By **Erik S. Wright**

Getting my feet wet

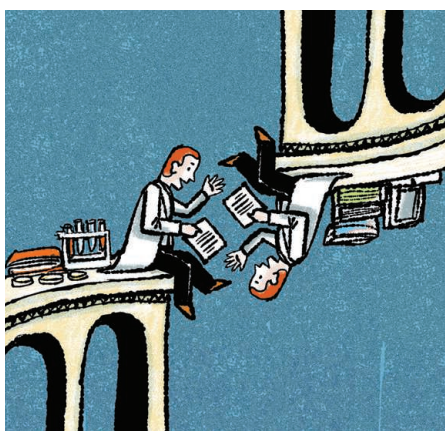
After finishing my undergrad studies, I did what many newly minted electrical engineers do and moved to Silicon Valley. Working at Apple, I was living my dream of contributing to the very products I had always admired. Yet, after a couple of years, I began to feel as though something was missing. I longed to better understand the world beyond the realm of computers and find a new frontier for exploration. I had some misgivings about venturing into an unfamiliar domain, but at the same time, I was excited by the prospect of diving into a discipline that I didn't know anything about. After much deliberation, I decided to take a risk by looking for something completely outside my expertise, where an interdisciplinary perspective might be an asset.

This search ultimately led me to graduate school to study biology. At first, it was as if I was starting over, taking classes I had bypassed as an undergraduate, such as Introductory Organic Chemistry. But my motivation to master a new field made the experience enjoyable rather than frustrating. Moreover, I was captivated by the science. In my biology classes, I felt I was being offered gold nuggets of information that earlier generations of researchers had painstakingly acquired. This sense of wonder made it easier to return to homework and tests after a 4-year hiatus from school.

On my journey to laboratory research in biology, bioinformatics served as something of a bridge between the mountains of computational and experimental research. Starting from familiar terrain helped smooth my transition, but climbing the peak of experimentation was still a steep learning curve, fraught with weeks of optimizing protocols and uncovering sources of error. It turns out that pipetting correctly for hours on end is far more difficult than it looks.

But the time I dedicated to developing these skills was well spent. My background in both computation and experimentation gives me the perspective to understand the challenges that each side faces, and it allows me to choose the approach that is best suited for the problem at hand. Luckily, I have always had advisers who encouraged me to cross between fields and supported me along the way.

Yet, as I have progressed in my academic career, I have noticed that the culture of science often emphasizes the differences between approaches, rather than building bridges that integrate them. A researcher could be either a biologist *or* a computer scientist, a theoretician *or* an empiricist, a field researcher *or* a lab rat. Nowhere was this tendency more apparent than in the dichotomy between wet lab and dry lab research. New graduate students often have to choose one or the other—even though many scientific advances rely on a combination of approaches.



"I hope to guide others who are willing to cross bridges in the pursuit of science."

In my view, we do our students a disservice when we prepare them for only one domain of expertise. Graduate students in bioinformatics should know not only how to program, but also how to pipette. Similarly, students in the biological sciences should augment their expertise with programming, chemistry, statistics, or other complementary fields. They may not need to master every topic, but solid experience in different areas can serve them well as they develop their careers.

Now, as I begin running my own lab, I aspire to teach students a variety of approaches from different fields. I do not wish to create a wet lab or a dry lab, but a "soggy" lab, where scientists can comfortably bridge domains. This may require spending extra time to find and train students who are willing to embrace this approach, but I think that it will pay off in the long run—much like my decision to leave Apple almost 10 years ago. In the end, the empowerment that comes from learning a new discipline makes the added effort worthwhile. Now that I have been down that road, I hope to guide others who are willing to cross bridges in the pursuit of science. ■

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