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INTRODUCTION

For five years, I have been conducting interviews with United States artists and scientists in diverse fields, as well as with their lawyers and business partners. My goal in doing so was to learn how intellectual property functions in their professional lives devoted to creative and innovative work. The scholarly literature defending and explaining intellectual property in the United States is largely dominated by a theoretical economic approach to law with its assumptions about human motivation and the benefits and values of creative and innovative work to those making it. In contrast to a law and economics approach to IP's function and optimal form, this qualitative investigation of creators and innovators investigates the roles of intellectual property (and entitlement claiming more generally) from the ground up.

The interview data contain rich accounts and reflections about how and why individuals create and innovate and also about how complex industries devoted to creative and innovative products and services sustain their businesses. Beyond the interest in these details from creative and innovative people and industries, this study has broader

implications for intellectual property law reform specifically and our understanding of IP-rich communities generally. Whether readers are lawyers, local or national political leaders or business people, the data from these interviews should shape our conversations about the individual and socio-economic benefits and pleasures that creative and innovative work brings. Historically, many nations (and the United States in particular) protect intellectual property production in order to enhance its output to promote 'progress'. But the content of 'progress' remains ill-defined. This project addresses precisely that question in an effort to learn from those creating or innovating (and those that facilitate creativity and innovation) the nature of the progress for which they aim.¹ One hope for this project, then, is to infuse our discussion of intellectual property with grounded facts about what people really care about when they are engaged in work protectable through intellectual property law so that when we engage in policy reform discussions about intellectual property we might debate the issues with concrete details from those driving the innovation and creativity. In the United States, the Constitutional prerogative 'to promote the progress of science and

the useful arts' (U.S. Const., Art. 1, Sec. 8, Cl. 8.) drives the congressional mandate for intellectual property regulation, but two-hundred years since our constitutional beginnings, we remain unsure – indeed deeply conflicted – about whether the laws that protect intellectual property work as we hope.² This is in part because of our failure to study those who create and innovate and instead to base existing laws on theoretical models of commercial transactions and hypothetical business practices.³ This study aims to refocus the inquiry on the creators and innovators themselves to learn how and why they work in order to investigate whether or how intellectual property law functions in their professional and innovative activities.

The interviews are semi-structured and open-ended conversations about the interviewees' work: its origins, its personal and organizational contours, challenges, pleasures and desires. I interviewed a wide variety of artists, scientists, engineers, lawyers and business managers. All own or manage intellectual properties. However, in the interviews, I do not ask directly about intellectual property or specifically about progress goals until the end of conversation. But from the detailed accounts and reflections throughout the open-ended conversation, I gleaned specific categories and diverse roles for intellectual property in the development and fulfillment of artistic and scientific work towards the achievement of progress.

In the interviews, progress features centrally despite its elusive nature. Notably, it is not a value-neutral or subjective concept but a tall order and one that interviewees describe as demanding objective evaluation. Progress is explicitly directional and qualitative: it is about novelty and correction vis-à-vis the past, and it is valued for the kinds of things produced and their associated benefits rather than for how much is made or money earned. Everyday work, professional identity and sustainable social welfare are signs of progress for almost all of the people and industry leaders I interviewed. Part II of this chapter will discuss these dimensions in more detail. But

it is worth noting now that these standards are much higher than current intellectual property regimes in the United States require.

Instead of conducting and analyzing interviews for a qualitative analysis of creative and innovative work, I could study outcomes and pursue a quantitative study. For example, I could ask instead: Do pharmaceutical companies with more patents make more socially beneficial medicines? Do filmmakers and production companies who exploit the full range of their copyrights remain viable for longer? Measuring outcomes would be easier – there is a tangible dependent variable to count. But such quantifiable outcomes are deeply ambiguous metrics. How do we determine which medicines fulfill the constitutional 'progress' rationale? By how many lives saved? By how much profit generated? And, importantly, how do we know whether intellectual property law that protects the output is the mechanism that is causally responsible for it?

Instead of focusing on outcomes, this qualitative project focuses on processes. It unpacks the assumption and mystery of incentives and the amorphous claims about progress by analyzing the accounts people provide about (1) how and why they do what they do, and (2) how intellectual property law has enabled or constrained their work. Without exception, courts, legislators and lawyers describe the purpose of intellectual property law in the United States as providing the necessary incentive for creativity and innovation, assuming that as long as creative and innovative work gets done, progress will follow under the right circumstances (*Bowman v. Monsanto*, 569 U.S. __ (slip op. 8) (2013); Landes and Posner, 2003: 37–84; Zimmerman, 2011). However, this utilitarian justification speaks of incentive without evidence of connection to lived experience. And it makes no claim to substantively describe what 'progress' might mean except tautologically as the creation of creative and innovative work. Despite a vast theoretical literature on intellectual property, and a growing body of quantitative research on IP law and policy, qualitative research that

could document or challenge the function of IP regulation is rare.⁴

Moreover, qualitative research and its attention to language and narrative accounts help us understand things that surveys and other quantitative research cannot. The language people use to describe their lives and work offers access to the cultural milieu of creativity and innovation, including the law that regulates their work and livelihood. Language – words and stories – make sense of the world (Lakoff and Johnson, 1980). Whether called narrative, rhetoric, or interpretation, stories explain or justify the situation in which we find ourselves (Chambers, 1984: 212–213). This includes the legal situation that frames (enables and constrains) creativity and innovation. At the same time, stories are inherently political (White, 1980: 11). They can justify the status quo or affect change.⁵ Their repeated use (along with repeated words and phrases) reify or transform categories and expectations, which in turn structure relationships and obligations (including legal ones) in our communities.⁶ Studying the stories told and the language used is important for understanding how we live together in organized communities and the rules that govern us.⁷

The 50 transcripts at the foundation of this project tell remarkably consistent stories about what constitutes artistic or scientific progress. Despite diverse industry actors and organizational structures, the nature of ‘progress’ sought and valued is varied but coherent. Before getting to these common threads in Part II, however, this chapter first discusses the historical and theoretical roots of the United States Constitution’s clause in order to later contextualize the grounded research. The second part of the chapter catalogues the variations in the notions of ‘progress’ as described by the creators and innovators themselves and highlights their common themes as well as some notable distinctions. Despite being a study of United States law and communities, I hope that the implications for this study will speak to an international audience concerned, as most of us are

in our digital age, with how to make the most of our increased connectedness by improving lives and achieving individual and communal goals globally. As will become clear, ‘progress’ is an aspect of both personal and public life, although personal welfare may differ from the public good. As it turns out, connecting the individual with a collective view of progress is a central preoccupation of creators and innovators. Although many struggle to find a role for intellectual property regulation in making that connection, most make the connection in and through their work. Central to this paper’s conclusions, therefore, is the sometimes overlapping and frequent misalignment of IP protection with progress-related ambitions.

PROGRESS IN HISTORY AND THEORY

There is relatively little documentary history about the genesis of Article 1, Section 8, Clause 8 of the US Constitution, which grants power to Congress ‘to promote 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’ (the ‘IP Clause’) (Oliar, 2006: 1790–1791). Compared to other parts of the Constitution – for example, its tripartite structure, its dual sovereign system and the Civil War Reconstruction Amendments – contemporary debates over the IP clause were neither lengthy nor public. Several scholars have written detailed historical analyses of the genesis of the IP Clause and have come to different conclusions about its meaning. (Bugbee, 1967; Heald and Sherry, 2000; Nachbar, 2004; Oliar, 2006; Walterschied, 1995).

Interestingly enough, the debate over the IP Clause is rarely about the meaning of ‘progress’ or ‘science’ (Pollack, 2001; Snow, 2013) the way debates about the Commerce Clause (Art. I, Sec. 8, Cl. 3) are about the meaning of ‘commerce’. (Balkin, 2010; Merritt, 1995). Instead, investigations

of the IP Clause concern its relation to other enumerated powers of Congress in the Constitution: whether Congress can 'promote progress' through other means, for example by drawing on its Treaty Power or its Tax Power, or whether the IP clause limits other powers of Congress (Fromer, 2012). Most scholarly debates concern the internal limitations of the IP clause: whether Congress may only grant patents and copyrights if by doing so it is 'promot[ing] the progress of Science and useful Arts' (Fromer, 2012: 1336). These are important debates as they focus upon a central issue of United States constitutionalism: the limited authority of the federal government and instances when the exercise of federal power may exceed this. In most of these cases, however, the central question concerns the operative verb 'promote,' and the shape and nature of 'progress' is taken for granted.

