

MODULATING INTELLECTUAL PROPERTY PROTECTION

Abraham Bell^α and Gideon Parchomovsky^β

ABSTRACT	2
INTRODUCTION.....	3
I. THE ONE-SIZE-FITS-ALL DESIGN OF THE INTELLECTUAL PROPERTY SYSTEM.....	9
A. UNIFORMITY AND ITS COSTS.....	9
1. <i>Anticompetitive Effects</i>	10
2. <i>Dispute Resolution Costs</i>	15
B. ARGUMENTS IN FAVOR OF UNIFORMITY	20
1. <i>Administrative Costs</i>	20
2. <i>Considerations of Political Economy</i>	21
3. <i>Information Costs</i>	22
II. A MODULAR SYSTEM OF INTELLECTUAL PROPERTY PROTECTION	24
A. THE MECHANICS OF MODULAR RIGHTS.....	25
B. PATENT	30

^α Professor, University of San Diego School of Law and Bar Ilan University Faculty of Law.

^β Robert G. Fuller, Jr. Professor of Law, University of Pennsylvania Law School and Professor, Bar Ilan University Faculty of Law. This Article greatly benefited from comments and criticisms from David Abrams, Adi Ayal, Shyam Balganes, Jordan Barry, Miriam Bitton, Matt Corriel, Shai Dotan, Don Dripps, Sharon Hannes, Paul Horton, Alon Klement, Bert Lazerow, Adi Libson, Orly Lobel, David McGowan, Adam Mosoff, Uri Nir, Jacob Nussim, Ariel Porat, Uriel Procaccia, Peter Siegelman, Endre Stavang, Alex Stein, Polk Wagner, Chris Wonnell, Assaf Yaacov, and Eyal Zamir, as well as from participants in a faculty workshop at the University of San Diego Law School, the 2013 annual conferences of the Israel Law and Economics Association and American Law and Economics Association, and the “Understanding Entrepreneurship” conference at Bar Ilan University. Outstanding research assistance was provided by Levi Morris.

Modulating Intellectual Property Protection

C. COPYRIGHT	33
D. OPTIMIZING PACKAGES.....	35
E. PRICING PACKAGES	37
III. IMPLICATIONS OF MODULAR INTELLECTUAL PROPERTY RIGHTS	38
A. INCENTIVES OF THE MODULAR SYSTEM.....	40
B. LITIGATION, “TROLLING” AND THE MODULAR SYSTEM.....	42
C. OTHER BENEFITS OF THE MODULAR SYSTEM	44
IV. POTENTIAL OBJECTIONS.....	46
A. ADMINISTRATIVE COSTS.....	46
B. PRIVATE ORDERING	47
C. TAILORING RIGHTS BY INDUSTRY	50
D. OWNERS’ INABILITY TO VALUE THEIR RIGHTS	52
CONCLUSION.....	54

ABSTRACT

Intellectual property systems all over the world are modeled on the one-size-fits-all principle. However important or unimportant, inventions and original works of authorship receive the same scope of protection, for the same period, backed by the same variety of legal remedies. Metaphorically speaking, all intellectual property is equal under the law. This equality comes at a heavy price. The equality principle gives all creators access to the same remedies, even when those remedies create perverse incentives. Moreover, society overpays for innovation by inflicting on society more monopoly losses than are strictly necessary to incentivize production.

In this Article, we propose a solution for these problems in the form of a modular system of intellectual property rights. The modular system would allow inventors and creators to self-select the optimal protection for their intellectual works. Working from the bottom up, our modular system would give each innovator a basic package of intellectual property rights and enforcement powers and then allow her to add additional rights and legal elements in exchange for a fee.

Modulating Intellectual Property Protection

Our modular system would reduce wasteful litigation while encouraging wider dissemination and more extensive use of inventions and expressive works. In addition, our proposal would lower the social cost of granting monopoly protection to intellectual goods while at the same time, maintaining an adequate level of economic incentives to create and invent. Accordingly, our modular system would constitute a marked improvement over the extant one-size-fits all design of intellectual property rights.

Unlike other proposals for reform that seek to improve access to expressive works and inventions via the use of compulsory licenses and other coercive policies, our model is purely voluntary. It respects authors' and inventors' autonomy and uses market mechanisms—specifically, pricing—to recalibrate our intellectual property system in a way that improves societal well-being.

INTRODUCTION

Intellectual property systems all over the world are modeled on the one-size-fits-all principle. To see this, consider the case of patent law. An invention that meets the patentability criteria is entitled to protection under the law of the law for a specified period.¹ Big inventions or small inventions; valuable inventions or worthless inventions — all receive the same scope of protection, for the same period and the same variety of legal remedies. Metaphorically speaking, all inventions are equal under the law.

While this approach is easy to administer, it generates two kinds of problems for the patent system. First, the equality principle gives all creators access to the same remedies, even when those remedies create perverse incentives. Scholarly literature has focused on the phenomenon of “patent trolls”—patent holders who have no interest in marketing or manufacturing their inventions, but simply wait for apparent breaches of the patent in order to sue.² While scholars have

¹ See *infra* Part I.A.

² See, e.g., Caroline Coker Coursey, *Battling the Patent Troll: Tips for Defending Patent Infringement Claims by Non-Manufacturing Patentees*, 33 AM. J. TRIAL ADVOC. 237, 238-40 (2009) (defining patent trolls); Matthew Fawcett & Jeremiah Chan, *March of the Trolls: Footsteps Getting Louder*, 13 INTELL. PROP. L. BULL. 1, 1 (2008) (lamenting a lack of legislation to deter patent trolls); Michael Abramowicz & John F. Duffy, *The Inducement Standard of Patentability*, 120 YALE

Modulating Intellectual Property Protection

characterized what they see as a problem of underproductive patents,³ we view the problem differently. Patent trolls essentially rely on the judicial system to create a more valuable means for selling their rights than can be found in the market. This is not intrinsically problematic, but the judicial system is not free. Society subsidizes judges, courtrooms and enforcement measures, while litigating parties bear only some of the costs themselves.⁴ In some cases, the societal subsidies encourage parties to conduct their transactions in the courtroom when the optimal forum is actually private market transactions. In many other cases, in part because the costs of litigation are asymmetric and must be paid in part even by prevailing parties, the threat of imposed litigation costs can force parties into inefficient transactions.⁵ At the same time, the market does not always succeed in allocating rights efficiently. Users and owners cannot always find one another, leading users to infringe, and owners to fail to exploit markets optimally. The one-size-fits-all principle greatly exacerbates these problems. For some creations, the statutory remedies encourage inefficient use of the legal system; in other cases, the remedies deter non-consensual use that would be optimal.

Second, the equality principle exacerbates the monopoly problem created by patents. Patent law grants legal protection in order to incentivize creation.⁶ Whatever the patent, the law offers a monopoly consisting of a specified set of rights over the invention for a fixed

L.J. 1590, (2011) (Defining patent trolls as “a nonpracticing entity that has contributed little technology but hopes to use patenting as a source of profit”).

³ For an excellent discussion, see Tom Ewing & Robin Feldman, *The Giants Among Us*, 2012 STAN. TECH. L. REV. 1.

⁴ See Brendan S. Maher, *The Civil Judicial Subsidy*, 85 IND. L.J. 1527, 1529-33 (2010) (proposing that justice system subsidization provides everyone with “court insurance”).

⁵ See, e.g., Robert D. Cooter & Daniel L. Rubinfeld, *Economic Analysis of Legal Disputes and Their Resolution*, 1067 J. ECON. LITERATURE 1067, 1076 (“[A]ny policy that increases litigation costs...will increase settlements.”); Owen M. Fiss, *Against Settlement*, 93 YALE L.J. 1073, 1075 (1984) (Discouraging settlements because “[c]onsent is often coerced; the bargain may be struck by someone without authority; the absence of a trial and judgment renders subsequent judicial involvement troublesome; and...justice may not be done.”).

⁶ See, e.g., Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources for Invention*, in *THE RATE AND DIRECTION OF INVENTIVE ACTIVITY: ECONOMIC AND SOCIAL FACTORS* 609 (1962). The same rationale also applies to copyright protection, see e.g., Robert M. Hurt & Robert M. Schuchman, *The Economic Rationale of Copyright*, 56 AM. ECON. REV. (PAPERS & PROC.) 421, 425 (1966) (“The general welfare will... be enhanced by enacting copyright legislation which encourages the creation and publication of manuscripts that otherwise would not have come into existence.”).

Modulating Intellectual Property Protection

period of time. The monopoly gives the inventor the opportunity to profit handsomely, but it also subjects society to all the costs of monopoly pricing. As documented in the economic literature, these costs include excessively high prices and artificially low production.⁷ Rewarding inventors with monopoly rights thus necessarily comes at a price. Society receives desirable innovation. But it pays the price of monopolistic inefficiencies. Because the same monopolistic protection is accorded to all inventions irrespectively of their value society often pays too high a price for innovation. Many inventors would have produced their innovative products and processes even if the reward were lower. The one-size-fits-all regime means that sometimes society overpays for innovation by inflicting on society more monopoly losses than are strictly necessary to incentivize production.

In this paper, we propose an alternative design for our patent system. Specifically, we argue that society would be better served by abolishing the extant one-size-fits-all approach to patent protection and adopting in its stead a modular system. In our vision, inventors would be offered a menu of options with varying degrees of protection terms, scopes and remedies. They would then be allowed to tailor the protection that best fits their needs. Importantly, the various options would be subject to differential pricing to reflect the cost society stands to incur from the choice of the inventor. An example can provide a helpful illustration of how our alternative regime would work. Basics Inc. is a medical device company that produces simple applications whose expected commercial life is 4 years. Basics Inc. has no use for a patent protection term of 20 years. Moreover, Basics Inc. has very little marketing capacity, and would have a much easier time if potential users were to search out Basics Inc., rather than Basics expending efforts to identify the users. Under our proposed regime, Basics would be allowed to purchase a protection term of four years. Furthermore, Basics would be given an option voluntarily to give up on injunctive relief and instead to confine itself to monetary damages if its patent were infringed. In exchange, Basics would pay a relatively low price for the protection it would receive.

Nano Tech Industries, by contrast, is in the business of developing complex medical instruments that require considerable expenditures on R&D and whose commercial life is much longer. Accordingly, Nano Tech would likely choose a protection design that closely resembles the current patent regime. Under our system, its

⁷ See *infra* Part I.A.1.

Modulating Intellectual Property Protection

wish would be granted. But at a higher price.

A differential patent system would yield several important advantages to society. First, and most importantly, it would cause patentees to take into account the cost they impose on society. While society should welcome innovation, there is no reason why we should pay an excessive price to get it. Under our proposal, inventors would be entrusted with the task of deciding the degree of protection they wish to receive but would be asked to pay for their preference. Voluntary relinquishment of protection, either in terms of time or in terms of scope, would result in social net gain as it would reduce the deadweight loss associated with patent protection. While this effect may be small per patent, in the aggregate, society would stand to receive the same level of innovation at a lower social cost.

Second, our modular system would have a salutary effect on the use of *granted* patents (those already in existence). Specifically, it would enhance societal welfare by increasing beneficial use of existing patents. Excessive protection of patents, together with inefficient use of the judicial system, increase the costs of transactions between patent holders and users, decrease efficient non-consensual use of granted patents, and increase the number of inefficient non-uses resulting from strategic holdups by patent owners and other bargaining failures.⁸ Our system would reduce all these undesirable effects of the patent system.

