

# PAM AND INSPIRING TECHNOLOGISTS

*Joseph Lorenzo Hall, PhD<sup>†</sup>*

It is a pleasure to be writing in this volume with such great company, each of us celebrating such an important person and mentor, Pam Samuelson.

I am grateful for the opportunity to represent the many technical professionals who have been inspired and influenced by Pam's work over the years. It is an honor to speak on their behalf and to acknowledge the impact that Pam has had on academia, civil society, government, and industry. Through her leadership, expertise, and mentorship, she has helped shape the careers and aspirations of hundreds. I hope that my words can do justice to the depth of gratitude and admiration that so many of us feel towards Pam and her contributions to the field.

We could easily compose an entire volume on Pam's influence on thinkers in more technical disciplines. While I've always realized and recognized the importance of Pam's mentorship in my scholarship and career, I must admit it was difficult to actually reduce those feelings to remarks and words on paper.

I believe I was Pam's first PhD student, which speaks volumes about her multidisciplinary approach, as she was easily able to advise a technologist with a strong interest in law and policy. It was just another adventure. Pam, as I will explain, transformed my life with a single lecture on the DMCA. Even after that lecture, every time I have the opportunity to hear her speak or read her work, something inside me changes for the better.

Throughout my graduate school journey, Pam played a vital role as my mentor. Even today, she remains a significant and influential figure in my life. Her unwavering guidance and support have been instrumental in shaping my career path, leading me to focus on developing what I call policy technologists: skilled experts with scientific or technical training, who can leverage their knowledge and expertise to bring about positive change in legislatures, agencies, and courts.

From the beginning, I noticed that Pam possesses a unique set of skills and interests that enable her to easily navigate through technical complexities despite not being a technical expert herself. She adeptly operates at the intersection of science, technology, law, and policy, collaborating closely with

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† Joseph Lorenzo Hall, PhD, Distinguished Technologist, Internet Society.  
hall@isoc.org <https://isoc.org/>

experts in these fields to gain insight on pressing issues. Watching this dynamic, I came to realize that the other direction was just as important: integration of more scientists and technologists into the legal and policy realms would be important in years to come.

We cannot expect everyone to possess Pam's level of ease when working with scientific and technical expertise or understand her emphasis on the importance of having adversarial discussions that incorporate technical and scientific expertise in law and policy debates, just like in our adversarial legal system in areas of internet law. We need to produce scholars and professionals who can make technology understandable to everyone and debate the merits of different technologies in law and policy debates. Therefore, we have to integrate knowledge and expertise in a way that is easily accessible to everyone, to the greatest extent possible.

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With that in the way of an introduction, I would like to share three significant aspects of Pam's influence on my once-young technical mind. First, there was a lecture that she delivered which completely transformed my life. It was a testament to her exceptional speaking abilities that I suspect many readers have witnessed. Secondly, Pam's collaboration with an economist had a profound impact on my understanding of intellectual property issues, stemming from the multidisciplinary approach the two scholars took. Finally, there is one paper that I frequently reference and share with others. It is a prime example of Pam's exceptional writing skills and how her writing legacy has contributed to the spread of the "good virus" of communicating complex concepts in a simple, understandable manner.

In 2002, Pam delivered an inspiring talk about the Digital Millennium Copyright Act and its consequences to the UC Berkeley Engineering and Computer Sciences department. As a crucial aspect of effective leadership, public speaking relies heavily on the ability to communicate through performance, particularly when it comes to motivating and inspiring others. Pam's speaking prowess is a testament to her exceptional talent in this regard. You can have all the arguments and data you want, but if you can't communicate persuasively in a manner that invites others into the subject, you simply won't get very far.

During the early 2000s, I was an astrophysics graduate student at Berkeley. To be honest, I was just okay at it. Although I was good at physics and modeling atmospheres, I began to realize that it wasn't what I wanted to do for the rest of my life. I wanted to make a difference in people's lives, and it didn't seem like astrophysics had much of a role to play in that.

One of my fellow teaching assistants for a 1500-student Berkeley astrophysics class, Patrick Garvey (a former student of Pam), mentioned a lecture on the DMCA given by a professor from his department. I was intrigued because I had read about this topic on a nerdy news site called Slashdot over my lunch break, while modeling atmospheres and grading problem sets. During the lecture, the professor, Pam, boiled the subject down to a core thesis: the DMCA was hindering cryptography research. In other words, the United States had passed a law that made it illegal to study certain mathematical structures incorporated into software and hardware. I remember being shocked by this revelation, thinking that they had banned the study of math!

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Next, I would like to share a story that highlights Pam's exceptional multidisciplinary collaborations and their potential to inspire and motivate individuals. The story is about a paper titled "The Law and Economics of Reverse Engineering," which Pam wrote in collaboration with Suzanne Scotchmer, who has unfortunately passed away.<sup>1</sup> Suzanne was an extraordinary scholar (and a friend to many of us), and this paper is a testament to the brilliance that can emerge when two exceptional minds work together on an issue that straddles a number of disciplines.