The pithy documentary evidence of the genesis of the IP clause shows a coordinated submission during the Constitutional Convention by James Madison (Virginia) and Charles Pinckney (South Carolina) that does not shed much light on the substantive meaning of 'progress'. Interestingly, both Madison and Pinckney made proposals that overlapped in purpose and substance and largely focused on the role of institutions rather than individuals. Madison proposed granting patents and copyrights to inventors and 'literary authors' for limited times, as did Pinckney (although Pinckney proposed the more general 'exclusive rights' instead of Madison's more specific 'copy right').⁸ Both men also proposed a form of institutionalized learning of science and the arts. Madison suggested that Congress be empowered to establish a university and Pinckney proposed a seminary. The men also proposed that Congress be empowered in other ways. Madison suggested that Congress 'encourage by proper premiums and provisions, the advancement of useful knowledge and discoveries' (also known as the proposed 'encouragement' power) and Pinckney proposed that Congress 'establish public institutions, rewards and

immunities for the promotion of agriculture, commerce, trades and manufactures' (Oliar, 2006: 1789).

These proposals came late to the Constitutional Convention, which began on May 25, 1787. Madison and Pinckney did not offer the above-described submissions until August 18. And on September 5, after less than a week of deliberation behind closed doors, the proposals were shortened, revised and submitted for adoption. The revised recommendation that came from committee was the same IP Clause contained in the ratified US Constitution. There was no recorded debate about the clause and the vote to accept it was unanimous (Farrand, 1991: 505). Apparently Madison and Pinckney tried later to revive only the university power before final ratification of the Constitution, but they were unsuccessful (Ferrand, 1991: 616).

Scholars have interpreted the shortening and streamlining of Madison's and Pinckney's proposals to have various implications on the breadth and meaning of the IP Clause. For some, the combination of the progress provision (taken from Madison's proposed encouragement power) with his proposed patent and copyright power *limits* Congress's award of patents and copyrights to only those instances when doing so will 'promote the progress of Science and the useful Arts' (Waltersheid, 2002: 1). For others, the exclusion of universities and prizes from the final version as ratified expressly excludes Congress from establishing a university or issuing prizes under the IP Clause (Oliar, 2006: 1792). Whether and how Congress can otherwise establish a university (which it hasn't) or facilitate the issuing of prizes and grants for research (which it has) is also debated in the literature (Fromer, 2012: 1379–1391).

In contrast to 'progress,' the meaning of which is largely assumed without analysis, the IP clause's language of 'science' and the 'useful Arts' is well researched and believed to be understood. 'Science' at the time of the founding meant the systemized study of a branch of learning, as in the 'science of

commerce', 'political science', or the 'science of war' (Snow, 2013: 290–291). It did not mean, as it might today, the specific sciences of biology, chemistry, or physics, for example. 'Useful Arts' referred to practical skills, applied sciences and trades, including manufacturing, agricultural trades and civil engineering (Waltersheid, 2003).⁹ Whether the fine arts (e.g., poetry, painting, sculpture) was meant to fall within the 'Sciences' remains a subject of on-going inquiry and mystery (Beebe, 2014), although today, to be sure, federal copyright law protects works of fine art. All of this is against the backdrop of enlightenment ideology, a belief system deeply held by the founders and rooted in the power of directive investigation, one goal of which is to break with stagnating tradition and aim for a better future through scientific and literary inquiry.

The addition of 'promote the progress' to 'Science and the useful Arts' does not clarify the scope of the IP Clause. Some scholars insist that 'promote' and 'progress' must have different meanings otherwise Congress would not have included both in relation to 'Science and the useful Arts' (Pollack, 2001: 755–757, 794–795). Most commentators agree that 'promote' means to 'stimulate', 'encourage' or 'induce' and that 'progress' is a substantive noun: a betterment, an advancement or a move in a forward direction (Fromer, 2012: 1373).

In legal scholarship, there is considerable focus on the appropriate levers needed to 'promote ... Science and the useful Arts' (Burk and Lemley, 2003). For example, legal scholars and economists routinely ask what precisely (and how much) effectively incentivizes scientists or businesses to invest in researching and developing new medicines (Johnson, 2012; Lemley, 2004; Mann, 2005). Others ask whether moral rights, protected in parts of Europe under copyright law, are necessary to encourage the widespread distribution of certain works of art in the United States (Ginsburg, 2011; Kwall, 2001; Lipton, 2011; Sprigman et al., 2013). The *promotion* language of the IP Clause is central to

the literature on intellectual property law. But what about the *progress* language?

Dictionaries now and at the founding define 'progress' as 'advancement' or 'betterment.' But to me, this begs the question. 'Progress' is a subjective label for a movement or trend. What may be an advance in biological science on the one hand may not necessarily be a state of 'betterment' for others. For example, is progress achieved if we know more today about breast cancer than we did ten years ago, but diagnostic tests are widely inaccessible because of costs related to legal barriers, specifically patent law (Chon, 1993)?¹⁰ Or, what may be an advance in music-making technology (the growth of self-recording and self-publication of music on the Internet) may not necessarily be 'better' for musicians and audiences because fewer reliable filters exist for promotion and quality. Moreover, what may be easily understood as a scientific or technological advance in terms of an 'accumulationist' view of progress is not so easily understood for aesthetic works (Beebe, 2014: 27). We may comfortably evaluate the accumulation over time of positive scientific knowledge as it supersedes or refines previous understandings of the natural world. And we may experience the accumulation over time of technological discoveries as more efficient means to accomplish specific ends. As Barton Beebe has written, these forms of progress are 'unidirectional and ratchet-like and may be measured objectively' (Beebe, 2014: 27). But what can we say that an aesthetic work 'does' or that its accumulation supersedes or refines? There may exist a 'weak accumulationist' account of artistic work getting 'better' over time. But since the 20th century modernist and post-modernist art movements, the 'relative merit [of the artwork] can only be assessed subjectively' (Beebe, 2014: 27).

Given that United States copyright doctrine abjures evaluations of traditional aesthetic judgment, what is aesthetic progress today? To this question, Barton Beebe offers the pragmatists and their theory of aesthetics (Beebe, 2014 28).¹¹ This gesture towards

the pragmatists intuit a theme in the interview data, but not the only one. As Beebe summarizes, the pragmatists, such as Dewey, (1) emphasize popular aesthetic experiences over 'museum' art, (2) reconceptualize as productive and essential the interdependence between consumer and producer, and (3) value practice (the making) over objects (the made). The interview data *across industries* strongly supports these three values. Although Beebe's exploration focuses only on fine art and aesthetics, the interview data covers scientific and technological work as well. These and other themes alongside the descriptions and analysis of the data itself are highlighted below.

Although US constitutional understanding demands a method of interpretation rooted in history and legal practice, the discussion that follows is not tied to any one modality of constitutional exposition. If I were to consider how a court or a legislature in the US would or should interpret the IP clause today, my guess is that it would track the legal analyses which I have already cited (Fromer, 2012; Pollack, 2001; Snow, 2013).¹² In doing so, the interpretation would begin with an originalist approach but would also rely upon evolving precedent and contemporary socio-historical and economic contexts to render the clause meaningful and consequential today (Balkin, 2009; Strauss, 2010). This is the typical way of proceeding with US constitutional interpretation and application when the language is otherwise opaque.

This project's goal is to infuse into our understanding of the US IP Clause contemporary conceptions and appreciations for what 'progress' might mean to those engaging in science, technology and art. Thus, my contribution is not from legal history or precedent, but from the 'bottom up' (Oliar, 2006: 1837) in a form of 'grounded practice' (Strauss and Corbin, 1997) to advance 'arguments about what "promotes progress" in specific contexts or areas of creativity' (Oliar, 2006: 1837).¹³ This chapter's contribution to the US constitutional debate, therefore, relates to the theory of living constitutionalism

(Balkin, 2009). It appreciates the ambiguity of the term 'progress' as contained in the US Constitution and develops a contemporary understanding of 'progress' for the clause's application in contemporary society. Doing so hopefully reaches beyond United States policy, however, with implications for a broader debate that focuses on the role of IP regulation and international relations, both for local and national communities with an eye towards global welfare.

