ANNIE BOSACKER ’95 WAS FINISHING her dissertation at the University of Minnesota when she became certain that her career as a scientist was over. As she reviewed the data about stress and social characteristics in baboons that she had painstakingly gathered over the course of nearly a decade, she realized that she had improperly grouped juvenile and adult baboons in a large section of her results. That error rendered her conclusions questionable at best.

“At that moment, I felt like I was going to have to drop out of graduate school,” recalls Bosacker, who is now a visiting professor of biology at Carleton. “I thought that I couldn’t be a scientist, and that my whole life was over.”

Instead, she dug in and began separating the research. Though she considered tossing the data about juvenile baboons altogether, ultimately it led her to reformulate her approach to the research. Reworking her findings took a month, a relative blip in her career.

Looking back, Bosacker says she likely wouldn’t have reconsidered her research angle if she hadn’t made that mistake. Her current research, which focuses on how stress negatively influences the evolution of social behaviors in baboons, developed from this earlier work.

Her experience also has influenced how she responds to students, who often get frustrated and overwhelmed when a project fizzes. “I tell them that failure teaches us how to be resilient and better researchers,” says Bosacker.

Americans love a success story, whether it’s about sports, business, politics, or entertainment. However, the recent stock market and real estate crashes have forced many people to change their attitude toward failure, how it happens, and what they can learn from it.

In its March 25 issue, the New Yorker chronicled the rise of the “failure memoir”—tales of losing jobs, families, wealth, and dignity. And publications such as the Journal of Errology, which launched in 2012, are encouraging scientists and researchers to share their mistakes, false starts, and shortfalls so that scientists might learn from their peers’ important but unpublished efforts.

Understanding—and embracing—failure, both as individuals and as a society, isn’t just about learning lessons that eventually will lead us to success, but about helping us move forward with deeper understanding, humility, and grace.

THE TROUBLE WITH THE CAN’T-FAIL MINDSET

FROM WORLD War II’s Rosie the Riveter insisting “We can do it!” to Obama’s 2008 campaign slogan “Yes We Can,” Americans are known for their can-do optimism. But there’s a fine line between confidence and delusion, says author and activist Parker Palmer ’61, who is the founder and senior partner of the Center for Courage & Renewal, an organization that provides programs and retreats to help people reconnect their values with their life’s work. “There’s an American mythology that you can do anything you want if you put your mind to it,” he says. “That’s just not true.”

That lesson may be particularly tough to swallow for today’s college students, who have grown up with parents, teachers, and coaches who showered them with trophies and awards just for showing up—rather than allowing them to accept that their best efforts may sometimes fall short.

Cliff Clark, the M. A. and A. D. Hulings Professor of American Studies at Carleton, says he sees students’ astonishment and disappointment firsthand when they learn that a paper may need to be rewritten once, twice, or even several times. “Many students expect that they’re going to get it completely right the first time, and if they don’t, they feel like failures,” he says. “They don’t realize that revision is part of the writing process.”

To assuage their anxiety, Clark shows his students a page from
an early draft of a textbook he wrote (now in its eighth edition) that is covered with an editor’s revisions and suggestions. He likes to point out to them that not even professors get it right the first time.

Such hidden failures are everywhere. While many writers are relieved that their first failed drafts never see the light of day, keeping failure under wraps in different disciplines can be decidedly more problematic. Science, for example, is a discipline with a rigorous, systematic process that is designed to help researchers “fail better” as they learn from each succeeding experiment. Yet scientific journals often have publication bias—a tendency to publish studies that show a positive finding (a correlation between two phenomena) rather than those that affirm the null hypothesis (no relationship between two measured observations), even though scientists can learn from either result. A study conducted by Mount Sinai School of Medicine (now the Icahn School of Medicine at Mount Sinai in New York City) found that research reporting a positive finding is more than three times as likely to be published as research supporting the null hypothesis.

For example, Carleton assistant biology professor Jennifer Wolff recently finished an experiment that examined whether a particular family of genes influenced the development of specific types of neurons in a worm (C. elegans). “I found no effect, but I know that the experiment worked, because my controls worked,” she says. “It would be a waste of time for someone else to go test these genes—and for all I know, they’ve been tested before—but there aren’t a lot of places to publish this kind of information.”

When negative results get buried instead of shared, scientists may spend time and money reproducing research unnecessarily. This is counterproductive in any field, but in areas such as biomedical research, it can slow down progress and delay the introduction of potentially lifesaving treatments.

For now, says Wolff, the primary way to suss out failures—at least in her field—is through informal channels. She chats with colleagues at conferences to find out what they’ve tried, and she regularly checks the Worm Breeder’s Gazette, a website created and maintained by a small group of biologists and computer scientists, where researchers can share what they’re working on—results notwithstanding. “I want the opportunity to learn from failure and to share information with others who can learn from my findings,” she says. “It can be hard to let go of your ego, but it’s important.”

Not leaving your ego at the door can be detrimental in other ways, as well. An oft-cited study conducted by researchers at the University of Stockholm, who asked college students from several countries to rate their competence as drivers, found that 93 percent of American respondents rated themselves as better than the median driver, whereas only 69 percent of Swedish respondents said they were better than the median.

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**Moving Past Failure**

Fear of failure can hinder our creativity and prevent us from taking action. We asked Carleton faculty members how we can take the sting out of failing.

