
ESSAY

THE IMPENDING iPRIZE REVOLUTION IN INTELLECTUAL PROPERTY LAW

SAUL LEVMORE*

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How will intellectual property law change as the economy becomes dominated by services and ideas? This Essay explains why the interest groups and other forces that brought about an expansion of property rights over the last century or two are reconfigured in an economy dominated by ideas. This reconfiguration makes prizes – including grants, subsidies, and various contractual promises – more likely and more attractive than property rights as the means of encouraging innovation. The theory predicts an increase in the use of subsidies and other prizes, rather than patents. These prizes can be of the ex ante kind, offered before innovations come about, as well as of the ex post sort, used to reward success but also to encourage innovators with the promise of future gains. The discussion then moves from patent law to copyright, and from machines and pharmaceuticals to the troubled newsgathering industry, where the iPrize Revolution is likely to be immediate and dramatic because of the low cost of digital delivery.

* William B. Graham Distinguished Service Professor, University of Chicago Law School. I am grateful for discussions with Jonathan Masur and workshop participants at the University of Chicago and Wayne State University.

INTRODUCTION

Advanced modern economies depend more on ideas than on manufactured goods. Even their artistic endeavors and exports are now more about creativity and personality than about particular books, pieces of music, or art objects. This fundamental change is likely to bring about and require a new mix of legal rules. In the years since the Industrial Revolution, intellectual property rights, primarily patents and copyrights, have encouraged innovation. These rights, however, may not be well suited for an economy propelled and distinguished by ideas rather than by things. One hundred years ago, success came to the economy that developed a new and better engine. Today it comes to economies that have the best ideas about how to organize production, how to educate the citizenry, and how to sell music. My argument in this Essay begins with the notion that the forces that brought about an expansion of property rights, and especially intellectual property rights, weaken as an economy becomes dominated by services and ideas. The increasing market share and importance of ideas has created pressure to reexamine the traditional distinction in patent law between “devices,” which gain protection under the law, and “ideas,” which do not. Part I explores how to rethink this distinction and the treatment of mere ideas in intellectual property law in an idea economy. Part II advances the claim that a revolution in the treatment of intellectual property is in progress and is generated, at least in part, by the tension between ideas and devices. The discussion suggests that interest groups will favor “prizes,” by which I mean a variety of direct inducements to innovators, over property rights. The analysis suggests a reduction in the pressure to expand property rights in favor of the utilization of prizes. The change has already begun, but this iPrize Revolution is likely to be dramatic. Part III moves from patents to copyright, where prizes might be increasingly attractive because of the low cost of digital delivery.

I. DO THINGS OR IDEAS REQUIRE MORE PROTECTION?

A. *The Idea-Device Distinction*

Every student of intellectual property and every ambitious innovator knows that ideas, however extraordinary, are available to everyone who comes across them. These valuable assets are in the commons, and are not easily brought into the domain of private property. Albert Einstein, for example, could not have patented $E = mc^2$. Patents are similarly unavailable to one who discovers a natural cure, no matter how much effort or “sweat of the brow,” as it is called in intellectual property circles, might have gone into such a discovery.¹ In many instances, such ideas or discoveries cannot be commercially exploited

¹ See *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980) (listing the three exceptions to the Patent Act’s broad patent-eligibility principles as the “laws of nature, physical phenomena, and abstract ideas”). U.S. law is among the most generous when it comes to patent eligibility, and the distinction sketched here is indeed universal.

and also kept secret, because the profit-seeking discoverer is subject to imitation. This limitation regarding patent eligibility extends to copyright law.² If the patentless scientist who discovers a natural cure writes a book about the cure she discovered, the copyright monopoly available to her covers only the expression of the idea. Once published, the cure itself will be available to all readers without charge.³ In patent law, the requirement of a machine, a process tied to a machine, an article of manufacture, or a composition of matter – but in any event of something more than an abstract idea or law of nature – generates an idea-device distinction, as it can be usefully labeled.⁴ Similarly, copyright law can be described as reflecting an idea-expression distinction. In both areas of law, an abstract idea, standing alone, is unprotected.

An innovator or great thinker can try to work around this limitation. A scientist in medieval or even modern times who discovered a natural cure or identified an herb with great medicinal powers might be able to secure an exclusive import license or simply a ban on competitors' trading in the herb, but would likely be able to do so only if he were politically well connected. Indeed, English law doled out "patents" for such things as salt, but these patents were essentially licenses and either revenue raisers or strategic favors.⁵ Some of these grants might have had the effect of encouraging other scientists to develop ideas that could lead to state grants of monopolies on items that their ideas identified as valuable.⁶ But few ideas are easily linked to imports or other things that can be monopolized. Moreover, when there is a monopoly to be exploited, the state need not grant it. Even the most grateful government could probably not have turned Einstein's famous equation into a property right or monopoly for his benefit. A thinker and innovator must hope to benefit from an improved reputation, from a first-mover advantage in a market where the idea can be applied, from a tenured position at a university, or from some other secondary incentive. Einstein did not fare badly.

In some settings, lawyers can help thinkers earn rewards. Consider the clever, low-cost, but hardly Einstein-quality idea of identifying floors in a parking garage

² See 17 U.S.C. § 102(b) (2006) ("In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.").

³ See *id.*; *Baker v. Selden*, 101 U.S. 99, 103 (1879) ("The very object of publishing a book on science or the useful arts is to communicate to the world the useful knowledge which it contains. But this object would be frustrated if the knowledge could not be used without incurring the guilt of piracy of the book.").

⁴ See 35 U.S.C. § 101 (2006) (making patentability contingent on the creation of a "process, machine, manufacture, or composition of matter" rather than a theory or idea alone).

⁵ E. Wyndham Hulme, *The History of the Patent System Under the Prerogative and at Common Law*, 12 L.Q. REV. 141, 141 (1896) (providing a record of the "industrial monopoly licenses" for merchants that were issued in England from 1561-1570).

⁶ See *id.* at 148-49 (listing English patents issued in 1440 for a method of manufacturing salt, in 1565 to an artisan for making "white salt," and again in 1566 for "the making of salt").

with the names of sports teams or countries and using popular songs and visual aids to further aid car owners' memories. As it turns out, a patent was issued for

an improved multi-level vehicle parking facility including a device for emitting an audible sound, preferably a well known song, on each parking level, with a visual display specifically identifying the audible sound emitted on each such level . . . to facilitate recall of that level to an individual parking a vehicle thereon.⁷

The patent is really on an idea, and a device was specified only in an attempt to satisfy the requirements of the law. Whether or not one thinks the patent justified as a legal matter, the presence of some device to play the music helped the lawyer make the application successful. In contrast, a lawyer who tried to gain patent protection for the idea – though of course it would be described as a device – of organizing customers at a supermarket's checkout counters in a single queue feeding multiple service points, as has become common at airport ticket counters, will have more trouble associating the innovation with a device.⁸

The idea-device distinction, like its idea-expression cousin,⁹ is not always sharp. One source of serration, if not dullness, is the observation that the narrower the application – to one industry rather than to all queues, for example – the *more* likely the patentability. This may seem perverse to ordinary citizens who might expect more important ideas to be encouraged by or deserving of greater rewards. But again, mere ideas are vulnerable to imitation and the biggest ideas are surely unprotected. The more useful perspective begins with the observation that the narrower patent application allows examiners and courts to move incrementally, as

⁷ U.S. Patent No. 4,674,937 (filed Nov. 1, 1985) (issued June 23, 1987).

⁸ Proving counterfactuals is of course difficult. Bakeries and other retailers have long been using single-queue schemes. Patrons obtain numbers and are served in numerical order. Patents could be issued for the number dispensers, but of course the retailer was hardly investing much in the innovation. Some universities in the mid-twentieth century organized course registration, tuition payment, and identification cards with single-queue systems and multiple points of service. The latter would surely not have garnered patents – and none were applied for – while the former did lead to some narrow patents on the device or machine issuing the numbers. Queue management has continued to generate narrow patents and applications. *See, e.g.*, U.S. Patent No. 6,529,786 (filed Dec. 8, 1998) (issued Mar. 4, 2003) (patent for a system that issues a number and records the customer's identity upon entering an establishment).

