The Eureka Myth: Creators, Innovators, and Everyday Intellectual Property

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Introduction

I wanted to make paintings. I wanted to publish them. But I didn’t want to own them. . . . It’s like having a litter of puppies and you [find] a good home for each one of them.

Joan, an internationally known public artist

What could it mean for this artist, Joan, to compare her paintings to cuddly canines? In what plausible way is an artist’s creative process like the daily labor and intensive care that is required to nurture a pregnant bitch and whelp her puppies? Is the professional satisfaction in building an appreciative audience and receiving feedback from the art world like the satisfaction received from children’s joy when they take a puppy home? What does it mean to own a painting (or a puppy) when the purpose of making it is to give it away? Does one author puppies the way one authors a painting, hoping to retain some subsequent control over attribution and integrity?

The epigraph to this chapter is from an interview I conducted with an internationally renowned sculptor about her creative process, professional development, and studio business. She took and loved studio art classes in college, but she loved English, history, political science, and psychology as well. She graduated college unsure of her career path. As a graduation gift, her mother gave her a set of beautiful and expensive paints, with which she began her career as a painter. From there, this artist made her way around the world to find space, people, and creative inspiration. She has worked full-time as an artist her entire professional life, producing giant sculptures and wall-size watercolors. Twenty years later, she lives on the East Coast of the United States with her husband and two school-age children. She could support the family with her public art commissions, but her husband works as well (and as hard) as she does.
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When I asked Joan about some of the difficulties she experienced being a painter, I was surprised that she responded by talking about the burden of storing all her finished work. My questions were driving at the relationships among making a living as an artist, intellectual property, copying, the digital age, and creative influences. But she seemed puzzled by my persistent questions regarding her business strategies, her tolerance for unauthorized copying and misattribution, and her desire for widespread distribution. Instead, she told me that she didn’t think or care that much about others copying her work. Nor was she very concerned about the contours of ownership and control she had over her paintings. Indeed, the very fact that she had to maintain the paintings or sculpture—archive them, store them, protect them—was a burden. This turned out to be a common concern among the many artists I subsequently interviewed. Being worried about space and storage was not how she wanted to spend her time as an artist. She just wanted to “make paintings.” She wanted to “publish” them by sharing them with the world. But she didn’t want to “own” them. And then she compared her magnificent, colorful, slightly erotic, feminine paintings to puppies. What in the world did this have to do with intellectual property, the legal regime that ostensibly regulates, facilitates, and progresses creative art?

* * *

Steve Jobs and Wozniak created the personal computer, all right? . . .

Cohen and Boyer created biotechnology, the concept of moving genes around through man’s intervention. OK? But most of the rest of us mere mortals just—you know, you learn from other people, and then . . . you know, the frontiers of science are pushed back . . . gradually through similar antlike persistence by scientists.

_Dennis, in-house patent lawyer for a pharmaceutical company_

The myth of the inventor hero is deep and strong. It is common to hear that a world-class scientist was a child math prodigy, to explain how his mind sees the physical world in unique and distinct ways. His aha moment transforms our understanding of outer space or molecular biology.
And yet this quote from a patent lawyer with more than twenty-five years working alongside groundbreaking scientists in the pharmaceutical industry compares most of the important work in medical science to antlike drudgery. This IP lawyer suggests that the inventor heroes he names (Jobs and Wozniak) are hardly human. Instead, he says we should recognize and revere the labor of everyday scientists; they work in droves and teams to transform the frontiers of our physical experience bit by bit, like colonies of ants building and supporting a hill of dirt.

Is it degrading to compare scientists to ants? Is the exalted work of the medical technology that has drastically improved human life over the course of the twentieth century anything like the transport of dirt grains and leaf scraps over insignificant distances in a suburban backyard? In what way does hard work and “persistence” correspond to rights in inventions and competitive advantages that might attach thereto? Why is this patent lawyer talking about trivial everyday work and manual labor when inventions (and patents in particular) are made by novel and non-obvious ideas that spring from the mind? In calling antlike persistence heroic, even as he downgrades himself and his collaborators as “mere mortals,” he seems to suggest that hard work and targeted investment will and should reap well-deserved rewards.

