

CPIP 2014 Fall Conference
COMMON GROUND: HOW INTELLECTUAL PROPERTY
UNITES CREATORS AND INNOVATORS

Keynote Address by
Professor Richard A. Epstein

October 9, 2014

George Mason University School of Law
Arlington, VA

GENERAL PRINCIPLES AND PARTICULAR CASES

My topic for today is “Common Ground: How Intellectual Property Unites Creators and Innovators.” To begin, let me first explain how this innocent title carries with it deep philosophical implications about the law of intellectual property. My first thought when assigned this topic was to ask the following question: who is a creator and who is an innovator? My answer was to some extent circular: creators are artists who rely on copyrights; in contrast, innovators are inventors who rely on patents. To separate these two classes of people entirely, as many in the public policy debates do today, seems like a serious mistake in judgment. Let me explain why.

Much of my work has been as a scholar of the common law. In thinking about how to organize the general rules of property, contract, tort, and restitution, the first task is to develop a general theory that covers the entire waterfront. These principles will not solve all cases, but they will provide a conceptual framework that can make clear why, in some contexts, general rules work across the board, while in others, more specific rules have to be developed to deal with particular kinds of transactions. Here is a simple example of how this works. Principles of offer and acceptance, and interpretation may be constant across all contracts. But the implied terms in a contract for sale, in which title passes, have to be different from the implied terms in a contract for hire, in which the particular goods will ordinarily be returned to their owner. But both sets of implied terms should respond to a single theoretical imperative, namely, figuring out which background norms will, on average, and subject to individuation, maximize the joint welfare of the contracting parties.

* Laurence A. Tisch Professor of Law, NYU School of Law, and James Parker Hill Distinguished Service Professor Emeritus, Chicago Law School. I should like to thank Adam Mossoff for his helpful comments on an earlier draft of this paper, and Brian Mendick and Chelsea Plyler, NYU Law School, class of 2016, for their excellent research assistance.

To attack the general portions of the law of contract, abstractions actually help the process of inquiry. Thus, as an initial cut, the only people who live in contract-land are Mr. A, Ms. B, and their friends. A and B do not have any pre-assigned identities of any sort, kind, or description of their transactional roles. The conceptual challenge is to understand how these anonymous souls manage to work cooperatively, leaving them, in their own private lives, to determine the exact term and conditions of the arrangements, both formal and informal, that govern their joint endeavors. Starting at this high level of abstraction has the advantage of introducing a level of theoretical generalization that cannot be achieved by first looking at discrete contracts independent of that conceptual frame. Starting with contract as a category beats starting with a list of particular contracts, which, in time, will emerge as the determinants of cooperative behavior.

The same proposition holds true with respect to property. Successful analysis of real property law starts with Whiteacre and Blackacre. The use of those abstract names signals that your theoretical acquisition of property in land does not depend upon small individual variation, but rests on a more general theory that initial occupation is the root of title. Similar constructions can be used to deal with development acquisition rules for chattels, for water rights (a very tricky endeavor), and for animals.

That same process works with copyrights and patents, for which a sound analysis has to confront this dilemma. Do they belong in the same general box, or do they belong in different boxes? The reason the problem is so hard is that both of the above are true. There is a sense in which these two forms of intellectual property have much in common. But there is also a sense in which they diverge from each other in instructive ways. Ideally, an overarching theory of property law, coupled with a general theory of contract law, is needed to establish a basic legal framework that thereafter allows different individuals to voluntarily order their own relations for their joint advantage. It is not the law that makes creators or innovators. It is for individual people to decide whether to become creators or innovators. The law offers a set of background institutions of property and contract that allow individuals to increase the odds of their success.

My task today is to talk about the particular kinds of cycles needed for creators and innovators. I am going to talk, obviously, about patents and copyrights. But the toolkit is not limited to these two devices. Trade secrets, as will become evident, will also form a key part of the mix. So too will trade names and trademarks, although I shall leave these aside for the purposes of this discussion. Indeed, in the modern development cycle of innovation, it is often critical for creators and innovators to rely on a portfolio of both copyrights and patents to achieve their long-term commercial ends.

To understand how this works, I shall divide innovation into three stages. The initial stage is the creation of the original paradigm, often by bottom-up innovation. The second stage involves the additional joint venture capital necessary to expand the operation. The third stage involves the

commercialization of the new product, with an emphasis on the supply and distribution chains needed to bring new products to the market.

THE CYCLE OF INNOVATION: TOP DOWN AND BOTTOM UP

In tackling this problem, one irony is that the cycle of invention or creation does not begin with intellectual property devices. It is not that these fields are unrelated to successful innovation. It is rather that the initial stages of innovation often take place without, or at least prior to, explicit reliance on the protection afforded by the intellectual property laws. Many creative people put together writings and shows without committing their work to copyright protection. Many nascent inventors pay scant attention to patents. So, over the larger landscape, there are innovators and creators without property rights, just as there are parties who have property rights, but neither innovate nor create.¹ Putting the whole package together requires understanding of how the innovation and creation that start with curiosity and imagination come to rely on patents and copyrights for their successful realization. Put otherwise, the challenge is to unite individual imagination with legal protections.

The word “unite” gets to the root of the problem. Think back to the title of this talk and note that it is not property, as such, that unites people. It is the contracts that they make with respect to their labor, or protected forms of property that unite people. Property rights are the subject of contract, but not the driving force in their preferred configurations. What, then, is the process that lets this unification take place? What are the institutions that are key to turning abstract ideas into usable commercial outputs? How does this life cycle work, and what is the role of property and contract in its successful completion?

