PATENTS, TRADE SECRETS AND THE SUCCESS OF A SMALL CHEMICAL BUSINESS

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American Chemical Society
October 19, 2001

I.

KEEPING SCORE

A. How Science Keeps Score.

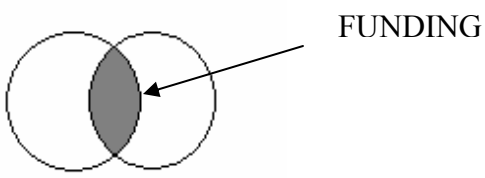
Peer recognition: the more objectively measurable the better; Noble prize, number of articles published in prestigious journals, listed first as author, tenure, etc.

B. How Business Keeps Score.

Money: Business will pay money for **V**aluable **I**ntellectual **P**roperty ("VIP"). Business will not pay you money because of your peer recognition. Money is a good thing. If you think of money as "funding" or "retire some day instead of working like a dog till you drop," it somehow seems less crass. Further, money is not antithetical to good scientific research, it is a precondition.

C. "Why Do I Care How Business Keeps Score? I'm A Scientist."

1. Business is a parallel universe which affects your scientific universe because it is where more and more of your funding is going to be coming from – hopefully.



2. Business will fund "stuff" that is (1) scaleable into large profitable enterprises, or (2) will protect or extend current large profitable enterprises. Business does not typically care about new stuff that is not scaleable into hundreds of millions of dollars of business annually.

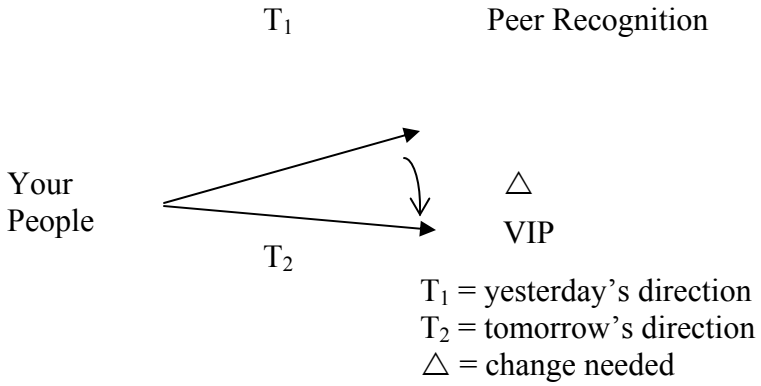
3. Science/business is a symbiotic relationship you must understand and work at to survive. The interface between the two cultures is in patented or trade secret VIP that gets commercialized. No patents or protected trade secrets = no interface = no money.

II.

HOW TO TURN YOUR OIL TANKER AROUND

A. Change How Your Organization Keeps Score.

1. If you want funding, your research must be directed to VIP end points business will pay for. You must redirect your organizational oil tanker toward these new goals.



B. New Set of Score Keepers.

In an ideal world, you could tack up a memo or call a coffee break meeting to explain the new VIP paradigm and everyone would change their decades-old habits to suit your instructions. In the real world, a new set of score keepers (spelled "C-O-M-M-I-T-T-E-E") is needed to slowly and painfully effect (inflict?) the new direction. If your organization is small, your committee may be one person. However, each of the following interests needs to be represented.

C. Committee Make Up.

1. Scientist.

2. Marketing Person.

3. Finance Person.

4. Patent Attorney.

D. <u>Quarterly Meetings</u>.

1. Brainstorm - What could we be doing to (1) create more VIP and (2) leverage it into $?

2. Solicit, demand and review ideas and submissions from the troops.

3. Report to management concerning progress, lack of progress, ideas and requests for money.

4. Participate in venture capital go-fer groups. You <u>need</u> the cold wind of experienced outside input to keep refocusing on what will sell to whom for how much.