PROGRESS ON THE GROUND

Progress is not value-neutral

For many interviewees across a range of creative and innovative professions, 'progress' has two characteristics. It is explicitly directional: for example, we learn new facts that surpass or refute what we previously knew, or we alter old form and media to produce new works. Progress is also (or uniquely) qualitative: for example, what has been created is better than what came or was before and 'better' is thereafter explained. Notably, progress is rarely measured by an amount of things made or money earned, but instead on the kind of things produced and the kinds of benefits that accrue from them. And these qualities of progress set a higher standard for protected output than current copyright or patent law provide. Thus, strong claims to origination and ownership are less frequent among the interviewees than IP law would otherwise support because the kind of work worthy of exclusive dominion that embodies 'progress' is described as atypical if not also rare.

As an example of both directional and qualitative progress, interviewees describe work that *challenges existing paradigms, fills a niche or solves an identified problem* as worth doing and sometimes also protecting through legal claims. Typically, scientists, engineers, business agents and lawyers, describe their good work in these ways. But

artists in the study do as well. (To be sure, many interviewees don't describe the manner in which they protect their work in IP terms, but many anticipate that the 'law' broadly construed will help them continue their work by protecting their output when necessary.)

Many of the IP lawyers with whom I spoke described their clients' work and business structures in the above progress-based terms. One particular lawyer, who was herself a biologist before becoming an attorney, describes her client's scientific breakthrough as 'a complete sea change' in the science and the subsequent patent process as fairly straightforward. This lawyer is a partner in a law firm that specializes in intellectual property law; and she speaks eloquently, displaying a habit of mind I recognized in many effective attorneys who seek to deeply understand their clients' needs, desires and limitations. She spoke from a conference room in her law firm about her client, a molecular biologist:

[I]t's not about the money for him: he's interested [in patenting his invention] because it fits into what he does every day, which is his science and his lab, and his recognition at meetings, and now everyone associates his name with this particular thing. I don't think it's about royalties with him. And I think that generally speaking, it isn't with these guys. It's more about being recognized for some type of scientific achievement, and [having] his or her name being associated with that. And generally, that's through publications, not through patent applications. ... It's because of the subsequent papers he published in this field. But it's [the patent is] generating institutional interests ... he is out on the circuit more, getting invited [by] ... organizations, corporations. You know, people in Europe are now interested in him.

I think for him, that the interesting [thing] for him [about his discovery] is it went contrary to every scientific theory that was out there. ... He is very smart, and very friendly; gets along very well with people. And he's very proud of what he's done. It's also helping a population of people for which there has been very little hope for many years, and he is very touched by that. It's a very emotional thing for him. And when he sat there with the [patent] examiners and he talked about, you know, the theories that were out there for this particular condition, and he said to them – he goes, 'Look, I am just a scientist, you know? I go into my lab, and

I come up with theories.' And he said, 'This was a complete sea change' – and that was his word: a complete sea change. No one – and no one believed him. And we wrote a patent, and we got him an application, and we got his patents allowed, and he's in Europe, and he's all over – worldwide jurisdiction. And now, people are using, employing this particular method to help a population of people for which there was very little hope, and it's working. And he's just – so he is very touched by that, that he did something that ... He looked at the data with one of his students, and he was like, 'You know what? I don't think it's that – I think it's *this*.' And so let's test it.'

Beyond the absence of a pecuniary motive, this passage is notable for its identification of reputation and professional growth as benefits that accrue from good work and sometimes also from IP rights. Admittedly, the scientist about which this lawyer talks is a salaried employee and does not worry about earning a living from patent royalties. Generally, he is not motivated to do the research by the possibility of receiving a patent on his invention. It doesn't 'incent' him as intellectual property law sometimes presumes. But once received, the patent has value as a symbol of the scientist's good work: his recognition for discovering something new, being sufficiently insightful and courageous to pursue a path not previously taken, and doing so in order to solve a problem that will improve the well-being of an underserved population of people worldwide. This scientist considers his work progress for all of these reasons. In other words, patenting his invention does not seem unreasonable or incongruous because he recognizes it as representing a kind of progress. If, however, his high standard was the standard for patentability, there would be significantly fewer patents, to be sure.

Notably, this same lawyer describes most of her scientist and engineer clients as being uninterested in the patent process, discussing their patents and patenting strategies generally unless their personal and professional goals are achievable. She says:

They're annoyed; you're an annoyance, generally. You take up their time [and] they could be doing other things. They're generally not interested. ... there's an inventor ...that I've dealt with ... he founded a small company. Even when he founded [a] small company, he really didn't want to spend any time talking to me about [patents] – he'll talk about baseball, but he didn't want to talk about his patent applications.

In other words, the patent process is only worth the effort when it facilitates other personal and professional progress as described above. Although the patent itself did not facilitate the invention of which the scientist is so proud, it enabled him to grow his reputation and thereby share his research and his research agenda with a larger audience. And he believes – although whether this is in fact true is a different question – that the patent enables the widespread distribution of the invention to communities in need.

Artists also describe the value of their work as directionally forward-looking or a qualitative improvement beyond what came before or exists currently. I interviewed a wide range of artists, including painters, writers, sculptors, photographers and filmmakers. Most of them spoke, as did the scientists and engineers, about the value of challenging existing paradigms in their work, filling a niche among similar artists, or solving an identified problem. For example, a novelist describes her everyday process of writing this way:

I'm obviously using my brain, it's *my* brain, but I don't have that much control over it. I can just – I can set the rules for the day, I can set the project for the day, but I can't force myself to come up with stuff. You know, I can say, 'This is the problem that needs to be solved', or, you know, 'I need to get this character from point A to point B ...', but I can't think, 'I am going to work on a really felicitous way of saying this.' You know, it just doesn't ... happen [like that]. I mean, what you really have to do is focus on a slightly larger problem, and then hopefully something felicitous will come as you go.

Problem solving of a more general nature is at the root of creative expression, she says. And that process generates excellent work. This novelist believes she can distinguish

between excellent and mediocre writing. Excellent writing is both timeless and yet also 'timely' in that it is different than writing that has come before and responds to life currently.

I feel like human nature has been pretty stable for a long time, and we have probably said everything there is to say about it [laughter]. But conditions, the conditions of human nature, of humanity, do change, have changed. You know, we produce new foodstuffs, and we *whatever*, you know? And there are always these specific details that are new. So come up with a new story to tell me about those things.

This is similar to the view of scientific progress as discoveries that stand the test of time and develop existing paradigms of understanding.

I interviewed many sculptors, some whose work is displayed in museums and others whose art is commissioned for public installation. These artists focus routinely as a goal on the marriage of form and function in their sculpture. They also regularly discuss the importance of their audiences and physical contexts in which their work is situated. One such artist, well-established and trained as an architect, describes his goals and philosophies when choosing projects. Although his professional identity as a combined sculptor and architect was unique among the interviewees, his outlook was not. Many artists – writers, painters, photographers, filmmakers – similarly described their interests in making art as focusing on intellectual challenge, uniqueness or novelty (aesthetic and otherwise) and the accomplishment of a particular social or public end. He says:

I see [public art] as an interesting way to do certain things, which is kind of a hard crossover, towards community-building. [Because] I guess what I tend to do anyway is to try to make things work as well as be art. I'm not content to just sort of be a commentary, which a lot of art is, sort of 'This is a way of creating a metaphor, or commenting on some, like a social, or some issue.' I mean, I was recently involved in designing for a streetcar line, and doing shelters for the thing. And the issue became whether these shelters were too much like architecture, or were they sufficiently art, and I think

sufficiently art by some of the art people ... was considered to be less functional and more whimsical, or something. And you know, I kind of had a problem with that. ... 'cause those things turn into one-line jokes, and if they're there for ten years, it gets kind of old, and so I think that there's a place to put things in an urban, or any kind of community environment, that work[s] on both levels. And in fact, that's what I would consider really my goal.

This artist's goal was both particular and broad. Particularly, he sought to design structures that were both functional as shelters and beautiful as enduring art. He didn't prioritize either aspect and, indeed, considered optimal output as melding the two. Broadly, he sought to create works that united and enriched the communities in which they were situated. Like the scientist/inventor who describes the public benefits from a new method of treatment for an orphan disease, this artist conceives of good work as new, filling a need, and establishing or sustaining a community.