Now, the first question to ask about innovation is which institutions should drive it. Generally speaking, there are two possibilities. The first is to drive it through some large firm that has the capital to see the project through to its completion, and is endowed with bureaucratic expertise that can help structure the initial creative search. In these large firms, innovation starts from the top. But the advantages of that centralized authority can often prove to be its undoing. Even in the nimblest of large private firms, the number of steps needed to launch a project could easily evoke images of the centralized control found in the Soviet Union at the peak of its institutional rigidity. Layers of centralized management can easily stifle the very creative impulses that the large firm is trying to foster. Rigid procedures do not mesh easily with flashes of inspiration and the formation of shifting allian-

¹ Colleen V. Chien, *From Arms Race to Marketplace: The Complex Patent Ecosystem and Its Implications for the Patent System*, 62 HASTINGS L.J. 297, 310-11 (2010).

es among individuals who are not quite sure of their collective direction. Inspiration is always in short supply. Too often, the procedures that govern them are not.

So, a close examination of the patterns of successful innovation reveal many trees that start from acorns. Today's firms began some years ago in somebody's garage. Why? Because what are most critical for innovation are the freedom and space that allow a small group of key actors to revise their business plan, revise their capital requirements, and revise their objectives, all on very short notice. Many firms will fail in this hothouse environment. But those losses are more than compensated for by the ones that succeed. Given the right environment, fresh invention may free itself of the established patterns of the prior generation. As in all forms of evolution, there are many situations in which small groups may have an enormous advantage over large organizations, especially with respect to innovation. Starting small may foster the flexibility that larger organizations may not. But again "may" is the operative word. This proposition is a cautious empirical generalization. It is not a call to ban innovation by large firms or to subsidize it in small ones. It is only an empirical hypothesis that can be proved wrong by successes from large firms and failures from small ones. Making guesses about comparative advantages is always a tricky business. The one constant in this area is that no regulator should try to decide in advance which form of organization works best. That form of industrial policy is prone to failure.² Instead, the better government approach is to let all firms, new and old, large and small, compete in the marketplace. Not surprisingly, it is likely that both larger and smaller firms will succeed where they have a comparative advantage. A regime of open entry into innovation means that no government official has to guess where these advantages will lie. The market response will provide all the information we need.

Now, one implication of this story is that, in dealing with innovation, it is probably unwise to worry first about the creation of intellectual property. It may be critical at the initial stages to worry more about personnel, projects, and, as always, financing. How does an entrepreneur get a project off the ground? Initially, the only person who may have confidence in the project is the future innovator or creator. Explaining the project to outsiders could be time-consuming or confusing. Or, it could let certain trade secrets out of the bag. So it is not uncommon for the first round of capital to come from self-financing.³ People will max out their credit cards; they will take loans from their parents, or their aunts and uncles, because they are the only

² COMPETITION POLICY AND PATENT LAW UNDER UNCERTAINTY: REGULATING INNOVATION 9-10 (Geoffrey A. Manne & Joshua D. Wright eds., 2011).

³ Zoltan J. Acs et al., *Nonemployer Start-up Puzzle* 6-7 (U.S. Small Bus. Admin., Working Paper No. SBAHQ-08-M-0195, 2009), available at <https://www.sba.gov/sites/default/files/advocacy/Nonemployer%20Start-up%20Puzzle.pdf>.

people willing to gamble on the future innovator or creator, in light of their own long-term personal knowledge and trust. And, if the creators fail to pay them back, which is often the case, they may simply treat the loss as a gift to a family member.

So many businesses start in this slightly chaotic form. When there are two or more people involved, they may cooperate as part of an informal arrangement long before they form an explicit partnership. Indeed, they might not have any early awareness of what the ultimate division of the take will be. That indefiniteness could be a source of conflict later on. But, oftentimes, loose pooling arrangements amongst a select group of individuals may produce inventions or creations that are worthy of intellectual property protection, even if this primarily occurs at a much later point in time.⁴ The key challenge is to know when to make the shift from informal to formal, both within the core group and in relationship to the outside world.

Now, at this particular point, the question is, then, what kind of contract do you choose to put people together for the initial round of development? The answer, I think, in many cases, is to utilize what the Romans called bona fide contracts. What they meant by bona fide was the innocuous but vital notion that each person does for the other what makes sense for their joint success.⁵ Stated in this loose fashion, the phrase reads like an open invitation for disaster. But, in practice, it is possible to put the same proposition in far more rigorous terms by thinking of it as a requirement that parties act as though they are in a perfect cooperative game with one another. The parties to a good faith contract form a miniature Marxist society. People expect that everyone will contribute their maximum abilities and only take their proportionate shares of the gains.⁶ So with every decision, each partner is supposed to worry, not only about his own interests, but also about the interests of everyone else, and must treat their benefits and harms exactly as he treats his own. In effect, the rule requires each person to attach equal dignity to the position of all other partners.

Trying to achieve this end in large-scale organizational form with a group of anonymous strangers is an open invitation for failure, as their interests will quickly diverge. So the secret to success for small organizations lies in the ability of all members to choose their own partners, and to do so on the basis of natural affinity, affection, and respect. The choice of partners thus reduces the temptation and need for any given partner to cheat on the collective good by controlling the conflicts of interest within the group

⁴ James Brian Quinn, *Managing Innovation: Controlled Chaos*, HARV. BUS. REV., May-June 1985, at 73, 74.

