

MAKING A DIFFERENCE | Alumni Profile

BY ROBERT M. VILES

Terry L. (Weil) Solomon '83: University Counsel Rockefeller University

The late Robert M. Viles, former dean and president of Franklin Pierce Law Center, interviewed Terry L. (Weil) Solomon '83 for this profile on April 24, 1999 in New York City. It is one of twenty-five interviews Viles conducted for his book entitled Making A Difference which was to feature profiles of alumni he believed would make a positive impact on society. Today, Solomon's duties in the General Counsel's Office at Rockefeller University, NY, NY have evolved to include support for additional entities including telecommunication, purchases and supply, development, Scientific Resource Centers and grants management. She also staffs the Investigator Research Conflict of Interest Program and the General Counsel's Office has grown to four lawyers.

At the time Viles wrote:

Terry Solomon grew up in Milwaukee and majored in social sciences at Northwestern University in Evanston, where she conducted hormonal research in animals. During college she spent a year at the University of Iowa studying hyper- and hypotension in dogs to chart the distribution of oxygen in the heart. After receiving her JD degree from Franklin Pierce Law Center, Solomon went to MIT for the higher non-law degree that at the time law firms demanded in biotech. She planned on acquiring an MBA until she met Dr. David Baltimore, then in the biology department at MIT. Baltimore persuaded her to continue in biology and law, explaining that more biotechnology lawyers were needed. Taking her under his wing, he in effect created a Biology Masters Program for her at MIT. The subject of her Masters degree thesis was determining when biological material, like monoclonal antibodies, must be deposited with the Patent Office in order to meet the enablement requirement under U.S. patent law. Guided by the rule that you must deposit if you cannot replicate the patented innovation in the laboratory, Solomon analyzed the reagents described in patent applications in order to reach her conclusions.

RMV: *You were among the early patent-law graduates. What was your preparation for patent practice like?*

TLS: Professor Bob Shaw was my mentor. He would sit me down to write claims, the most demanding part of a patent application, and then more claims. As a result I passed the

patent exam while in law school. I am so grateful to him for that. Bob was very encouraging. He saw the hybrid between law and science.

RMV: *What was your first job in biotechnology after you received your JD degree from Franklin Pierce Law Center?*

TLS: While at MIT I worked at Massachusetts General Hospital (MGH) on technology transfer in order to support myself. It was the dawning of the biotech era. The United States Supreme Court had just handed down the landmark Chakabardy decision, which holds that you can patent plasmid containing DNA, and the Hoechst pharmaceutical company had just funded the genetics department at MGH. Hoechst's sponsorship represented the beginning of an era encouraging scientific collaborations between industry and academics with the expectation that patents resulting from the funded research project would be filed.

While this was going on, Congress passed the Bayh-Dole law. Because it permits universities to own technology generated by its scientists receiving governmental grants, this law has made a big difference. Bayh-Dole allows universities to grant royalty-bearing licenses, preferably exclusive licenses, to companies that substantially manufacture in the U.S.

RMV: *What were the next steps in your becoming a biotechnology lawyer?*

TLS: I went to the patent department of Genetics Institute Inc. in Cambridge as a patent agent assisting patent attorneys in interference proceedings. Then my husband and I moved to New York City, where he had grown up. I practiced there for four years with Fish & Neave. It was purely patent prosecution and opinion writing. The four years of experience were indispensable to my present licensing practice, but you really need a Ph.D. to prepare and file a biotech patent application appropriately.

RMV: *Why do you need a Ph.D.? I've heard it argued both ways among biotech lawyers.*

TLS: It is true that you do not need a Ph.D. to prepare a serviceable biotech patent application. You do need a Ph.D. however, to advise researchers about directions to take to enable their inventions, to understand the nuances of their inventions, and to compare and distinguish the prior art. You can also participate in designing strategies for additional protection through improvement patents.

RMV: *What has been your role as a lawyer for Rockefeller University?*

TLS: I'm now in the General Counsel's Office instead of the technology transfer department, where I was before. It was an important move for me because I was still learning lawyering for a university. Also, because I'm in the General Counsel's Office, I can now serve the legal needs of the Rockefeller University Press, which publishes science journals, plus those of our clinical research hospital.

I'm really a contract lawyer. Part of my job is negotiating licensing and research agreements between Rockefeller and private industry as well as the ancillary contracts underlying the license agreements, like confidentiality agreements and material transfer agreements (which allow the exchange of reagents). I also review hardware and software contracts.

