

A Transition From NIH Postdoctoral Fellow to Industry

Nicholas S. Gantenberg

The Procter and Gamble Company



This article is an illustration of one physiologist's transition into an industrial research career. It highlights some important themes and gives my experience and perceptions of a necessary change in perspective to enter industry. It gives some of my insights, which I hope are helpful to students, postdoctoral fellows, and established scientists alike. I welcome any questions or feedback that may arise.

The Academic Life

Live a long, scholarly life and enjoy it. Graduate students are impressionable as they experience the stress of information overload from course work and the impressions of professorship, lectureship, and academic administrators. Graduate students must compete constantly against each other, professional students, postdoctoral fellows, faculty, and even the occasional secretary. The quick learner realizes what is most important for his/her research program, sets priorities, and leaves the rest behind. Every graduate student becomes disillusioned from time to time. Do your best to remain focused on your scientific challenges and, above all, make it fun.

While in graduate school, I was not trained to market myself. I thought that postdoctoral fellowship offers would come from friends of my mentor or other faculty. Students should be more aggressive and assertive, marketing themselves and envisioning the next five or ten years. Set a timeline for completion of your degree and look into the future. Do not overextend your abilities and remember that things are not always under your control. Develop a vision of what you can do and what is needed for a postdoctoral fellowship or employment. I had to figure these elements out in the last months of my degree program.

The importance of good mentors for success during graduate school and throughout a career is noteworthy. Different mentors are needed throughout life, although they are not always present. During graduate school, look for a mentor who has more than a sociobiological gut feeling that he/she is making the world a better place by coaching and directing you. Graduate mentors have the biggest stake in your development because it reflects on them, their department, and the university. You may be able to count on a life-long friendship. I am still in touch with my graduate mentor, Gilbert R. Hageman, who has entered yet another career phase, an NIH sabbatical, moving from Birmingham, AL, to Bethesda, MD, a trip I made seven years ago. The availability of these types of mentors decreases when you leave the university and graduate level training. Good mentoring is not valued or encouraged at the postdoctoral stint nor is it easily

Reprinted from *The Physiologist* 40(5): 237-239, 1997 with permission by The American Physiological Society.

attained at a large Research and Development organization. Helping, coaching, and guiding young careers is not a high priority.

The Government Postdoctoral Fellowship

Toward the end of my graduate studies in physiology and biophysics, I was motivated and sought out postdoctoral fellowship positions. I really wanted to go abroad to Europe or Australia, but this was complicated by a dual career plan I shared with my spouse. The greater Washington, DC, area offered the most hope for a physiologist and a biomedical engineer at the time. I remember the two of us meeting after our simultaneous interviews. We hesitated to say much until we found out how the other felt about the interview, not wanting only one of us to be happy about the prospect. We both passed "the test" and felt positive about our respective opportunities, mine at NIH and hers at FDA. When working for the government, one needs a certain amount of fortitude to get through little things like a budget crisis! Within weeks of starting our new positions, we both received furlough -- funny word for no pay -- notices. The federal budget was settled, and we both kept our positions for a few years. While at NIH, I witnessed, paradoxically, times of financial famine that occurred early in the fiscal year and times of feast very late in the fiscal year.

During my NIH postdoctoral fellowship, my goal was to gain experience and exercise independence. I wanted to learn numerous disciplines and techniques. My biggest lesson was that it can take years to master a discipline. The postdoctoral fellowship is the time to show you can be more than just a pair of hands for someone's hypothesis or agenda. It is a time to design your own hypothesis and set your own agenda. Too many projects without significant focus can be detrimental. If you become a jack of all trades and a master at none, you will shape yourself for an industry career. If you are the master of one, however, you will likely be sought after by academia. Industrial and academic timelines, priorities, and missions are vastly different. Understanding how to solve a problem and progress the result to a marketed product is important for the industrial pursuit. Being the world's authority on a method or scientific process will aid your success at a university and with granting agencies. No pathway is necessarily better than the other, just different.