⁹ The concept of the idea-expression dichotomy in copyright law has been criticized as false for conflating multiple possible interpretations. This concept can refer to the distinction between the subject matter of a work and its protectable expression but also to the distinction between unprotectable and protectable expressions. But while there are easier and harder cases, it seems difficult to argue that distinguishing between a general concept and an instantiation of that concept – for example, between the concept of a bat-themed superhero who fights crime, and Batman – is impossible. The idea-expression distinction is very much alive and, in the end, seems as defensible or workable as any other legal distinction. In patent law the distinction is between “abstract ideas” and the proper subjects of patent. Again, there is room to deconstruct at the margin, but the distinction is alive and well.

they generally prefer to do. It can proceed to the happy conclusion that while courts are more inclined to grant less ambitious patent applications, these generate less serious monopolies.¹⁰

But why the idea-device distinction, and might it be obsolete? Concreteness is central to patent eligibility, as is fixation (and expression) to copyright, but it is not clear why this is so.¹¹ Conventional explanations for the idea-expression distinction in copyright are plentiful and can inform the idea-device distinction. All appeal to the intuition that there must be some balance between rewarding novelty and enabling innovators to stand on the shoulders of their predecessors without suggesting how we might find the correct balance.¹² In any event, inasmuch as the dramatic shift from things to services, and perhaps therefore to ideas, falls in the domain of patent law, it is there that we ought to concentrate our attention.

An easy explanation for the idea-device distinction, especially where “abstract ideas” are concerned, is that concreteness facilitates enforcement. Another is that geniuses, or even educated citizens with lively imaginations, can be counted on to generate ideas even in the absence of rewards; fertile minds may be irrepressible

¹⁰ The point about narrowness and incrementalism has encouraged some observers to opine that courts create distinct patent laws for various industries. *See, e.g.*, Dan L. Burk & Mark A. Lemley, *Is Patent Law Technology-Specific?*, 17 *BERKELEY TECH. L.J.* 1155, 1156 (2002) (identifying “increasing divergence between [patent] rules themselves and the application of the rules to different industries,” and observing that courts are, for example, more apt to find biotech innovations non-obvious and computer software developments obvious). This idea pushes back on the notion that patent law is broad in its application, while copyright law has generated a remarkable portfolio of statutes addressing the concerns (and likely responding to the organized interests) of disparate industries. The reality might be that copyright has responded to interest groups through statutory changes while patent law has varied property rights through the Patent and Trademark Office.

¹¹ *See* *Rubber-Tip Pencil Co. v. Howard*, 87 U.S. 498, 507 (1874) (“An idea of itself is not patentable, but a new device by which it may be made practically useful is.”); *see also* *T.H. Symington Co. v. Nat’l Malleable Castings Co.*, 250 U.S. 383, 386 (1919) (emphasizing that “[a] conception of the mind is not an invention until represented in some physical form” (quoting *Clark Thread Co. v. Willimantic Co.*, 140 U.S. 481, 489 (1891))).

¹² William M. Landes & Richard A. Posner, *An Economic Analysis of Copyright Law*, 18 *J. LEGAL STUD.* 325, 347-48 (1989) (demonstrating that protecting ideas would result in a net decrease in output because of the increased costs of expression for authors and the relatively low cost of generating ideas); Edward C. Wilde, *Replacing the Idea/Expression Metaphor with a Market-Based Analysis in Copyright Infringement Actions*, 16 *WHITTIER L. REV.* 793, 793 (1995) (explaining that the idea-expression dichotomy balances the goals of rewarding individual ingenuity and allowing progress and improvements on the author’s subject matter); Michael Wurzer, *Infringement of the Exclusive Right to Prepare Derivative Works: Reducing Uncertainty*, 73 *MINN. L. REV.* 1521, 1530 (1989) (describing an implicit bargain in which the monopoly an author gets in her expression is traded for contributing the underlying idea to the public domain); Alfred C. Yen, *A First Amendment Perspective on the Idea/Expression Dichotomy and Copyright in a Work’s “Total Concept and Feel,”* 38 *EMORY L.J.* 393, 395 (1989) (indicating that courts rely on the idea-expression dichotomy to make copyright law compatible with the First Amendment’s guarantee of free speech).

and require little encouragement. A third explanation, and perhaps the most convincing, is that the distinction reflects the intuition that while all incentives for innovation in the form of monopoly grants threaten subsequent innovation, the tradeoff is more favorable where concrete applications rather than abstract ideas are concerned.¹³ Monopoly grants do, of course, help subsequent innovation to the extent that they encourage the disclosure of innovations.

Yet another explanation for the idea-device distinction brushes up against the historical or evolutionary questions of how and why societies developed intellectual property rights, if not all property rights. As it turns out, both the leading explanation and its iconoclastic rival require some evolutionary move, or legal transition, in which intellectual property rights attached to innovations while pre-existing ideas, on which these innovations drew, were left in the commons. If a legal system decides to recognize new inventions as private property through the grant of a monopoly or other means, the question of the treatment of previous inventions immediately arises. The requirement of novelty is one way to overcome this transition problem when starting a new legal regime; it promises rewards to innovators going forward without giving windfalls to those who produced inventions that are already known. But the problem, or fact, that virtually every innovation will exploit earlier ideas remains. A convenient means of solving this transition problem, especially when registering and dating new ideas is difficult, is to do everything possible to set aside pure or abstract ideas. An even more important transition problem arises when the law weakens or abolishes property rights. This nascent problem must give pause whenever an expansion of rights is contemplated.¹⁴

Circumstances likely exist in which the grant of property rights does more harm than good, and where this is the case, the idea-device distinction is a means of withholding property rights.¹⁵ Thus, it is well known that patents can block

¹³ See *Bilski v. Kappos*, 130 S. Ct. 3218, 3228, 3231 (2010) (expressing concern that patenting a business method “would effectively grant a monopoly over an abstract idea,” thereby frustrating the patent system’s “great challenge in striking the balance between protecting inventors and not granting monopolies over procedures that others would discover by independent, creative application of general principles”).

¹⁴ Put differently, when property rights are introduced or expanded, the transition problem can be handled with some anti-retroactivity rules, including subtle ones like fixation or novelty. When property rights are contracted, the transition problem is less easily eluded. See discussion *infra* Part I.B.2. This asymmetry might explain some of the evolution of property rights, including the disinclination to expand them to incorporate abstract ideas. For a discussion of the endowment effect in the evolution of rights, see Cass R. Sunstein, *Human Behavior and the Law of Work*, 87 VA. L. REV. 205, 221 (2001) (explaining how the “endowment effect” results in sticky initial allocations of rights).

¹⁵ The problem of patents stifling innovation exists not only at fundamental stages of innovation but also at high levels of patent law where parties file strategically to gain a competitive advantage. This phenomenon is thought to produce “blocking patents.” For example:

Company X may file for patents on improvements to Company Y’s patented products, even if those improvements technically fall within the scope of Company Y’s patents. In that circumstance, Company Y’s and Company X’s patents will “block” one another,

innovation, and we might expect predictable blockers to be labeled as ideas, and in this way disabled by their patent ineligibility.¹⁶ There is something of a historical pattern. There was an early phase of economic development, in which our ancestors developed things like the wheel and the alphabet. Had property rights attached, economic progress would likely have been stifled. There was a middle period where intellectual property rights seem to have worked well. Rights ranged from political rewards, such as a viceroyship for one who discovers a new colony, to various monopoly assignments, including patents and copyrights. Perhaps the system worked during this period because concrete applications required capital investments, or perhaps interest groups simply protected their investments, or entered into partnerships with governments. We need not be sure about the origin of property rights to conjecture that the rules that worked well for two hundred years might not triumph in the next two hundred. There is no reason to be sure that an “advanced” age, with very low information and transaction costs, requires the same property rights as the Industrial Revolution.¹⁷ On the other hand, our legal system makes it difficult to change the rules.

