International Chinese Hard Tissue Society Talk

How To Advance Your Scientific Career In A Pharmaceutical Company

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I'd like to thank the organizers for the privilege of addressing this group on the topic of how to advance your scientific career in a pharmaceutical company. There are a lot of things to discuss and think about, so let me sketch out some broad ideas and directions.

The wonderful thing about having the opportunity of addressing you, is that I'm absolutely sure I am addressing a group of energetic, competent, intelligent people. You could not have gotten here, through all the difficulties and passages, without those attributes. So, to my mind, the question is, "how does someone with these gifts move forward in a pharmaceutical environment".

First, the title of this talk, the title I was asked to address, has the most important message of all: How to Advance <u>Your</u> Scientific Career in a Pharmaceutical Company. The fundamental starting point here is that it is <u>your</u> career. It is a path you must build, a vision you must have in mind. No matter how helpful, or friendly, or participatory the organization around you may be, no matter how helpful or cooperative your management may be, your career is your responsibility to tend, manage, and foster.

But, the pharmaceutical industry allows a broad definition of the word, "career". Beyond the work one does at a particular company, there is a large community of pharmaceutical scientists that work together. They don't share secrets, of course, but they do share best ways to do things, they do share reagents, and they do share data at meetings. In this way, we learn that scientists in different companies are not the "enemy", they are honored competitors and colleagues, all of us working toward eradication of illness. It's a good community to belong to.

And beyond the pharmaceutical community is the larger scientific community. As I hope you know, you do not leave this community when you join a pharmaceutical company. And in fact, it is often easier to talk with academic scientists, share information and ideas, than trying to do so within academia, because you are no longer an academic competitor. So, there is a certain delight in being able to access the best in the world, to work with the brightest minds, and to collaborate toward important goals. This, too, is part of a career.

So, despite my remaining comments, which concentrate on the work environment, remember that you define what "career" means to you, in addition to having the responsibility for making it happen.

In order to further understand the pharmaceutical environment, it may be worth a few words to discuss the difference between the academic and pharmaceutical institutions from a financial point of view. In general, an academic researcher relies on grants from various institutions. Many, if not most, of these institutions are fueled by tax dollars. The agreement by the academic researcher is that he or she will do sound science and publish in the public domain. There are no explicit expectations on the utility of the researcher's discoveries. Further, there is little connection between the tax payer and the researcher. The tax payer, again in general, has only a dim understanding of some small portion of those taxes going to "research" and no idea at all about the specific grants. So the arrangement between the researcher and the granting agency remains the primary guide to use of this tax money, a use guided by good science and communication of results.

On the other hand, and in the simplest form, funds for pharmaceutical research comes from sick people. Sick people, in one way or another, pay for the medicines that generate the cash flow to do the research to invent new therapies. These sick people know that the cost of these medicines is more than that needed to recoup the original investment and make a reasonable profit. The cost of these medicines is high, we tell the sick people, because of research and development costs necessary to bring forward new medicines. And so the money comes from the sick people to the pharmaceutical researcher. This means that we in Pharmaceuticals have a deal with the patients—an ethically binding deal that says they pay more for their medicines as an advance for the drugs they will need in the future.

So, it is absolutely required for us to take the precious money that comes from the hands of sick people, and use it to find new therapies in the most direct, most expeditious, most efficient, and most rapid way possible. And to find new therapies that make a substantial difference in their lives—more than just a little bit better than what's available now. To do anything else is to break our ethical contract with these sick people—our customers.

To me this illustrates, in the most graphic way, the fundamental stance we must take in pharmaceutical research, how we must use our precious funds to invent useful therapies for the infirm, and how we must focus our efforts, in stark contradistinction to the academic approach to research in which most of us grew up.

The pharmaceutical environment is a high pressure environment for many reasons. But I believe, speaking only for myself, that the contract we have with the patients we serve is sufficient motivation to constantly strive for important new medicines for those in need, with speed and with quality.

It may be useful to point out that the ideal pharmaceuticals project must optimize its path among three criteria: science, commercial opportunity, and regulatory acceptability. One may look at this through a Venn diagram (figure 1):
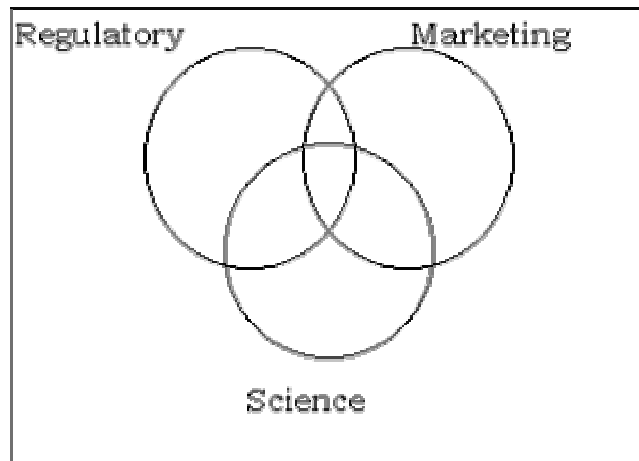
Using this diagram, one may follow the optimum scientific path, which one could visualize as the center of the "Science" circle, but find that the project cannot meet Regulatory or Marketing needs and would, thereby, <u>fail</u>. The same follows for the optimum Regulatory and Marketing paths. Only a path that concatenates all three of these needs can succeed. Knowing this can help the scientist understand why a purely "scientific" path cannot be taken, and may also help identify the need for collaboration with other functions, including marketing and regulatory, early in a project's lifetime.