⁵ Martin Josef Schermaier, *Bona Fides in Roman Contract Law*, in GOOD FAITH IN EUROPEAN CONTRACT LAW 63, 63, 77-80 (Reinhard Zimmermann & Simon Whittaker eds., 2000).

⁶ KARL MARX, WAGE-LABOR AND CAPITAL 33-34 (Harriet E. Lothrop trans., New York Labor News Company 1902) (1891).

of preselected partners. Stating the obligations in this general form, as basic standards rather than fixed rules, offers the advantage of an enormous amount of flexibility to deal with every unanticipated bump down the road, without requiring lawyers to draft constant amendments to the initial agreement, which would contain far too much specific detail. The initial stage of these joint ventures may appear, from the outside, to be quite chaotic. But from the inside, in this particular context, joint ventures allow people to act in a highly cohesive fashion.

THE VENTURE CAPITAL CHALLENGE

The challenge is how to deal with the transition out of this initial phase. That turning point often arises when the members of the initial group have capital requirements greater than those that they can acquire by maxing out credit cards or borrowing from family members. Now, new rounds of capital have to be raised from specialists in taking equity contributions or making loans, or doing complex venture capital deals that require specific goals and timetables. In this second phase, intellectual property starts to take on a far more important role than it previously did.

At this point, let me take a leaf from American entrepreneur, venture capitalist, and hedge fund manager Peter Thiel's recent article, *Competition Is for Losers*.⁷ It is important to realize that a great salesman and investor like Peter Thiel knows that a catchy title will make a few extra dollars (about which Thiel cares little) and give the book an extra zing in the marketplace, about which he (rightly) cares a great deal. But forget the hype for a moment. Thiel is not for banning competition, or for banning losers.⁸ But he does mean that any mature organization of the type to which I referred above pays a price for its stability, insofar as it is likely to earn only a competitive rate of return on its invested capital.⁹ That may be all that is required for passive investors, including many trust fund beneficiaries. But that prospect does not represent the sweet spot for the budding entrepreneur, who is looking to occupy some new space in which he is the only "competitor," and can therefore earn far more than a competitive return. The only way that the fledgling inventor or creator can achieve these high rates of return is to develop some new product, allowing him to keep the supra-competitive returns for himself even after he gives the venture capi-

⁷ Peter Thiel, *Competition Is for Losers*, WALL ST. J. (Sept. 12, 2014), <http://www.wsj.com/articles/peter-thiel-competition-is-for-losers-1410535536> (providing an adaptation of PETER THIEL WITH BLAKE MASTERS, *ZERO TO ONE: NOTES ON STARTUPS, OR HOW TO BUILD THE FUTURE* (2014)).

⁸ *Id.*

⁹ *See id.*

talist his risk adjusted rate of return.¹⁰ That takes real imagination, cooperation, and perseverance—as well as a bit of salesmanship.

But at this stage, the legal relationships necessarily become a good deal more formal than they were at the earlier stage. The venture capitalist will really care whether there is intellectual property, because that exclusive legal right to make or sell is the only, or at least the best, way to create the situational monopoly that generates those supra-competitive returns, which can only be obtained in the short run.¹¹ At this point, the copyright and the patent are serving closely analogous functions. The purpose of intellectual property protection is to develop these much needed monopoly returns for innovation. But it is critical to note that the high economic returns require more than exclusive title to a given technology. In and of themselves, legal “monopolies” over a particular technology or literary work confer no more pricing power than the exclusive ownership of a house or a car. The venture capitalist has no more desire to fund that kind of monopoly than the purchase of a house or a car.

It should therefore become clear that all intellectual property rights are not built alike. What is needed to keep the venture capitalist at the doorstep has to be a bit more muscular. Put otherwise, it has to be distinctive enough to create the prospect for at least some short-term supra-competitive returns, which justifies the venture capitalist’s investment in your project.¹² That requires showing more than a patentable device or a copyrightable story—virtually all stories are copyrightable. The creator or innovator has to show the distance of his new project from the current set of players in the market.

There is nothing that the law can do to guarantee that needed degree of separation. But what it can do is to provide a system of legal protections to ensure that the inventor, creator, and venture capitalist will not have to endure the extra costs associated with the uncertainty of these rights.¹³ It will depress the rate of return if it takes a long time to patent a device. It will depress the rate of return if the patent is porous and subject to attack because the legal system cannot make up its mind about the protection that it will afford in the event of patent infringement. And it will not do to have a patent that offers only feeble remedial relief in the event of an infringement, which makes it difficult to sell interests in the patented technology or bor-

¹⁰ *Id.*

¹¹ ORG. FOR ECON. CO-OPERATION & DEV., COMPETITION POLICY AND KNOWLEDGE-BASED CAPITAL: KEY FINDINGS 11, 17-19 (2013), available at <http://www.oecd.org/daf/competition/Knowledge-based-capital-%20KeyFindings2013.pdf>.

¹² THIEL, *supra* note 7, at 83-84; Armin Schwienbacher, *Innovation and Venture Capital Exits 1* (European Comm’n, Working Paper No. 032, 2006), available at <http://www.lse.ac.uk/fmg/research/RICAFE/pdf/RICAFE2-WP32-Schwiebacher.pdf>.