- **Laugh at your mistakes.** History professor Cliff Clark recalls a former high school classmate who was a talented organist. “He never apologized when he missed a note during rehearsal,” says Clark. “Instead, he’d say, ‘First mistake I’ve ever made.’ It got a big laugh, and that was refreshing.”

- **Cut yourself some slack.** Aristotle believed that successes and failures should be judged holistically, not on the basis of a single action or event, says Sarah Jansen, assistant professor of philosophy. “The goal is to practice virtue over our lifetime, but that requires a lot of practice, and a lot of getting it wrong.”

- **Keep trying.** A good scientist doesn’t look at failure as a final result, but rather as a point from which to learn. “It almost doesn’t matter if the answer [to a question] is yes or no,” says Jennifer Wolff, assistant professor of biology. “Either way, you move forward to ask the next question.”

- **Get outside your comfort zone.** “I encourage people to try activities that don’t come naturally and that they have to work at,” says Annie Bosacker ’95, visiting assistant professor of biology. “Don’t set yourself up to fail, but edge up to that line.”
Similarly, a 2012 study published in the *Journal of Cross-Cultural Psychology* found that American high school students had an inflated sense of how well they would perform on a science test. Meanwhile, students from New Zealand, Australia, and Great Britain not only performed better on the test than the Americans, but they had a more realistic view of their skills.

This illusory superiority has real consequences, says Lauren Feiler, assistant economics professor at Carleton. “Overconfidence is what causes people to make bad business decisions and poor investments,” she says.

Indeed, a 1999 study published by the *American Economic Review* found that people’s overconfidence was a significant factor in the number of new business failures (about 6 in 10 new businesses fail within the first five years). A 2003 study by Princeton researchers found that overconfidence also can lead to speculative bubbles, much like the housing bubble before the economy crashed.

Yet traits such as overconfidence and risk taking can also lead to success. Innovative thinkers like Steve Jobs and adventurers like skydiver Felix Baumgartner, who shattered a world record with his 24-mile space jump in 2012, risked massive—even life-threatening—failure. But, for them, the value of their successes far outweighed the losses that would have come with failure, and they were applauded for their risky behavior.

“I think we’re driven by different kinds of forces and one of the big drivers in life is the ego that says, ‘By God, I’m going to conquer this thing,’” says Palmer. “And sometimes that’s a good thing and sometimes that’s a very bad thing.” For Palmer, it’s important to keep a humble posture when evaluating such risks. And keeping in mind the worst-case as well as the best-case scenario can provide a needed balance to overconfidence as we weigh the potential rewards and losses of any action.

**REDEFINING FAILURE AND SUCCESS**

When Carolyn Griffith ’80 started writing her first novel at age 27, her goals were anything but modest. “I wanted my first writing teacher to say, ‘This is the best novel I’ve ever read. I’m going to hook you up with my editor, and it’s going to be a best seller,’” she says.

Things didn’t work out quite as she planned. She wrote, took classes, and got writer’s block. Her novel was three-quarters complete when she admitted that the work was terrible and put it aside. Years later, at the urging of her friend, book editor David Hough ’80, she decided to try her hand at young adult fiction. While pursuing an MFA, she began a novel based loosely on the struggles she and her sister experienced with their mentally ill mother. It wasn’t the novel she’d set out to write, but finally, everything clicked. She sent the finished draft to Hough, her sister, and several other writers. All agreed the writing was solid and true.

Although the novel hasn’t been published yet, Griffith views her efforts as a success. “If I had written and sold a novel based on our family that my sister felt wasn’t authentic, it would be painful. Authenticity is way more important to me than sell-ability.”

While Griffith used to enjoy imagining the awards and the accolades that would come with publishing a book, over the years she came to realize that real success comes as part of a larger process of exploration and revision.

Palmer, who leads workshops to help people find new inspiration in their jobs, says it’s common to chase after external trappings of success. Yet too often, he says, after we’ve arrived at the top of a mountain, we discover that we’ve climbed the wrong one. He works frequently with people who are seeking to make midcareer changes because they doggedly pursued an MD, JD, or PhD that they believed would lead to jobs with prestige, power, or money. And then, despite what their bank account or title revealed, they still felt like failures and frauds. “Even if they got the job they thought they wanted, they came to see that this was not the doorway their souls really wanted to walk through,” he says.

The struggle we have separating surface successes from what will make us truly happy isn’t just an individual problem, but a cultural one, says Qiguang Zhao, the Burton and Lily Levin Professor of Chinese and chair of Asian languages and literature at Carleton. “The Olympic motto is ‘Faster, Higher, Stronger,’ but the motto I have for my tai chi class is the opposite: ‘Slower, Lower, Weaker.’ It’s about enjoying serenity—finding peace with our inner self and harmony with nature.”

This approach can come as a surprise to his students, who are often ambitious and driven, but Zhao’s popular course and its focus on the Taoist concept of wu wei—literally, non-doing or effortless efforts—help students reframe their ideas about what it means to succeed. Students become comfortable with the idea that non-striving—in classes, in careers, in hobbies—doesn’t equal failure. “The philosophy embedded in tai chi encourages them to see that they cannot interfere with everything. They cannot solve every problem,” says Zhao.

No matter how much we like to believe in our limitless capacity for success, there is value in failure, says Palmer. It challenges us to test our assumptions and look deeply at our motivations. When we analyze and learn from failure, rather than avoid it or gloss over it, we stand to do more than eventually succeed at a specific task; we understand ourselves and sometimes even the world in different ways. “Rightly understood,” says Palmer, “failure is how we grow.”

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