Compare a geneticist's critique of patenting medical technology with a filmmaker's description of why she makes films. The geneticist visited my office for an interview and spoke mostly about her eight years in graduate school and more time completing her postdoctoral work and working as an assistant clinical professor in a medical center. She later went to work for a large, publicly-owned pharmaceutical company. She expressed concern for and disaffection with the industry despite the services rendered to patients, particularly because of the perceived conflicts between medical ethics, business needs and patent law.

I would say clinical utility [is a major problem] ... and health care reform will put pressure on this one – is the test a benefit to the patient? Or are you just offering it as a revenue generator?

This geneticist describes directional progress but qualitative progress only vaguely. Compare these concerns with a filmmaker's description of how she got into filmmaking.

In college, I could take literature classes in Spanish, I could do that, or politics, you know, I could learn about that. But Latino culture, it was

nonexistent. ... And I knew very well that media was the most powerful thing. So I ended up taking a film and anthropology class ... and it became the thing that I thought, 'It's so powerful, it's a way to talk to other people about these cultures that live right here.' So it's a way, in the same way that when radio technology was invented, and suddenly black people's music could enter the home, could enter the living room. ... So these stories could enter into your consciousness, into your living room, in an intimate way that you would never experience, and I feel that you know, our divisions in society are about ignorance, basically. So to me that was a powerful medium.

Old stories told in fresh ways could teach something new to the uninitiated as well as foment harmony within a community through shared experiences of culture. Both the geneticist and the filmmaker describe goals of helping people or communities, either through health benefits or political and social cohesion. Both industries (medical technology and film) are IP-rich, claiming dependence on the exclusivity that patents and copyrights provide to generate sustaining revenue. And yet as described by industry actors, the progress they seek to achieve is less related to an IP business strategy that facilitates the return on investments; progress is detached from exclusivity and from the idea of wealth or, simply, 'more'. Instead, the progress they seek aims at the effect the work has on the particular field and relevant population.

Skeptics might say that business managers, CEOs and lawyers are the pertinent actors to focus on for discerning how IP can help achieve certain progress goals of creators and innovators. Artists and scientists may not focus on legal regulation, exclusivity and profit, but their business agents or intermediaries do. The interviews do not support this conclusion. Instead, business people describe ambitions similar to the hands-on creators, albeit sometimes in vaguer terms, both for themselves and on behalf of their clients. They describe the desire to solve problems to grow a business. They describe the pleasure of engaging in an intellectual challenge to discover as-of-yet unexplored processes,

services or goods that will address an identified need or generate new joys. And IP doesn't always help achieve these goals. A seasoned IP attorney, working for more than three decades in the profession, explains:

In the area that IP protects ... it hasn't been solved by IP protection. I mean, the theory of intellectual – the underlying theory of the whole thing is if you create property rights in it, you'll create a market; that will create an incentive to make these things, right? And I am saying in this case, you know, we have NDAs, we have provisional patents, we have copyright – we have all sorts of things. It hasn't worked. Many, many inventions don't make it to market that are perfectly good inventions, for a variety of reasons. ... the idea that if you create private property ownership of things, magically the market will take care of everything else is a complete fantasy.

For this attorney, making 'good inventions' is the goal (and he later describes 'good' in the way already mentioned, for example, filling a niche, new and imaginative). This kind of work is worthy of recognition and remuneration because it builds affections, efficiencies and adds to the sum total of things people care about. But IP doesn't necessarily help promote these goals. For this lawyer, as with many other interviewees, the misalignment between the progress goals and the IP mechanisms is stark.

I interviewed many business people, ranging from those managing public companies to those working at start-ups. Although not all were as disaffected as the above-quoted lawyer regarding IP's benefits, many disavowed as overstated the ability of IP to achieve their entrepreneurial goals. In the living room of his suburban home, I interviewed an internet entrepreneur who is the CEO of his second company that specializes in online marketing. He sold his first company for many millions of dollars within ten years of his college graduation. He is a self-described workaholic and has four school-aged children. Below, he responds to my question about his choice to quit his stable and lucrative job as an investment banker soon after college to start his own company with all the risks it entails.

I've found that I like the challenges around problem-solving. I like finding solutions, and puzzles, and so, one of the things about a business particularly [of] this size is like, there's a lotta challenges. Some of 'em suck. Some of 'em are good. But like if you like problem-solving, and challenges, there's a never-ending supply [of] intellectual challenges. Some of them are human, I don't necessarily love managing human capital, but I've gotten pretty good at it, I think. But you know, what markets should we go at, and why is the pricing not working, and how do we win this customer, and just all kinds of interesting things, so if you like to figure things out, and you like to grow things, it's a good place to be. And I think it's part of the reason why I also like to garden.

The progress this entrepreneur describes effecting through his innovative company (and for which he believes he deserves credit and payment) is about building something 'real', making valuable connections between people and serving various social or economic niches. He seeks challenges and particularly loves seeing them resolved and blossom into solutions that grow his company. His company is rich with intangible assets (software, brands, customer and client databases), but the value of his company he describes in different terms. He says:

I feel like we have built a real product. Where we provide real value to real companies, who pay real money, right? So it was not like dollar in, dollar out kinda stuff, it's like, hey ... these companies are getting value, they're building on our platform, they're using it to grow their own companies, and they're willing to pay for that. It's much more rewarding. I feel like it's building something real.

Rather than just pushing money around (a reference, I believe, to his investment banking days), he perceives in his company something sustaining and self-generating about the services it provides. Progress is not only the scaling up of his company's platform, but the way it is mobilized, sustained and grown through relationships with other companies. For him, building this company's work is a very worthwhile way of spending his time, and, as he says, something for which he is proud to earn a living. But he doesn't claim the need for IP exclusivity to develop his

business. Indeed, aside from trademarks, he rejects copyright and patents as retarding agents in his industry.

At the end of the interview, he became wistful, telling me:

[I]f we can view the notion of creating a company, as actually pushing around electrons and changing energy, then perhaps we never die as entrepreneurs, right, because what we create enriches the lives of others, whether it's people who work for you, or companies, and like so all that gets dispersed, no matter if you succeed or failed, by definition you've influenced the timeline of life.

References to immortality and to a life well lived permeated the interviews of artists and scientists, business folks and lawyers. People describe wanting to contribute to the communities of which they were a part and not just by adding things to it, but by adding things that helped, that brought pleasure, that connected people. One might think these are vague and clichéd personal or professional goals. And perhaps they are, explaining their ubiquity throughout the interviews. *But* they are not the goals we hear with reference to 'progress' and intellectual property in an accumulationist and market-driven framework, which is the dominant framework in the United States. As currently described by US courts, *any* rational basis for promoting more art and science, and not particularly these lofty public-oriented purposes, is good enough to qualify for IP protection.¹⁴ To be sure, standards of patentability and bars for prior art are intended to restrict the issuance of patents (in contrast to the very low standard for copyrights which permits almost anything with a modicum of originality to receive copyright protection). But the debates about patent thickets and a dysfunctional patent system raise the specter of not enough restrictions, insufficiently discerning filters and too many bad patents (Bessen and Meurer, 2008; Jaffe and Lerner, 2004; Lemley et al., 2005: 12–13).

A further dimension of qualitative or directional progress includes a particular focus on novelty. I heard throughout the interviews

how newness and uniqueness was a primary basis for ownership claims over creative expression and inventions. As already mentioned and to be discussed more fully below, these claims are not as durable or exclusive as current intellectual property rights. But the basis for a claim, according to the interviewees, is nonetheless its novelty and its origination by the creator or innovator.¹⁵ For example, the above-quoted businessman believes his unique team of employees and his personalized business structure distinguish his company from many others and that distinction drives its growth and profitability. He admits that first mover advantage and his tireless work habits also play a part in his success. But bringing something new to customers is the value he sells.¹⁶ In some form or other, the importance of uniqueness united scientists, engineers, business people and artists in their identification of value in their work. We heard it above when the scientist described his invention as a 'complete sea change' and with the novelist who demands a 'new story'. Confirming this value, a professional photographer in his late fifties who survived his industry's evolution from celluloid to digital, speaks from his studio, where he proudly displays a new, mammoth-sized printer he recently purchased.

Every time you do something, you establish a series of rules and rule number one is that you cannot do twice the same thing. That forces you to step up the notch a little bit every time you do what you do. Sometimes that comes easy, sometimes it doesn't, but you need to plant the element there ...