¹³ ORG. FOR ECON. CO-OPERATION & DEV., *supra* note 11, at 17-18.

row money on the strength of the patent.¹⁴ Ersatz intellectual property is a real handicap at the venture capital stage, long before marketing efforts begin, and long before these sales or loans are made.¹⁵ The venture capitalists understand risk and they will either beg off a deal or reduce their payments if the intellectual property rights are so indefinite in scope and protection that they scare away all potential partners and lenders.

At this point in the development cycle, the traditional view of property rights—that they must be known and certain—becomes critical to push development forward.¹⁶ Commercialization requires that future suppliers, lenders, dealers, and customers need only know the worth of the invention, or the writing, in terms of its intrinsic properties. It is a drain on commerce, long before any litigation occurs, if creators are required for their own financial security to make similar estimations about the legal strength of their exclusive rights. This question is more acute on the patent side than on the copyright side of the problem, for such matters as claim definition, prior art, and non-obviousness are issues that will present many difficult borderline cases even in the best of legal regimes. For copyrights, in contrast, the rubber hits the road with literal infringement, or pirating, and the inability to develop institutional regimes that can cope with such rampant unauthorized copying. Legal protection also becomes relevant in the production stage, when the fledgling inventor or author is seeking that first level of financing.

With this rise in stakes, and with the concomitant expansion in the number of parties, the business organizations have to shift as well. It will no longer suffice for an outsider to advance huge sums of capital on the strength of the same good-faith, informal arrangement that worked in small-number type situations. What the parties must do is develop formal metrics that allow large investments to be made in ways that permit the new firm members and lenders to monitor the level of progress, and to have plans to deal with any future shifts in control.

At this second stage, the various parties can shift to one of two dominant strategies. Under the first, the new venture capital people say, “we’re going to become part owners in this particular venture,” at which point they will have to face the serious challenge of mixing two vastly different cultures—the garage culture, in which creations are born, and the more staid environment of the well-heeled venture capital firm. These often clash when it comes time to make key choices. So, generally speaking, parties

¹⁴ Ben Depoorter, *Property Rules, Liability Rules and Patent Market Failure*, 1 ERASMUS L. REV. 59, 62 (2008).

¹⁵ Michael J. Meurer, *Business Method Patents and Patent Floods*, 8 WASH. U. J.L. & POL’Y 309, 310 (2002).

¹⁶ See Depoorter, *supra* note 14, at 62-63; Devlyn Tedesco, *An Overview of the Venture Capital Process for Entrepreneurs 4* (2013) (Entrepreneurship & Innovation White Paper Series), available at <http://www.albanylaw.edu/glc/about/expertise/renewable/Documents/An%20Overview%20of%20the%20Venture%20Capital%20Process%20for%20Entrepreneurs.pdf>.

tend to gravitate towards the second strategy, which is to organize the transaction so that the creative control remains with the initial group, subject to the caveat that they have to meet various milestones set out by contract in advance to prove that they have made the progress that allows them to remain in control.¹⁷

It turns out, I think, that most of the venture capital business is largely organized on this second model. There are objectives that have to be met by certain dates. The real creative work comes in setting the proper metrics for these output contracts, metrics that leave the original core creators free to choose the technique, but hold them responsible for mistakes when its outcomes are measured against these observables. The situation can, of course, get more complex if the venture capital group also gives some kind of advice on how to proceed, meaning that, with these compound forms of control, the capital structure might become yet more complex. The deal also has to contain some explicit change-of-control provisions for instances in which the targets are not met, as well as further provisions that allow for a future recapitalization of the business that will reduce the stake, but usually not eliminate, all returns to the members of the inside group. Transitions are always awkward, and these difficult cases prove to be no exception.

What is evident is that these challenges are often firm specific, so that any such venture capital agreement has a mix of standard provisions, tailored to the occasion, and specialized provisions negotiated in light of the distinctive technology of the new firm. Timetables are part of the game, and so too are technical specifications that can only be negotiated by knowledgeable parties. At this point, the new set of challenges could lead to a shift in control within the core group, because the people who are good at design may not be expert at negotiation. Even the task of hiring lawyers and marketing people slowly shifts control over the initial operations, a transition that is also fraught with risk. It is no surprise that the core group often underappreciates these transformational challenges at the outset of their venture. The temptation is to defer thinking about a business contingency that might never occur, only to have to scramble for safety once some unanticipated event causes it to occur.

It should be evident throughout this process that strong property rights are only part of the solution. They are what give the new venture its character and promise. But the only way to realize that potential is under a legal regime that prizes freedom of contract, which is the only way that the parties can tailor their agreements, if need be, to the peculiarities of the particular situation. Standard form provisions may help a deal to its successful conclusion, because they remove potential points of disagreement on recurring issues of joint ventures. But these terms cannot deal with the novel features of the business, for which explicit negotiations are required. In

¹⁷ Tedesco, *supra* note 16, at 2-3.

essence, parties try to learn as much as they can from previous deals and past experience. They also look at the public terms of agreements that are similar to their own. These standard terms may help control the opportunism that is endemic to all deals. But the deal does not succeed solely because the parties guard against bad conduct. They also have to set up a distinctive affirmative business model that lets them go forward. This progression from standard background norms to distinctive contract provisions is common to almost every kind of business.

The issue of opportunism requires a brief bit of elaboration. In the initial stages, with small and intimate associations, the risk of opportunism will usually not loom as large as it does at the subsequent stages.¹⁸ Early on, one partner has direct observation of the conduct of friends, so that the lower cost of monitoring generates a smaller incentive to cheat. But as the size of the business grows, not only do milestones matter, but other factors also come into play: inspection of books and records, plant inspections, regulatory compliance, and the like.