B. *Contrasting Intuitions About Property Rights in the Idea Economy*

What should be expected of property rights in an era when ideas rather than devices dominate the landscape? The related, prescriptive question asks how the legal system ought to encourage innovation in an age of ideas. There are two contrasting intuitions. In this Section, I begin with the normative arguments and

thus preventing each company from using, making, and selling the improvements. Ted Sichelman & Stuart J.H. Graham, *Patenting by Entrepreneurs: An Empirical Study*, 17 MICH. TELECOMM. & TECH. L. REV. 111, 128 (2010) (footnote omitted).

¹⁶ See *Bilski*, 130 S. Ct. at 3255 (Stevens, J., concurring) (emphasizing that patents have the potential to stifle research and innovation and finding business methods non-patentable in part because they are too close to “big ideas”).

¹⁷ A few examples might be useful. Humans developed an appreciation for the shape of their planet, a language with which to communicate and jointly develop knowledge of the planet’s shape, and specific advances, such as the derivative concepts of latitude and longitude, in periods with no property right protection. Patents and other property rights were in place when interstate highway maps were published and when global positioning devices were developed (though, of course, these advances depended on government-sponsored infrastructure). The navigation devices now used by pilots and drivers are beholden to a fair number of patents, and copyright law protects the multilingual software embedded in these devices. These quite possibly would not have come to market if not for reasonably secure property rights. Yet the most important advances in the next few decades, in the “field” of maps and directions, might also plausibly be in the application and combination of global positioning technology and various information banks. These will be ideas ineligible for protection.

Consider also the example of the Condorcet Jury Theorem and the wisdom of crowds, as it is now widely known. Modern developments, including surveys, “betting” on elections, and crowdsourcing, can be understood as applications of the idea that many slightly informed voters can outperform experts. This is likely to be an area of substantial economic activity in the next several decades. The innovation is not easily tied to a device.

then retrace the paths with descriptive theories drawing on the evolution of property rights.

1. New Rights for a New Age

The first intuition begins with the observation, or historical claim, that agriculture flourished with secure rights to plots and harvests, and that manufacturers then thrived when property rights expanded to include intellectual property.¹⁸ The claim is not that property rights brought about economic revolutions, but rather that the latter require the former in order to realize their full potential. It almost follows that an idea economy will do best if protections expand to include its innovations, which is to say, ideas. If these property rights are denied, those who expect to generate ideas might exert their energies elsewhere or perhaps migrate to other jurisdictions where they are offered greater rewards for their contributions. This claim about migration, however, is too facile. First, there will likely be a convergence in intellectual property law through treaty or imitation. Just as the laws of copyright and patents have largely converged across legal systems, the laws protecting or liberating ideas can similarly be expected to converge. Second, it can be assumed that international migration comes with serious transaction costs.¹⁹ Even if there is an advantage to foreign rules, many talented producers of ideas might nevertheless remain in a jurisdiction for personal reasons. Alternatively, they might endure because their ideas depend on a critical mass of peers or other inputs that will not all relocate, and certainly not all to one place. Finally, an important component of the patent ineligibility of abstract ideas is that ideas build on one another; the social cost of a patent that blocks other innovations can overwhelm both the benefit from incentives to innovate and the benefit from the disclosure of new ideas.

Even if migration to other jurisdictions can be discounted and, indeed, even if innovators from abroad will migrate *to* the jurisdiction that is generating the most ideas rather than to the one that offers the most property rights protection, these rights might still promote effort and disclosure and, through this route, prosperity. Evaluating this argument without empirical evidence is difficult, but one can ask whether the case for these property rights is stronger or weaker as services and ideas comprise a larger fraction of economic activity. It must be emphasized that this fraction is endogenous; one who believes that property rights in ideas would produce more ideas must surely believe that the fraction of innovations associated with ideas, rather than patentable devices, will itself be greater if there is legal

¹⁸ Cf. Ronald H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 10 (1960) (suggesting that a deficiency in property rights would have a “prejudicial effect upon the development of land”).

¹⁹ Even if transaction costs decrease with centralization, other costs may be expected to increase. See Dan L. Burk, *Muddy Rules for Cyberspace*, 21 CARDOZO L. REV. 121, 162-63 (1999) (“[T]he transborder migration of informational goods may militate the formation of some centralized or uniform international regulation of intellectual property rights in digital goods . . . [resulting in] socially wasteful rent-seeking [taking place] at the international . . . level . . .”).

protection for ideas.²⁰ The opposing intuition is that an absence of property rights for ideas will encourage a whirlwind of ideas because they depend and build on one another. Consider poetry as an example of this intuition: there is surely more and better poetry because the idea of a poem, or the varieties of poetry, has been legally unprotected, though copyright covers particular verses. Somewhat similarly, there could be more and better industrial ideas if there were no protection for them. This intuition is what feeds the push for open-source software.

These cautions about migration and the value of an intellectual commons should not, however, overwhelm the central argument that strong property rights likely brought about advances in agriculture and industry, and that they will do the same for ideas. The positive version of this argument is familiar to every student of economic history and every first-year property student: private property promotes individual effort, but maintaining private property rights can be expensive. As these expenses decrease because of technological innovation, such as the development of barbed wire or a functioning court system, private property rights expand. The movement from the ancient commons to fee simple and patents is the story of increased returns to private ownership and decreasing returns in the maintenance and enforcement of these rights. Thus, a small band of hunters in a vast forest would get low returns from boundary demarcations and private property rights – though they might benefit from and develop intricate rules about personal property rights in hunted animals – and would find it expensive to demarcate and enforce rights to private plots. As their population increases, as farming emerges, and as fencing materials improve, private property emerges.²¹ It is, however,

²⁰ This argument assumes that trade secret law is not a perfect substitute for patentability. See Oren Bar-Gill & Gideon Parchomovsky, *A Marketplace for Ideas?*, 84 TEX. L. REV. 395, 405 (2005) (arguing that idea creators currently protect those ideas through trade secret law rather than patent law, creating barriers to transferability and possibly the subsequent underproduction of ideas).

²¹ In the case of real property, the evolution from commons to private rights was not a sudden, universal phenomenon. See Bruce Yandle & Andrew P. Morriss, *The Technologies of Property Rights: Choice Among Alternative Solutions to Tragedies of the Commons*, 28 ECOLOGY L.Q. 123, 130-31 (2001) (suggesting that the evolution from commons to private rights was a demand-driven phenomenon which could not have occurred immediately). It is not as if all the forests and meadows in any jurisdiction were abruptly divided into tracts, with the assignment of fee simple rights amenable to subsequent transfers. To this day, significant parcels of real property remain something of a commons, though in advanced economies, or perhaps where there are powerful central governments, there are significant restrictions on use, and perhaps no place at all where one can do as one pleases. From a transaction-cost perspective, technological change and population density, and thus resource prices, have seemingly lowered the cost of privatization and also raised its benefits. *Id.* at 131 (“[W]ith [the development of] a given technology, it becomes profitable to define a new private property right.”). For example, despite the fact that the Andean interior of Peru has long been home to many farmers who would apparently have invested more, perhaps with the help of mortgage lenders, if their land claims had been more secure, only in the last several years has property recordation extended to this area. The extension did not occur until the advent of global-positioning and photograph-taking satellites. See *Peruvian Amazon Indigenous Support Network*, VILLAGE EARTH, <http://villageearth.org/global-affiliat>

difficult to generalize about the costs of maintaining property rights in the idea economy. Property rights might expand as it is easier to monitor for their violation, but at the same time it is cheaper than ever to violate copyright, and perhaps other property rights as well. If we are agnostic about the relative strengths of these effects, we can emphasize the need for rights, rather than the transaction costs; just as a country with a significant agricultural sector needs and develops strong protections and periodic refinements with respect to its real property rights, it would seem that one with a growing service sector requires protections for the rights that encourage innovators in that sector.

The argument for expanding property rights to include ideas need not explain away the idea-device distinction but could simply build on the strong intuition that secure property rights encourage owners. The argument might even be combined with the unsettling perspective that describes property rights as the product of interest-group activity, rather than as the handmaiden of efficiency.²² Under this

es/peru-project (last visited Oct. 9, 2012) (“We have . . . donated Global Positioning System (GPS) equipment so the [farmers] can monitor community boundaries and manage their lands, an important task in protecting land rights.”). But as the text intimates, there is also a competing interest-group perspective on all this. In every part of the world, some lands have been divided and assigned to private parties because of special relationships with political authorities. Whether the point is to reward or tax, the link to economic efficiency is much less certain. More pervasively, interest groups may have influenced such disparate things as legal rules about fencing and recordation, government actions that changed the price of fencing material, the launching of global-positioning satellites, and the disposition of military forces which, in turn, encouraged or discouraged the development of property in different regions.