The postdoctoral years are also a time to place a self-marketing plan into action. Envision where you want to be and get any help you can to make it happen. Going to society meetings and one-on-one interactions are important. Interact with people from all scientific walks of life. Interact with APS and its membership. During most of my graduate years, the only industrial contacts I made were in drug sales. A lot of "free looks" and a multitude of information on companies have become available on the World Wide Web. Attend career workshops and job fairs. Be selective so that you target companies and positions for which you offer a good match. Be open with people and talk to them. Discovering what is available and possible for your career growth and happiness is just as important as the cellular mechanisms of induced gene expression that you are working on in the laboratory. Do both.

Reprinted from *The Physiologist* 40(5): 237-239, 1997 with permission by The American Physiological Society.

While the emphasis differs, your application package is the same for industry and academia. Offer a total package: good grades, successful projects, publications, scientific excellence, scientific creativity and innovation, human factors, manager/leadership skills, and a business sense (a recruiter's delight). The ability to get along well with others and a crime-free/drug-free lifestyle should not be under emphasized. When making applications, you must demonstrate that your application provides a good fit for what is being sought and a good fit with the organization. Your application must set you apart from others so that you are chosen. Rigorously interrogate the institution as well. Ultimately, you must also choose them. There are self-help books at local libraries that discuss many of these principles and offer detailed recommendations on the process from letter writing to interviewing.

Before moving on to gainful employment, postdoctoral fellows should enjoy the time with other postdoctoral fellows and cherish those experiments done in a "just for fun" mode. A relaxed posture and experiments done just for the fun of it have little room in most, not all, industry research endeavors.

After two years of postdoctoral work, I realized a career at NIH would not fit my needs to find solid applications of my scientific work, as I would see in drug development. Playing NIH grant lotto and struggling up the academic ranks seemed daunting. I became intrigued by working with a drug or biotechnology company. I wanted to work for a profitable company with an established infrastructure and not a startup with only two years worth of venture capital. I sought information on larger companies with programs that were compatible with my interests and skills. I was willing to change disciplines as long as there was a chance to do integrative physiology and pathophysiology. In my search, I learned of [Procter and Gamble](#) (P&G), a Fortune 50 company with big aspirations to maintain or build global leadership in healthcare and pharmaceuticals. Another postdoctoral fellow tipped me off that P&G was recruiting physiologists. Initially, I interviewed for a cardiovascular position, but I was hired to use my integrative skills for inflammatory respiratory diseases. P&G had two programs that were of interest, over-the-counter medicines and pharmaceuticals. The company also offered global technical sites, a \$1 billion Research and Development budget, a large community of PhD scientists, and, of course, an attractive compensation package. I joined at a time when this part of P&G's business was in its infancy, a great time to get in and help set the course and strategies.

The Industry Research Position

The industry research position has many faces. It is a mix of science, science management, business, and politics. It is dynamic and often changes under business pressures, with a focus on consumers. To manage the transition, you need to develop a science manager skillbase, with a business approach. After all, you are in business for the marketshare of the product. One can expect opportunities to learn different sides of the business, management training, and a crosslinking of scientists who are really after the science first. Everyone has the common goal that the science will drive the products that are driven by consumer need. Your ability to work with others in other disciplines to help solve your problem is a key element to your personal and business success. Your willingness to help others and share ideas internally are also important

Reprinted from *The Physiologist* 40(5): 237-239, 1997 with permission by The American Physiological Society.

characteristics; return the favors. Most companies will want to assist your development and train you to lead and manage. These are very different, although often mistaken for the same. A manager organizes and maintains a process or a group of people. A leader can be someone at any level who sets direction by envisioning the future endpoint and makes it happen. Companies have a vested interest in developing their employees' abilities to gain empowerment. The diversity of personalities offers a wealth of human resources and may present difficulties for project teams. The "adaptors" are stable, precise problem solvers, and the "innovators" dream, challenge, and discover problems. A balance must be set to overcome the scientific, management, and business issues to drive your career, project, product, and the company. External competition exists at the company level and unfortunately, internal competition exists as projects compete for funds and employees compete for career advancement. The playing field is rarely level.