First, let me give you some context. After Pam's DMCA lecture, I was so impressed that I decided to enroll in her cyberlaw class. I clearly caught some sort of legal scholarship bug in the class. Later, I also took Molly Van Houweling's introduction to IP class and Kathy Abram's election law seminar. (During Molly's class, I got the nickname "Joe Dongle" because I was the only student who could explain the meaning of dongles referred to in the DMCA.) However, at some point the law school registrar informed me that I would have to enroll in law school to take more law classes. Eventually, I got accepted into the PhD program at the UC Berkeley School of Information, where Pam was my advisor.

At the School of Information, I worked with Deirdre Mulligan, first from the Law School and then from the School of Information, while Pam was my PhD adviser. Together, we received a grant of around \$10 million from six institutions to study voting machines and create the National Science Foundation's A Center for Correct, Usable, Reliable, Auditable, and Transparent Elections (ACCURATE). I published a number of peer-reviewed

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1. See Pamela Samuelson & Suzanne Scotchmer, *The Law and Economics of Reverse Engineering*, 111 YALE L.J. 1575 (2002).

papers on methods to ensure the verification of voting machines, and I eventually completed my PhD.

The work that I was doing for my PhD at the time involved legal restrictions in making black box voting machines transparent and legible. This got me more interested in the proverbial Lessigian levers of regulation (law, markets, norms, technology). While I had a decent understanding of the law and technology, I was unfamiliar with the shape and texture of norms and markets. I needed to know more about these things, and Pam's paper with Suzanne was just what I needed. Their paper explored the importance of inquiry to the underlying process of innovation itself, emphasizing the freedom to tinker (hat tip to Princeton computer scientist Ed Felten, who runs the *Freedom to Tinker* blog). After reading the paper, I discovered that Scotchmer was a professor at Berkeley and taught this stuff right in my backyard!

A few days later, I found myself in an "Economics of Innovation" course at Berkeley with two other PhD students from the School of Information, taught by Suzanne and Bronwyn Hall. In the very first class, Suzanne blew our minds by stating that intellectual property (IP) is a particularly "perverse" way of encouraging innovation from an economic perspective. She explained that there's a lot of waste, deadweight loss, and duplication in terms of incentivizing innovation, along with bitter fights about rights and a complicated legal environment. Despite this, the system ensures that demand identifies and rewards winners by giving people rights to fight it out in the market.

It turns out that the structures in intellectual property are excellent ways to get things you didn't know you wanted. If you have a clear idea of what you want, you can use methods such as grants, contracts, marketplaces, and prizes to incentivize their production. However, if you want to catalyze things that you could never dream of, you need mechanisms that are a bit unusual. Unfortunately, you cannot easily control what you end up getting, and, in fact, you'll receive things you don't want and even wish didn't exist.

This was a very important lesson for me, taught by Scotchmer, whose mind was as sharp as Pam's but in a different direction. It was a different way of looking at things that opened a whole new world to me. This new world of the economics of innovation proved to be very relevant to my current work at the Internet Society, where I defend the internet. Just like IP, the internet was built to be built upon. It was created to allow people to create new things that we couldn't even imagine. Unfortunately, this very essence of the internet, its generativity, is threatened worldwide today.

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Finally, a reflection on Pam's writing and her writing legacy, centered around one of her most influential papers in my mind, "Of Orwell and

Window Panes,” published in 1984. The full title of the paper is “Good Legal Writing: of Orwell and Window Panes,” which speaks to the paper’s relevance to legal writers, but I often casually leave that last part off as its insights are broadly applicable to writing in general.

In the paper, Pam argues that good writing should be transparent to the reader. It should convey the intended message with clarity and without any unnecessary complexity that could hinder the reader’s understanding. The central thesis of the paper is that good writing results in concepts manifesting in the reader’s mind as the author intended, without any obstacles or impediments that might impede comprehension.

My informal and completely unscientific polling indicates that Pam’s paper has had a significant impact on her colleagues, mentees, and collaborators in tech policy. Out of all Pam’s scholarship, it is certainly the paper I most frequently cite. In my own circles in Washington, DC and Brussels, it has been used as a reference and piece to re-read before writing Congressional and Administration briefing documents, testimonies, amicus briefs, grant proposals, and other important texts. Its simplicity and clarity have inspired many to adopt a similar approach to writing, and it has contributed to the development of my own motto, “I help government get tech right and tech get governance right.” This motto encapsulates for me the essential truths that Pam articulated in her paper and echoes the importance of simplicity and conciseness in communication.

While the informal sharing of this paper may not be reflected in formal citation counts, its qualitative impact has been profound. Her legacy as a writer in general has been cemented through her work, and its influence will continue to be felt. Pam’s insights have helped many writers to communicate more effectively, and her emphasis on the importance of simplicity and clarity has become a guiding principle for many who seek to improve their writing skills.

Thank you, Pam.