The evolution of property rights in movables or personal property rarely receives attention. Indeed, when one thinks of household possessions or business equipment and inventory, there is not much history of a commons preceding now-familiar property rights, apart from the topic – familiar to every first-year student of anthropology or law – of claims arising out of hunting and fishing expeditions, as well as carcasses and driftwood washed up on beaches. But here, too, there are conflicting evolutionary stories. It seems obvious and efficient that manufactured goods, such as automobiles and furniture, can be privately owned and alienable. The maker is rewarded for production and quality, and its suppliers can organize by private contract. Meanwhile, the consumer is encouraged to labor in order to generate the means of buying these goods, and is then also motivated to maintain the goods. But government policies influence production and ownership at various margins, and these policies are often the product of interest-group pressures. Extremely inefficient laws would likely be competed away, but interest groups do not necessarily bring about efficient results. Thus, most legal systems enabled security interests in automobiles at the onset of their mass production, but interests in business inventory, accounts receivable, and household goods were slower to develop. And to this day these interests generate considerable transaction costs.

²² The theory includes the notion that governments might, in an alliance with interest groups, advance certain property arrangements that would prove easy to tax. See Saul Levmore, *Two Stories About the Evolution of Property Rights*, 31 J. LEGAL STUD. 421, 429-30 (2002) [hereinafter Levmore, *Two Stories*]; see also Saul Levmore, *Property's Uneasy Path and Expanding Future*, 70 U. CHI. L. REV. 181, 183 (2003).

iconoclastic view, interest groups champion the development of private property rights when they can benefit from these rights; the beneficiaries of a commons are normally dispersed and without influence.²³ The distinction between devices and mere ideas in patent law, for example, might plausibly have developed because manufacturers supported a patent system in order to protect monopolies in various products but then resisted protections for “abstract ideas” because these were often the contributions of workers or outsiders who had little in the way of physical capital. In any event, under this view, current property rights arrangements require some defending, but the evolution of legal rights lends support for the extension of property rights to include mere ideas.

2. Maintaining the Idea-Device Distinction

The opposing intuition is more respectful of the idea-device distinction. If there is genius behind this distinction, and its origins or maintenance cannot be attributed to the dark side of interest-group politics, then it almost follows that an economy dominated by ideas is one that has *little* need for intellectual property rights. This perspective suggests that legislative or judicial steps to expand intellectual property rights in an idea-intensive era should be viewed skeptically. As the fraction of ideas to all innovations grows, interest groups eager to push for expanded intellectual property rights will likely gain influence. Following this view, the pressure for expanded property rights is not much different from the push for protective tariffs or railroad monopolies in the 1800s.

Moreover, any push to expand property rights in ideas must be tempered by the observation that property rights cannot be easily dismantled. If a commons is divided into private tracts, copyright law is extended, or the government auctions off mineral rights or bandwidth, there will be political and even legal objections to any contraction of these rights, unless the government agrees to compensate the disappointed rights holders. There may even be doubts as to whether the government can take these steps back toward the commons, because of some (misplaced) growing sentiment regarding the “public use” requirement.²⁴ In general, when a commons is privatized, there may be some political objections,

²³ See Levmore, *Two Stories*, *supra* note 22, at 429 (emphasizing the incentives for interest groups to lobby the government for additional property rights); *cf.* Yandle & Morriss, *supra* note 21, at 164 (“If common law protection of property rights becomes too rigid or burdensome, special interest groups can, and do, turn to legislative bodies for relief.”).

²⁴ The “public use” requirement comes from the Fifth Amendment. *See* CONST. amend. V (“[N]or shall private property be taken for public use without just compensation.”). For concern about the evolution of the Takings Clause, see Richard Epstein, *Public Use in a Post-Kelo World*, 17 SUP. CT. ECON. REV. 151, 163 (2009) (arguing that the Takings Clause’s restriction of takings for public use “is categorical, not squishy”) and Ilya Somin, *Controlling the Grasping Hand: Economic Development Takings After Kelo*, 15 SUP. CT. ECON. REV. 183, 223 (2007) (expressing concern over the “public use” requirement’s expansion to encompass rationally related private property takings). For some debate on this issue, see generally Ilya Somin & Saul Levmore, *Eminent Domain After Kelo*, 11 ENGAGE 5 (2010), http://www.fed-soc.org/doclib/20101223_SominLevmoreEngage11.3.pdf.

and certainly some pressure for more revenue, but the government is relatively unconstrained when it moves in this direction. If this reasoning for describing property rights as difficult to dismantle, or perhaps sticky, seems insufficient, there is the additional element of interest-group activity. Interest groups are more likely to organize and be effective when threatened with a loss. The notion is not only one of an endowment effect, but also that potential losers are identifiable, while those who would gain from a weakening of rights are normally dispersed and less identifiable. Similarly, an expansion of rights is often at the expense of identifiable losers, while the potential winners are dispersed and even unaware. As such, a contraction of property rights would likely arouse even more interest-group opposition more than would a proposed expansion garner support from those likely to benefit from it. There is also the skeptical view of law and of the two competing stories of the evolution of property rights; powerful interests manage to be endowed with property rights, and it is simply difficult to unseat such interests.²⁵

C. *Normative and Positive Conclusions*

As a positive matter, reasonable people could surely disagree as to how best to describe the evolution of property rights. We have come to associate secure rights with private investment, but we also associate royal grants and licenses with the development and assignment of property rights by governments, which benefit from specific arrangements of rights. In short, there is an optimistic transaction-cost view of the evolution of property rights, but there is also a skeptical interest-group view. The truth likely involves some mixture of the two views and, in any event, there is no reason why one view must be correct for all property rights.

The normative debate is yet more complicated. Anyone who believes in a strong connection between property rights and growth, and thus argues for an expansion of intellectual property rights in the idea economy, must be tempted to argue that

²⁵ See Levmore, *Two Stories*, *supra* note 22, at 428 (describing the possibility that “temporarily ascendant” or “well-organized” interest groups may have received property rights from the government because of their lobbying efforts). The preceding analysis is on firm ground when the expansion and contraction of property rights are undertaken by the legislature, because lobbying the legislature is relatively cost-effective. See Yandle & Morriss, *supra* note 21, at 147 (“The legislature . . . provide[s] low-cost opportunities for favor seeking by . . . interest groups because a statutory law can govern the whole . . . system.”). At times, however, the judiciary does the work by interpreting statutes or modifying doctrines so as to expand or contract property rights. See, e.g., *Kelo v. City of London*, 545 U.S. 469, 485 (2005) (limiting private property rights by including economic-development takings in “public purpose” takings). Thus, courts are likely to sculpt the boundaries of “fair use” in copyright law. If all photocopying for educational purposes had been found to be fair use, for example, there would be a contraction of the presumed rights of copyright holders. In contrast, there would be a significant expansion if courts were to find a presumption of liability against libraries that make photocopy machines available to patrons. Although the idea of a “judicial taking” is much alive in the caselaw, it is fair to say that when courts bring about these contractions and expansions, most of the arguments about an asymmetry are weakened. There is, therefore, something interesting about judicial lawmaking, because it likely is less biased in favor of the expansion of property rights.

in the ancient age of ideas, when such things as the wheel and the alphabet were developed, progress would have been faster if property rights had been available. The contrary view, of course, is that these developments might well have been stifled with secure rights, because transaction costs would have interfered with the process of improvement in which thousands of innovators contributed to the development of these things over the course of many years.

For present purposes, understanding these perspectives is useful but deciding between them is unnecessary. If the iPrize Revolution, discussed in Part II, comes about because of interest-group activity, as the skeptical view of legal evolution holds, it might nevertheless be beneficial. Indeed, if property rights emerged because of interest groups, it is troubling that these rights support monopolies and generate deadweight loss, but comforting to know that they might be supplanted by payments which are less likely to bring on the costs of monopoly. And even if the revolution is not to be celebrated, it will need to be understood.