I interviewed this patent lawyer over nearly two hours. His office, cluttered with piles of papers, was at the center of a building complex that housed many similar pharmaceutical companies. He has been an intellectual property lawyer for many leading pharmaceutical companies since the mid-1980s, which marked the beginning of the modern biotechnology movement, the rise of the pharmaceutical giants, and the centralization of patent law in the US Court of Appeals for the Federal Circuit. He spoke quickly and passionately about the importance of patents to his industry and the missteps of so many of his former employers in undervaluing even the “smallest” of inventions. But in the next breath, he lamented the development of patent law to include broad subject matter that championed trivial and undemanding developments in financial services and electronics manufacturing, echoing the sentiments of many other lawyers and businesspeople. He seemed to be saying that these patent-rich fields were truly the anthills of invention: ubiquitous and
unoriginal. And yet, hadn’t the ants been venerated as frontier explorers a moment before?

Given the complexity of his experiences, what is the relationship between patent law and lawyers, pharmaceutical breakthroughs, and anonymous daily drudgery? When does it make sense to assert patents against other pharmaceutical companies, and when are affordability, access, and collaboration more important? Skilled in technical legal doctrine and passionate about patent policy from years working alongside bench scientists in highly profitable companies, this lawyer had a lot to say about when the intellectual property system resonated well with its underlying principles and when it required retrofitting to the industry’s practices and public need.

* * *

This book is full of quotes such as the two that have been presented so far, excerpted from fifty face-to-face interviews that I conducted with a wide range of scientists, engineers, musicians and artists, their business associates, and intellectual property lawyers over the course of four years. The interviews were part of an effort to learn more about the intersection of intellectual property law on the one hand, and creative and innovative work on the other. At the most fundamental level, this book is devoted to understanding statements like those from the artist and lawyer on their own terms. I sought to learn how creative and innovative work occurs from the ground up, from individuals to loose organizations of people to large and small institutions. My goal was to discern whether and how intellectual property laws that purport to “promote the progress of science and the useful arts” play a role in the making, claiming, and disseminating of art and science. What effect, if any, do our intellectual property laws have in facilitating innovation and creativity in the United States?

The US Constitution speaks of “promot[ing] the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries.” To this end, incentivizing the creation and dissemination of art and science by granting rights that resemble property rights to creators and inventors has been the stated goal of intellectual property law since the United States’
founding. But more than two hundred years later, we remain unsure—indeed, we are deeply conflicted—about whether the laws that protect intellectual property work as intended. Does preventing anyone but the patent owner from making, using, or selling an invention without payment or permission promote progress? Does granting a copyright that endures for the life of the author plus seventy years promote more learning and more creativity? How can we gauge the success of laws designed to promote science and art for the public good?

Innovation and creativity are buzzwords of the twenty-first century. The United States asserts its dominance at the cutting edge of both technology and culture, whether in medicine, computer design, film, or music production. Today, copying and disseminating art and science are easier than they ever were, but earning and profiting from exclusive rights appear to be harder. In a world in which global wealth is determined in part by who benefits from innovation and creative output, discerning how art and science are made, by whom and why, and how they benefit the communities in which they circulate are enormously important questions. This book does not aim to address all of these questions. But it begins with the question of how intellectual property law in the United States promotes science and art, assuming as I do that the United States remains one of the global leaders in IP policy and in the production and dissemination of creative and innovative work.