Third, and relatedly, differential protection would benefit *future innovators*. As several theorists have noted, the patent system involves a temporal tradeoff. The more protection that is given to existing patents, the higher the cost of future innovation that relies or incorporates current inventions.⁹ To a large extent, innovation is cumulative. This implies that many future inventors must either get licenses from future patentees or design around existing patents in order to produce their own inventions. Implementation of our proposal would help clear the path for, and lower the cost of, future innovation. We expect our system to yield patents with more limited

⁸ Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839, 865-68, 884-93 (1990) (discussing the holdup problem); Michael A. Heller & Rebecca S. Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research*, 280 SCI. 698 (1998) (same).

⁹ See e.g. Mark A. Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989, 990 (1997) (pointing out that too much intellectual property protection deters subsequent innovation as it “freeze[s] development at the first generation of products”). Roberto Mazzoleni & Richard R. Nelson, *The Benefits and Costs of Strong Patent Protection: A Contribution to the Current Debate*, 27 RES. POL’Y 273 (1998).

Modulating Intellectual Property Protection

scope that would also expire sooner (relative to the current regime). Consequently, follow-on innovators would incur lower costs in producing their inventions.

Finally, our system would reduce the judicial costs associated with adjudicating patent conflicts. Here, too, the reduction in the total number of patent rights would lower the number of infringement suits and correspondingly the resources society must allocate to this end.

Our modular approach does not end with patent law. We also demonstrate that our modular system of protection should also be extended to copyrights. Copyright protection is even more multi-dimensional than patent. In the case of copyrights, protection may be differentiated temporally by offering creators a menu of varying protection terms and substantive rights. For example, an author could waive her rights to exclusivity in copying and creating derivative works in appropriate cases, or conversely might settle for the right to demand attribution of authorship. Along the same dimension, she could cede her right to enforce against non-commercial users or against users who created a single copy of the work, but stopped short of distributing it. All these choices, of course, would be built into the pricing system. More copyright rights would be more expensive to obtain; fewer rights would be cheaper.

Some of the potential drawbacks of uniformity have been previously discussed by scholars, and we compare our proposal to two alternative approaches that may be found in the literature. The first is Dan Burk's and Mark Lemley's call to make patent law technology-specific.¹⁰ We show that our system would result in more nuanced and efficiency-enhancing outcome than which Burk and Lemley's system would yield. The reasons are that our system is based on the value of *individual* inventions in each and every technological sector, which clearly outperforms a one-size-fits-all industry-wide regime. In addition, our proposal is not susceptible to gaming, or legal arbitrage, as Burk and Lemley's system is. Under Burk and Lemley's proposal, inventors may, when possible, force their inventions into categories that offer them more protection. This risk does not arise under our system.

A second alternative approach is that of Michael Carroll.¹¹ While

¹⁰ Dan L. Burk & Mark A. Lemley, *Is Patent Law Technology-Specific?*, 17 BERKELEY TECH. L.J. 1155 (2002) [hereinafter Burk & Lemley, *Technology-Specific*]; Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575 (2003) [hereinafter Burk & Lemley, *Policy Levers*].

¹¹ Michael W. Carroll, *One for All: The Problem of Uniformity Cost in Intellectual Property Law*, 55 AM. U. L. REV. 845 (2006) [hereinafter Carroll, *One for All*]. See

Modulating Intellectual Property Protection

expressing reservations about the one-size-fits-all design of our intellectual property system, Carroll ultimately endorses it as a “second best solution.”¹² He posits that it is desirable to reduce uniformity costs, but he stops short of advancing a single coherent approach to the challenge of uniformity. Instead, he argues for the adoption of “flexible standards” and more generally, flexible thinking to “render formally defined uniform rights more pliable in application.”¹³ He advises that we rely on the practices developed in particular industries, such as the fashion industry, to guide us in the quest for a more nuanced system. Yet, Carroll himself openly admits, though, that the measures contemplated by him “are not a complete solution to the problem[.]”¹⁴ He also confesses that his framework is problematic from a practical standpoint. Hence, Carroll does not provide a comprehensive solution to the uniformity problem. Instead, he provides a list of factors to be considered by policymakers in evaluating possible approaches to the problem and some preliminary reflections as to possible directions they can weigh.¹⁵ We will show that our solution of self-tailoring largely avoids the concerns raised by Carroll. Furthermore, we demonstrate that it can be implemented in practice and that from a normative perspective, it would be lead to more nuanced and precise tailoring than the admittedly inchoate framework proffered by Carroll.

This article presents our argument in four parts. In Part I, we examine the motivations and mechanics of the extant intellectual property system, demonstrating the problems created by the one-size-fits-all approach. Part II presents our alternative proposal, showing how self-tailored modular rights can be easily implemented in patent, and copyright. Part III examines the incentive effects of our proposed modular approach, as well as some of the additional benefits of the modular approach. In this Part, we demonstrate the proposal’s likely effect of developing markets for intellectual property rights and reducing strategic but inefficient use of the judicial system. Finally, in Part IV, we explore four potential objections to our proposal, and elucidate why it is superior to such alternatives as technology-specific protection and contract-based modification of rights.

also Michael W. Carroll, *One Size Does Not Fit All: A Framework for Tailoring Intellectual Property Rights*, 70 OHIO ST. L.J. 1361 (2009) [hereinafter Carroll, *One Size*]; Michael W. Carroll, *Patent Injunctions and the Problem of Uniformity Cost*, 13 MICH. TELECOMM. & TECH. L. REV. 421 (2007).

¹² Carroll, *One Size*, *supra* note 11 at 1391.

¹³ *Id.* at 1366.

¹⁴ *Id.* at 1366.

¹⁵ *Id.* at 1366, 1406-1424.

Modulating Intellectual Property Protection

I. THE ONE-SIZE-FITS-ALL DESIGN OF THE INTELLECTUAL PROPERTY SYSTEM

A. Uniformity and its Costs

The patent and copyright subfields of intellectual property law, despite their many differences, share a common characteristic: their design is predicated on the one-size-fits-all principle. All patentable inventions enjoy the same scope of protection for a uniform period of time.¹⁶ Expressive works confer upon their authors the same bundle of rights for the same statutory duration.¹⁷

The approach adopted by Congress to allocate intellectual property protection has been to set threshold requirements for awarding protection and then grant equal *potential* protection to those who met them. The threshold requirements in patent law are represented by the criteria of novelty, usefulness and non-obviousness.¹⁸ Copyright law screens via the requirements of originality, fixation, and classifications of works as “works of authorship.”¹⁹

Once the threshold conditions are met, each body of law bestows an exclusive set of rights upon the owner of the intellectual asset.

¹⁶ See 35 U.S.C. § 154(a)(1) (2011) (“Every patent shall contain... a grant to the patentee, his heirs or assigns, of the right to exclude others from making, using, offering for sale, or selling the invention...and, if the invention is a process, of the right to exclude others from using, offering for sale...or selling throughout the United States”); *Id.* § 154(a)(2) (“[S]uch grant shall be for a term beginning on the date on which the patent issues and ending 20 years from the date on which the application for the patent was filed”).

¹⁷ The Copyright Act grants the rights to reproduce the copyrighted work, prepare derivative works, distribute copies, and perform and display the work in public. 17 U.S.C. § 106(1)-(5) (2011). See also 17 U.S.C. § 302(a) (2011) (“Copyright in a work created on or after January 1, 1978 subsists from its creation and...endures for a term consisting of the life of the author and 70 years after the author’s death.”). The Copyright Act does dictate some minor variations in rights, depending on the type of work. For instance, certain works of visual art are entitled to an additional set of “moral rights” concerning the work’s integrity and attribution of authorship. Other countries eschew many of the minor variations; in European copyright systems, for instance, *all* works receive moral rights protection. See Thomas F. Cotter, *Pragmatism, Economics, and the Droit Moral*, 76 N.C. L. REV. 1, 6-27 (1997) (summarizing the history of the droit moral in Europe and the United States).

¹⁸ 35 U.S.C. §§ 101-03 (2011).

¹⁹ See 17 U.S.C. § 102 (2011) (“Copyright protection subsists...in original works of authorship fixed in any tangible medium of expression”); see also Jane C. Ginsburg, *The Concept of Authorship in Comparative Copyright Law*, 52 DEPAUL L. REV 1063 (2003).

Modulating Intellectual Property Protection

Patent law confers upon inventors the rights to exclusivity in using, selling, offering for sale and importing the patented invention.²⁰ Copyright law bestows upon authors exclusivity in the rights to reproduce, adapt, distribute, publicly (or digitally) perform and publicly display the work.²¹

This one-size-fits-all approach comes at a real cost to society. Specifically, it forces society to pay an excessive price for the production of intellectual assets.

1. Anticompetitive Effects

It is well established in the economic and legal literature that the exclusivity of rights created by intellectual property protection leads to monopolistic pricing of intellectual goods.²² The very essence of intellectual property rights is to insulate their holders from competition by prohibiting direct copying (and other utilization) for a certain period of time. The justification for such monopoly protection is straightforward. Intellectual works are public goods that cannot be efficiently produced or sold in a market without legal protection.²³ If inventions are unprotected by the law, very few users will ever pay the inventor. Others will imitate the invention or cut a deal with an imitator. In the long run, the market price for rights in the invention will tend towards zero.²⁴ With no realistic chance of profits from an invention, potential creators will not invent new products. Legal monopoly protection is supposed to overcome this problem by giving creators a chance to earn a profit on their inventions during the period of the monopoly. Monopoly protection for the intellectual property rights is supposed to give inventors and authors the opportunity to recoup the fixed cost of inventorship and authorship, namely, the

²⁰ 35 U.S.C. § 154 (2011).

²¹ 17 U.S.C. § 106

²² See Rick Harbaugh & Rahul Khemka, *Does Copyright Enforcement Encourage Piracy?*, 58 J. INDUS. ECON. 306, 309-14 (2010) (examining the relationship between prices of copyrighted works and piracy); Michael A. Carrier, *Unraveling the Patent-Antitrust Paradox*, 150 U. PA. L. REV. 761, 772 (“[P]atent laws reward [invention] by promising the inventor the right to exploit the invention by excluding competitors or charging prices higher than its postinvention costs.”).

²³ Carrier, *supra* note 22, at 767.

²⁴ See HERBERT HOVENKAMP, MARK D. JANIS, & MARK A. LEMLEY, *IP AND ANTITRUST: AN ANALYSIS OF ANTITRUST PRINCIPLES APPLIED TO INTELLECTUAL PROPERTY LAW 2004 SUPPLEMENT 1-4* (2004) (“If we assume that it is nearly costless to distribute information to others...it will prove virtually impossible to charge for information over the intermediate run....”).

Modulating Intellectual Property Protection

initial cost of producing the goods.²⁵

However, the benefit bestowed upon inventors and authors distorts the price of the goods that have been produced, as well as the allocation of resources in society. Inventors and authors sell rights to their inventions and works at prices reflecting a monopoly rather than competitive market. Economic theory tells us that the monopolistic prices are higher than competitive prices, while the amount of the good that appears in a monopolistic market is lower than in the competitive market.²⁶

In addition, the earnings of the inventor or author during the monopoly period bear no relationship to the costs of production. A cheaply produced invention may yield enormous profits for the inventor during the period of monopoly protection. An expensively produced work of authorship may yield relatively meager profits. Although one's intuition might suggest otherwise, the former phenomenon is extremely problematic, while the latter need not bother us at all. Where an enormous investment yields only small earnings, the inventor will likely never make the investment and never create the invention. From a societal vantage point, this is the right result, since it makes no sense to invest in creating more than can be earned from the creation. However, where a small investment brings windfall profit, this is highly problematic. The state could have offered far less monopoly protection and still have induced the same inventiveness. If monopoly were costless, then the windfall for inventors would be unobjectionable. But monopoly comes at the cost of high prices and under-production. Overpaying for the invention places a serious cost on society.