5. Prioritize. The life boat problem; there are always more people in the freezing shark-infested water than places in your life boat. If you let everyone in the boat, it will sink and everyone will drown. You must choose who to kill, and you must kill them while they scream, or your inaction will kill everyone.

6. Recommend and implement steps that will (a) create VIP, (b) leverage the VIP, and (c) convert the VIP into $. These steps require written agreements with all creative people, incentives, and mandates to surface their ideas to you, cooperate in evaluating these ideas and converting the ideas into VIP. This requires investment in patents, etc.

E. <u>Desired Result</u>.

Goal: (1) Create VIP assets, and (2) convert the VIP assets into cash.

III.

PATENTS

A. You Need Some Form Contracts.

1. You may not own all of the patent rights you need to convert VIP into $ without signed agreements from everyone. This means anyone who was ever in the room whenever anyone was thinking about the VIP, working on it, experimenting with it, tweaking it, scaling it up, etc. Investors will not invest in VIP with loose legal ends.

2. Form contracts are cheap and easy after the first one. Pay a patent lawyer for a generic one with blanks and then just copy it, fill in the blanks and get signatures as a condition of employment, participation, etc.

B. Get Contracts With Everyone SIGNED.

1. Employees (Condition of initial employment).

2. Vendors.

3. Customers.

4. Corresponding Scientists.

C. Provisional Patent Applications Are Cheap, Cheap, Cheap.

1. $100.00 Filing Fee.

2. Creates Patent Opportunity Rights (VIP). There is a whole lecture about the limitations of provisional patent applications, but no other filing gives more bang for the buck. Basically, it gives you a one-year grace period to delay making more expensive decisions about whatever you properly disclose in the provisional application.

3. Provides an occasion for gathering and looking at information and ideas that should be gathered and looked at anyway to see if it can be converted to VIP.

4. An absolute rule that all papers sent out for pre-publication and all text prepared for talks must first be sent to the IP committee for possible filing with the United States Patent Office, together with a provisional application cover sheet and a $100.00 check.

D. How do you get the troops to talk to the IP Committee?

1. Positive Reinforcement. Reports to the IP Committee should produce brownie points, 'atta-boys or bonuses as an incentive for people to turn reports in. Paying substantial bonuses giving plaques, the best parking spot, etc., for turning in VIP that converts to cash is a good investment.

2. Scary Reporting Requirements. Mandatory annual or biannual "Please state below what you have done in the last twelve months and will be doing in the next twelve months that is of value to the company/university?" reports.

3. Negative Reinforcement. Ultimately the IP Committee must recommend to management that some egregious scofflaw be made an example and punished for noncompliance, and management must do so.

E. Lab Notebooks.

Proving priority of invention is important. Everyone in a research department, whether conducting bench experiments or not, should be required to record their ideas in a proper notebook. All pages should be bound, numbered, dated and witnessed. The more failed experiments in the notebook the better because that tends to establish the non-obviousness and unpredictability of the ultimate patented invention.

F. File Formal Utility Patent Applications.

1. Why File Patent Applications? Patents are often the saleable end VIP product that you produce. Investors buy what you create by trading money for your VIP, which

is typically encompassed in patents. From the intangible property rights encompassed in your patents, investors hope to create tangible products, processes, etc., that they hope to sell for a profit. The point of a patent is to get the right to keep others from following in your footsteps without a license from you, i.e. paying you money. No patent = no investor. No investor = no money. No money = no research. The Fleming/ Penicillin story.

"Minor" follow-on contributions can be valuable. Subsequent experiments by a third party showed that Genentech's t-PA was best solubilitized in low pH buffers. The third party got a secondary patent on that small but helpful process change. Genetech's primary patent was much less valuable without a license to use the secondary patent. Thus, the third party's "small" improvement yielded a patent that was VIP. The Japanese are good at this.

2. **<u>What is Patentable</u>?** All kinds of things are patentable; reaction systems, reaction materials, process flow diagrams, process control, process equipment, waste material remediation, software, etc., if they are (a) novel and (b) non-obviousness.

