reasons and hard data—your paper must supply them. Otherwise, your work stays outside the scope of the readers.

Distinguishing the purpose of research and the purpose of the paper is novel so here are some helpful hints. Before you start to write, think about what you have learned, what you can conclude from your research, and, most importantly, what you want readers to do after reading your paper. Make a list of these items. If you cannot do this, you are not ready to write. You have more work. If you can generalize your list into a sentence or two, this is the purpose of your writing. Note again, the purpose to your research should be different from the purpose of writing your paper. If they are the same, think again about what you learned, concluded, and want readers to do, not what you did. Remember, when you started your work, the purpose of your research was prospective; now that the research is done, the purpose of your paper is retrospective because all the information you need you should now have. If you formed a valid purpose for your paper, write to verify, validate, while demonstrating that purpose. Don't write to just showcase your research.

If your paper is written, look at its Conclusion. Is it one of those Here-is-what-you-just-read or Here-is-what-I-did that just say, "I'm done writing!"? If so, please throw it out! Same with your Introduction, if it's an assortment of summaries of your favorite papers, replace it. Now consider: What action do I want readers to take after reading this paper? Now, tar-

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get your Introduction and Conclusion to that action. Does your Conclusion sell the purpose of the paper? Does your

Introduction put the problem into the perspective of its values and benefits to readers? If you are not sure, rework your Conclusion and Introduction. The time you spend here is worth a valuable paper.

Finally, if you cannot distinguish the purpose of your research and the purpose of your paper, then your research is not done! You have more to investigate. You have to find or generate hard data that validate the values and benefits of your research. Also remember that not all published papers are going to be landmarks or benchmarks, but good research deserves a well-written, memorable paper—not journal fill.

Blockettes. A scientist died and was given the option of going to heaven or hell. She decided to check out each place first. As she descended into the fiery pits, she saw rows of scientists chained to their desks in a steaming sweatshop. As they worked, they were repeatedly whipped with thorny lashes.

"Let me see heaven, *now!*"

As she ascended, again she saw rows of scientists, chained to their desks in a steaming sweatshop. As they worked, they, too, were whipped with thorny lashes.

"Wait!" she blurted. "This is just as bad as hell!"

"Oh no, it's not." replied an unseen voice. "Here, your work gets published." **TJE**

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