Patents provide a clear illustration of the problem. Consider an agricultural company that patents a genetically enhanced wheat seed that is far more resistant to disease than a natural seed. By dint of the patent protection it secured, the company will enjoy a period of exclusivity of close to 20 years. In that period, the company will set a profit-maximizing price for the genetically modified seed that is higher than the competitive price.

Monopolistic pricing generates two effects. The first effect is distributive. It transfers resources from consumers to the monopolist.²⁷ In our example, farmers who wish to take advantage of

²⁵ SUZANNE SCOTCHMER, INNOVATION AND INCENTIVES 36 (2004).

²⁶ WILLIAM A. MCEACHERN, ECONOMICS: A CONTEMPORARY INTRODUCTION 215-16 (9th ed. 2012).

²⁷ See *id.* at 216 (“[T]he monopolist’s economic profit comes entirely from what

Modulating Intellectual Property Protection

the superior seed would have to pay a supra-competitive price to obtain it. If the monopolistic price of a bag of seeds is \$100, instead of a competitive price of \$80, it means that the monopolist becomes richer and the farmer poorer than they would be in a competitive market.

The second effect concerns allocative efficiency. Monopolistic pricing invariably generates a deadweight loss.²⁸ The deadweight loss arises from the fact that certain farmers value the product at more than the competitive price, but less than the monopolistic price. For instance, there are farmers who can extract \$90 of utility from a bag of seeds. They would gladly have purchased the goods for the competitive price of \$80, but will not pay the monopolistic price of \$100. When these farmers forego the use of the superior seeds, they eliminate \$10 of utility per bag that would have existed in the competitive market. Likewise, they eliminate the potential profit the seller would have earned on the sale in the competitive market. More generally, the forgone transactions impose a loss on both consumers and producers represented by the combined surplus the parties would have received in a competitive market.²⁹

The monopolistic losses of patented goods like farm seed are similar to the monopolistic losses created by copyright protection. Copyright protection confers upon authors a bundle of exclusive rights in order to motivate them to produce original expressive content.³⁰ The monopolistic distortions in the case of copyright protection may be more limited and more attenuated than in the case of patent law, but they are no less real. Most copyrighted works have close substitutes, which puts a check on the ability of copyright holders to secure monopolistic rents. For example, if the publisher of a book were to charge an excessively high price, readers might choose to buy different books. Indeed, in independent contributions, Christopher Yoo³¹ and Michael Abramowicz³² argued that the market for copyrighted works is best captured by the model of monopolistic competition—a market structure in which each product is unique but

was consumer surplus under perfect competition.”).

²⁸ *Id.*

²⁹ MASSIMO MOTTA, *COMPETITION POLICY: THEORY AND PRACTICE* 41-42 (2004).

³⁰ See, e.g., Sara K. Stadler, *Incentive and Expectations in Copyright*, 58 *HASTINGS L.J.* 433, 433-34 (describing the established field of thought for the incentives provided by copyrights) (2006).

³¹ Christopher S. Yoo, *Copyright and Product Differentiation*, 79 *N.Y.U. L. REV.* 212, 241 (2004).

³² Michael Abramowicz, *Industrial Organization and Copyright*, 46 *WM. & MARY L. REV.* 33 (2004).

Modulating Intellectual Property Protection

has close substitutes, with the problem being too little or too much variety among the products. Even so, scholars unanimously agree that copyright protection distorts efficiency.³³

It is noteworthy that Ian Ayres and Paul Klemperer³⁴ have demonstrated that each additional year of exclusivity comes at an increasing cost to society. The intuition behind this result is straightforward. Each year of future protection creates a smaller and smaller marginal increase in incentives to produce. Thus, the incentives to produce created by protection of years one through five are enormously greater than the incentives created by years seventy through seventy-five. The reason for this is a phenomenon known in economics as the time value of goods or money. This phenomenon is the economic version of the platitude “a bird in the hand is worth two in the bush.” Money or an asset in hand is far more valuable than money or an asset that will be obtained only in the future because present possession allows present enjoyment of utility.³⁵ The farther into the future one postpones possession, the more utility is lost over time. The net present value of \$1,000 to be obtained 120 years from now (the equivalent of the copyright protection term) is only \$2.87.³⁶ Extending the term of protection for intellectual property thus produces decreasing benefits the longer the term is extended. The deadweight loss, on the other hand, remains significant over time. Adding up the two effects, Ayres and Klemperer wrote that “[t]he last bit of monopoly pricing produces large amounts of deadweight loss for a relatively small amount of patentee profit.”³⁷ Furthermore, they admonished legal scholars for failing “to appreciate that unconstrained monopoly pricing is not a cost-justified means of rewarding patentees.”³⁸

³³ See, e.g., Giovanni B. Ramello, *Copyright and Antitrust Issues*, in THE ECONOMICS OF COPYRIGHT: DEVELOPMENTS IN RESEARCH AND ANALYSIS 118, 124 (Wendy J. Gordon & Richard Watt, eds.) (2003); Shyamkrishna Balganesh, *Foreseeability and Copyright Incentives*, 122 HARV. L.REV. 1569, 1578 (2009); Niva Elkin-Koren, *Copyright Policy and the Limits of Freedom of Contract*, 12 BERKELEY TECH. L.J. 93, 99 (1997).

³⁴ Ian Ayres & Paul Klemperer, *Limiting Patentees’ Market Power Without Reducing Innovation Incentives: The Perverse Benefits of Uncertainty and Non-Injunctive Remedies*, 97 MICH. L. REV. 985, 992 (1999).

³⁵ See TIMOTHY J. GALLAGHER & JOSEPH D. ANDREW, FINANCIAL MANAGEMENT: PRINCIPLES AND PRACTICE 190 (4th ed. 2007) (explaining why money has time value).

³⁶ The calculation assumes an interest of 5%. Naturally, a higher interest rate would further decrease the amount whereas a lower interest rate will increase it.

³⁷ Ayres & Klemperer, *supra* note 34, at 987.

³⁸ *Id.* at 987 (footnote omitted).

Modulating Intellectual Property Protection

Just as importantly, copyright protection also stunts the development of new technologies. The copyright system's doctrines of "secondary liability" permit suing technology and internet companies for bringing new technologies to market where the technologies potentially facilitate and abet copyright infringement.³⁹ As the Supreme Court acknowledged in *MGM v. Grokster*, "the more artistic protection is favored, the more technological innovation may be discouraged; the administration of copyright law is an exercise in managing the trade-off."⁴⁰ It is critical to understand that because technology providers can never know in advance whose rights their technology would infringe, they must secure permission from *all* copyright owners. Hence, they face the proverbial holdup problem,⁴¹ with each copyright owner having a veto power over the distribution of the technology.

It is therefore acknowledged that patent and copyright protection provide a second best solution. They incentivize production of intellectual assets only at the cost of restricting access and creating other societal losses. This tradeoff is well-known to economists and legal theorists, as well as to students.⁴²

The losses created by monopoly protection in patent and copyright are highlighted by comparison with trademark. Trademark law is not traditionally justified by reference to the incentive theory.⁴³

³⁹ 3 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 12.04(A) (2012).

⁴⁰ 545 U.S. 913, 928 (2005) (citing *Sony Corp. v. Universal City Studios*, 464 U.S. 417, 442 (1984)).

⁴¹ See e.g., Heller & Eisenberg, *supra* note 8; Mazzoleni & Nelson, *supra* note 9; Arti K. Rai, *Fostering Cumulative Innovation in the Biopharmaceutical Industry: The Role of Patents and Antitrust*, 16 BERKELEY TECH. L.J. 813 (2001); Arti Kaur Rai, *Regulating Scientific Research: Intellectual Property Rights and the Norms of Science*, 94 NW. U. L. REV. 77 (1999); Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting*, in 1 INNOVATION POLICY AND THE ECONOMY 119 (Adam B. Jaffe *et al.* eds., 2001); James Bessen, *Hold-up and Patent Licensing of Cumulative Innovations with Private Information* (Research on Innovation, Working Paper, 2002) (unpublished manuscript, available at <http://www.researchoninnovation.org/holdup.pdf>); and James Bessen & Eric Maskin, *Sequential Innovation, Patents, and Imitation* (MIT Dep't of Econ., Working Paper No. 00-01, 2000).

⁴² See, e.g., Balganes, *supra* note 33; Qianwei Fu, Note, *Eldred v. Ashcroft: Failure in Balancing Incentives and Access*, 38 U.C. DAVIS L. REV. 1755, 1758 (2005); Ian E. Novos & Michael Waldman, *The Effects of Increased Copyright Protection: An Analytical Approach*, J. POL. ECON. 236, 237 (1984).

⁴³ See Greg Lastowka, *Trademark's Daemons*, 48 HOUS. L. REV. 779, 781-82 (2011) (noting that consumer protection is the primary justification of trademark law, distinguishing it from copyright and patent law).

Modulating Intellectual Property Protection

The conventional economic justification of trademark protection is grounded in information costs. Trademarks economize on consumers' information costs by providing consumer with a low cost means for identifying the source of goods and services. This, in turn, provides businesses with an incentive to ensure the high quality of goods and services in order to create and lock in a loyal consumer base.⁴⁴ The contrast with copyright and patent protection is striking. Because investments in trademark pay off directly by lowering information costs for each consumer, the benefits to producers are based on advantages in the competitive market, rather than the creation of monopolies. Gone are the deadweight losses that accompany the exclusivity of copyright and patent rights. Whereas one-size-fits-all protection for trademark assures legal protection that matches the societal benefit of the protected information, one-size-fits-all protection in copyright and patent virtually guarantees unnecessary societal losses for many legal protections.

2. Dispute Resolution Costs

The second cost imposed by intellectual property protection on society concerns enforcement. The dilemma of how to enforce legal rights is familiar from other areas of the law. Thanks to Guido Calabresi and Douglas Melamed,⁴⁵ a vast scholarly literature addresses the question of when the law should support legal entitlements with injunctive relief (roughly equivalent to "property rule protection" in Calabresi and Melamed's terminology) and when it should offer only compensatory damages (roughly "liability rule protection" according to Calabresi and Melamed) upon breach of the entitlement.⁴⁶ The literature is highly influenced by transaction cost economics and it focuses on the possibility of private bargaining around legal entitlements.⁴⁷ For instance, when high transaction costs

⁴⁴ Robert G. Bone, *Hunting Goodwill: A History of the Concept of Goodwill in Trademark Law*, 86 B.U. L. REV. 547, 556-56 (2006).

⁴⁵ Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089 (1972).

⁴⁶ See, e.g., Ian Ayres & Eric Talley, *Solomonic Bargaining: Dividing a Legal Entitlement to Facilitate Coasian Trade*, 104 YALE L.J. 1027, 1031-32 (1995) (likening liability rules protection of intellectual property to a favorable Solomonic division); Wendy J. Gordon, *A Property Right in Self-Expression: Equality and Individualism in the Natural Law of Intellectual Property*, 102 YALE, L.J. 1533, 1573 (1993) (considering liability rule protection for intellectual property); F. Scott Kieff, *Property Rights and Property Rules for Commercializing Inventions*, 697, 732-36 (2001) (examining the benefits of a property rules regime for patent law).