This book describes how intellectual property intervenes, if at all, in the professional lives of artists and scientists and the companies for which they work. Interpreting the descriptive accounts these artists and scientists provide, the book traces the professional development of chemical engineers, classical composers, Internet architects, sculptors, filmmakers, and genetic biologists, to name just a few, in a wide range of formal and informal organizations. In doing so, and in conversation also with IP lawyers, business managers, and employers, the book delineates the presence and absence of intellectual property, as well as the shapes and roles it takes. As a qualitative study of intellectual property that investigates the mechanisms and motives of a range of creators and innovators and their professional managers and organizations, the books aims to chart new terrain for our understanding of and future in scientific and artistic
innovation and the intellectual property that purports to sustain them. Although the focus of the book is on the interviews, and their common themes and critical distinctions, the empirical and theoretical analyses framing the discussion of the interviews may inform present innovative and creative communities and companies as well as law reform efforts aimed to support them.

Psychologists and social scientists have long studied innovative and creative communities to discern their contours and their contexts. Those scholarly projects tend to study creative personalities and the evaluative standards for creativity or innovation. This book focuses less on the kinds of people who produce creative and innovative work and the values society ascribes to them. Instead, it focuses on the motives and behaviors of the creators and innovators and their professional organizations. How and why do they do what they do? What are the mechanisms that help or hinder their continual engagement in creative or innovative endeavors? How does intellectual property play a role in their aspirations and well-being as professionals in IP-rich fields? In other words, this book makes sense of the intersections between creative and innovative activity and intellectual property law using the experiences and explanations of those engaging with both.

THE ARTISTS, SCIENTISTS, AND ENGINEERS
Contrary to the dominant stories of monetary incentives and wealth maximization, the interviews in this book elaborate intellectual property's diverse functions and sporadic manifestations in the lives and work of artists, scientists, and their business partners and managers. Filled with stories from, for example, sculptors, bioengineers, filmmakers, chemists, novelists, software engineers, business attorneys, publishing executives, venture capitalists, and music agents, this book reveals assorted (instead of singular) ways of achieving a flourishing livelihood in science and art.

Interviews followed a standard protocol, asking the same questions of each interviewee despite the diversity of their careers and situations. (Appendix A describes the data collection and analysis in more detail; Appendix B describes the interviewees in more detail.) When warranted, however, conversations wandered in order to follow and pursue whatever
was important to each interviewee and to clarify or connect earlier statements. Statements like that of the artist Joan, comparing paintings to puppies, invariably provoked a more in-depth conversation.

And Joan was far from unique; I was constantly challenged by statements packed with deeper assumptions about the boundaries of ownership claims, the nature and characteristics of personal investment in creative and innovative work, and the diverse desires for how a professional life in such fields optimally proceeds. During an earlier interview, a photographic journalist described his relationship to his photographs: “At the time, I understood that they, the organizations I worked for, owned the photographs, and I think I fully thought of them as mine.” One of my goals in writing this book is to understand contradictions such as this one. How can art belong to its maker and to a company at once? In what way is the art one makes like a beloved pet (or, more commonly throughout the interviews, like a child)? What are the implications for the analogy of work to family relationships or animate beings? How do these feelings and explanations about the relationship among art, scientific discovery, employment, and ownership affect the manner and circumstances of innovating alone or within an organization and controlling work through intellectual property law?

Interviewees demonstrate diverse ways in which IP law helps and hinders artistic and scientific productivity. In this way, the book begins to dismantle the stunningly persistent and monolithic explanation for intellectual property protection in the United States: that IP is necessary to facilitate robust production and dissemination of art and science. For example, some musicians lament the copyright royalty system, wishing instead for a consistent salary to make music on a regular basis. They need to earn money to live, but they are ambivalent about whether they earn money from royalties or from a salary paid by a standing organization. Many want regularity in their revenue stream so they can compose and play without worry. Some of these same musicians, however, wish for control that would prevent other people from misusing their work. In copyright parlance, these musicians value the derivative work right (protected through copyright law) and also moral rights (which are largely unprotected under US copyright law). Copyright law thus does not ably
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protect musicians' interests or incentivize their work, as IP law claims; musicians write and play music because it is what they do and will do, with or without US copyright. The stories these musicians tell about how and why they became musicians; their interactions with agents and music publishing companies; the challenges and joys of being a musician; and what, if anything, they would change about their lives professionally, provide a window into the intersection of creative work and copyright law in the music business.