SUPPLY AND DISTRIBUTION CHAINS

For our purposes, let us suppose that these steps bear fruit, so that the next challenge is how to get new products to the market. Now that the process has gone far beyond initial development, marketing is not just a simple set of bilateral relationships within a predetermined small group. At the development stage, the challenge is about supply chain management on the one side, and an elaborate distribution network on the other.¹⁹ The expansion thus takes place both on the input side—what equipment and raw materials does the firm need—and on the output side—does the firm use salesmen or independent franchises? The make-or-buy decision takes place at every stage of product development. Do you contract out to other businesses? Do you create your own retail outlets? Do you share production or distribution with somebody else? And so forth.

These complex business chains also produce major problems, whether or not intellectual property is at the core of the business. In a simple bilateral arrangement, it is often unnecessary to make detailed legal arrangements. It often suffices to say, “if it doesn’t work out, we’ll just take over the business or we’ll stipulate some financial penalty.” But for long and complicated supply and distribution chains, that approach does not work.

¹⁸ Jochen Bigus, *Staging of Venture Financing, Investor Opportunism and Patent Law*, 33 J. BUS. FIN. & ACCT. 939, 940 (2006).

¹⁹ For some earlier reflections on the question, see Richard A. Epstein, *The Vogue of “Social Responsibility,”* HOOVER INSTITUTION (Sept. 22, 2014), <http://www.hoover.org/research/vogue-social-responsibility>.

Now the set of expectations have to stress the imperative nature of timely performance, not the set of remedies in the event of breach.

One of the most dangerous doctrines in modern contract theory is the so-called theory of efficient breach.²⁰ The term “efficient breach” is a profound oxymoron, because the term “breach” expresses some kind of a moral wrong or impropriety, so it is curious how such conduct could ever be regarded as efficient. The argument for efficient breach is that cutting out on certain contracts maximizes social welfare.²¹ The preexisting party gets its expectation in dollars, and the breaching party is better off, so it all counts as a Pareto improvement, by which one side is better off and no one is worse off. At a minimum, that conclusion runs into difficulty for at least two reasons. First, it ignores the administrative costs of suit, and second it presupposes that it can accurately calculate what those expectation damages are. Perhaps in the simplest two-party arrangements these assumptions are not too unrealistic; after all, so long as damages are available, the injured party will be left in a respectable position.

The logic of supply and distribution chains, however, is much less forgiving, for it is no longer permissible to reach each individual contract in isolation from all the others. The interdependence among contracts is an economic and business given, and in these cases, where one contract fails, the domino effect means that many others will fail as well. To be more specific, if nonperformance at any given stage breaks the chain, it will necessarily cause major dislocation for all downstream players. To try, in these settings, to figure out expectation damages is a fool’s errand, given the difficulty of deciding how great the losses are for a party that cannot meet its further downstream obligations. Put in other terms, the doctrine of efficient breach does not “scale” as the number of parties increases.

The situation is still more complex for two reasons. First, there is always the possibility that any party will offer its inability to perform as a complete or partial excuse for nonperformance, with no clear answer. Second, the same exercise may be relevant as the consequences of the breach ripple out further downstream, for the simple reason that the losses in question are not confined to those parties who are in privity with this initial defendant, but involve parties two or three links further away. Various kinds of accommodations can be made, but these are far more expensive and far less beneficial than the alternative strategy of avoiding breach so that these dislocations never happen in the first place. The new objective is to develop supply and distribution chain management that shows no toleration for any breaches at all. Actual performance becomes a far more important ideal in these chain settings than it is in any isolated two-party situation.

²⁰ Gregory Klass, *Efficient Breach*, in *PHILOSOPHICAL FOUNDATIONS OF CONTRACT LAW* 362, 362 (Gregory Klass et al. eds., 2014).

²¹ O.W. Holmes, *The Path of the Law*, 10 *HARV. L. REV.* 457, 458-59, 462 (1897).

So how does any business organize these supply and distribution chains to make the business sustainable? At this point, there is yet another fork in the road on how to get that needed business reliability. One approach is to enter into a long-term contract with a single vendor or supplier at each particular stage, and make sure that party has the requisite level of compliance. The advantage of that strategy is that it reduces the complexity of running the operation and thus the costs of monitoring other parties. Similarly, it reduces the risk of collateral losses, such as the inadvertent or deliberate release of trade secret material. But that approach carries with it this drawback: while the approach may work more than 99 percent of the time, in the few cases where a break in the chain appears, the losses could be catastrophic, because there are no close substitutes to fill the gap. The break at one point could lead to rupture at others, so that entire chains of supply and distribution can unravel before your eyes.

Faced with that risk, some firms then decide that they have to create a back-up system for insurance so that there are two or more parties to whom the firm can turn to pick up the slack when the primary party fails. That insurance function is fine, but it comes at the cost of weakening accountability and imposing larger management and monitoring costs, including the loss of trade secrets and industrial know-how, now that they are shared by a larger number of parties. Once that information is lost, it is ever so difficult to get it back again. Indeed, in some cases, a given firm may never discover who has stolen its trade secrets, for the recipient has a strong incentive to keep that trade secret to itself, lest it lose any competitive advantage relative to other firms that do not possess it. Designing these chains in ways that protect intellectual property on the one hand, and promote durability on the other, is never simple. The duplication that gives insurance against certain breaks in the chain creates its own vulnerabilities. The correct trade-offs are always hard to make. My guess is that as organizations grow in complexity, the single source of supply becomes too risky, so that supply and distribution chains now begin to resemble complex networks with some, but not total, duplication.