The interviewees do not eschew the value of borrowing or copying in creative and innovative work. To the contrary, most describe how both are catalysts for learning and inventing. But an elevated standard of novelty and distinctiveness – identified by challenging existing paradigms and addressing a particular need or desire – are features they value above others and is evidence of progress happening and worth protecting. Creative and innovative output with these features will stand the test of time and that, too, is sought after and

respected as exemplary of enduring progress which, given limited times, eventually returns to the public domain, a fact interviewees expect, applaud and upon which they appear to rely.

Porous and Contingent Ownership Claims

From the above discussion, one might think that existing patent standards of novelty, non-obviousness and utility already satisfy the progress values described. One might also think that creators and innovators resemble classic utilitarians in thought and process. But the identified standards for 'progress' are higher than those administered by the patent office (and certainly higher than those that determine copyrightability). Also, the interviewees should not be misunderstood as driven by function above process. The interviewees' reasons for and ways of controlling their work and situation expound claims for control that serve ends associated with everyday practice, professional identity and sustainable social welfare. They are functional only insofar as they serve these relational and social goals. And they are often misaligned with or underserved by IP rules in part because these are on-going concerns that resist finite measurement. They are not assets but ambitions. They are described as opportunities and developing capacities with hoped-for positive effects on others. That they are realized or maintained through creative and innovative work (work as *labor* not *output*) undermines a strict utilitarian approach to their achievement. It furthermore discourages as unworkable or undesirable a rule of exclusion defined in traditional property terms.¹⁷ The following describes in more detail these progress goals in terms of claims related to work, identity and welfare.

Everyday Practice

We often hear that patents provide a company with the 'freedom to operate' or 'room to run'. Interviewees confirm this reason for

asserting their patents against others. Several lawyers and scientists celebrated a patent's ability to defend and enable a research agenda by preventing others from hijacking or blocking the research.¹⁸ Below, an in-house lawyer at a pharmaceutical company describes persuading otherwise reluctant scientists to participate in the patenting process in order that the scientists' own research may continue.

I said [to the scientists], 'What I want is something that I can trade ... I'm not interested in necessarily asserting these against anybody. I'm looking for something that either (A) gives me a quid to trade with somebody, or (B) we patent it first so that some other company can't patent it and then come to us for \$100,000 a year royalty.'

Notice in this quote how the lawyer explicitly defends against the implied accusation that he will assert the patent against anyone for revenue or as an injunction (presumably against other scientific companies). He recognizes his scientific colleagues' perspective that patents may thwart collaboration and scientific development instead of promoting it. And he assures his colleagues that he has noble (read 'progressive' or welfare-enhancing) motives for patenting. The lawyer may in fact be describing forms of cross-licensing (revenue generation) or ways to prevent patent infringement actions against the company (risk management),¹⁹ but the enduring value of the exclusivity in the IP is characterized in broad terms as freedom-enhancing: working and keeping working. He is explicitly not describing how to maximize the financial value of the patented invention and, in the opinion of some, is under-enforcing the patent. Other interviewees describe a similar dynamic and urge compulsory licensing schemes in lieu of exclusive rights to promote on-going work and effort in the field.

Artists (filmmakers, musicians, painters, sculptors, writers) describe picking and choosing when to assert their copyrights. Most avoid claiming infringement when others borrow material and reuse it in a complementary or minimally transformative way. (Photographers were a notable exception

to this rule. Although the photographers I interviewed accepted some forms of copying and fair use, their tolerance seemed lower than other artists.) Indeed, most artists cared more about attribution and misattribution and much less (if at all) about exclusivity in their work. Assertions of exclusivity arose during accounts of situations in which continuity of work was at stake. For example, a music composer and opera director complained about the contours of copyright being too strict and ill-defined so that he is regularly afraid of receiving cease-and-desist letters concerning his new versions of others' older work (some uses which may be protected by fair use and some of which may not be). When he sought his own copyrights, he enforced them only for derogatory uses of his work in hopes of minimizing risk and maintaining stability in his company. Several other musicians describe feeling squeamish about asserting copyright over their songs as forcefully as their publishers might require, especially given that digital distribution of music (illegal or not) fomented an appreciative fan-base. But when selling a particular song or performing for a television or radio commercial would generate more royalties than they expected to receive from their entire album over several years, they could be convinced to agree to the copyright license they would not normally agree to in order to support their interest in continuing to write and play music on their own terms.

The interviews illustrate the importance of everyday work with stories about practice, routine and attention to detail. As Alasdair MacIntyre described in his ground-breaking *After Virtue*, the value – indeed the virtue – of practice and routine is that its embodiment as everyday activity binds people within particular communities around shared standards (MacIntyre, 1981). In his influential book, MacIntyre discusses the ethics of practice and everyday work as a defense to the corrosive effects of capitalism and that routine work binds communities around shared values. MacIntyre means 'practice' quite literally, the way musicians practice, athletes train and artists and scientists study (or anyone else who

works repetitively everyday within a community with common goals). In this vein, within the interview data, writers talk about developing the pacing of stories and working on consistency of characters. They talk about the number of pages they write every day and the details of character and plot development as physical milestones. Painters and other visual artists, such as filmmakers and photographers, talk about refining color and lines and losing track of time as they manipulate their equipment. Scientists and engineers talk about how long it took them to become proficient in their field – years of schooling and working alongside mentors in laboratories with equipment and machines – so that they could eventually be on the cutting edge to develop science and technology. Here, a musician contrasts her love of recording music, which is detail-oriented and painstaking, with performing.

I love performing, but my favorite part is that secret place where you are all alone and you are writing, and ... you are really living in a world as an artist. And I love the recording process. I love just, like, tinkering away in the workshop doing – crafting it, and having that time to, like, polish it and sculpt it, and, like, perfect it in a way.

When asserting intellectual property rights enables everyday practice (with material support, risk management or providing protection from others), creators and innovators embrace and assert the right granted to them, although rarely in its full capacity. Working everyday at their chosen field is a virtue and a good. Doing so is a precursor to, if not an embodiment of, progress and thus one of its critical dimensions. But because intellectual property protections are infrequently the basis of revenue-generating business models for most creative professions (performance and payment for services being much more common), the focus on everyday practice (and thus on service and performance) most often avoids or omits assertions of exclusion by others.

Identity

The interviews contain scores of stories describing charged disputes over proper attribution for work. Individual writers, artists and

musicians commonly expressed significant concerns regarding attribution and misattribution – naming or misnaming with reputational effects. This is unsurprising in light of the literature on the importance of attribution in the arts and sciences (Fisk, 2006; Goldman, 2011; Sprigman et al., 2013). For example, an opera composer said that although he is fine with people copying his music and ‘reiterpret[ing] a character in a non-offensive way, ... to make something which would be offensive and then put my name on it would be a problem’. Likewise, a famous author who sometimes employs a ghostwriter for her sequels and voluminous series explains how she has ‘to have very close control over [the book series]. My name is on the books’. A music agent describes an upsetting situation in which one of her client-musician’s eponymous albums was placed, without approval, all over a kitschy candle store chain as part of a marketing ploy by a marketing professional. In each of these examples, of which there are many more in the interviews, subjectively misusing a name – which stands for a person and her work – is disturbing. It is almost a form of *name-calling*. Concerns about professional reputation collide with wounded egos and resemble defamation claims rather than copyright, patent or trademark disputes where market harm structures the legal action. More than a physical harm, harm to one’s ‘good name’ is, as Cassio says in Shakespeare’s *Othello*, harm to ‘the immortal part of myself’.

But US intellectual property law does not facilitate accurate attribution or prevent misattribution in the way that most interviewees seek. Other than fairly thin protection for certain rights of integrity and attribution (so-called ‘moral’ rights) in the US Copyright Act for particular forms of visual art, the requirement that creative or innovative work be accurately attributed or maintained (and not changed or destroyed) does not exist in US IP law.²⁰ Before the US Supreme Court decided *Dastar Corp. v. Twentieth Century Fox Film Corp* (539 U.S. 23, 2003), there existed some possibility that trademark and

copyright owners might succeed on a claim for misattribution or mutilation of their work via section 43(a) of the Lanham Act that prohibits false designation of origin.²¹ But in 2003, the US Supreme Court decision in *Dastar* finally closed the door on the possibility that IP law could require attribution or prevent misattribution in the way authors or artists desire (539 U.S. at 31). And yet the interview data is full of explanations of the importance of attribution and promises of maintaining the work’s integrity (as a measure of personal and professional integrity) to facilitate the work’s optimal promotion and dissemination whether or not for profit.²² As the interviewees describe, this is because attribution (or the prevention of misattribution and mutilation) is central to safeguarding and managing one’s professional identity and relationships with their audiences, which are primary concerns for those in creative and innovative fields. Interviewees consider it both mysterious and frustrating that IP law does not facilitate accurate attribution. In their mind, it frustrates their professional development and therefore may also stymie their engagement with work. This is antithetical to progress, in their mind.