⁴⁷ See, e.g., Duncan Kennedy, *Cost-Benefit Analysis of Entitlement Problems: A*

Modulating Intellectual Property Protection

combine with “sticky” entitlements, like injunctions, legal entitlements may end up being held by owners who do not value them as highly as potential transferees.

While enforcement questions are salient to all legal fields, enforcement is particularly problematic in intellectual property due to the law’s provision of the same expansive list of remedies to all intellectual property rights holders. The menu includes preliminary and temporary injunctions, actual damages, defendant’s profits, statutory damages and in certain cases, enhanced statutory damages and treble damages.⁴⁸ Certainly in some cases, one or more of these remedies is appropriate for enforcing intellectual property rights. But just as certainly, in some cases, the impressive array of remedial options is too much. The panoply of remedies may deter some kinds of optimal use of protected intellectual property rights, leaving potentially high-value users of the entitlement without a realistic possibility of enjoying the benefits of the intellectual property.

In some cases, two other factors may combine with the array of remedy options and lead patent and copyright holders to refrain from voluntarily transacting with the intellectual property owner to use the invention or expressive work. Instead, owners may rely on litigation foiling such use to generate revenue. These two factors that enhance the attractiveness of litigation as opposed to standard licensing are the vagueness of intellectual property rights and the high search costs for users.

The vagueness of intellectual property rights imposes a significant degree of uncertainty on third parties. Intellectual property law protects intellectual assets not only against direct infringements—i.e., cases involving exact replications of the intellectual asset—but also against indirect infringements—i.e., cases involving close approximations of intellectual assets.⁴⁹ The former type of protection may be termed “central protection” and the latter “peripheral protection.” Peripheral protection of intellectual assets makes it very difficult for third parties to discern the precise boundaries of intellectual assets. Unlike physical assets whose boundaries are readily identifiable, the outer contours of intellectual property assets are elusive and indeterminable *ex ante*. Doctrines such as pattern

Critique, 33 STAN. L. REV. 387, 392-93 (1981); Mark A. Lemley, *Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989, 1053-55 (1997); Henry E. Smith, *Property and Property Rules*, 79 N.Y.U. L. REV. 1719 (2004).

⁴⁸ 35 U.S.C. §§ 283-85 (2011); 17 U.S.C. §§ 502-505 (2011); 15 U.S.C. §§ 1114, 1115-17 (2011).

⁴⁹ Jeanne C. Fromer, *Claiming Intellectual Property*, 76 U. CHI. L. REV. 719 (2009).

Modulating Intellectual Property Protection

similarity in copyright law⁵⁰ and the doctrine of equivalents in patent law⁵¹ expose even the most diligent of users to the risk of potential legal liability.

Moreover, in many cases, it is unclear whether an intellectual product constitutes protectable intellectual property at all. Patent law requires registration of inventions as a prerequisite for legal protection, but registration of a patent does not actually guarantee that the invention is protected by law.⁵² The validity of intellectual property rights in a new invention may always be attacked in a court of law. This means that it is very difficult for potential users of an invention to know whether the work they wish to use enjoys any legal protection. Roughly half of all registered patents that are attacked in court are found, after the fact, to be invalid.⁵³ In some ways, the situation is even worse in the case of copyright. Copyright law does not require registration of the expression in order for the work to constitute intellectual property, and, in any event, registration does not guarantee that the claimed property is actually protectable under law.⁵⁴ It is often difficult for potential users of expressions to be certain that there is any intellectual property to infringe.

For users and creators of intellectual products, the vague standards mean that litigation over rights can be a roll of the dice. Not all users and creators are equally risk averse. Some creators are happy to take their chances, imposing high costs of risk on all potential risk averse users. This imposition of risk can constitute a substantial cost to society.

High search costs combine with vagueness to make enforcement

⁵⁰ See *Arnstein v. Porter*, 154 F.2d 424 (2d Cir. 1946) (establishing a copying analysis framework suggesting that increased access to a prior copyrighted work lowers the required similarity to find infringement).

⁵¹ Under the doctrine of equivalents, courts may find liability if the allegedly infringing device “performs substantially the same function in substantially the same way to obtain the same result.” *Graver Tank Mfg. Co. v. Linde Air Prods., Inc.*, 339 U.S. 605, 608 (1950) (quoting *Sanitary Refrigerator Co. v. Winters*, 280 U.S. 30, 42 (1929)).

⁵² See, e.g., 35 U.S.C. § 282(b)(2)-(3) (2011) (allowing defendants in patent infringement suits to pose invalidity of the patent as a defense).

⁵³ Carl Shapiro, *Patent System Reform: Economic Analysis and Critique*, 19 *BERKELEY TECH. L.J.* 1017, 1028 (2004).

⁵⁴ See, e.g., Robert D. Hadl, *Notice, Deposit and Registration*, 25 *BULL. COPYRIGHT SOC'Y U.S.A.* 218, 220 (1978) (“Registration, like deposit, is not a condition of copyright protection.”); Margreth Barrett, *Reconciling Fair Use and Trademark Use*, 28 *CARDOZO ARTS & ENT. L.J.* 1 (2010) (exploring the relationship among trademark use, registration, protection, and fair use, allowing defendants to use registered marks).

Modulating Intellectual Property Protection

even more costly for society. To begin with, the vagueness of intellectual property rights exposes users to high search costs. It bears emphasis, however, that the problem of search costs is distinct from the vagueness problem. In fact, the high search costs that attend intellectual property rights stem from several sources.

The problem is most acute in the context of copyright law where protection is not conditioned on registration and worse yet most works are not organized in a searchable database or even a central repository. Additionally, the search tools in the case of copyrighted works are relatively limited.⁵⁵ While one can search for combinations of words and even for musical compositions and recordings, a potential user will find it very difficult to design effective search algorithms for color combinations, compositions of dance steps or the design of useful articles. The search tools are even less effective if copyright protection inheres in the selection and arrangement of the constitutive expressive elements of the work.⁵⁶ Compounding the problem is the fact that legal copyright rights can be nested, meaning that a single expression may turn out to be subject to a several different intellectual property rights owned by several different parties, all of which must be collected in order to use the work.⁵⁷ For instance, a user's ability to broadcast a film may be subject not only to the rights of the owner of the copyright in the film, but also the rights of the owner of the novel on which the screenplay for the film was based.

The search costs are somewhat lower in the domain of patents. Patent protection arises from registration.⁵⁸ Consequently, we have a searchable repository of all applications. Furthermore, the search tools in this case are quite effective and they continue to improve.⁵⁹

⁵⁵ See generally U.S. COPYRIGHT OFFICE, CIRCULAR NO. 22 HOW TO INVESTIGATE THE COPYRIGHT STATUS OF A WORK (Jan. 2012).

⁵⁶ See *Feist Publications v. Rural Telephone Service*, 499 U.S. 340 (1991) (holding that the selection and arrangement of works consisting of otherwise unoriginal elements may still be protected).

⁵⁷ See H.R. REP. NO. 94-1476, at 61 (1974) ("These exclusive rights, which comprise the so-called 'bundle of rights' that is a copyright, are cumulative and may overlap in some cases."). See also 17 U.S.C. § 201 (2011) (recognizing the various types of copyright ownership and possibility of joint and collective ownership).

⁵⁸ The patent itself does not exist until it is vested to the inventor by the government. See 35 U.S.C. § 153 ("Patents shall be issued in the name of the United States of America"). Protection arises only after the issuance of this patent. *Id.* § 154 ("Every patent shall contain...a grant to the patentee, his heirs or assigns, of the right to exclude others from making, using, offering for sale, or selling the invention").

⁵⁹ See generally, PATENT SEARCHING: TOOLS AND TECHNIQUES (David Hunt, Long Nguyen & Matthew Rodgers eds. 2007); Dennis Crouch, *Google's Improved Patent*

Modulating Intellectual Property Protection

Notwithstanding these facts, the search costs in the area of patent law are far from negligible. The first cause for this is the sheer number of patents. It must be remembered that any patent *anywhere* in the world ought to be searched if one wishes to be sure that her acts do not constitute a patent infringement. Furthermore, it is necessary to search all preexisting literature. Volume, however, is not the only obstacle. Patent applications are notoriously difficult to parse.⁶⁰ The language of claims is generally vague. Claims also incorporate various terms of art and cross references, which renders the claims virtually incomprehensible to untrained readers. Surely, these obstacles can be overcome, but at a high cost.

As a result of the combined impact of an impressive array of remedial options, vagueness of rights, and high search costs for users, patent and copyright holders often find it profit-maximizing not to commercialize their inventions and expressive works and rely instead on litigation to generate revenue. This explains, in part, the emergence of so called patent and copyright trolls—or non-practicing entities in less colorful terms—that amass portfolios of intellectual property rights without ever intending to turn them into fully developed products subject to market transactions. The sheer volume of intellectual property remedies, combined with the vague content and scope of the rights, and the high search costs make conflicts over intellectual property rights more likely than disputes over other legal rights. The upshot is that intellectual property right holders rely on the court system at a disproportionate rate.

It is important to emphasize that part of the cost falls on the rest of society. The private cost of litigation does not equal the social cost.⁶¹ The operation of the legal system is partially subsidized by the public purse. Private litigants therefore have an incentive to utilize the legal system and thereby take advantage of the social subsidy. Thus, inefficient enforcement is costly to society both directly and indirectly. Uniformity of rules is an important component of the inefficiency of intellectual property enforcement.

Search, PatentlyO (august 14, 2012) available at <http://www.patentlyo.com/patent/2012/08/googles-improved-patent-search.html> <last visited February 14th, 2013>.

⁶⁰ See Edward D. Manzo, *How to Improve Patent Claim Interpretations*, 22 FED. CIR. B.J. 203, 203 (“Despite the crucial role that claim construction plays in patent litigation, our rules are still ill-defined and inconsistently applied, even by us[, the Federal Circuit].”) (quoting *Retractable Techs. Inc. v. Becton, Dickinson, and Co.*, 659 F.3d 1369, 1370 (Fed. Cir. 2011)).

⁶¹ See Steven Shavell, *The Fundamental Divergence Between the Private and Social Motive to Use the Legal System*, 26 J. LEG. STUD. 575 (1997).

Modulating Intellectual Property Protection

B. Arguments in Favor of Uniformity

Given the obvious costs of uniformity, why has the one-size-fits-all approach persisted for so long? A careful perusal of the literature reveals three principal arguments that support a one-size-fits-all intellectual property law: (a) administrative costs; (b) considerations of political economy; and (c) information costs. In this section, we address each of these arguments and assess the force of each. We conclude that that none of these justifications in its own right presents a compelling case against differential protection, nor do all of them combined.

1. Administrative Costs

The first and most intuitive argument in favor of having a uniform system of intellectual property protection is the relatively low cost of administering this model. Carroll argues that variation in available legal rights creates two types of costs that can be called “administrative.”⁶²

One type of administrative cost arises primarily at the stage when rights are transferred. Licensing and transfer agreements concerning intellectual property rights must necessarily be more detailed and precise as the variation in intellectual property rights grows. In the extreme case where intellectual property rights come in only one variety, drafting agreements should be relatively short and straightforward. As intellectual property owners acquire greater flexibility in tailoring their rights and transferring them, they must be more precise in delineating exactly what they wish to transfer. Drafting and policing agreements specifying many rights would presumably be more costly. Carroll concludes that this cost may be significant enough to foil the efficiency gains from tailored rights.⁶³ Stated otherwise, notwithstanding the inefficiencies of the one-size-fits-all model of intellectual property protection, its administrative cost savings are significant enough to make one-size-fits all preferable to the alternative of variable rights.