Regulatory   Marketing

Science

The next important point I want to share is the concept of "fit". The man that hired me taught that "fit" in an organization is as important as all the other skills and attributes a person brings. That has been a difficult lesson for me, and for many others in our organization. Of course, one can flex a bit, and the environment can flex a bit, but the inertia of organizational culture, and the pain of trying to be what one is not, can turn a career into a test of endurance—not the joyful experience it should be.

Consider your vision of what you want to achieve in your career, and then ask how the environment you are in, or the one you are contemplating, will support that. If you do not think you will be supported, if the environment or you have to change too much, then don't! Leave! Move to a better environment. Do not let inertia, or fear of failure keep you from finding the best match for your career. Particularly in pharmaceuticals, there is a general sense of community which transcends particular companies, and it is within this community that individuals remain, learn, and can flow through different environments for different stages of their careers.

All right. Here are some details for you. And I want to talk to you as if I were counseling someone in my organization, someone that I wanted to succeed. So, if the advice is a bit difficult for you, please accept this premise. This is straight talk. OK?

First, you must be understood when you speak. That means you must be able to speak so an American, or whatever nationality you find yourself with, can understand you easily. I emphasize "easily", because if your colleagues are struggling to understand your speech, they are not listening to your <u>ideas</u>, and they will <u>not be with you</u> when you finish your presentation, or speech. I am not talking so much about the written word, as the rules of grammar, and current software make this less of an issue. But do not underestimate the power of verbal communications in formal presentations, question and answer sessions, informal meetings, even chance meetings. If you cannot be easily understood, you will be isolated into a smaller technical organization, will not be asked to make presentations to high level management, will not be asked

to manage large groups of people. In other words, you will be confined and your path blocked in important ways. So, you must be understood easily. I'm sorry, but that's reality.

Second, you must require clarity from your managers. This is a difficult matter for many managers, even the usually direct American manager. Because sometimes managers do not want to seem negative, or to give bad news, or even to tell someone they have a limitation. Of course, to you, this is tragic, because if you do not know what to improve, you cannot achieve growth and excellence in your environment. So make it easy for your manager. Ask clear questions that show you are open to constructive criticism. Take constructive criticism and act on it, making improvements that show your manager you are able to take suggestions without feeling bad, or hurt, and can then move forward. Share your dreams with your managers, but help them understand how those dreams can be realized, step by step, in a manner that helps the organization and, hopefully, your manager, too. How are your dreams aligned with those of your organization?

Another aspect of clarity is making sure you understand what is needed from the organization. What assignments are important, and how will you know you have done a good job? Are your assignments in line with the larger organizational needs? It doesn't hurt to ask. But it can be fatal not to ask.

The man that hired me had a favorite phrase: "what does good look like". It means being sure you understand what it means to do a good job, to contribute to the organization, to be a key member of the team.

Often this means simply asking the question of your manager. It also means having a keen eye and looking at those doing well and asking yourself "why". Understanding the ultimate goals of an organization, the goals of the project you are working on, the goal of the scientific path you are on—all these help you align with the organization's aspirations. These give you the opportunity to gain energy and forward momentum.

And if you can find within your manager some spark of enthusiasm that you can share and build on—shared beliefs about the organization, about what good looks like, about where the organization needs to go—so much the better.

Understanding your organization, where you stand in that organization, and how you can contribute to the organization are cornerstones in being productive, appreciated, and happy.

Many people find that identifying "mentors" can be useful. A mentor that has been around the organization for a while, that understands cultural aspects that may be difficult to understand, and who can help validate questions and approaches, can be useful. But mentors do not solve problems and they do not intervene in issues. They are elders with wisdom that we must adapt to local circumstances.

In a similar way, there are often "help" groups in an organization, groups of people with common backgrounds or interests, that meet to discuss how things are, what works and what doesn't. If such a group has a positive attitude, and works toward problem solving, rather than complaining, it can be a useful enterprise. Otherwise, complain at home.

It would not be fair to say that there is no racism in the pharmaceutical environment. There is. There is also religious intolerance, sexism, and other stupidities. But these are not pervasive and

do not generally drive organizational behavior. But managers who do not understand their people, who find it difficult to communicate with them, who do not understand their people's goals, and wishes, and dreams are very, very common. And, in this reality, it is your job to define your own dreams, seek to be understood, see the organization through the eyes of your management, and figure out how to direct your career within the best organizational fit you can find.

Let me turn the equation around, too. There is very little room in the pharmaceutical industry, particularly American ones, for employees that are intolerant of other peoples race, or sex, or beliefs. So, if you have any difficulty working for a woman, or someone with different beliefs, or of particular national origin—fix yourself. This attitude will harm you, harm the others around you, and generate unhappiness. Look into yourself for these feelings, or behaviors, and do better.

In a similar way, pharmaceutical culture, particularly American pharmaceutical culture, is very team oriented. That means successful people must learn to work in teams, to work with others in a team environment, and to lead without dictating. There is little room in this environment for a manager that dictates to his or her people or who does not recognize the lab technician as having significant opportunity for contribution. The way forward in this environment is not through power—it is through the superior idea, the synergy of teams, of reaching goals that enrich through superior efforts. Power—or authority—is everywhere. But its use is subtle and difficult in this environment. So, ruling a large kingdom is like grilling a small fish. Be careful and gentle, or you will have a kingdom of ashes.

Thank you for your attention.