I was surprised to learn that engineers and scientists often sound like artists, musicians, writers, and filmmakers in their ambivalence toward the full panoply of rights intellectual property law provides. They too value hard work, professional autonomy, intellectual challenge, and professional and personal relationships. Indeed, entrepreneurs in the high-technology space directly resemble some of the artists and scientists in their drive to create something: an object, a network, or a marketplace that benefits a larger community. As Andrew, a successful entrepreneur with a computer software background, said, he came from a "culture of entrepreneurs," and most of his life he "just wanted to build something." When asked about how patents, trademarks, and copyrights might function in his successful companies (and in his failed ones), he talked about how his large patent portfolio was just "detail and documentation":

I would ... make time for the engineers to meet with the lawyer and patent different things. Like, I ... would talk to people and say, "What do you have that you think we can patent?" And then they would tell me, and then we would go in and patent those things. But you know, for any one of these companies, there is typically one or two ideas that are really valuable, and that are the patent. And then the company ends up getting a dozen or two dozen patents. The rest of them are just the blocking stuff that—or not even that: ... I think they're just something you build to look very attractive to a potential buyer. But they're not real—they're like detail and documentation.

Andrew's fairly dismissive attitude toward patents contrasts with the intensity and pride with which he describes the excellence of his team of engineers. The engineers, not intellectual property, are what drove him to negotiate a multimillion-dollar offer for his company because he
wanted the price to reflect the benefits he and his team bring to the digital marketplace:

We were like a military—you know, my engineering group was unbelievably predictable. . . . And we had done work for [a large public company] that was really highly regarded as a very high-quality job on a [similar product] that worked. So the [giant media corporation looking to buy us] knew they were getting a very good technical group.

This entrepreneur confirms that the value of the company was as much in the people as it was in its inventions.

Parsing the stories of these musicians, visual artists, biologists, and engineers, and comparing them with the stories from their managers and lawyers, provides a layered account of the multidimensionality of US intellectual property law in action. The interviews demonstrate in the aggregate how motives and mechanisms of creativity and innovation are multifaceted and interconnected. And yet intellectual property law, as we have come to implement it in the United States, is a one-size-fits-all model. Statutory regimes governing trademark, copyright, and patent law were drafted and continue to be interpreted to protect particular economic interests based on incomplete and sometimes inaccurate assumptions about cultural and scientific production and the people engaging in it. The accounts in this book provide empirical evidence that these legal frameworks and policy-driven foundations are mistaken. In doing so, the book describes the profound mismatch between motives and mechanisms of art and science and the structure of US intellectual property law.³

THE BUSINESS PROFESSIONALS

I expected to hear a different perspective from business and intellectual property attorneys. I thought they would rehearse the unbending position that intellectual property is necessary for making and commercializing art and science, but the lawyers in this study had a lot to say about the ways intellectual property fails and succeeds for their clients. They did not uniformly—or even consistently—support the incentive theory of intellectual property. Instead, because of the perceived mismatch between IP and clients’ professional goals, attorneys develop a range of strategies for
encouraging their clients to participate in an intellectual property system of which even the lawyers seemed somewhat skeptical:

[The way I try to describe it to [the company's engineers and scientists] is that it's the way . . . we represent value. I mean, to be perfectly callous about it, I've used this approach a number of times: "Look: we're a start-up company. All these venture capitalists who are going to be investing in us, they are going to look for IP. They don't know what it is any more than you or I know what it is, right? But they are going to look for something that says 'it's IP,' so it's the way to show them what the really amorphous stuff you're doing in the research lab, how that translates into something that they can put their hands on." . . . And the more of it we have—and it's fuzzy what the "it" is, but the more of "it" we have, then the more successful we're going to be.