The scientist interacts with others to set project direction, manage laboratory associates, and direct extramural research contracts and grants. Because these activities can take time, there is less time to actually do experiments in the laboratory. One needs to find a happy medium between laboratory work and science management that is mutually agreed upon by the company and the employee. State your expectations, get clear alignment on the job description, and recheck this periodically. Draw from personal experience, read a bit, and observe the patterns of successful peers and superiors as part of your "on the job training." The independence and trailblazing skills of graduate students and postdoctoral fellows remain necessary for the industrial position. The company has hired you to take it to new heights in a particular field that they expect to own. Scientists work on a focused level but with many disciplines and numerous pieces of data. You must be willing to skip certain steps and think ahead to the final chapter to get to the market more quickly. Remember the competition is inside and outside of the company.

The scientist must demonstrate a willingness to get along with others and work in a team environment. Anyone who reads the want ads can often see this stated up front. Teamwork is very important, as you will collaborate, internally and externally, and you will count on a team of experts to address your problem in the most rational way. You need to be expert enough to know you need an expert. Effective use of company or external experts can advance the project. Instead of doing all of the work in your laboratory, you will empower or beg another scientist, perhaps from another function, to advance your project. One day, if all goes well, you will give your whole project over to another business function so that the product can go to market.

A major difference between academic science and industry is the meetings. We have a ton of them -- some very worthwhile, others a waste of time. We have meetings to plan more meetings and meetings to discuss past meetings. We have even had meetings to discuss cutting down the number of meetings. Make sure the meeting needs you or you need the meeting.

An understanding of the market and the consumer base are helpful. After all, you are in it for the money and shareholder value. Push that stock higher, split it, and do it again. While many companies have vast experience with consumer and market research, there are times when even scientists review the market numbers. Researchers may also sit in on a consumer focus group to

Reprinted from *The Physiologist* 40(5): 237-239, 1997 with permission by The American Physiological Society.

better understand the many facets of business. The financial numbers usually drive the decision in a particular area. Because this is a business reality, you need to be prepared to hear the bad words, "You did great work, but the business prospect looks bleak, so we are canceling the project."

Solid communicative (people) skills are needed to work with others and convince them you are on the right track or your position has merit. Candidates or employees with demonstrated success at working things out between people or motivating others against a common effort are sought after by many. Communicate effectively and demonstrate educated risk taking with milestones to enable your managers to clearly follow your progress and fund your cause. Sell your science to management, marketers, product developers, financial analysts, and to regulatory and clinical affairs specialists. Create a need for your science and ideas in other business functions to ensure your position and leverage within the company. Market yourself inside the walls, selling your ideas and building a network that ties you to many projects in order to maintain your position. Knowing how to interact effectively with people aids your fight for money, time with management, and your ideas and data. Communication plays a key role in your ability to distill the most complex problems into a few sentences that can be understood by a sixth grader. Simplifying problems when they are not is difficult.

Finally, the present environment for scientists demands that they maintain a state of dynamism and readiness to move on to another project, business focus, discipline, or company. Business priorities change, and personal philosophies may separate. The days of joining a company for 30 years with a grand retirement party are vanishing. Make personal progress reports and checks of your professional development and happiness with XYZ, Inc. By talking with your peers and supervisors, you can benchmark yourself against others. Is the company progressing in your field, healthcare, versus its competition? Examine your job satisfaction. How is your career tracking? Are you being developed, valued, and promoted within the norm? Most companies have excellent compensation packages that include good salaries and good benefits. Remember to evaluate the total compensation package, not just salary. In general, industry competes very well and usually at a premium versus its academic and government counterparts. When you feel settled, become a mentor to younger scientists who may need your comments, suggestions, or direction. Give back your skills and experience. It can serve you well.

Thus, I have given you a picture of some perceptions and operative changes that are required for the industrial research position that is centered on product conception and development. With this information, you can enter a position with a sense of what will occur. If you are working perhaps in the industrial field, you can reflect and act on changes that would make the process of science and scientific career development easier and more pleasant for all. A sufficient number of worthy challenges are presented to the scientific researcher to offer a rewarding career in physiology and other disciplines. Because scientific problems are so numerous and seemingly so difficult, the need for integrative physiologists and molecular physiologists will remain for many generations to come.

Reprinted from *The Physiologist* 40(5): 237-239, 1997 with permission by The American Physiological Society.