The other type of cost associated with administering variable rights, according to Carroll, concerns expected efforts by litigants to test the boundaries of the different variants of legal protection.⁶⁴ If different kinds of intellectual property rights benefit from different

⁶² Carroll, *One Size*, *supra* note 11, at 1396.

⁶³ *Id.* at 1399.

⁶⁴ *Id.* at 1425.

Modulating Intellectual Property Protection

levels of protection, rights owners will naturally attempt to game the system by characterizing their rights as the kind that enjoys greater protection, while potential users will try to game the system by recharacterizing the same rights as those enjoying less protection. Courts will have to expend efforts after the fact to determine the boundaries of the different rights, and legislators will have to do the same *ex ante*. Together, these efforts can impose substantial costs on society. A one-size-fits-all approach reduces these costs by reducing variability.

As we show in Parts II and IV, the concerns about administrative costs are significant and noteworthy, but they do not apply equally to all efforts to tailor rights.⁶⁵ It is possible, we argue, to relax significantly the one-size-fits-all principle without incurring large administrative costs. Indeed, we argue that our proposal would likely lower administrative costs.

2. Considerations of Political Economy

A different argument that is raised to support of uniformity in the intellectual property system focuses on political economy concerns. The argument from political economy is that adherence to a one-size-fits-all design requires a broad consensus as a prerequisite for changing our intellectual property system. Since all right-holders are affected by any change, alterations can only pass if they enjoy broad support from all relevant parties.⁶⁶

This argument does not withstand scrutiny. As a descriptive matter, it is an empirical claim that lacks supporting data. More abstractly, there are ample reasons to doubt that an empirical examination would support the claim. The argument implicitly assumes that the various interest groups that affect intellectual property policy wield approximately the same political clout. This assumption is not supported by reality. In fact, the world of intellectual property politics is characterized by very strong groups, such as pharmaceutical companies and big movie studios, that operate alongside much weaker groups, such as documentary film makers and small time musicians.⁶⁷ At least anecdotally, it is clear that strong

⁶⁵ See *infra* Section IV.A.

⁶⁶ Carroll, *One Size*, *supra* note 11 at 1398 (“[w]ith uniform patents or copyrights, legislative change must submit to what Tom Olson calls the ‘iron law of consensus,’ by which all industries affected by the law must agree for an amendment to pass through the many veto points in the legislative process.”) (footnote omitted).

⁶⁷ See Eric E. Johnson, *Calibrating Patent Lifetimes*, 22 SANTA CLARA COMPUTER & HIGH TECH. L.J. 269, 290 (2006) (describing the pharmaceutical industry as “one

Modulating Intellectual Property Protection

interest groups can secure the legislation they want without help from others.⁶⁸ It is doubtful that the current shape of intellectual property law reflects wide consensus, and there is little reason to believe that the various amendments to intellectual property that are adopted yearly reflect consensus.⁶⁹

Second, even if the premise of the political economy justification were correct as a descriptive matter, it is not clear why it would support a uniform intellectual property regime as a normative matter. Assume, *arguendo*, that every policy change in the intellectual property space required unanimous consent of right-holders. Such a regime would increase the veto power of holders of less valuable rights, and therefore increase the likelihood of “log-rolling.”⁷⁰ The reason for this is that under this regime, no change could pass unless all right-holders support it. However, since each right-holder has veto power over any imaginable change, she can hold out and threaten not to support the proposed change in order to extract rents from other right-holders who support the proposal. Importantly, the lobbying costs that attend political processes are considered a pure waste and society should strive to minimize them as much as possible. Hence, from a societal point a legal design that requires broad consensus is hardly one that should be endorsed, let alone celebrated.

3. Information Costs

A final justification for a one-size-fits-all design is rooted in information costs. The argument is simple. It posits that the mere existence of different kinds of rights raises information costs for third parties. This argument relies heavily on the work of scholars such as

of the most patent-advantaged industries); Niels Schaumann, *Copyright Class War*, 11 UCLA ENT. L. REV. 247, 270-71 (2004) (explaining how members of the music and movie industries came to a position of influence in copyright law).

⁶⁸ See FREE EXPRESSION POLICY PROJECT, “THE PROGRESS OF SCIENCE AND USEFUL ARTS”: WHY COPYRIGHT TODAY THREATENS INTELLECTUAL FREEDOM: A PUBLIC POLICY REPORT 15 (2003) (detailing the extensive lobbying by Disney to extend the length of copyrights with the Sonny Bono Law) available at <http://fepproject.org/policyreports/copyright2d.pdf>.

⁶⁹ See generally, Jessica Litman, *Copyright Legislation and Technological Change*, 68 ORE. L. REV. 275 (1989) (discussing the production of intellectual property legislation).

⁷⁰ For an example of the public choice literature asserting that an increase in the number of veto players increases log-rolling, see generally, Kenneth A. Shepsle & Barry R. Weingast, *The Institutional Foundations of Committee Power*, 81 AM. POL. SCI. REV. 85 (1987).

Modulating Intellectual Property Protection

Clarisa Long,⁷¹ and especially Thomas Merrill and Henry Smith.⁷² In an influential article, Merrill and Smith persuasively argued that there is an optimal standardization of property and intellectual property rights. The reason is that such rights are “*in rem*” rights that avail against the rest of the world. Consequently, third parties must educate themselves about the scope and content of such rights. The more variance there is, the greater the informational burden with which the public must contend. Hence, per Merrill and Smith, there ought to be a limit on the menu of property and intellectual property rights and, moreover, recognition of new rights should be reserved to the state; private parties should not have the power to create new property and intellectual property rights, as a matter of sound legal policy.⁷³

Merrill’s and Smith’s insight is powerful and important. Yet, it is not universally accepted.⁷⁴ Without rehearsing the scholarly debate, it is sufficient for our purposes to make two observations. First, while Merrill and Smith provide a *prima facie* argument for optimal standardization, they never demonstrate what optimal standardization is. Stated otherwise, they never attempt to identify where the optimality point lies. Instead, they construct a theoretical argument proving it would be socially undesirable to create an endless list of property and intellectual property rights and that there exists an optimal standardization standard. The article does not attempt to argue that the current enumeration of intellectual property rights is necessarily the optimal one. The authors remain agnostic on this subject.⁷⁵ Hence, while the problem of excessive information costs on third parties is one to take into account, it does not provide an adequate argument in favor of the status quo.

Second, and relatedly, in the domain of intellectual property rights there is already a great deal of experimentation carried out through private ordering. Patent and copyright law vest in right-holders a broad power to reconfigure the standard bundle of rights

⁷¹ Clarisa Long, *Information Costs in Patent and Copyright*, 90 VA. L. REV. 465 (2004).

⁷² Thomas W. Merrill & Henry E. Smith, *Optimal Standardization in the Law of Property: The Numerus Clausus Principle*, 110 YALE. L.J. 1 (2000).

⁷³ *Id.* at 26-34.

⁷⁴ See, e.g., Henry Hansmann & Reinier Kraakman, *Property, Contract, and Verification: The Numerus Clausus Problem and the Divisibility of Rights*, 31 J. LEGAL STUD. S373 (2002); Daphna Lewinsohn-Zamir, *The Objectivity of Well-Being and the Objects of Property Law*, 73 N.Y.U. L. REV. 1669, 1731 (2003).

⁷⁵ Merrill & Smith, *supra* note 72 at 4-5, 38-40.

Modulating Intellectual Property Protection

they receive through private licensing and other transactions.⁷⁶ Right-holders are at liberty to restrict their rights substantively (by giving away certain use permits, but not others), temporarily (by imposing time limits on licenses given to others) and geographically (by giving others use rights in certain geographic locations, but not others). At the same time, as we noted,⁷⁷ registration requirements in intellectual property law are quite limited. Hence, the information costs imposed by the current uniform design are quite significant. As we will explain,⁷⁸ our proposal can actually reduce information costs, both by limiting the scope of overall protection and by imposing formal requirements that would make it cheaper for third parties to verify the content of intellectual property rights.

II. A MODULAR SYSTEM OF INTELLECTUAL PROPERTY PROTECTION

In this Part, we propose a new direction for intellectual property protection. This Part provides the mechanics of our proposal; in the next Part, we examine more closely the incentives created by our proposed system and its overall effects. Since the basics of our proposed modular system are similar for patent and copyright, we begin by explaining those elements of our proposal that are common to these fields of intellectual property. We then proceed to elucidate how our proposed system would work more precisely for each of patent and copyright and finally return with some observations common to both fields of intellectual property law.

As a preliminary matter, it is important to explain that our system works on the assumption that intellectual property rights are granted solely in order to incentivize creation, and that society benefits by simultaneous incentivizing all cost-effective creation while paying the smallest possible price (particularly in terms of rights granted) that

⁷⁶ See e.g., See Robert P. Merges, *Contracting into Liability Rules: Intellectual Property Rights and Collective Rights Organizations*, 84 CAL. L. REV. 1293 (1996) (discussing how intellectual property holders reconfigure their rights in response to changing market conditions); Mark A. Lemley, *Contracting Around Liability Rules*, 100 CAL. L. REV. 463 (2012) (showing that the same dynamic can occur when intellectual property rights are protected by liability rules). For a general discussion of the phenomenon of reconfiguration of rights in property and intellectual property, see Abraham Bell & Gideon Parchomovsky, *Reconfiguring Property in Three Dimensions*, 75 U. CHI. L. REV. 1015 (2008).

⁷⁷ *Supra* Part I.A.2.

⁷⁸ *Infra* Part III.C.

Modulating Intellectual Property Protection

will successfully incentivize creation.⁷⁹ This view of intellectual property rights excludes the idea that there is anything *intrinsically* wrong with non-consensual use of intellectual property. We are concerned with protecting the exclusive rights of intellectual property owners only in order to assure that the creator realizes enough profit to justify her creative activity. As Shyamkrishna Balganesh wrote this expectation lies at the heart of the incentive theory of intellectual property: “creators [and inventors] are presumed to be rational utility maximizers and therefore capable of being induced to create by the prospect of controlling a future market for their yet-to-be-created works.”⁸⁰ Once this profit margin is reached, infringements do not bother us at all. This is a simplifying assumption. We can imagine a system of intellectual property that incorporates, alongside our proposal, other aims of society. For instance, we might imagine that society might wish to protect creators’ rights for reasons other than minimal necessary incentives for creation, and that the law might therefore offer additional protections for potential moral or other rights of creators. Our proposal would still be valuable in such an alternative system, since our proposed system is valuable in any case where incentivizing creation plays an important role in justifying intellectual property rights. However, our proposed system would have to be modified or added to in order to incorporate other motives of the intellectual property system.