Admitting that intellectual property may largely be for show but that it is critical to funding ventures, lawyers turn intellectual property and the regime that regulates it into a kind of shell accounting game. Attorneys do not intend to mislead or misinform (although many talk about their strategies as "tricks"), and they do not describe their behavior as an ethical challenge to or against the public interest. Instead, they say they adhere to the "rules of the game" in counseling their clients. Throughout my conversations with intellectual property and business attorneys and with company representatives in IP-rich industries, respondents describe IP as just another legal regime or organizational maze through which they guide their clients in order for them to reach professional or personal goals. To lawyers and firm agents (such as CEOs and vice presidents), IP is a pliable legal fiction—as is the notion of the corporation itself—that can be molded and exploited for particular purposes.

Whether through intellectual property law, employee relations, real estate, or securities law, lawyers keep their clients' interests in mind, and the interests of creative and innovative clients are rarely to maximize wealth or a financial return on investment. Instead, lawyers shape and reify the perceived importance of intellectual property law by molding it to correspond with other values about which their artistic and scientific clients care deeply: their professional reputation, their community's enhancement, and consistency and control over their everyday labor. In
this way, even for the IP lawyers and the business folks, intellectual property law does not function as an investment vehicle that incentivizes the production of art and science. Instead, when able, it gives a name to the ephemeral nature of what scientists and engineers do, and it concretizes the value they create. An in-house attorney describes this process of correspondence in terms of coaxing software engineers in her company to participate in the patenting process:

It was just hard for them because there was a struggle philosophically around all of this, and a real skepticism—the concept of law, legal, and compliance was 180 degrees away from this very fluid, creative, libertarian open environment... The concept of people wearing jeans and Hawaiian shirts, the concept of people having these open cubes and working until two o’clock in the morning, and having a corporate ethos that basically embraced flexibility and dialogue and consensus building, and to a certain extent rebellion and questioning authority—that was anathema to the corporate cultures that had preceded them. So just getting a law department in a company like that where they would even trust what “the lawyers” would say required an awful lot of effort on our part, and a completely different perspective on how we approached our internal clients. You could not come top-down as authoritarians. You basically had to come bottom-up, as having gained their respect through your relationship, your appreciation for what they did, and their true belief that you just have to instill that you really believed in the company and its proposition...

In terms of software [patents], that became actually something developers really understood. They personally benefited from it, but there was a long, long history of invention in this country. Patent invention goes [way] back... So you become part of a storied legacy of the great inventors. So patents were, in a way, a much easier sell. And you have to get the developer involved. I mean, they write the invention statement, and they work all the way through, and their name is on that in the Patent Office. So there’s real ownership and pride and [a] coolness factor to being an inventor, and being part of the company, an IBM or an HP and Microsoft, and some of these others companies that own thousands of patents.

This attorney emphasizes a mutuality of interests between the individual employees and the company when she encourages participation by firm employees in a patent system of which they originally were skeptical.
Reputation, ego, and being part of something much bigger than oneself are all personal and professional interests of the employee-innovator. When lawyers describe intellectual property as affecting these outcomes instead of others, the justification for intellectual property and its mechanisms shift and diversify beyond the function of financial incentives.

I also expected to hear a different perspective on behalf of corporate interests. Corporations are not really people, after all. Whereas individuals might prioritize autonomy, optimal work conditions, reputation, and relationships over maximizing wealth, companies are said to exist to make money. Thus, I thought that when I asked CEOs, vice presidents, and other corporate agents to describe their firm’s business strategies and goals, they would provide accounts of behaviors and experiences in which the right of exclusion in intellectual property does incentivize more production. And indeed, the corporate agents’ understandings of intellectual property’s benefits and limitations more faithfully aligned with the traditional IP incentive story than lawyers’ or artists’ accounts.

Swapping the corporation for the individual in the IP story of creative and innovative progress jettisons a long-standing IP myth: that copyright and patent rights exist to benefit “authors” and “inventors.” And yet connecting strong IP rights with financial incentives may confirm the percolating fear among those witnessing the growing dominance of corporate interests in both national and international politics that threaten distributive justice, political accountability, governmental transparency, and democratic engagement. Because, celebrating the alignment of IP’s financial investment function at the corporate level minimizes, if not largely abandons, the reigning and original importance of the public interest in intellectual property law. An alignment between firm incentives and IP policy is therefore worthy of critique and concern. Moreover, there is evidence in the interviews that alignment is partial, missing important features about which key employees and corporate principles in creative and innovative fields care.