As these supply and distribution relations become more complex, the parties must have complete freedom of contract to make sure that these arrangements are sustainable in the long run. In addition to output measures, the parties may seek various kinds of cooperation arrangements so that information that is learned at one stage of the supply and distribution process is integrated throughout the entire chain. In addition, some form of on-site inspection may be required to nip delays in delivery or declines in quality control, which is, of course, not confined to safety issues, but extends to any product attribute, such as color or texture, which influences consumer decisions (i.e., virtually all product attributes all the time).

As a business matter, it is therefore imperative that no system of regulation require inspection to go beyond the plants or product that is to be delivered. Thus, it is difficult to function well in an environment where a

given party has to ensure that its suppliers have not used overseas child labor that does not comport with international standards. The point here is not that these standards are ill advised. That is a separate issue entirely. For these purposes, the central concern is that enforcement of these standards is better done through other means that are unrelated to supply chain management. The commercialization of intellectual property thus depends on a sound law of contract, and a sound system of regulation, for commercial and employment relationships as well.

Indeed the complexities of these arrangements often give rise to another challenge, which is whether to jettison a system of contracts for supply and distribution in favor of a vertical integration of separate firms, where one firm brings all or part of the supply and distribution chain in house.²² That maneuver avoids the need to negotiate contracts with strangers. But again, there is no dominant solution to this integration question because of difficulties with the problem of disproportionate utilization of various inputs. A given supply and distribution chain may go through many layers, each one of which has an efficient magnitude of scale. At some stages, it may well be that the most efficient equipment requires large production runs that are not sensible for other production stages. Taking in extra business from outside can easily detract from the core business operation, so that the best solution is often to sell off certain equipment to outsiders, who then specialize in one level of production. That party can utilize excess capacity by serving multiple independent parties at the same time.

One example of this practice is found in the movie industry, where it is common to assemble teams for each particular project, rather than to have all individuals work within a given firm. The down time is great when all the resources within a firm are not used in constant proportion to one another. Therefore, directors often have affinity groups. They tend to hire one of three or four editors, photographers, and the like, assembling teams for particular shoots, but not on a permanent basis.²³

In addition, it could well be that vertical integration within a given firm invites clashing operating styles, which may be manifest in the rather different ways that artists and engineers go about their creative activities.²⁴ Some people are systematic, and others depend on inspiration. The patterns of cooperative work may differ. Rather than fight these cultural divisions within the firm, it is far easier to separate governance so that the two groups interface by contractual means that allow both sides to preserve their dis-

²² Ronald J. Gilson et al., *Contracting for Innovation: Vertical Disintegration and Interfirm Collaboration*, 109 COLUM. L. REV. 431, 433-34 (2009).

²³ Susan Christopherson & Michael Storper, *The Effects of Flexible Specialization on Industrial Politics and the Labor Market: The Motion Picture Industry*, 42 INDUS. & LAB. REL. REV. 331, 332 (1989).

²⁴ Oliver E. Williamson, *The Vertical Integration of Production: Market Failure Considerations*, 61 AM. ECON. REV. (PAPERS & PROC.) 112, 112-13 (1971).

tinctive culture. Academics like myself are often very bad at making these judgments, because scholarship is not an activity—at least in law—that requires complex forms of cooperation. Rather, it usually involves work that is best done by one or two persons. But big science, manufacturing, and entertainment may well be quite different.

This problem of vertical integration thus brings us quickly back to the work of the late economist Ronald Coase, who, in his 1937 article, *The Nature of the Firm*, first addressed the question of which transactions are run through a price system, and which are run through an integrated firm.²⁵ Indeed, his examples made the problem look almost simple because he did not systematically address the complicated cultures that are formed in the production and innovation industries.²⁶ Instead Coase asked, very simply, why are there firms instead of a complex set of bilateral contracts for sale and employment? Why are some things done internally and others contracted out?²⁷

What Coase observed was that the price system for either goods or labor is not costless to set up, because it is costly to figure out how first to structure these transactions, then to value the goods or services provided, and finally to provide some suitable enforcement mechanism.²⁸ These tasks are not easy when done in discretely small transactions, so that sometimes the transaction costs are higher in an arm's-length relationship than they are in some informal relational contract, with a single wage or other periodic payment, which gets us back again to the role of venture capital firms in organizing new businesses. One way therefore to look at differences in work style and culture is to recognize that they increase the transaction costs needed for cooperation, and thus incline the balance back toward sales of the finished product, and away from partnership or employment relationships.

The same insight leads to differentiation of roles within a firm. Often some extremely gifted person is best able to manage the affairs of coworkers in ways that ease the inevitable tensions that arise among individuals with different priorities, sensibilities, and work styles. Generally speaking, it is fair to say, in any firm, that the higher positions depend less on knowledge of basic technical processes and more on having antenna to read and respond to the personal idiosyncrasies of creative people. Top management thus supplies not only direction for the business, but also functions as the de facto mediator between potential factions whose conflicts, if left unchecked, could hamper or even halt the operation of the firm. These relationships are hard to describe from the outside, even if they are well under-

²⁵ R.H. Coase, *The Nature of the Firm*, 4 *ECONOMICA* 386, 387-88 (1937).