II. THE iPRIZE REVOLUTION

A. Prizes and Other Non-Monopolistic Incentives

Patents and copyrights create monopolies, and thus come with well-known costs. They may encourage innovation, but they do so at the cost of monopolization and its accompanying deadweight loss.²⁶ There is a way to encourage ideas, if not all innovation, without creating monopolies and without blocking subsequent innovations. I refer, of course, to subsidies. Promised payments can surely be thought of as property rights, but for clarity, the term is limited here to something that includes the right to exclude, as does ownership of real property, personal property, patents, or copyrights. This is not the place to explore the healthy literature on prizes versus patents. The point is not that subsidies or other prizes are superior to property rights, for each has its drawbacks, but rather that they form an alternative strategy.²⁷ There is, for example, the difficulty of calculating the optimal subsidy, for the wrong subsidy can easily do worse than a patent or other property right.²⁸ Moreover, subsidies require financing which gives rise to corresponding challenges stemming from taxation or deficit spending.²⁹ Subsidies, and prizes quite generally, can be linked to observed usage, so that the innovator is rewarded in proportion to the widespread use of, and likely

²⁶ See, e.g., Landes & Posner, *supra* note 12, at 351 (describing how copyright law creates deadweight losses “by raising the price [of objects] above their cost . . .”).

²⁷ See, e.g., Michael Abramowicz, *Perfecting Patent Prizes*, 56 VAND. L. REV. 115, 119 (2003) (describing prize or reward systems as alternatives to patent or copyright protection).

²⁸ *Id.* at 136-37 (“[T]he principal difficulty with reward systems . . . concerns the government’s need for information to calculate rewards.’ . . . Systematic errors in calculating the value of patents might distort innovation incentives, perhaps enough to overwhelm the benefit from eliminating the deadweight loss associated with a patent regime.” (second alteration in original) (quoting Steven Shavell & Tanguy van Ypersele, *Rewards Versus Intellectual Property Rights*, 44 J.L. & ECON. 525, 526 (2001))).

²⁹ *Id.* at 201 (explaining the challenges of financing subsidies through government spending that may cause significant “economic distortions”).

utility associated with, the innovation.³⁰ Payments can be designed and distributed ex ante, or calculated and awarded ex post, with innovators learning that they can rely on receiving rewards commensurate with the social value of their innovations. A prize might be “a million dollars for the development of a vaccine to immunize against flu strain *X*.” A prize might also be a promise from the government “to buy 500,000 doses of a vaccine that protects against *X*.” It might be a promise or even expectation of employment. My claim is not that prizes are always superior to patents or copyrights; indeed, prizes are likely inferior when the prize giver cannot obtain information that would be useful for calibrating the prize. The claim is rather that prizes, broadly defined, offer an alternative that is at least occasionally superior. A mix of property rights and prizes is likely desirable. A scenario in which successful innovation requires a breakthrough followed by the need for substantial capital investment in distribution or “commercialization” might call for a different mix from that appropriate where there is only the need for a large capital investment.³¹

³⁰ See Shavell & Ypersele, *supra* note 28, at 529 n.16 (finding that a reward system where the government “observes *quantity sold* in the market and *makes inferences* from that in formulating rewards” is most the most efficient and plausible one (emphasis added)).

³¹ Prizes are likely to be more tailored, which is to say less uniform, and that is both good and bad once rent-seeking is taken into account. See Abramowicz, *supra* note 27, at 220-22 (explaining that tailored prizes have the advantage of giving the government great flexibility to target areas where monopoly may be particularly problematic, but the disadvantage of exposing government subsidies to rent-seeking by interest groups). Roughly speaking, prizes can provide the incentives offered by property rights and, in some situations, can be far more refined. See *id.* at 125-26. Moreover, a combination of prizes and property rights can provide incentives, guard against moral hazards, and minimize enforcement and other transaction costs. See Douglas Gary Lichtman, *Prizing Prozac: Why the Government Should Subsidize the Purchase of Patented Pharmaceuticals*, 11 HARV. J.L. & TECH. 123, 138 (1997) (“Efficiency might best be served were the government to pursue a mixed strategy, allowing some of the deadweight loss [from patents and copyrights] to remain but eliminating the remainder by means of a consumer subsidy.”). This sort of optimistic description implicitly draws on the tendency of prizes to be tailored to industry or circumstances, while property rights are often more general or uniform. For an example of the narrowness of potential prize systems, consider the experience of privateers acting alongside naval ships, beginning with the War of 1812. When a privateer captured a vessel, its “prize” was the property right to the vessel, subject to a substantial tax of forty percent, which was subsequently reduced to twenty-seven percent. See Nicolas Parrillo, *The De-Privatization of American Warfare: How the U.S. Government Used, Regulated, and Ultimately Abandoned Privateering in the Nineteenth Century*, 19 YALE J.L. & HUMAN. 1, 24 (2007) (“[A] privateer always received all the proceeds of [his or her] prize, subject to a tax which, during the War of 1812, was initially forty percent and later twenty-seven percent.”). In contrast, the crew of a U.S. Navy vessel received half the proceeds of a captured, inferior vessel, and all the proceeds of a superior one, with the proceeds then divided by formula among officers and crew. *Id.* at 24. These prizes (and property rights) thus seem carefully designed and modified in order to elicit behavior in the national interest. See *id.* at 27. But, of course, these rewards might have been the product of rent-seeking activity by interest groups. See *id.*

An iPrize Revolution would use familiar tools. For one thing, prizes have already been discussed as replacements for patents in order to encourage lower-cost pharmaceuticals and medical innovations more generally.³² It is apparent that the research and development costs associated with new drugs are substantial. One well-known drawback of the patent system is that it leads to pricing that precludes the deployment of important drugs in developing countries.³³ Moreover, the social benefit of some drugs is often regarded as greater than that signaled by market prices, while such things as cosmetic surgery and hair-loss treatment attract substantial attention from for-profit firms.³⁴ Of course, governments and nonprofit organizations are free to offer greater subsidies for outcomes they deem more socially beneficial. The Medical Innovation Prize Acts of 2005 and 2007 had little chance of being enacted by Congress, but they reflected such sentiment.³⁵ The Acts proposed to set aside funds, amounting to less than one percent of GDP,³⁶ that would allow prizes to be substituted for patents, and that would encourage medical innovation.³⁷ Proponents of these Acts believed a prize system on this scale could better the condition of patients, without harming the fisc or making innovators worse off, while critics argued for less ambitious and more incremental change.³⁸

Prizes have at least as good a lineage as property rights. Christopher Columbus and other explorers in the Age of Exploration frequently invested much of their own wealth in their expeditions, and then received shares in the goods shipped home, as well as hereditary or lesser titles.³⁹ It was much less common to receive a

³² See, e.g., Marlynn Wei, *Should Prizes Replace Patents? A Critique of the Medical Innovation Prize Act of 2005*, 13 B.U. J. SCI. & TECH. L. 25, 43 (2007) (“[S]ome form of prize system may still be more desirable than a patent system.”).

³³ See, e.g., Michele Boldrin & David K. Levine, *The Case Against Patents* 6 (Fed. Reserve Bank of St. Louis, Working Paper No. 2012-035A, 2012), available at <http://research.stlouisfed.org/wp/2012/2012-035.pdf> (explaining that the prices of AIDS drugs, driven up by patent law, have created enormous loss of human life in less-developed countries that cannot afford them).

³⁴ See Shubham Chaudhuri, Pinelopi K. Goldberg & Panle Jia, *Estimating the Effects of Global Patent Protection in Pharmaceuticals: A Case Study of Quinolones in India*, 96 AM. ECON. REV. 1477, 1507 (2006) (concluding that the social benefits flowing to India from AIDS drugs would be up to \$450 million annually, while the pharmaceutical companies developing AIDS drugs for India would only increase profits by \$19.6 million annually).

³⁵ Medical Innovation Prize Act of 2005, H.R. 417, 109th Cong. (2005); Medical Innovation Prize Act of 2007, S. 2210, 110th Cong. (2007).