A. The Mechanics of Modular Rights

The basic concept animating our modular system is that intellectual property rights should neither be automatic nor uniform. Our proposed system requires creators to buy their legal protection by paying a fee for their rights. At the time of mandatory registration, creators would be required to specify what package of legal protections they want for their creations—either the full package offered by the law, or smaller self-tailored packages, all the way down to a minimum package containing only a few rights for a short time,

⁷⁹ For discussions of the centrality of incentivizing creators to American copyright and patent law, see e.g., Jeanne C. Fromer, *Expressive Incentive in Intellectual Property*, 98 VA. L. REV. 1745, 1746 (2012) (noting that “[a]ccording to the dominant American theory of intellectual property, copyright and patent laws are premised on providing creators with just enough incentive to create”) (footnote omitted); WILLIAM M. LANDES & RICHARD A. POSNER, *THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW* 4-5 (2003) (same).

⁸⁰ Shyamkrishna Balganesh, *Foreseeability and Copyright Incentives*, 122 HARV. L. REV. 1569, 1973).

Modulating Intellectual Property Protection

enforceable only against direct infringers.⁸¹ The creator's choice of legal protection, in turn, would establish the fee that the creator would have to pay. Naturally, the size of the fee would depend on the amount of legal protection purchased. The minimum package of rights would be available for free, while the full package would cost the maximum fee.

In our modular system, the process would begin with the creator. The creator would need to estimate the value of the work and, as a consequence, the "price" of an infringement of her rights. The creator would have to specify this "price" upon registering her intellectual property right. The creator's chosen "price" of infringement would then serve as the basis for pricing legal protection as well as a key determinant in establishing the size of the fee the creator would have to pay for her legal rights. It is important to note that our system would not require the creator to pay this price upon registration. As we shall explain, the fee that the creator would eventually have to pay (not upon registration) would be calculated based on this price, but would not be identical to the price.

The next piece of the puzzle is deciding what legal protections should be available for purchase by the creator. To explain our proposal, it is necessary to take a step back and examine the components of extant intellectual property law. For simplicity's sake, let us begin by dividing the basic components of intellectual property protection into four basic categories. Under current law, the creator of a protected piece of intellectual property receives (1) an exclusive set of rights, (2) that can be enforced against certain classes of people, (3) for a specified period of time, (4) and that are backed by a particular set of remedies.

Extant law establishes the scope of all four of these elements in fixed amounts and automatically awards them to each new qualified item of intellectual property. For instance, when an author creates a new copyrightable work of authorship and properly fixes it in a tangible medium, she automatically receives the set of rights specified in copyright law (such as the right to reproduce, adapt, display and distribute)⁸² for a period fixed by law (generally for the life of the

⁸¹ In a similar vein, Shyamkrishna Balganesh proposed in the context of the adaptation right in copyright law, authors would only receive protection for foreseeable uses of their works, while unforeseeable ones would be unprotected. See *id.* Unlike us, however, professor Balganesh does not put a price on foreseeable uses, but rather allows authors to receive protection with respect to all foreseeable uses for free.

⁸² 17 U.S.C. § 106 (2011).

Modulating Intellectual Property Protection

author plus 70 years),⁸³ that is backed by a specified set of remedies (primarily rights to injunctive relief, statutory damage and compensatory damage, as well as potential criminal penalties),⁸⁴ and that can be enforced against direct infringers of the rights as well as “secondary infringers.”⁸⁵ Current law varies the package of legal protections slightly according to very broad categories of works. Architectural works, for instance, carry slightly different rights than do graphic works.⁸⁶ But such variations are beyond the control of the author. If author writes a novel, for instance, she cannot unilaterally change the package of rights; she cannot, for instance, establish at the outset that her rights will last only for 20 years, or that her rights will not be enforceable by statutory damages. At best, the author can offer to others licenses to undertake activities protected by the author’s exclusive rights. However, such licenses cannot permanently eliminate the copyright owner’s rights.⁸⁷

By contrast, in our proposal, upon creation of any item protected by intellectual property law, the creator would have to choose from a menu specifying terms of protection, protected rights, classes of potential infringers, and available remedies. We do not suggest eliminating current law. The list of terms, rights, classes of infringers and remedies in our proposed system would all be based on the current list of protections in the law. However, the creator would have to pay for each right, for each term of protection, for each class of infringer and for each available remedy. In our proposal, the creator’s ability to tailor her rights would apply to all four elements of intellectual property protection: rights, time, class of infringer and remedies. For instance, a novelist could buy the full set of rights offered by law for her novel: the exclusive rights to reproduce, adapt (i.e., prepare derivative works from the novel), distribute, perform and display.⁸⁸ Or she might waive the performance and display rights and buy only protection against reproduction, adaptation and distribution. Similarly she could purchase the full protection period of lifetime plus 70 years.⁸⁹ Or, in the alternative, she could purchase protection for

⁸³ *Id.* § 302(a).

⁸⁴ *Id.* §§ 502, 504, 506.

⁸⁵ See H.R. Rep. No. 94-1478 (recognizing the liability of contributory infringers of copyrights); *Sony Corp. of America v. Universal City Studios, Inc.* 464 U.S. 417 (1984).

⁸⁶ 17 U.S.C. § 120 (2011).

⁸⁷ See *id.* § 203(a)(5) (Making the author's right to terminate a license agreement inalienable).

⁸⁸ 17 U.S.C. § 106 (2011).

⁸⁹ *Id.* § 302(a).

Modulating Intellectual Property Protection

only 10 or 20 or 50 years. In a like vein, she could purchase the full set of extant protections of entitlement to injunctive relief, compensatory damages and statutory damages,⁹⁰ or she could waive the injunctive rights and purchase only the right to compensation. She could buy the right to sue all secondary infringers as well as primary infringers, or she could waive the right to sue contributory infringers or other secondary infringers.

How would the creator choose her package of legal protections? And why would she ever choose anything less than the maximum set of protections?

The answer can be found in the fees our system would require creators to pay for intellectual property rights in our proposal. Our proposed system would demand that creators pay a large fee that would vary according to two variables: the package of legal protections and the “price” of infringement as established by the creator.

We propose that the price for the full package of legal protections should be some fixed percentage of the “price” of infringement. For simplicity’s sake, in this Part, we assume that the fixed percentage would be set at 1% of the full “price.” That means that, in our proposal, creators could obtain a full set of rights for the full term of legal protection backed by the full set of legal remedies against all parties only in exchange for the payment of a fee equal to 1% of the price of an infringement. The creator could set any price of infringement she chooses, and the fee would then vary according to the fixed percentage established by law. A creator who believed her work to be extraordinarily valuable could specify an infringement price of \$100 million. The cost of this protection would be large; if she wanted the full set of legal rights, she would have to pay \$1 million for them. A creator who believed the value of the work to be low— for instance, only \$100 — but who still wished to obtain the full package of legal protection would pay a much smaller amount: only \$1 to obtain her rights.

Naturally, this system appears to incentivize owners to declare a low price of infringement in order to reduce the fees they would have to pay for legal protection. However our model would provide creators with a powerful incentive not to understate the price. In our proposal, the price of infringement would also set the cap for all future remedies the creator could receive. Thus, only a high price of infringement would allow the creator to realize substantial damage

⁹⁰ *Id.* §§ 502, 504, 506.

Modulating Intellectual Property Protection

awards.

In addition to permitting creators to specify a low price of infringement, our proposal would offer creators an additional way to reduce the fees they would have to pay for legal protection. Creators could choose less inclusive packages of legal protection, thereby reducing fees even for a high price of infringement. For instance, creators might choose shorter terms of protection, or smaller lists of rights, and have to pay only .2% or .5% of the “price” of infringement (i.e., only 20% or 50% of the fee for full protection). At the extreme case, each intellectual property right would enjoy a free set of protections. For instance, the minimum protection for a copyrighted work might be a five-year term protected by monetary relief only and good only against primary infringers. The fee for this minimal package would be 0% of the “price,” i.e., nothing. Thus, intellectual property would never be entirely unprotected. At the other extreme, the creator would get the entire package of rights available under current law, for the “full” fee (1% of the “price,” in our example).

Unlike current law, our proposed scheme would require registration of all covered intellectual property rights, even copyright. Rights would be considered invalid unless and until they were registered. The act of registration would be particularly important in our proposal because it would serve as the time when creators would have to select their package of legal protections and specify the price of infringement.

It is clear that, under our proposal, even for small packages of protected rights, fees might turn out to be quite substantial. Fortunately for the creator, our proposal would not require payment of the entire fee immediately upon registration of the intellectual property right (and selection of the package of legal protections). Rather, upon registration, the creator would pay a small amount reflecting the clerical costs of registering rights (for illustrative purposes, let’s imagine the amount at \$25). The remainder of the fee would only be paid by the creator at the moment she files her first infringement suit.

At this point, it is important to explain the precise relationship between the “price” of infringement and the remedies that would be available to owners of intellectual property. For monetary remedies, the relationship would be straightforward. The price of infringement would serve as a cap on the total monetary damages (compensatory and statutory) that could be realized by the intellectual property owner during the term of protection. Once the total damages reach the cap,

Modulating Intellectual Property Protection

the owner would no longer be able to obtain any monetary damages from future infringers. For instance, the novelist who had specified a \$100 million value for her novel (and who had paid a \$1 million fee to buy the full set of legal protections) would be able to collect damages from numerous potential infringers before reaching the cap. The novelist who valued her work at \$100 would likely reach the cap in the first successful lawsuit.

The relationship between the price of infringement and injunctive relief is more complicated. In our proposal, no matter what the price of infringement, as long as the total cap on damages had not yet been exceeded, creators of intellectual property works would be entitled to injunctive relief as under existing law. However, even after the issuance of the injunction, the potential user against whom the injunction was issued would be able to force the sale of a license effectively lifting the injunction. This means that under our proposal, courts would not issue unconditional injunctions. Instead, for any given injunction order, the court would issue an accompanying alternative order of permanent damages, which the defendant could pay as an alternative to continuing to obey the injunction.⁹¹ The “price of infringement” — or what remains of it after previous damages have partially exhausted the rights of the creator — would serve as the upper limit of the court order of permanent damages. If the cap had already been reached — i.e., if all the allowable damages under the “price of infringement” had already been paid due to previous lawsuits — no injunction could be issued by the court.

Statutory damages would also be available in our proposal, but they too would count against the damage cap established by the creator-specified “price of infringement.” Criminal sanctions against users would not be available at all.

B. Patent

Having explained the basics of our system of modular protection generally, we now explain the system in greater detail in relation to the sub-fields of patent and copyright. We begin with patent law.

Under current patent law in the United States, inventors can obtain legal protection for their inventions that are novel, non-obvious

⁹¹ The mechanism of permitting defendants to pay an award of “permanent damages” and thereby lift the injunction is well known in case law. *See, for example*, *Boomer v. Atlantic Cement Co.*, 26 N.Y.2d. 219 (N.Y. 1970) (conditioning an injunction on the nonpayment of permanent damages)..