Concerns over attribution take many forms. Some interviewees describe being very particular – in one interviewee’s word ‘anal’ – about when people are permitted to use their name as a reference and when they themselves will claim a work as ‘theirs’. Several academic scientists discussed the importance of inclusive attribution in scientific research (recognizing a group of contributors rather than single authors without accounting for relative size of each individual contribution). But these academic scientists (a biologist and a chemist, both of whom have been engaged later in life in successful entrepreneurial projects) also said that when hiring or evaluating colleagues in their field, it was critical to discern those from among the multiple-authors of works who were the primary and secondary contributors. From this I understood that inclusiveness was helpful for building community and maintaining on-going relations,

but when according substantial rewards (a job or a promotion, for example), understanding proper attribution was also important. In both these instances, attribution was about accurately conferring credit so the reputational benefit would accrue to the right person.

The desire to be named – to be called out as special in your profession or at work – was a strategy used by many lawyers who sought cooperation from their clients. An in-house counsel in a high-technology company incentivizes innovative disclosures by appealing to ‘bragging rights’. He created a company-wide contest in which every month employees submit as many ‘cool ideas’ as they discover while working, and at the end of the month, the company votes on the ‘coolest idea’ (whether it’s protectable by intellectual property or not).

They aren’t fully baked enough to consider for IP purposes. ... people basically just get bragging rights. We then rank them, and we announce the winners. We incent people, it’s like a \$10 gift certificate or something. Anyone who submits a cool idea gets the \$10 gift certificate. ... And so [eventually, if we can protect it or commercialize it] that particular piece of IP [is] ... held up as ‘This was Sarah’s. She was cool idea number one, and here it is.’

The desire to be known as someone who contributes good ideas is strong. This helps develop a reputation as a smart or able person (with the likely benefits of emotional well-being and work advancement). According to the above in-house attorney, being identified as the origin of a ‘cool idea’ is more effective for building community and workplace effectiveness than if the originator gets to own the idea in the future. According to these interviews, building and nurturing reputation develops feelings of belonging to a certain community (a work community), of a secure affiliation within it, and that the community is better off for it. Although some of the interviews describe negative feelings about the perceived arrogance of those who overstate their contributions and are less worthy of attribution, the motivation behind the attribution claims is both self and other-directed. These examples of attribution

claiming – naming and identifying oneself as belonging within a particular professional space and to a particular work outcome – demonstrate the constitutive relationship between identity and work. It further underscores this relationship’s driving role in community building and professional settings.

The forceful and emotionally charged nature of these stories about professional identity and reputation may explain the tendency of owners and originators of creative or innovative work to overreach when the nature and quality of their work (or the name attached to it) is disparaged or described inaccurately. Seeking protection through IP or other legal means makes sense in these contexts as a defensive reaction, but IP law’s lack of likely redress undermines its relevance to artists and scientists hoping to protect these particular reputational concerns.²³ Given this lack of relevance, it makes sense that the interviews contain many examples of managing or controlling reputation without strong property claims or other legal entitlements. They do so to control their identity in a competitive or crowded field and to selectively build professional relationships to enrich their work. For most, this is a life-long undertaking that demands regular nourishment and attention, and it is inseparable from the work and communities to which they are devoted. In the end, because of the centrality of reputation to their own commitment to the work and its effects on others they find ways to develop and sustain their professional identities outside the parameters of IP law.

Enhancing Welfare through Access

The section Progress is not value-neutral already mentioned the interviewees’ attention to community benefits and welfare through the work in which they engage. By identifying particular needs, solving problems in their field, or addressing a gap in the market for goods or services they can provide, interviewees describe themselves and their work as contributing to and shaping their communities. Distribution of and access to the work is central to this participation.

And interviewees describe diverse ways in which to maximize access to their work.

The public function of intellectual property (its reliance on and default to a public domain) depends on dissemination and access. Both scholars and courts have contended that dissemination is the *ultimate* goal of IP law and incentivizing creation the penultimate goal (Goldstein, 2003: 236; *Golan v. Holder*, 132 S. Ct. 873, 888 (2012)). The statutory basis of intellectual property confirms the important role of serving the public through distribution and access. Until 1976, the federal copyright did not attach until the work was *published*, which was interpreted to mean publically available on a reasonably non-restrictive basis. For patents, exclusive rights are typically considered a quid pro quo for disclosure to the public of the invention by filing invention specifications and written descriptions with the Patent and Trademark Office so others can benefit from and build on these inventions during the patent term and after the patent expires. Courts confirm this understanding of IP, reminding us that ‘private motivation must ultimately serve the cause of promoting broad public availability of literature, music, and the other arts’ (*Sony Corp v. Universal City Studios, Inc.*, 464 U.S. 417, 431–432 (1984)) and that the ‘sole interest of the United States’ lies not in authorial or inventor reward but in ‘the general benefits derived by the public from the[ir] labor’ (*Sony v. Universal*, 464 U.S. at 429).

Evidence from the constitutional founding, what little there is, confirms the importance of dissemination as a basis for both institutional and independent learning and as well as for ‘improvements’ to commerce, trade, manufacturing, agriculture (Hamilton, 1791; Madison, 1788; Ferrand, 1911). Access to new developments in these areas is critical for the constitutional prerogative of the public good to be fulfilled. Exclusive dominion in the form of a durable property right may be one way to encourage broad access; control over the work’s reproducibility may encourage dissemination free of fear of those who would otherwise take the work when initially

distributed, copy and claim it for themselves, and profit from it by competing with the originator in the market.

Evidence from the interviews does not reflect this fear. Indeed, the diversity of methods interviewees describe (including businesses) to disseminate work in ways that lack substantial control over its subsequent use indicates that strong and broad intellectual property rights are unnecessary for achieving this and other progress goals. Most blatant (or even surreptitious) forms of infringement do not frustrate dissemination or access, although they may reduce revenue or feel like a personal or emotional trespass. To be sure, in some instances widespread unlawful distribution – counterfeits are the most obvious example – can eliminate the shared benefits of fair competition and professional development that is based on expected norms of borrowing and excused copying (downloads or sharing between fans, for example). But these are the rare exceptions in the interviews. Most often, creative and innovative professionals describe the ‘progress’ that attends to distribution happening without IP.

Across the interviews, there appear to be five distinct modes of distribution: broad distribution, selective distribution, sharing, gifting and hold-out (no distribution). Interviewees, particularly those in the pharmaceutical, medical device, software and publishing businesses, describe distributing their work as broadly as possible through the manufacture or reproduction of many copies of their work. The goal in this instance is to blanket audiences with more than, or as much as, is achievable. Many of these examples (although not all) are from interviewees concerned that distribution should not occur through unlawful copying, although enforcement is weak and litigation over infringement is avoided at almost all costs. Software companies are an exception. Although they too refrain from assertions of infringement, most do so because they care little about unlawful copying. Indeed, many software engineers and entrepreneurs I interviewed predicated their success on unlawful copying

and distribution of programs because doing so built a fruitful consumer base. To be sure, their businesses relied in part on licenses to software, but unlawful copying and distribution also fueled their business because it grew the number of users, who would eventually pay for software and services, and it increased brand recognition.

Interviewees also describe a more selective form of distribution akin to an in-person performance. This kind of distribution benefits from exercising more control over distribution and reception because controlled dissemination tends to enable productive audience feedback that enhances subsequent work. Three industries dominate this distributive category: publishing/writing, music and sculpture. Folks in these fields describe cultivating opportunities to ‘perform’ their work either through controlled in-person environments or closed-digital environments for three primary purposes: revenue generation, establishing desired relationships with collaborators or customers, and nourishing professional identity and autonomy. However, many other creative and innovative industries, including scientific and manufacturing industries, also describe how a ‘managed performance’ of the work (sharing certain diagnostic tools under highly controlled circumstances) exercises and challenges their own (and others’) competencies, which leads to improved and evolved goods and services.