²⁶ See, e.g., Armen A. Alchian & Harold Demsetz, *Production, Information Costs, and Economic Organization*, 62 *AM. ECON. REV.* 777, 783-84 (1972).

²⁷ Coase, *supra* note 25, at 388, 400.

²⁸ *Id.* at 390-91.

stood from the inside, which is yet another way of saying that decentralized knowledge, Hayekian style, really matters. Once that point is grasped, it becomes clear that no external regulator has the localized knowledge to override private decisions on any of key issues relating to corporate formation or labor contracts. Thus, freedom of contract results because the operative legal norm is to preserve effective firm behavior. Now, this point has this philosophical implication: no matter where one looks in the law, it deals only with two basic kinds of arrangements—those that are voluntary and those that are coercive. For firms to work, the voluntary arrangements must dominate over the coerced ones imposed from the outside by people who do not and cannot know what they are talking about for a discrete firm.

What legal rules then help to keep firms stable? The first element is to make sure that voluntary arrangements, including the supply and distribution chains, have very strong legal protections so that no outsider can disrupt them. This dictum translates into the dominance of injunctive relief. Unfortunately, today, too often that form of relief is denied because courts treat the exceptional—indeed sometimes the pathological—hold-up situation as setting the implicit business norm.²⁹ The advantages of that rule are often not all that clear in two-party contexts. But in connection with supply and distribution chains, the inability to gain injunctive relief aggravates the unraveling problem that I mentioned before: how can distribution and supply chains be kept together if key players are allowed to depart at will, daring their contracting parties to bring a damages suit that often comes too late and provides too little relief? “Come sue me” are words that portend the breakdown of the complex arrangements that injunctions help preserve.

It is not that these injunctions should have zero flexibility. But the flexibility should be limited to avoid the systematic patterns of abuse that come from flouting voluntary agreements—or from refusing to enter into them because of the inability to take some intellectual property today and delay payment for many years until some infringement action succeeds. The likelihood of that holdout strategy by outsiders will be diminished once it is clear that injunctive relief is the norm and not the exception. Once injunctions are available as a general remedy, the need for their occurrence and use will be much lower than might otherwise have been the case. What will happen is that when people know that they cannot profit by engaging in this kind of conduct, they will keep their supply chain obligations, and work out their differences with incremental accommodations.

Now, what does this discussion of injunctions tell us about damage remedies? I think that it warns us to beware of the straightjacket that is placed on these arrangements by the damage typology put forward by Pro-

²⁹ Douglas Ellis et al., *The Economic Implications (and Uncertainties) of Obtaining Permanent Injunctive Relief After eBay v. MercExchange*, 17 FED. CIR. B.J. 437, 438 (2008). On the historical inaccuracy of the *eBay* rule, see Mark P. Gergen et al., *The Supreme Court's Accidental Revolution? The Test for Permanent Injunctions*, 112 COLUM. L. REV. 203, 206-14 (2012).

fessor Lon L. Fuller and his student William Perdue in their famous article, *The Reliance Interest in Contract Damages*.³⁰ Fuller wrote in the Aristotelian tradition, which may be fine for philosophy, but is unwise as a guide to successful commercial transactions. Fuller's damage typology contained three sorts of damages.³¹ Expectation damages were intended to put the innocent party in the position that he would have held if his trading party had fully performed his part of the bargain.³² Reliance damages were intended to put the innocent party back in the same position that he would have enjoyed if he had never entered into the contract at all.³³ Lastly, restitution damages required the party in breach to restore any money or property that it had received from the innocent party.³⁴

In many cases, these measures of damages work well for commercial reasons. One excellent illustration of this coincidence is the rule that awards the difference between contract and market price in competitive markets whenever it is possible to "cover" with appropriate adjustments for incidental and consequential damages.³⁵ But the same rules do not carry over easily to breaches that arise in noncompetitive situations. In these settings, the Fuller and Perdue rules may lead to the correct result. But that result is often fortuitous, because the correct model asks the parties to design their own damage remedies to minimize the probability of breach, and the severity of damages once that breach occurs. In simple bilateral arrangements, Fuller's measures may satisfy that standard. But that is generally not the case in sophisticated commercial agreements, including those dealing with the formation of venture capital and supply and distribution management. In these settings, the occurrence of consequential damages may require different rules, which set damages at a sufficiently high level, so that no one has an incentive to breach a contract, or to infringe a patent, by giving the innocent party high damages, the main purpose of which is to induce potential infringers and contract breakers to respect the intellectual property rights of others.

It is not only with poor measures of damages that the contract law is at odds with sound business practices. All too often, patent and copyright law tend to work at odds with voluntary agreement by imposing external constraints on business arrangements that have no sound economic rationale. One example of this problem is the first sale doctrine, as it applies to both patent and copyright licenses.³⁶ The doctrine says that any restriction that is

³⁰ L.L. Fuller & William R. Perdue, Jr., *The Reliance Interest in Contract Damages: I*, 46 *YALE L.J.* 52, 52-53 (1936).

³¹ *Id.* at 53-54.

³² *Id.* at 54.

³³ *Id.*

³⁴ *Id.* at 53-54.

³⁵ U.C.C. § 2-712 (2010).

