



## On Being a Closer

As part of the release of our June issue, Carolyn participated in a reddit r/science AMA (Ask Me Anything); the topics ranged from supporting women in science to the ways scientists have been persecuted for their ideas throughout the ages. One particular idea came up several times in Carolyn's answers: the value of being a "closer"—someone who can be counted on to wrap up a project, a paper, or to bring people together to get to the next stage in a research, business or other collaborative endeavor.

Summer is often the time we use to recharge creative juices, either on vacation, or simply in lab without the added distraction of teaching. But, as we cruise through the end of our precious unscheduled time and return to the routines of the semester, there are a few concrete suggestions and general principles that can help you be the person who is relied on to bring a project down the home stretch and to reap the associated rewards.

Some of it comes down to instilling good habits. A guiding principle developed in Carolyn's lab and passed down through her students, and one that Miranda found useful while writing her dissertation, is called the "500 rule". (Attentive readers may have already gathered that we share a chemistry lineage.) It is simple but tough: every day commit to writing 500 words of something. It could be the introduction to a paper in preparation, a few figure legends, or a cover letter. The most important thing is that it be consistent, regardless of whether or not you are "on deadline". The first obvious advantage to such a daily commitment is that it helps ensure against the gloom of having to pound out dozens of pages in just a few days. But, less apparent benefits exist as well. The adage "practice, practice, practice" applies to writing as much as anything. You would never expect a world-class violinist to practice for 72 hours straight and then set down her bow for weeks on end before a big performance, yet this is not unlike how many of us approach writing.

There is another important way that consistent writing will help you close: if you have truly run out of experimental methods and other "easy" bits to write up and find yourself thinking, "I could write the discussion if only I had . . .", then you have basically pinpointed the exact experiments you need to run—or at least identified the holes in your story

and begun to brainstorm possible experiments to address them. This leads to another guiding principle: as your project advances, you should think about each experiment producing a figure for a publication or seminar. Indeed, the best publications are simply collections of high-quality data supported by clear and compelling text that tells a good story. Plan your experiments to generate those publication quality figures, organized with a flow that mirrors the narrative.

Our final lesson mastered by the best of closers is what Carolyn calls the "70 percent rule". It is a guideline that helps people move on to the next phase of a project without obsessing about the imperfections of the results at hand. That is, when an experiment can be optimized to "70 percent" of some perceived ideal, it is reasonable to move on to the next experiment for the sake of forward progress, while still working in parallel to fulfill that remaining 30 percent to satisfy your personal expectation. This life strategy can help those of us with perfectionist tendencies (no small proportion of scientists to be sure!) get unstuck when experimental results do not submit to our rigorous demands. At some point one must accept the notion of "good enough" to keep a project moving forward, concede that life does not always imitate art and figure out how to build a story around what is true rather than becoming demoralized about what is not. Closers have the special talent of pulling good publishable work up from the ashes of failed projects—turning imminent defeat into a comeback win in extra innings when so many others would have walked away.

However, we know there are many things that come between a scientist or writer and these good habits. There are always last-minute figures to prepare for talks and grants, or the myriad distractions available both scientific and otherwise on social media (Carolyn recently wrote in C&EN how this can inspire you scientifically). But setting boundaries about when and how these different interferences influence your life is important. When you do invariably find yourself with considerably more than 500 words to write in a day, an Internet or social media blocking app can be a blessing, as can time management programs and training.

Much has been written about the sometimes eye-raising [schedules](#) of successful scientists and creative thinkers, and

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their **sleep patterns**. Research seems to suggest that there are several general **archetypes** that most people fall into. While one's schedule is never fully his/her own, it is really helpful to identify when you are at your best for different tasks, setting up experiments, analyzing data, performing literature searches, writing and editing.

Being a closer goes beyond simply pumping out results and writing papers. To “close” in one's own life involves keeping an eye further out on the horizon and to identify opportunities, and fill in experience gaps to be eligible for them. As Carolyn noted in her AMA, when she was in graduate school she was not focused on the next step per se. She said, “I had enough on my plate getting experiments to work and papers written. When it was time to think about my next move, I found something interesting in a new field I wanted to learn about and pursued it, and that worked out well for me.”

Even 20 years later, Carolyn thinks it remains good advice to keep your eye out for scientific frontiers to which you can contribute, identify institutions, companies, or labs where you might join the cutting edge, and live in the moment as you join forces with other agents of discovery and change. For Miranda, her “big moment” meant deciding on a career in publishing rather than research. Heartbreaking as it might be, walking away from a position, project or idea is part of closing too.

But while career planning is a fine activity, too much focus on long-term strategizing can distract one from the opportunities of the moment. Stay nimble, Carolyn suggests, and remember that a scientist's most valuable skill, that of problem solving, is just as applicable to scientific publishing as it is to lab work.

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#### Notes

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