Modulating Intellectual Property Protection

and useful, if the invention is of a patentable subject matter.⁹² Traditionally, the first inventor to create the invention obtained protection of the law.⁹³ Today, the United States has begun transitioning to a first-to-file system in which priority goes to the first inventor to register her invention rather than the first to invent it.⁹⁴ Either way, U.S. law has always required registration as a condition for patent protection.⁹⁵ Inventors must disclose their inventions to the Patent and Trademark Office in a patent application that enables others to replicate the invention.⁹⁶ Patent examiners at the P.T.O. can decide whether to accept or reject a patent application,⁹⁷ but the last word is reserved for the courts. If the P.T.O. rejects the patent application, the applicant has the right to administrative appeals as well as resort to courts of law.⁹⁸ Even if the P.T.O. approves the application and issues the patent, this is not the final word. Courts may always reject the patent after the fact as improvidently granted;⁹⁹ studies show that in patent litigation, the majority of patents awarded are ultimately rejected by the courts.¹⁰⁰

Patents convey to the owner the right to prevent manufacture, sale, offer for sale, use or importation of the protected invention by others.¹⁰¹ The patent rights endure for 20 years,¹⁰² with the exception of design patents; design patents receive only 14 years of protection.¹⁰³ Because patents grant only the negative right to prevent others' actions,¹⁰⁴ but not the affirmative right to use the invention, there may some cases where a patented invention is unusable by anyone for an extended time. For instance, a newly patented drug may lack approval by the Food and Drug Administration. In that case, non-patent holders cannot use the drug due to patent law, and the inventor

⁹² 35 U.S.C. §§ 102, 103.

⁹³ See MARGARETH BARRETT, *INTELLECTUAL PROPERTY* 40 (2008) ("Subsections 102(a), (e), and (g), taken together, demonstrate the general U.S. policy of reserving a patent for the first person to invent").

⁹⁴ Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 3, 125 Stat. 284, 285 (2011).

⁹⁵ 35 U.S.C. §§ 153, 154 (2011).

⁹⁶ *Id.* § 112.

⁹⁷ *Id.* § 131.

⁹⁸ *Id.* §§ 134, 141, 145.

⁹⁹ See 35 U.S.C. § 282 (2011) (listing invalidity of a patent as a defense in an infringement suit).

¹⁰⁰ Shapiro, *supra* note 53.

¹⁰¹ 35 U.S.C. § 154(a) (2011).

¹⁰² *Id.* § 154(b).

¹⁰³ *Id.* § 173.

¹⁰⁴ See *id.* § 154(a) (including "the right to exclude others from...using...the invention" (emphasis added)).

Modulating Intellectual Property Protection

cannot use the drug due to federal regulations related to drugs. Patent law makes some allowance for this, allowing owners of patents to extend the term of certain patents due to regulatory processes.¹⁰⁵

Patent law imposes secondary liability on two categories of people who have not directly infringed the patented rights: those who actively induce infringement¹⁰⁶ and those engage in contributory infringement by selling, importing, using or offering certain products that will be used by others to infringe.¹⁰⁷

The remedies imposed by law for patent infringement include injunctive relief,¹⁰⁸ actual damages,¹⁰⁹ defendant's profits,¹¹⁰ statutory damages¹¹¹ and sometimes enhanced statutory damages¹¹² and treble damages.¹¹³

Patent law thus provides ample room for modulated rights. As noted above, our candidates for packaging rights center on four categories: (1) the set of exclusive rights, (2) the classes of people against whom the rights may be enforced, (3) the period of time for which the rights can be enforced, and (4) the set of remedies backing the rights.¹¹⁴ We begin with the set of exclusive rights. Basically, patent law protects four different kinds of rights: manufacture, use, sale and import. For some kinds of inventions, the sale rights might be the most valuable, and for others the use rights. Each right can be sold separately and together as a package. For instance, inventors could take the full package of all four sets of rights, or a lesser package of, say, selling and importing only. The smallest packages would be any of the four rights standing alone.

The second set of options for tailoring packages of rights can be

¹⁰⁵ See 35 U.S.C. § 156(a)(4) (2011) (allowing term extensions for products "subject to a regulatory review period"); See also Karin L. Tyson, *The Role of the Patent and Trademark Office Under 35 U.S.C. Section 156*, 54 FOOD & DRUG L.J. 205 (1999) (detailing the extension process).

¹⁰⁶ 35 U.S.C. § 271(b) (2011).

¹⁰⁷ *Id.* § 271(c).

¹⁰⁸ *Id.* § 283.

¹⁰⁹ See *id.* § 284 (enabling courts to provide damages "adequate to compensate for the infringement").

¹¹⁰ See *id.* § 289 (allowing damages for defendant's profits in the case of design patent infringements only).

¹¹¹ 35 U.S.C. § 284 also provides that the court may provide damages of a reasonable royalty.

¹¹² 35 U.S.C. § 284 permits the court to award attorneys' fees should the patent holder already be entitled to damages.

¹¹³ 35 U.S.C. § 284 (2011).

¹¹⁴ *Supra* Part II.A.

Modulating Intellectual Property Protection

found in the targeted classes of people against whom rights can be enforced. The full package would allow suits against primary infringers, inducers and contributory infringers. The smaller packages would allow suits against only two or one of these classes of infringers.

The terms of protection provide the most readily tailored package of rights. Packages can vary from a minimum term (of, for example, a single year) to the maximum term of 20 years plus potential extensions. Smaller packages might be available year by year, or perhaps only in blocs of several years together. Additionally, packages might include or exclude the possibility of obtaining extensions due to regulatory activities.

The final set of options for packaging rights would center on available remedies. Here, all packages would be centered around an inventor-specified price of infringement that would cap damages. The full package would add to this the rights to injunctive relief (that would have to be subject to purchase by the infringer, as specified earlier), statutory damages, enhanced damages (such as treble damages) and profits. Lesser packages would waive one or more of these rights. The minimum package would provide relief only for actual damages up to the cap of the price of infringement.

C. Copyright

Copyright law protects original works of authorship that are fixed in a tangible medium.¹¹⁵ Authors obtain protection for their works the moment they fix them in a tangible medium.¹¹⁶ Authors do not need to register their works or otherwise notify the world of their creation. However, works cannot be infringed unless the infringer actually relies upon a protected work.¹¹⁷ Thus, if a user elsewhere in the country manages to reproduce the author's expression without having ever encountered the original, there is no infringement. As Judge Learned Hand observed, "if by some magic a man who had never

¹¹⁵ 17 U.S.C. § 102 (2011).

¹¹⁶ *See id.* ("Copyright protection *subsists*...in original works of authorship fixed in any tangible medium of expression" (emphasis added)). *See also* H.R. REP. NO. 94-1476, at 52 ("[T]he concept of fixation is important since it not only determines whether the provisions of the statute apply to a work, but it also represents the dividing line between common law and statutory protection.").

¹¹⁷ *See* PAUL K. SAINT-AMOUR, *THE COPYWRITERS: INTELLECTUAL PROPERTY AND THE LITERARY IMAGINATION* 7 (2003) ("Copyright does not even stipulate that 'original' works be different from preexisting ones, only that they be the products of creative exertion rather than outright copying.").

Modulating Intellectual Property Protection

known it were to compose anew Keats's Ode on a Grecian Urn, he would [himself] be an 'author,'"¹¹⁸ and he would not have infringed Keats' rights.

The owner of a copyright in a work has the exclusive right to reproduce, adapt, distribute, display and perform protected works.¹¹⁹ In addition to owners' rights, authors have a several rights that they retain even if they transfer ownership of the protected work. These include rights of attribution and integrity for works of visual art,¹²⁰ and the right to terminate transfers of ownership of any works.¹²¹ There are no general use rights protected by copyright, so an owner of a copy of protected work may use it in any way that does not abridge the specific exclusive rights of the owner or author.

Copyrighted works are protected for extremely long terms. Under current law, a new work is generally protected for the life of the author plus another 70 years,¹²² although for some types of works and authors, the term of protection is 95 or 120 years from publication or creation, respectively.¹²³

Although there is no statutory provision for secondary liability in copyright law, case law has established two kinds of secondary infringement: contributory and vicarious.¹²⁴ Many of the rules of secondary infringement are similar to those in patent law, and courts often draw from patent law in shaping copyright doctrines of secondary liability.¹²⁵

Copyright law provides for remedies including injunctive relief,¹²⁶ actual damages,¹²⁷ defendant's profits,¹²⁸ statutory

¹¹⁸ *Sheldon v. Metro-Goldwyn Pictures Corp.* 81 F.2d 49, 54 (2nd Cir. 1936).

¹¹⁹ 17 U.S.C. § 106 (2011).

¹²⁰ *Id.* § 106(a).

¹²¹ *Id.* §§ 203, 304.

¹²² *Id.* § 302(a).

¹²³ *Id.* §§ 302(a), (c).

¹²⁴ See Sverker K. Högger, *The Search for Intent-Based Doctrines of Secondary Liability in Copyright Law*, 106 COLUM. L. REV. 909, 914 (2006) ("Although the Copyright Act does not explicitly proscribe indirect copyright infringement, the federal courts have adopted two common law secondary-liability doctrines—vicarious liability and contributory infringement—from tort law.").

¹²⁵ The most important case in this regard is *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 420-21 (1984), in which the Supreme Court relied on the "staple article of commerce" in patent law to determine the secondary liability of technology providers for copyright infringements committed by users.

¹²⁶ 17 U.S.C. § 502.

¹²⁷ *Id.* § 504(a)(1).

¹²⁸ *Id.*

Modulating Intellectual Property Protection

damages¹²⁹ and sometimes enhanced statutory damages.¹³⁰ In order to benefit from statutory damages, owners must have registered copyright in the protected work within three months of first publication or prior to the infringement.¹³¹ In order to file any sort of suit, the owner must register the copyright at any time prior to the suit.

As with patent law, it is not difficult to contrive packages of rights that could be offered to copyright owners. There are eight basic kinds of exclusive rights granted to authors under copyright law, if one includes termination rights and the moral rights that attach to works of visual art: reproduction, adaptation, distribution, display, performance, termination, integrity and attribution. Each right could be sold separately and together as a package. Creators could purchase a full package of all six to eight rights (depending on whether the work is one of visual art), or lesser packages of as few as a single right. As with patent, packages could be tailored as well according to the targeted classes of people against whom rights can be enforced, from a full package allowing suits against primary infringers, vicarious infringers and contributory infringers to smaller packages allowing suits against only two or one of these classes. The packages associated with available remedies should be similar to those presented in the context of patent law, centered on a creator-specified price of infringement that would cap damages.

Given the extremely long duration of copyright protection, it is quite easy to draft different packages of terms of rights. The minimum package could be of a very short minimum term (perhaps only one year or five) to the maximum terms of 70 years plus life, 120 years from creation or 95 years from publication. Again, it should be possible to draft smaller packages by the length of term.

D. Optimizing Packages

Our proposed system has envisioned a great deal of modularity, allowing creators to vary their rights along four dimensions (legal rights, term of rights, targeted defendants and remedies) with little limitation. An alternative strategy would minimize the number of packages to a small set of popular configurations.

An example of this latter strategy is employed by the Creative Commons project. Creative Commons, an organization founded in

¹²⁹ *Id.* § 504(c).

¹³⁰ *Id.* § 504(d).

¹³¹ *Id.* § 412.

Modulating Intellectual Property Protection

2001 as part of movement to enhance the number of copyrightable works in the public domain,¹³² has released a number of model license agreements that owners of copyrighted works can use to waive some of their rights for the benefit of users. Creative Commons licenses are based on four modules, (Attribution, NonCommercial, ShareAlike and NoDerivatives) which consist of a set of restrictions on users.¹³³ For instance, one of the modules (NonCommercial) forbids commercial use of the works; another (Attribution) forbids use without attributing the work to the original owner.¹³⁴ The modules can be combined with one another and a waiver of the owners' other rights to produce a set of licenses allowing users to use the work in all but the manner forbidden by the modules. The theoretical result is sixteen possible licenses from which owners can choose,¹³⁵ although Creative Commons forces owners' hands on some of the modules and it therefore lists only six "major" licenses.¹³⁶

Obviously, the Creative Commons licenses do not exhaust all of the possible configurations of open licenses owners could potentially employ. Indeed, Creative Commons itself suggests to authors several other open licenses that have been developed by other groups.¹³⁷ The Creative Commons strategy for licenses thus sacrifices completeness for comprehension. Instead of offering copyright owners a full menu of licensing choices, Creative Commons focuses on sets of rights that it deems most likely to meet author's needs, and to advance Creative Commons' goal of increasing the number and quality of works available to the general public.