³⁶ See, e.g., S. 2210 § 15(a)(2) (appropriating 0.6% of U.S. gross domestic product to the prize program).

³⁷ See, e.g., *id.* § 3 (“It is the purpose of this Act to provide incentives to encourage entities to invest in research and development of new medicines through the establishment of a Medical Innovation Prize Fund . . .”).

³⁸ The critics preferred narrow experiments. For a discussion of the merits and drawbacks of the Medical Innovation Prize Act of 2005, see generally Wei, *supra* note 32, at 44.

³⁹ See SAMUEL ELIOT MORISON, *ADMIRAL OF THE OCEAN SEA: A LIFE OF CHRISTOPHER COLUMBUS* 100-01 (1942) (describing norms with respect to titles and trade).

monopoly or property right in the form of land, or to be rewarded with complete control over trade. In 1474 Venice enacted an early patent statute, the terms of which encouraged foreign innovators to migrate to Venice where their “contrivances” would be made known.⁴⁰ The statute also protected against imitation for ten years.⁴¹ One explanation, or rationalization, for the different strategies can also be applied to the Medical Innovation Prize Act, and it goes a long way toward explaining why interest groups have often pushed for property rights rather than prizes. If Venice had promised prizes to innovators, it would have needed to find a means of judging deserts and also a means of financing the promised payments. New taxes earmarked for prizes will impose deadweight losses. One could raise the income tax, though it is hardly an optimal tax, in order to avoid the monopolies associated with pharmaceutical patents. In practice, however, this adds administrative costs and brings about combat with interests that do not want to see their taxes raised. In contrast, Columbus and his cohorts were self-financing in the sense that their patrons could pay the stipulated prizes out of the new revenues generated by successful explorers. Present-day copyright holders urge extended lives for their property rights as if they are aware that the losers have trouble self-identifying and organizing in opposition.

Prizes should be understood to include ex ante grants as well as ex post rewards. This is especially appropriate when grants are based not only on research plans but also on the applicant’s history of success, as is the case for most government-financed grants in the sciences. American science, literature, and arts are also significantly financed through employment and access to facilities at universities and comparable institutions. Inasmuch as these are also government supported, the overall picture is one of prizes – in the broad sense of grants, prizes for accomplishments or for superior performance, tenured positions, and so forth – in addition to patents. It is easy to imagine that if the prize component increased, the property right component could decrease. It could do so proportionally by a legislative change accompanied by a variety of transition rules and even by contract, in the sense that grants might be distributed only to recipients who turned over their extant property rights to the government or other grantor.

B. *The Timing of the iPrize Revolution*

Four significant developments suggest the timing of the iPrize Revolution. The predominant development is the emergence of the idea economy. The reasoning here is fairly straightforward. Ideas are increasingly important, and manufactured goods less so. In turn, innovators are stymied by the idea-device distinction; if they want surer payments for ideas, they must either effect serious change in existing law or they must influence the political process in the direction of more prizes. Even in the absence of legal change, the relative growth of the idea sector means

⁴⁰ See Ramon A. Klitzke, *Historical Background of the English Patent Law*, 41 J. PAT. OFF. SOC’Y 615, 619 (1959).

⁴¹ While Venice created the first comprehensive system of patent law, Ancient Greece gave patents (for one year) as early as 2500 years ago for confectioners or cooks who invented new dishes, and some 800 years later the Roman Empire exempted artisans of certain trades residing in cities from civil duties. See *id.* at 617-20.

the relative growth in importance of prizes, because property rights are few and far between where mere ideas are concerned. One ready insight to be gleaned from this depiction of our changing economy and its legal apparatus is the growth of universities. Private and public universities specialize in ideas and rarely deal in manufactured goods. Some of these ideas are amenable to property right protection, of course, but it is apparent that grants and other prizes are much more important to university finances than income from copyrights and patents.

A second reason to expect a shift toward prizes, writ large, is the growing evidence of patent thickets.⁴² Again, the argument can be put in positive or normative terms. As a normative matter, the patent system is in something of a mess because of uncertainty about patents and the high transaction costs of negotiating with possible patent holders.⁴³ Software companies and smartphone makers, for instance, are involved in numerous lawsuits with one another, where a given company is both challenging and defending a host of patents.⁴⁴ An obvious means of escape from these thickets is a move to subsidies and away from monopoly property rights. A more predictive approach notes that interest groups will tire of the transaction costs suffered in these thickets and work for a system of payments rather than property rights.⁴⁵ They will obviously prefer that such payments come from taxpayers or from groups unable to protect themselves in the political process. Absent that, one can even imagine a transition during which the holders of conflicting property rights “sell” them to the government (or another third party entity) in return for funds that are used to finance prizes. The sale proceeds could be put into a fund to be awarded to these very parties in the future on the basis of some formula or decision by a reliable judge who assesses their contributions or efforts. The higher the transaction costs associated with current law and the greater the uncertainties associated with its property rights, the more room there ought to be for such a Coasian arrangement, in which a dramatic move from property rights to prizes is carried out at the behest of the rights owners themselves. Such a scheme might not require much change in law and might be an extension of familiar patent pools.⁴⁶ If the shift comes about in a way that is

⁴² See Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting*, in 1 INNOVATION POLICY AND THE ECONOMY 119, 121 (Adam B. Jaffe et al. eds., 2001) (voicing concern that the patent system “is in danger of imposing an unnecessary drag on innovation” because of increasingly complex patent thickets).

⁴³ See *id.* at 124 (identifying several “unattractive consequences” of the current patent thickets, including “prices . . . well above marginal costs,” lack of production, and lower returns).

⁴⁴ See, e.g., Christopher Versace, *Patent Fights Move Beyond Mobile, Tablets, Apple and Samsung*, FORBES (Oct. 4, 2012, 1:05 PM), <http://www.forbes.com/sites/greatspeculations/2012/10/04/patent-fights-move-past-just-mobile-apple-and-samsung/>.

⁴⁵ See Shapiro, *supra* note 42, at 127-28 (discussing alternatives to property rights as solutions to the patent-thicket problem, including cross licenses, package licenses, and cooperative standard setting).

⁴⁶ See generally Alexander Lee, *Examining the Viability of Patent Pools for the Growing Nanotechnology Patent Thicket*, 3 NANOTECHNOLOGY L. & BUS. 317 (2006) (setting out guidelines for the viability of using a patent pool as a solution for patent thickets). This is

financed by taxpayers, then it will be more difficult to assess whether this is something desirable. I return to this matter in the next Section, but continue here in a predictive mode.

The third reason to expect that the iPrize Revolution is imminent focuses on copyrights rather than patents. As copying technology has improved, and the marginal cost of distribution has descended toward zero, piracy has become a problem at the local and global levels.⁴⁷ The low marginal cost also means that monopoly rights are less efficient because in theory we want to satisfy the demand of everyone who would pay more than marginal cost.⁴⁸ The low marginal cost also changes norms and raises enforcement costs inasmuch as many people justify their unlicensed copying by reasoning that they would not pay for the music or other item in question if they did not download it. I revisit this issue in Part III in the context of the newspaper industry, but it is apparent that a prize system could solve many problems at once. Instead of awarding prizes on the basis of the subjective view of some committee, creators of eligible works could be awarded prizes that are tied to usage. The problem is funding; copyrights are self-financing even if socially costly, while prizes require a source of revenue. Small-scale systems meant to compensate for library borrowing in some countries or for audio recording in the United States (by taxing devices or audio tape) have not raised much revenue. On the other hand, the large number of persons who download music and other works might be willing and eager to force taxpayers to subsidize the creators and performers of the music they enjoy. If this group joins forces with the music industry, a legislated prize system might easily emerge for music, books, movies, television programs, and possibly software. Again, this is a prediction about the coming iPrize Revolution, and not a claim that it is necessarily something to be desired.