Corporate agents agree that IP facilitates some development and distribution of creative or innovative work but rarely the initiation of that work. Initiation—beginnings and persistent effort to achieve innovative or creative breakthroughs—is almost always intrinsically motivated. In other
words, even for the companies that may exist to make money (although as I will discuss, even that characterization is debatable), the progress of science and art requires passion for the work, which does not appear to be incentivized by IP’s investment function. Thus, it may be more accurate to say that IP functions subsequently as a form of postindustrial corporate capital, to borrow Julie Cohen’s insight. Like bank loans, real estate agreements, and employment relations, IP law intervenes later in the corporate “life” of creative or innovative work. Only haphazardly does it serve as a mechanism to recuperate sunk investment costs, and oftentimes it serves goals relating instead to relationship building and business flexibility.

Intellectual property law in the United States has been shaped and reformed to address interests of both individuals and businesses, assuming that they are one and the same in terms of behavior, motives, and aggregate benefit to community welfare. We may believe that they are not the same, and yet it is difficult to identify or isolate a corporate motive or business interest to study when companies cannot and do not speak the way individuals can and do. To be sure, many of the individuals I interviewed worked for or were members of firms. And their interests often aligned with those of the firm. The company’s “interests,” therefore, may be discerned by looking to the interests of the individuals who direct or shape the company’s actions. Indeed, companies can speak only through their representatives. But truer to the point, corporations cannot hold attitudes or beliefs of their own: “If [the company] possesses anything, it is because of the legal theory that endows it with fictive personality. . . . Just because it is legally constituted, a group cannot be said to ‘behave’—still less to think or feel.” This mistake of ascribing “motives” or “desires” to corporations specifically or institutions more generally—be those motives pecuniary or otherwise—is widespread in scholarly literature and contemporary politics. The data grounding this study, as well as data from other studies, alongside prominent theoretical literature about institutions, demonstrate how the “thinking” and “desiring” that are said to occur in and through institutions are mutually constitutive of the individuals who form the collective. Not only do institutional acts depend on individual choices; those choices are rendered meaningful and available because of the institutions themselves. It is therefore not worth distinguishing

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between organizational and individual motives in terms of whether or how each may harness and harvest intellectual property. The question—and its underlying assumption—is based on false premises. And so this book proceeds to identify a range of motives and mechanisms for making and disseminating creative and innovative work both independent of and through corporate structures in the hopes that further research can evaluate how such motivations cluster. Throughout the book, I highlight instances when industry-specific differences arise in the interviews. Given the sample size, it is not possible to generalize from these observations and instances. But when my observations and analyses correlate with existing quantitative data studies, I note the relevance of peculiar institutional structures and organizational prerogatives.
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1. In referring to “antlike persistence,” Dennis may consciously or unconsciously be referring to a 1924 court decision written by the famous judge Learned Hand in which he used the language of “antlike persistence” to describe patent lawyers and their own resolute pursuit of valid patent claims. Lyon v. Boh, 1 F.2d 48 (S.D.N.Y. 1924). If Dennis is referring to this, then he has switched the focus of Learned Hand’s praise from lawyers to scientists.


5. As I will explain shortly, this is a contestable assertion.

7. But see Mark Rose, *Authors and Owners: The Invention of Copyright* (Cambridge, MA: Harvard University Press, 1993), in which he traces the copyright regime as founded on corporate and organizational interests of book sellers and publishers, not individual interests of authors.


10. “Marxist theory assumes that a social class can perceive, choose and act upon its own group interests. Democratic theory is based on the idea of the collective will.” Ibid.


13. See Appendix A for in-depth discussion of the benefits and limitations of qualitative empirical studies such as this one.