³⁶ 17 U.S.C. § 109 (2012).

imposed on the original licensee does not carry over to third persons dealing with the original licensee.³⁷ But if that person has notice of the restriction and can adjust the price accordingly, why not allow him the business flexibility? There is no reason why individuals cannot do the same thing here if these similar restrictions can bind successive parties with notice in land transactions. In both cases, the ability to bind subsequent takers with notice increases potential gains from trade by allowing for the orderly expansion of two-party deals into three (or more)-party deals. The more complex the deal, the more likely it is that a provision like this will be necessary to take into account, for example, some other royalty payments in some unrelated transaction.

Therefore, when courts say that these arrangements are “inherently” unwise, they have imported a restriction on contractual freedom that does not deal with the traditional concerns of fraud, duress, or monopoly. This last point is no small issue, because a sound antitrust law blocks horizontal arrangements, such as cartelization, while facilitating competition.³⁸ In the intellectual property space, one of its main contributions is to make sure that patents are not attacked simply because they create a legal monopoly, given that this is their purpose.³⁹ But at the same time, the antitrust laws should prevent collusive agreements between two firms that are in direct competition with one another, while allowing firms to engage in the vertical transactions that are so critical for product development and for supply and distribution chain management.

The point of the above observations is that the first-sale doctrine addresses none of these concerns. Indeed, the great weakness in the recent Supreme Court decision of *Quanta Computer, Inc. v. LG Electronics, Inc.*,⁴⁰ is that the Supreme Court succumbed to these idle abstractions by failing to understand the basic economic logic of voluntary transactions.⁴¹ Indeed, in *Quanta*, the reason for the complex licensing agreement was that some parties had already taken licenses from a third party—Intel.⁴² The effort to go beyond the scope of the first-sale doctrine was to coordinate different licensing arrangements in a coherent way to avoid double payment for the same technology.⁴³

³⁷ *Id.*

³⁸ 15 U.S.C. §§ 1-3 (2012).

³⁹ Christopher R. Leslie, *Antitrust and Patent Law as Component Parts of Innovation Policy*, 34 J. CORP. L. 1259, 1264 (2009); *see also* United States v. Am. Tobacco Co., 221 U.S. 106, 179 (1911); Standard Oil Co. of N.J. v. United States, 221 U.S. 1, 61-62 (1911); United States v. Aluminum Co. of Am., 148 F.2d 416, 427-28 (2d Cir. 1945), *superseded by statute as stated in* United States v. LSL Biotechnologies, 379 F.3d 672 (9th Cir. 2004).

⁴⁰ 553 U.S. 617 (2008).

⁴¹ *See id.* at 638.

⁴² *See id.* at 623-24.

⁴³ *See id.*

CONCLUSION—OMINOUS SIGNS

I have developed this account of the evolution of business arrangements with respect to intellectual property without looking at the current legal controversies in intellectual property. But, in one sense, that is a mistake. “Patent reform” is now in the air in Washington, D.C., and one risk of the current legislative maneuver is that it seeks first to soften injunctive relief, and second to dilute damage awards so that breach and infringement become profitable strategies, thereby increasing the likelihood of their occurrence.⁴⁴ In this environment, high damage awards are intended to reduce the probability of ex-ante breach, rather than supply the ideal remedy for ex-post breach. The key here is that the institutional demands for sound rules should lead us not to give too much attention to “justice in the individual case.”⁴⁵ Instead, the concern is with the long-term institutional stability of these complex arrangements. The stronger the remedial protection, the greater the choices that people have in dealing with venture capital arrangements, on the one hand, or supply and distribution chains, on the other. Ideally, the damage and injunctive remedies should work together to that common end.

So it is back to our original theme. The key point of a general legal theory is to develop sound doctrines of contract and property law with those timeless abstractions Mr. A and Ms. B, and Blackacre and Whiteacre. In order to do this, it is critical, in my view, for intellectual property lawyers to understand that their work is embedded in a larger and more ancient system of law that has worked out many of the liability and remedial issues in ways that work well in intellectual property contexts. Yet, intellectual property laws tend to act as though every problem they face is subject to de novo review—as if the lessons of the past from other areas of law do not carry over to this area, when so often they do.

Intellectual property does not exist in some intellectual vacuum. What is so critical about setting the right intellectual framework is that it allows us to organize, from the ground up, the special intellectual property problems in the three main settings that they appear. The first of these is the informal arrangements that get the juices flowing in both the creative and innovative industries. The second deals with the higher level of formality that becomes necessary once third-party financing is needed to bring a

⁴⁴ Timothy B. Lee, *Patent Reform Bill Passes the House 325 to 91. Here's What You Need to Know*, WASH. POST SWITCH BLOG (Dec. 5, 2013), <http://www.washingtonpost.com/blogs/the-switch/wp/2013/12/05/the-house-votes-on-patent-reform-today-heres-what-you-need-to-know/>; *Patent Progress's Guide to Federal Patent Reform Legislation*, PAT. PROGRESS, <http://www.patentprogress.org/patent-progress-legislation-guides/patent-progress-guide-patent-reform-legislation/> (last visited Mar. 7, 2015).

⁴⁵ Jay Dratler, Jr., *eBay's Practical Effect: Two Differing Visions*, 2 AKRON INTELL. PROP. J. 35, 37-38 (2008).

product to market. And the last is the complex set of business arrangements that are required to deal with supply and distribution chain management. There is surely much else to take into account. But if these issues are dealt with responsibly, it should be possible to get the maximum social benefit out of both copyright works and patented technologies, which is the object of this entire enterprise.