Many industries, such as text publishing, music, manufacturing, e-commerce and Internet companies engage in diverse distributional forms. The most common form of dissemination across all industries is a widespread distribution that makes available the work at low or no cost for personal or limited professional use (‘sharing’). This is a kind of dissemination among people who may be unknown but who are presumed well-intentioned, like a friendly audience. This kind of sharing may generate revenue by the sheer volume of its distribution but it also builds an attentive audience who consumes both for pleasure and to reuse and create. Like the ‘managed performance’, this kind

of ‘sharing’ expects an engaged audience but it is purposefully less controlled and without immediate or directed feedback. Perceptions of unlawful copying in this category are rarely mentioned given the nature of the distributive impulse and form.

Most industries and individuals describe sharing as a way to ensure their work will penetrate and endure. Here is a musician who describes tolerating the ripping of CDs so that her fans can enjoy her music and other musicians can build on it, especially when purchasing the music is an unlikely option.

[Ripping CDs] It’s just free marketing. I mean, because ... the people that actually buy CDs is still there, you know? But I feel like if you’re not going to buy it, but you’re going to give it to your friend, great. If you’re going to give it to five friends, that’s fine. Because I’d rather you have it if you’re not going to buy it. I mean, I’m not saying I want everyone to do that, obviously, because like I said, I’m still depending on the sales. But I mean, I discover a lot of good stuff by someone just bringing me a CD, you know?

Filmmakers with whom I spoke expressed a similar sentiment in terms of the desire to make ‘evergreen’ films: films that have staying power, that continue circulating and growing in culture but without having necessarily strong exclusive rights of distribution.²⁴ In fact, filmmakers appreciate the sharing of their work that occurs beyond their control.

[W]hen you make broadcast programs ... there is a cycle to it. You work so hard and then it airs, and then it’s just kind of, like, *done*. And you know, now with the Web and with DVRs and stuff, there is more life to it ... You meet history professors [who have unauthorized copies of the film], and they say, ‘Oh, I love using your film in my class.’ And it makes you feel better. I mean, it makes you feel like, ‘OK. Well, then people are still watching it.’ You know, it – there is a life after the [televised] program.

This filmmaker tolerates unauthorized uses of her film because she wants it to have a life beyond the singular (or rerun) episode on television or in the theaters. To be sure, she expects to generate renown and revenue from

its diffuse distributions, but what she really seeks is the film's reuse, its continued life with others. Another filmmaker echoes this sentiment, saying, 'I love the idea of a ... broadcast, which [this film will] have, but to me that's just a blip in the world ... I want [it] to enter the schools, and I want it to have an impact on how we learn about [its subject matter]'. These conversations with filmmakers concern relationships with diverse audiences (other filmmakers, teachers, interested viewers) as much as they involve the challenge of producing content that will reach an 'evergreen' status. This filmmaker believes sharing her work enhances its quality, both in its potential to affect people and in its future development.

Scientists and engineers, academics and firm employees, describe their desire to share in comparable terms. They describe sharing in terms of *talking* and as *a conversation*, i.e., the modus operandi of research is to talk about it with others. As one biologist said, 'You think about developing your research program. The thing that's most important to you is being known as a scientist, not as an inventor on a patent application. Because what scientists do is they disclose: they share, they talk'. University technology licensing professionals, corporate counsel and firm executives confirm this yearning and tendency among scientists and engineers to 'share ... talk'. Business managers and lawyers describe the sharing and talking by scientists and engineers as sometimes appealing and other times frustrating, because sharing and talking can lead to a loss of exclusivity in intellectual property rights.

A pharmaceutical consultant describes the tensions he faces convincing scientists to refrain from disclosures

They are researchers. ... So they are proud of [the work], and they love to talk about it. So they go to conventions and industry forums and there is - 'I want to present a paper on this.' 'No, you can't. I know you want to. You can't.'

A licensing officer confirms this belief, saying about the scientists and engineers

with whom she works that they're 'setting out to do research, which [they're] going to publish and, get ... tenure, or get the medal in obscure biology or whatever'. In these instances, the sharing accomplishes at least two goals. It is reputational, cultivating an identity in a community and contributing to self-definition and autonomy within one's field. And it is relational, forming collaborations and acquaintances that advance one's research. Despite frustrating corporate agents and lawyers who work with scientists and engineers, these sharing impulses and desires are strong among the individuals doing the work and are often operationalized within the workplace in order to maximize job satisfaction and performance (Goleman and Gardner, 2008; Pink, 2009: 72-73).

Sharing widely so that others will experience the work is so important to some interviewees that they describe taking costly steps to assure their work is in circulation. One such inventor, a computer scientist who describes his motives for inventing and disseminating in reputational, problem-solving and financial terms, laments how one of his inventions, which was sold to a small company, became entangled in a bankruptcy proceeding. And so he bought his own invention out of bankruptcy in order to put it back into circulation.

A: I made a deal with the guy who had the small company, and the shysters who stole it from him in bankruptcy, to get [the invention] back, if I gave 'em each twenty-five percent stake.

Q: You knew at this time it was valuable. That's why you wanted it back?

A: No, I was just really frustrated that the patent was stuck in bankruptcy, and nothing was being done with it. ... I just didn't like it being stagnant. You know, and iPhone's coming, and you know, something's gonna happen. ... it took about ten years to get the patent. So the original patent issued in '95. The patent was paid for by the small company, and then by 2000 or so they had gone bankrupt, and it was all locked up.

Visibly upset at the 'stagnan[cy]' of his invention and the patent, this individual (who has a well-paying and stable job otherwise)

bought back his own patent so that it would be free to be used and licensed in the future. He did so not only in hopes of financially benefiting from the patent, but, as it seemed, primarily to experience the intrinsic pleasure of witnessing the invention's use by a large and appreciative audience.

Two other forms of distribution were present across the interviews. The fourth form looks like outright donative distribution, a form of gifting. Interviewees describe offering their work in various ways with no strings attached (e.g., an outright transfer of the work or copies of the work, abiding (even encouraging) unlawful copies like when musicians post free downloads despite recording label restrictions). In these instances, interviewees describe having no expectations except that the work circulate and be enjoyed. The antithesis of gifting is the fifth form of distribution. It is the non-distribution or 'hold-out' category, which is preferred by some interviewees when the benefit of creating or inventing is entirely internalized and may be squandered by the imagined harm or anxiety of dissemination to the public. Here, there is no public good achieved (and therefore no 'progress') except as an aggregate of self-satisfaction.

Although it is not possible to generalize about the distribution of these categories over a larger population, the existence of the variations within this data and the fact that single industries engage in a variety of distributional mechanisms is evidence of IP's malleability and perhaps also its limited relevance. Moreover, it is notable that within the data, the overwhelmingly common distributional form in which *all* industries engaged was the third: sharing. Listening to professionals describe the benefits of this loose form of distribution convinced me that our IP regimes are too rigid for the accomplishment of their professed goals. To be sure, I am not the first to say this or to document it.²⁵ But this data is further evidence that exclusive control through IP laws is unnecessary for progress that matters to those who are engaged in creative and innovative work.

Public Comes First

What may be most surprising about the interview data is that personal gain and wealth aggregation are subsidiary interests for most creative and innovative individuals and organizations. The view of 'progress' as contained in the data is not an accumulationist account. There are intrinsic and extrinsic values associated with creative and innovative work separate from the function that money provides. Creating or discovering something truly new and helpful is worthy of protection and dissemination, but the latter (dissemination and access) takes precedence over the former (protection) in nearly all the examples in the interviews.

The characteristics of progress concerning on-going everyday work, protecting and developing one's identity, and sustaining access to promote community welfare are values that undergird a civil society with democratic aspirations. These values articulated throughout the interviews in relation to creative and innovative activities reflect strong interests at the constitutional founding. James Madison famously said that

[Man] has an equal property in the free use of his faculties and free choice of the objects on which to employ them. ... [It] is not a just government, nor is property secure under it, where arbitrary restrictions, exemptions, and monopolies deny to part of its citizens that free use of their faculties, and free choices of their occupations which ... are the means of acquiring property. (Madison, 1906: 102)

Property in this sense concerns fundamental rights of persons, rights without which a person cannot be free. In other words, access to knowledge and the protection of a commons in which exclusivity is an exception and not the expectation appears to be a constitutional default. Such is not the case today. It is easy to forget that the granting of copyright and patents is the exception and not the rule concerning the status of creative expression and novel ideas.