(a) **<u>Novelty</u>** is basically any difference between your idea and the prior art. It is absolutely necessary that a patent application be filed prior to publication or public disclosure (or within one year <u>if</u> you only care about the U.S. market; but, you never know, so don't risk waiting). If you publish, your own publication becomes prior art against your own later filed patent applications. Publishing before filing a patent application = cutting your own throat.

(b) **<u>Non-obviousness</u>** means that a person of ordinary skill in your art would have thought your idea was non-obvious. Treatises are written on what is or is not non-obvious. Basically, if, when you

tell your new idea to a co-worker, he or she says "so" and shrugs his or her shoulders, then it is likely obvious and not patentable. If the co-worker says "damn!" and furrows his or her eyebrows, it is likely non-obvious and patentable.

3. **When to File Patent Applications**. The best patent applications are filed while the invention is still in its conceptual stage. Although time should be taken to think out the broad conceptual scope of the idea, after that, for most patent applications, the sooner they are filed the better. If necessary, such prophetic patent applications can be expanded through subsequent continuation-in-part applications, etc.

IV.

TRADE SECRETS

A. It is Not a Protectable Trade Secret Unless It is Secret.

It is not a protectable trade secret unless it is a secret.

B. You Need Form Contracts.

The best first step (although not the last one) is to have everyone who might create or learn any part of the secret VIP sign an agreement to keep it secret. Form contracts are cheap and easy after the first one. You pay a lawyer for one and from then on you just copy it, fill in the blanks and get signatures.

C. Get Contracts With Everyone SIGNED.

1. Employees (condition of initial employment).

2. Vendors.

3. Customers.

4. Corresponding Scientists.

D. Keep It Secret Until It's Published.

Keep it secret until it's published.

E. No Publication Until After the Committee Has Had Prior Notice and Given Approval.

The IP Committee needs at least ninety days prior notice, i.e., a minimum time to prepare and file a provisional patent application.

V.

THE (UNFORTUNATE) RULES MOST SCIENTISTS LIVE BY

A. Nothing in my field is patentable. Corollary; or if it is, it is more trouble than it is worth to get a patent in my field.

B. Lawyers, particularly patent attorneys, are too damn expensive. They always say they will get back to me after they finish meeting someone else's deadline and then they keep asking for examples and results I do not have and then they expect a king's ransom for a poorly written regurgitation of my own report. Let other universities/businesses waste their money on patent attorneys**.**

C. The best way to protect my invention is to keep it secret. As long as I keep it secret, no one can steal it.

D. Put off talking to the IP Committee and patent attorneys until the last minute. If they have a chance to grind on my invention, they may either (1) decide the prior art or business potential does not merit the university/company spending money on my idea, or (2) decide it is possibly important and bog it down, delay my publication, etc. A patent prepared at the last minute will hold up in a courtroom in ten years when I am on the witness stand just as well as one the patent attorney had time to carefully prepare.

E. People think more highly of me when I list myself as the sole author and sole inventor of papers, patents, inventions, etc., regardless of how many others suggested bits and pieces of concepts or follow-on ideas to me, did technical work that fleshed out my initial concept, etc. They will eagerly continue to collaborate with me without recognition.

F. Don't bother the IP committee and patent attorneys with incomplete ideas and projects. They just interfere. Wait until I have the loose ends all tied up before I give them the first hint of what I am doing. Even better, publish and **then** send my published article to them as my report. This way I do not have to do a silly bureaucratic report and I can control exactly how it is presented. Whether this prevents the university/company from obtaining potentially valuable patent rights, license agreements, etc., is not my concern.

VI.

OTHER SOURCES

A. United States Patent and Trademark Office. **www.uspto.gov**.

B. M. Miller How to Create and **Protect Valuable Intangible Assets**, Article on Jackson Walker LLP's main website. **www.jw.com**.

C. American Intellectual Property Association. **www.aipla.org**.