Finally, the pharmaceutical industry might spur the iPrize Revolution. The industry is well known for the high costs of entry and product development, but low marginal costs when it comes to producing most drugs. Politicians and various interest groups seem well aware of the efficiency, or problem, of selling a drug at a price above marginal cost but much below average cost (including development

not the place to develop a detailed plan for such an opt-in alternative to patent law. Its benefits would include the ability to design somewhat different systems for disparate industries and to proceed without full participation. The trick is to handle missing parties and affirmative holdouts, as it has been in the Google Books Library Project. *See* Lyombe Eko, Anup Kumar & Qingjiang Yao, *To Google or Not to Google: The Google Digital Books Initiative and the Exceptionalist Intellectual Property Law Regimes of the United States and France*, 15 J. INTERNET L. 12, 21-22 (2012) (summarizing the lawsuit against Google for digitizing copyrighted works for its “searchable ‘universal library’” and the challenges of the subsequent settlement process).

⁴⁷ Wilde, *supra* note 12, at 809-10 (“The advent of the Internet and the unparalleled ease of copying and distributing information, have led to the resurgence of piracy.”).

⁴⁸ *See* Mark A. Lemley, *The Economics of Improvement in Intellectual Property*, 75 TEX. L. REV. 989, 995-96 (1997) (explaining that the “costless” nature of distributing information creates challenges for those selling ideas, driving the product’s price towards its marginal cost and preventing the producer from recouping the fixed cost of articulating the idea).

costs) and then having the pharmaceutical imported into other markets where it threatens to undo the innovator's reward. The social costs and private problems with the property rights system are thus clear, so that a prize system of some sort would be well received. Occasionally, as with vaccines, the government does intervene in its role as a large purchaser, but that promises just one kind of prize.⁴⁹ It is easy to imagine that a large-scale prize system, political attention to price differentials among countries, and the unavailability of important drugs in developing countries will combine to bring about a significant change in this industry. Politically potent pharmaceutical companies have not worked for such change because the opportunity for very high returns is greater with a property rights regime than with a prize system. This might change, however, as the healthcare system is restructured. In turn, a move away from property rights and toward prizes in such an important industry could be a harbinger of change more generally.

C. *The Dark Side of an iPrize Revolution*

A system of grants or other rewards is not necessarily something to be celebrated. It will likely fall in the shadow of the dark side of politics, and it is this – rather than any efficiency or optimistic story – that will bring on the iPrize Revolution. Each of the triggers discussed in the previous section has an interest-group component, but a large-scale political effort is also possible.⁵⁰ The present patent system is somewhat politicized because Congress can pass industry-specific rules, especially where copyright is concerned and where no pretense of a unified law exists. Moreover, the work done by courts in expanding and contracting these property rights in a manner that advantages some players and disadvantages others can also be political. The politics of judicial appointments as well as the resources brought to bear on litigation at the behest of organized interests certainly influence the courts' shaping of property rights. But these influences seem modest compared to the various pressures and interventions associated with government-funded grants and other prizes. Politicians and interest groups influence the budgetary process, and no government can be expected to fund research without making some political decisions about what to fund. The problem has a great deal in common with the funding of national defense. Even with sophisticated bidding and anti-corruption rules, political influence is felt everywhere in the design of military equipment and then in the procurement processes associated with that industry.

⁴⁹ The government can also purchase the patent and then license or produce as a monopolist would not. See generally Michael Kremer, *Patent Buyouts: A Mechanism for Encouraging Innovation*, 113 Q.J. ECON. 1137 (1998) (explaining the practice of government purchase of patents and proposing a method for calculating the value and price of that purchase).

⁵⁰ The idea is that interest groups – perhaps as the result of the coordinating efforts of a political entrepreneur – will successfully push for prizes. They will exploit the fact that the costs will fall on dispersed and thus disorganized taxpayers. In contrast, when these groups push for expanded property rights they often confront identifiable opponents, though there is no need for government revenue.

The analogy to the defense industry might seem more apt for ex ante grants than for ex post prizes. In the normal course of politics, a large budget might be entrusted to a committee formed to award prizes to innovators based on its assessment of the social good these innovators created. But even this sort of system depends on financing, and interest groups will threaten this budgetary allocation with higher or lower funding levels depending on the prizes that are awarded. Nor will the problem be solved if the budget could somehow be insulated from politics, perhaps by being tied to a specified source of revenue; there will be pressure from innovators or industries that threaten to go out of business or to work on different projects unless they are well rewarded.

The link between interest-group politics and the development and desirability of prizes is familiar to students of copyright law. That area of law suggests some caution in distinguishing prizes from property rights. Copyright law has gone down the path of compulsory licenses, especially as one-sided maxima, so that one who plays a copyrighted song in his bar or shop normally pays royalties that are negotiated or, by default, set at an industry-wide level.⁵¹ These statutory payments can be seen as representing a move from a property rule to a liability rule. They are also a sign of a diminishing of property rights in favor of contracted-for payments or prizes, influenced greatly by organized interest groups. These payments do not guarantee an increase (or decrease) in social welfare. Plainly, the role of interest-group bargaining increased once the statute called for fixing payments.

III. IPRIZES TO RESCUE NEWSPAPERS

I have suggested that the pharmaceutical and defense industries have more in common than first meets the eye. At present, the former is completely intertwined with intellectual property law, while the latter is largely about prizes and interest groups. In the future, however, the development and supply of pharmaceuticals might easily be disentangled from property rights and dependent on government grants, contracts, and other rewards. But this is a claim of possibility and not probability or necessity. For that, I turn to something with low marginal costs *and* a dysfunctional system of property rights.

Our present idea economy incorporates and is fueled by information in digital form, which can be reproduced at low marginal cost, so that some industries must reinvent themselves to accommodate new technologies. Consider, for example, the quintessential information-age business of news reporting and the question of how to finance newsgathering and intelligent news analysis.⁵² Many news organizations reflect elements of natural monopolies and, indeed, the industry as a whole comes close to a natural monopoly, as new readers or viewers can be accommodated at a very low, if not zero, marginal cost. At present, relatively few publishers have

⁵¹ Mark A. Lemley, *Contracting Around Liability Rules*, 100 CALIF. L. REV. 463, 477 (2012).

⁵² Andrew L. Deutsch, *Protecting News in the Digital Era: The Case for a Federalized Hot News Misappropriation Tort*, in *ADVANCED SEMINAR IN COPYRIGHT LAW 2010*, at 511, 513-14 (2010) (outlining the free-rider problem in today's newspaper industry that prevents media outlets from making a profit).

switched to a model in which readers pay for online subscriptions, and advertising revenue has been reduced by competition from free online sites.⁵³ Even before the digital age, newspapers needed some help from courts because “facts,” like ideas, do not generate copyright protection, so that free riding is a problem where factfinding is expensive. The law responded to this issue by protecting time-sensitive news with a misappropriation doctrine just outside of copyright law.⁵⁴

There are several ways for costly newsgathering and analysis to survive. An unlikely one is that reporting will be built around television stations, and this medium will continue to sell sufficient advertising to support the enterprise; online newspapers have not had analogous success with advertising revenues. Another is that newspapers will be transformed into websites that will attract paying subscribers.⁵⁵ But the third and most interesting possibility is that investigative reporters, like many scientists, will be motivated by prizes. “Reporters” might self-

⁵³ *The Year of the Paywall*, ECONOMIST (Jan. 5, 2010), <http://www.economist.com/node/15207305> (discussing the move of many online media outlets to charging for at least some access online). Aside from notable exceptions such as *The Wall Street Journal* and *Newsday*, most major online news sources are free, although many are contemplating charging user subscription fees. See *id.* *The New York Times*, for example, launched a paywall in 2011. See Sam Gustin, *New York Times Prepares Digital Paywall, Tiered Pricing*, WIRED (Jan. 24, 2011, 2:43 PM), <http://www.wired.com/epicenter/2011/01/times-paywall/>. The difficulty of collecting revenue through advertising has increased with the development of advertisement-blocking programs, which use technology to render online ads silent, invisible, or both. Although there has been relatively little litigation over the lawfulness of these content-blocking programs, the Ninth Circuit held that one such program is protected by the Communications Decency Act’s protection for “good Samaritan” blocking of offensive material. See *Zango, Inc. v. Kaspersky Lab, Inc.*, 568 F.3d 1169, 1173 (2009).