If from the interview data we were to generate a normative account of 'progress' as achieved and sustained through creative

and innovative work, we would find a lesser role for the exclusive rights of copyright and patents. We would also find a misalignment between the rights granted under the current IP regimes and the expectations and desires of those creating and innovating. According to the interviewees, not everything that is creative or innovative is or should be owned in the Blackstonian sense of total dominion and control. Themes throughout the interviews make clear that there is too much claiming, too much exclusivity and it hurts the everyday work and the relations (professional or otherwise) they seek to develop. Strong property claims to exclude others' use or exploitation of copyrighted works or patented inventions make sense when the work is truly novel and when unauthorized exploitation jeopardizes on-going work and its further dissemination and use. This happens rarely, as the dominance of the sharing model of distribution shows.

Progress is achieved when work and practice can continue and when its harvest can be enjoyed, used and repurposed within the community. As the founders explained, and later scholars repeated, the value of knowledge 'lies not in its mere possession but in the range of possible uses and users for it' (Fuller, 1991: 109). Although the artists and scientists I interviewed were self-directed and individualistic, the progress they sought had less to do with their own particular circumstances and more to do with public benefits and relations among communities and populations that their work could stimulate. Sometimes these goals required qualified exclusivity to manage the risk of loss that would prevent their future work and injury to their dignity. But much of the time the breadth of exclusivity available to assert was unnecessary or cumbersome. The various dimensions of progress could be achieved without it.

This leaves US intellectual property protection in an awkward place – available but unnecessary, unwieldy and even exasperating for many individuals and industries. If reform were on the horizon, we might do well to

heed the accounts in this data and reset the public availability baseline in our statutory regimes for broad access and use. This would comport both with original understanding of the progress clause and contemporary values embodied in creative and innovative communities.

NOTES

- 1 In other publications, I explore different aspects of the interviews (Silbey, 2011, 2013, 2014).
- 2 The amount of literature calling into question the necessity or utility of intellectual property law in the United States is too vast to cite here. But as examples see Boldrin and Levine (2008); Bessen and Meurer (2008); Burk and Lemley (2009); and Ku et al. (2009).
- 3 The literature on law and economics is largely theoretical, based on frictionless transactions and rational-actor models, despite these models' lack of significant correlation to the lived experiences. For a seminal article in the area, see Landes and Posner (1989) (see also Arrow, 1962; Kitch, 1977: 265–290). The literature tends to admit this failing (Landes and Posner, 2003) but nonetheless continues to dominate case law, statutory reform and, by consequence, legal advice and counsel.
- 4 The well-regarded 2008 Berkeley patent survey is a quantitative study of motives and incentives (Graham et al., 2009). Some recent qualitative research on intellectual property from the legal academy includes Schwartz (2012); Gallagher (2012); Silbey (2011, 2013). There has been significant ethnographic research in other fields, including anthropology and sociology, which studies innovative communities, such as computer programmers (Kelty, 2008), musicians (McLeod and DiCola, 2011) and university technology transfer offices (Owen-Smith, 2005). But their focus has not explicitly been on the connection between legal incentives and productivity.
- 5 For other work on IP and narrative theory, see Jessica Silbey (2008) (describing the origin stories of intellectual property law as justifying certain social hierarchies); and (2010) (describing changing narratives in relation to changing political structures of property entitlements).
- 6 The isolation and analysis of narrative components of selection, time and relationality coalesce to form a particular moral ordering or authority (White, 1980: 22).

- 7 For in-depth descriptions of the methodology behind this qualitative project, I direct the reader to Silbey (2011, 2013, 2014).
- 8 There is some debate over whether Madison proposed a patent power, but that debate is irrelevant to the arguments and analyses I present here (Oliar, 2009).
- 9 In an unpublished manuscript discussing the problem of 'aesthetic progress' in US copyright law, Barton Beebe describes how the IP clause does not contain the common 'arts and sciences' phrase and instead says 'Science and the useful Arts', suggesting that the less common phrase intentionally omits the fine arts from its ambit.
- 10 For recent advocacy asking this question, see *Association for Molecular Pathology v. Myriad*, 569 U.S. 12-398 (2013) and Senator Leahy's call for the government to exercise its 'march in' rights under the Bayh-Dole Act to compel access to genetic testing for certain forms of breast cancer. Tony Dutra, 'Leahy Calls for NIH March-In Against Myriad But Some Patents Not Subject to Bayh-Dole', *Bloomberg Law*, July 12, 2013, available at <http://www.bna.com/leahy-calls-for-nih-march-in-against-myriad-but-some-patents-not-subject-to-bayh-dole/>
- 11 For other legal scholars writing about the problem of aesthetics and copyright see Yen (2008) and Haight-Farley (2005).
- 12 For past US Supreme Court cases engaging in such an exercise, see *Eldred v. Ashcroft*, 537 U.S. 186, 211–214 (2003) (deferring to Congress's judgment as rational that longer copyright terms may incentivize the creation of more work) and *Golan v. Holder*, 132 S.Ct. 873, 887–890 (2012) (arguing that preserving work and incentivizing its dissemination is a form of progress).
- 13 We may anticipate that 'over time, through our system's adversarial and appellate process, we may either have various conceptions of progress in different industries, or may be able to generalize from particular examples to a general concept of progress as a constitutional limitation' (Oliar, 2006: 1837).
- 14 *Eldred v. Ashcroft*, 537 U.S. 186 (2003) (holding Congress was rational to presume that adding 20 years to copyright terms would promote the creation and dissemination of more original expression); *Golan v. Holder*, 132 S.Ct. 873 (2012) (holding that Congress was rational to presume that restoring copyright to foreign works, even after they have been in the public domain for decades, will incentivize the production and dissemination of original expression).
- 15 This coincides with the rhetorical justification for intellectual property, which is that it 'originates' with an author or inventor (Silbey, 2008).
- 16 Several entrepreneurs and business people described the value of their business in these terms.
- 17 Barton Beebe (2014) makes a similar claim about the pragmatist theory of aesthetics in terms of its priority of *work* not *works*.
- 18 Jason Schultz and Jennifer Urban wrote an intriguing article about how Open Innovation Communities (OICs) may or should opt back into the patent system for precisely this reason, to defend their on-going research from interference by patentees. They suggest a 'defensive patent license' as a compromise (Schultz and Urban, 2012).
- 19 Stuart J.H. Graham et al. (2009) report that both cross-licensing and avoiding patent infringement suits are motives for patenting by start-ups.
- 20 For an overview of moral rights in the US and Europe in the context of film history in the US, see Peter Decherney (2011: 277–280).
- 21 In the name of reputational injury, early film and television producers and actors wrangled for control over their creative work product to prevent changes, such as colorization, adaptations and sponsored advertising. In doing so, they relied on an amalgam of copyright, trademark, unfair competition and defamation law. But as Peter Decherney describes in his work on copyright and the film industry, court decisions were unpredictable because of warring policies between technological innovation, market growth and author's rights to control their reputation through control of their work. (Decherney, 2011: 304–305). Eventually, the majority of court decisions reached a consensus that US IP law protects economic not personal or moral rights.
- 22 Peter Decherney describes a situation in which in order to protect their work's integrity, Monty Python would rather (and did) upload their content for free in a form they approved, than sell their work and have it be altered without their permission or approval (Decherney, 2011: 316).
- 23 Copyright law protects the substance of original expression, not attribution or misattribution. And patent law (like copyright law) facilitates the disaggregation of ownership from inventorship (or authorship) such that inventors may be credited on the patent but may lack control over the uses of the invention. US Patent law requires that accurate inventorship be listed on every patent, but patentees who are employees rarely have any control or ownership over their inventions that would direct or protect the use of their name or the invention.
- 24 The term 'evergreen' in the film context is not the same as in the patented invention context, where 'evergreening' a patent elongates the life of the patent exclusivity through continuation

filings. Where 'evergreening' in the film context does not presume exclusivity, evergreening in the patent context does. For a discussion of the economic effectiveness of evergreening in patented pharmaceuticals, see Hemphill and Sampat (2012).

- 25 Notably, Margaret Chon (1993) published a paper that described the potential inconsistency between IP incentives and progress in terms of the flow of information and commerce.

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