How do you collect a royalty on such a tool? The answer is a reach-through royalty. It measures the amount of money you receive according to the value of the patents controlling information which has enabled the licensee to isolate or discover marketable products.

RMV: *Do you protect know-how as a trade secret?*

TLS: We can't do that. Remember, Rockefeller is a university which must publish its discoveries. "Publish or perish" is our *modus operandi*.

RMV: *So how is unprotected know-how valuable to a licensee?*

TLS: It gives the licensee bench time. More and more I'm licensing know-how by providing information, e.g. coordinates of proteins that have been analyzed using x-ray crystallography,

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– Terry Solomon '83

RMV: *What is the greatest challenge of your present job?*

TLS: It's learning how to apply the law to the evolving advancements of science. An example is assigning royalty rates. It used to be fairly simple. You would calculate royalty rates based on the net gross sales price of products incorporating the licensed technology. Now, with the evolution of science, innovation often takes other forms and the final product doesn't actually contain the invention; instead, the invention facilitates the search for an identification of a therapeutic or diagnostic product. For example, target molecules which help regulate cell growth and other body mechanisms are being elucidated and patented. Industry takes this information we generate about target molecules and uses it in a screen to find other molecules which attach to it. In this way you can either stop or accelerate what is happening in the body. The target information is a tool, or "assay" in scientific language, for finding a product.

before the information has been published in a journal. Companies will pay to have access a couple months before Rockefeller scientists release the information via publication. The head start for a private company can be worth \$50,000 or more if the information can be used for drug discovery in a field like cancer research.

RMV: *Where does Rockefeller University fit in the biotech firmament?*

TLS: Rockefeller University is dedicated to basic scientific investigation of the events in the molecular basis of life. This intellectual fabric, however, has immediate applications in the detection, treatment and prevention of disease.

Rockefeller has a center for genomic research as well as a general clinical center having 30 beds and an outpatient center. I'm on the institutional review board for the center. Among other responsibilities the board reviews the risk-benefit

aspects of treatment of hospital patients so as to determine that disclosures in consent forms are adequate. The hospital has AIDS patients, and it collaborates with the Aaron Diamond AIDS Research Center. It also conducts gene therapy for the amelioration of cystic fibrosis.

RMV: How do you add value to technological innovations at Rockefeller?

TLS: I look at the big picture and make sure that Rockefeller enjoys financially any progress the licensee makes in commercializing the product. I also have to define “sitting on it,” so that, if the licensee is not diligent with the technology, Rockefeller can retrieve it and license it to someone who will do something with it.

There is more for me to learn. For example, how do you determine a reasonable royalty rate for technology? This would be a great subject for a law school course! How do you determine how much of an equity interest to take in a licensee’s business? I find I have to understand how to read a company’s financial statement and negotiate for common stock, as well as to understand warrants and anti-dilution protection and other fundamentals of the securities industry.

RMV: How do you make a difference at Rockefeller University?

TLS: I would define my role this way: I prevent valuable technology from lying dormant in the laboratory. I’m basically a marriage broker who finds a partner who will not only mature the science into a useable industrial product but will also help to propagate the technology by obtaining research support for the investigator to improve it. Especially with the decline in NIH money, I’m very pro-active in bargaining for up-front research money to continue research, even if it comes at the expense of reducing future royalties.

RMV: How much research money do you bring in through contracting with private industry?

TLS: I get funding for two or three labs a month. Of course, labs are mainly supported by endowment income and federal grants. Maybe a quarter of the labs are financed by industrial sources.

Transferring technology in return for an income stream is not the only relationship between university and industry. We also have collaboration agreements. They really amount to something. You find in industry elaborate databases, combinatorial chemical libraries and lab equipment that my guys drool over. Much of my work as a contract lawyer is a balancing act between the university needs for publications and budget guarantees and industry needs for proprietary knowledge and budget flexibility.

I also make a difference by serving as a lawyer among the 15 persons sitting on the hospital review board. Regulatory compliance is one of my duties. I have to keep up with the law. For example, a recent New York provision states that you can’t store blood more than 60 days without the donor’s consent. To conform with this law, I was required to modify the Rockefeller’s hospital consent forms. I also must ask physicians the right questions to make sure that patients know the risks they are taking when they agree to an experimental treatment, such as gene therapy for cystic fibrosis. In this way I’m helping to facilitate research in a clinical research hospital.

RMV: Do you plan to do this kind of work indefinitely into the future?

TLS: I want to remain in the nonprofit area and offer my expertise for partnering universities with industry. My bottom line is for scientists to continue to conduct their research in synergistic partnership with private companies.