⁵⁴ *Int’l News Serv. v. Associated Press*, 248 U.S. 215, 242 (1918) (holding that publishers of hot news have something of a property right and a cause of action in the event of misappropriation by a competitor). Subsequently, a number of state courts adopted this rationale. See, e.g., *Barclays Capital Inc. v. Theflyonthewall.com*, 700 F. Supp. 2d 310, 332 (S.D.N.Y. 2010) (finding the defendant liable for misappropriation of hot news involving reproduction of financial advice and predictions published by plaintiff, and noting that “INS was adopted into state common law by several states”). For a fuller discussion of the failure of the classic news industry business model in the Internet era, see Deutsch, *supra* note 52, at 13 (proposing a federal “hot news misappropriation” tort because free riding virtually eliminates publishers’ ability to recoup costs through advertising).

⁵⁵ It may turn out that technological changes will mitigate the current unwillingness of customers to assent to paywalls, and news will be delivered to subscribers through applications on mobile devices, for example. See Samuel Axon, *Wikipedia Founder Says Apps, Not Paywalls, Could Save The News*, MASHABLE (Sept. 4, 2010), <http://mashable.com/2010/09/04/jimmy-wales-apps-news/> (suggesting that sales through mobile applications may obviate the need for conventional online paywalls); Charlie Sorrel, *Mac App Store Launches with Thousand Apps, Big Discounts*, WIRED (Jan. 6, 2011, 10:39 AM), <http://www.wired.com/gadgetlab/2011/01/mac-app-store-launches-with-1000-apps-big-discounts/> (describing Apple’s strategy for selling apps through a stand-alone portal built into its updated operating system).

identify and simply generate stories on their own, or perhaps intermediaries will filter submissions by certifying reporters or their outputs. Either way, compensation can come from nonprofit organizations or from the government itself. It is unlikely that these prizes or other payments could be determined by usage, in a manner suggested by the regulation of electric utilities, because costs are not proportional to use. Similarly, if subsidies for news sources were determined by popular vote, a source that reported Hollywood gossip would garner more support than one that took the trouble of traveling to war zones at considerable expense and risk.

Outright government support for news organizations or for individual reporters runs the risk of biasing the information the citizenry receives. The problem is simply a more acute version of that discussed in the context of science and defense budgets, where the level and even the allocation of public support will be influenced by interest groups and politicians. Still, the cost of maintaining a property rights system in the face of such low marginal costs is considerable, and the alternative of prizes, available in many forms, must not be too quickly discounted.

A reader who has been patient with the argument to this point will note the irony of the imagined evolutionary step. Digital information could plausibly spawn a more important role for prizes in motivating newsgatherers. This might match developments in the wake of patent law. Still, when a future observer looks back on the evolutionary path, that observer will be in a position to note an optimistic and a skeptical story. The optimistic one will see that prizes and other subsidies emerged and took the place of conventional property rights, as the commons proved more fertile than tragic. The skeptical one will observe that interest groups preferred prizes – as digital technology made monopoly property rights more difficult to exploit – and an increasing share of tax revenues from a dispersed public. From this perspective, the government is best understood as enjoying the ability to reward its friends and starve its detractors. There is, in short, a meta-story to be told, in which the two stories of the evolution of property rights continue to compete – or be jointly correct.

The prospect of extensive prizes for news reporting would seem less startling if our legal system had more experience with prizes for other copyrightable material, including books. Several legal systems have legislated modest prizes, or ex post rewards, for authors on the basis of readership estimates, and perhaps this model will become more important as electronic books come to dominate the market.⁵⁶ The logic of these prizes, or distribution of tax revenues, has been that publicly

⁵⁶ See Ernest A. Seemann, *A Look at the Public Lending Right*, 30 COPYRIGHT L. SYMP. 71, 104-05 (1983) (pointing to systems in Sweden and West Germany that award larger payments to authors whose books are read more frequently). The “public lending right” was introduced in the United Kingdom in 1979 and comes in different varieties elsewhere. Public Lending Right Act, 1979, c. 10 (Eng.); see also National Commission on the Public Lending of Books Act of 1983, S. 2192, 98th Cong. § 4(c)(ii) (1983). It has also been encouraged by a 1992 European Union directive. Council Directive 92/100, 1992 O.J. (L 346) 61-66 (EU).

supported libraries sometimes weaken an author's "right" of distribution.⁵⁷ The mandatory charge can be seen as a kind of exception – were it to be used in the United States – to the first sale doctrine, for it is under that doctrine that individuals and libraries are free to buy books and then resell or lend as they like.⁵⁸ The expansion imagined here is better understood not as a rebalancing of the first sale doctrine, but rather as a response to the declining marginal cost of copying. It should be emphasized that the discussion has now expanded from prizes for ideas to prizes as a substitute *and* supplement for intellectual property rights more generally. Newsgatherers, novelists, and inventors have in common the low marginal cost associated with incremental users. They come together in a discussion of intellectual property rights in the idea economy not because of any change in the idea-to-device or expression-to-facts ratio, but because the development of technologies that reduce the distribution costs of expressions and facts have made newspapers resemble many scientific discoveries in terms of cost structure.

CONCLUSION

The stage is set for an iPrize Revolution. All interest groups will like to be on the receiving end of prizes and property rights, but many will also prefer prizes over property rights, especially in industries where the digital age or foreign competition has made the property rights system dysfunctional. Indeed, I have suggested that private parties might on their own design prize systems to replace property rights. I have not insisted that this revolution is necessarily good or bad, just that it will involve significantly more interest-group activity. It is time to plan for a legal system that has less to do with property rights and more to do with contract design. In this system, the size of government will appear much larger than at present, though the configuration of property rights can, and will in retrospect, be understood as camouflaged spending and taxing decisions.

The law of intellectual property can be told as a heroic tale in which the standard of living in many parts of the world rose little for thousands of years when patents and copyrights were unknown, and then began to improve after 1800 when property rights rewarded innovators.⁵⁹ A more modest view of history would

⁵⁷ See Seemann, *supra* note 56, at 88 (“[L]ending activity of libraries . . . reduce[s] the sale of copies to the general public.”).

⁵⁸ R. Anthony Reese, *The First Sale Doctrine in the Era of Digital Networks*, 44 B.C. L. REV. 577, 580 (2003) (describing the background of the first sale doctrine and stating that “[u]sed bookstores, used [CD] stores, public libraries, and video rental stores all flourish in the shelter of the first sale doctrine”).

⁵⁹ See generally GREGORY CLARK, *A FAREWELL TO ALMS: A BRIEF ECONOMIC HISTORY OF THE WORLD 70* (2007). Tyler Cowen makes the provocative claim that this period of growth after the Industrial Revolution slowed or ended a generation ago, as the low-hanging fruit was fully picked. See TYLER COWEN, *THE GREAT STAGNATION: HOW AMERICA ATE ALL THE LOW-HANGING FRUIT OF MODERN HISTORY, GOT SICK, AND WILL (EVENTUALLY) FEEL BETTER* 9-10 (2011). This is not the place to quarrel with that conclusion, but it is likely that if prizes flourish, the catalyst may be the perception of stagnation with the implication that some shaking up is required.

describe other factors as bringing about Industrial and Agricultural Revolutions, with governments then encouraging further innovation with property rights. Legal systems limited the monopoly costs of these rights by requiring novelty, by limiting the terms of the rights, and so forth. An even more modest narrative would depict the industrial and agricultural revolutions, as well as the remarkable growth of governments and international trade, as changes that created interest groups that, in turn, generated intellectual and real property rights. The most sanguine of these stories must include the claim that abstract ideas did not need protection, or that such protection would do more harm than good. Under this view, a future economy that relies more on ideas might not need property rights as much as its predecessors did over the last two hundred years. On the one hand, interest-group pressures might interfere with this logical next step. On the other hand, prizes might satisfy potent interest groups and avoid some of the problems anticipated by the old distinction between ideas and devices. Prizes might also provide incentives where the marginal cost of distributing works is zero and where the enforcement of conventional intellectual property rights is difficult. In the same way that law might recapitulate its origins, treating software with as little property right protection as it did the first alphabet, so too might the idea economy reward its innovators with prizes of the sort found in the Age of Exploration.