In designing the modular packages of rights, lawmakers will similarly have to choose between completeness and comprehension. Our proposal offers creators many choices, but it does not offer complete freedom. For instance, we envisage packages containing a

¹³² See <http://creativecommons.org/about/history>.

¹³³ Creative Commons provides an explanation of the licenses at <http://wiki.creativecommons.org/FAQ>.

¹³⁴ *Id.*

¹³⁵ There are sixteen (2^4) possible combinations of four module decisions.

¹³⁶ A current list of the major licenses is available at <http://creativecommons.org/licenses/>: Attribution, Attribution-ShareAlike, Attribution-NoDerivatives, Attribution-NonCommercial, Attribution-NonCommercial-ShareAlike, and Attribution-NonCommercial-NoDerivatives.

¹³⁷ See Creative Commons, Wikipedia available at http://en.wikipedia.org/wiki/Creative_Commons#cite_note-GNU_LGPL-20 ("For software, Creative Commons endorses three free licenses created by other institutions: the BSD License, the CC GNU LGPL license, and the CC GNU GPL.").

Modulating Intellectual Property Protection

right to exclusivity in use, or in creating derivative works. More precisely tailored packages could define particular kinds of uses and particular kinds of derivative works. At the same time, our proposal offers greater freedom to tailor than does the set of licenses suggested by Creative Commons. For instance, our packages include control over the number of protected years.

E. Pricing Packages

To this point, we have described the potential ways of dividing intellectual property rights into different packages that can be purchased by inventors and creators, but we have said little about how to price the different packages. In describing our proposal, we imagined a fee of 1% of the price of infringement, but this figure was merely illustrative. The figure demonstrates how our system could be operationalized in reality, in particular since it shows that even a relatively small charge can bring about an intellectual property system that differs dramatically from the one we know.

In setting the actual fee for intellectual property protection, policymakers will have to balance two competing policy concerns. On the one hand, the initial charge should be substantial enough to prompt producers of intellectual property works to take it into account when selecting how much protection to procure. For this reason, a token fee consisting of a tiny fraction of the damages cap would not do. If policymakers were to impose a .0001% charge, creators would not likely voluntarily relinquish any protection and we would find ourselves in a situation much like today. On the other hand, the charge cannot be too high, lest it substantially erode incentives to produce the work in the first place. For example, an imposition of a fee of as much as 20% of the total “price of infringement” would seriously disincentivize production of intellectual property, especially by risk-averse individuals and small firms. This result would be highly undesirable.

While theoretical considerations can guide us in the task of pricing different bundles, the question is ultimately empirical in its nature. The best way to set the different fees or charges to be assessed to users is to base them on empirical data. At present such data is missing. However—and we view this as another potential advantage of our proposal—implementation of our system would provide lawmakers with the data they need to set accurate fees that correspond to different levels of protection.

On top of its other advantages, the system we propose is

Modulating Intellectual Property Protection

information-forcing. Our system is based on creators selecting their legal protections from menus. One of the well-known virtues of menus is that they self-screen in a way that one-size-fits-protection cannot.¹³⁸ By offering intellectual property owners different bundles of protection and inviting them to choose among them, our system produces valuable information about the nature of the incentives necessary to underwrite production of intangible articles. This information can be used, in turn, to better price and tailor future menus without unduly diminishing incentives to create. Naturally, this would be achieved through a process of trial and error. Optimal pricing would not likely emerge instantaneously. Over time, though, through a process of periodic adjustments, the fees would approximate the price which strikes the right balance between the societal interest in incentivizing creativity and the interest in avoiding excessive protection.

III. IMPLICATIONS OF MODULAR INTELLECTUAL PROPERTY RIGHTS

Several important benefits emerge from the adoption of a modular intellectual property system that is designed from the bottom up with a charge for every additional increment of protection.

First, the modular system would force patentees and creators to take into account the cost they impose on society at large. It is true, of course, that a world without intellectual property protection would not sufficiently incentivize creation. Intellectual property laws today incentivize creation by granting them the right to enjoy exclusivity over many of the benefits that accrue to society.¹³⁹ However, current intellectual property laws also impose costs on society by creating monopoly protection over inventions and creations and potentially excessive litigation.¹⁴⁰ Extant intellectual property laws do not force inventors and creators to take account of these costs. Thus, the law today encourages creators to take advantage of rights that are both harmful to society and of greater scope than were necessary to incentivize creation. Our system would lead inventors and creators to

¹³⁸ See generally, Ian Ayres, *Menus Matter*, 73 U. CHI. L. REV. 3 (2006).

¹³⁹ See, e.g., U.S. CONST. art. I, §8 (giving the United States Congress the power to grant patents and copyrights in order to “promote the Progress of Science and useful Arts”); *Mazer v. Stein*, 347 U.S. 201, 219 (1954) (“The economic philosophy behind the clause empowering Congress to grant patents and copyrights is the conviction that encouragement of individual effort by personal gain is the best way to advance public welfare....”).

¹⁴⁰ *Supra* Part I.A.1.

Modulating Intellectual Property Protection

tailor their intellectual property protection to fit their needs and thus preserve incentives to create and innovate while lowering the anti-competitive effects stemming from intellectual property protection. While it is impossible to predict in the abstract the magnitude of this benefit per any given intellectual work, it is important to understand that in the aggregate the effect may be significant.

Second, modular protection would increase the use of *existing* works. The excessive protections offered by extant law primarily harm consumers, both by reducing access and by raising price.¹⁴¹ Our modular system leaves consumers in the same position only in the event that creators and inventors choose the full package of rights. But given the financial incentives, creators and inventors would often choose smaller packages of rights. And where the fees associated with modular protection lead creators to choose a smaller package of rights, consumers necessarily benefit. By reducing the scope of intellectual property protection, our modular system would ensure consumers quicker, broader and cheaper access to protected works. In this respect, our system can be thought of as generating the same effect as the creative commons movement, except much more effectively and on a much greater scale. The creative commons movement only applies to copyrighted works¹⁴² and relies solely on ideological or personal incentives. Our proposal, by contrast, also extends to patents and would employ monetary incentives in addition to ideological and personal ones. By lessening the overall amount of intellectual property protection our system would enhance the use of existing works, reduce the potential for holdups and misuse of rights, and ease the pressure on the courts.

Third, and just as importantly, the narrower scope of protection that would result from our modular system would create more elbow room for *future* creators and innovators. In the age of remix and follow-on innovation, inventors and creators are some of the most important consumers of protected intellectual property.¹⁴³ Greater consumer access to intellectual property means greater access, *inter alia*, for inventors and creators. The narrower scope of intellectual property rights that would be engendered by our modular system

¹⁴¹ *See id.*

¹⁴² Séverine Dusollier, *The Master's Tools v. The Mater's House: The Creative Commons v. Copyright*, 29 COLUM. J.L. & ARTS 271, 274 (“The main purpose of Creative Commons parallels that of the free software movement which seeks to use copyright to authorize, rather than inhibit, copying, distribution, modification and re-use of software and other copyrighted works.”).

¹⁴³ *See generally* LAWRENCE LESSIG, REMIX: MAKING ART AND COMMERCE THRIVE IN THE HYBRID ECONOMY (2008).

Modulating Intellectual Property Protection

would reduce the need to expend resources in order to secure permissions from pre-existing right-holders (or design around their protection) and enable follow-on innovators to focus their resources and attention on producing new intellectual property. In other words, our system has the potential to improve the terms of the temporal tradeoff implicated by intellectual property protection in favor of future creators without meaningfully weakening the production incentives for current copyright holders and patentees.

Finally, we expect modular protection to benefit the legal system by lowering the number of cases that go to court. The reduction in the total number of intellectual property rights should bring down the number of suits filed. Furthermore, we expect cases to be less complicated and time consuming on account of a drop in the number of rights asserted in every suit. The incentive effects of our modular system deserve further explication, and in the remainder of this Part, we discuss in greater detail the incentive effects generated by our system. We can already note, however, that the modular system should greatly reduce the inefficiencies of current litigation.

In the remainder of this Part, we look to the incentives created by modular protection, and then turn the spotlight onto the impact of our system on non-practicing right-holders, widely known in the literature as “trolls.” We wrap up by pointing to several additional benefits of our proposal.

A. Incentives of the Modular System

Our modular protection system aims to reduce protections claimed by authors and inventors while preserve, as much as possible, the existing law of intellectual property protection. Thus, our system does not fundamentally change the kinds of protections offered by intellectual property law or the kinds of intellectual property protected by law. Our system does not mandate any reductions in intellectual property protection, and it does not propose any new substantive barriers to obtaining protection. Rather, our modular system is based on changing monetary fees paid by creators as the price for the protections they select. The fees would guide creators who decide on their own how much protection they wish to secure for their inventions and expressive works.

The effect of our modular protection system on the world of intellectual property thus hinges on its effect on the incentives of creators. Our aim is a system that lowers the amount of protection offered by law while preserving incentives for creation. This aim can

Modulating Intellectual Property Protection

be met under our system if the fees paid by creators do not significantly undermine incentives to create, while they simultaneously deter creators from purchasing excessive levels of protection. Naturally, by conditioning protection on payment, albeit of a very small fee, our system runs a risk that on the margin some works would not be created. It is important to understand, however, that this risk is quite small, for two reasons. First, creators would still have the ability to reduce the fees they pay for intellectual property protection by purchasing only those rights from which they expected to profit most highly. This means it would be rare that the fee paid by creators would be so large as to push the creator past the margin where it is no longer valuable to create. Second, since creators would only have to pay the fee upon instituting an infringement suit, creators could limit their exposure to the risk of payment. If creators discovered that their intellectual property had turned out to be less profitable than hoped, they could essentially abandon their rights to sue, eliminating the need to ever pay the fee.

Because creators would only need to pay the fee at the point of registration, when the invention or work of authorship is already complete, the fees would only affect ex ante incentives to create to the extent they would be excessive in comparison with expected profit. However, at the moment of registration, creators would choose fees in line with the expected profit from the work, given the knowledge they would already have acquired during the period of developing the work. Because creators could choose their fees according to their level of confidence in the work and the range of remedies and time necessary to maximize profits, creators could limit the downside risk of fees, while maintaining the upside profit potential. Thus, it would only be in the rarest of cases that the risk of fees would deter potential creators.

Yet, while the modular system would preserve the basic incentive to create, it would alter many of the decisions of creators regarding how and when to pursue intellectual property rights. Aside from incentives in litigation (which we examine more closely in the next section), the most important impact on creators' incentives would concern the division of intellectual property rights among multiple creations or inventions. To understand this, consider the example of an author considering whether to release a two-volume work of fiction, or a single novel containing roughly the same story. Our modular system would provide the author with an incentive to divide fictional work into two parts rather than one. If she were to publish the fictional work in two separate volumes, she could pay for a

Modulating Intellectual Property Protection

smaller package of rights for the initial volume and test the market. If the first volume proved popular, the author could then pay for a larger set of rights (with a higher price of infringement) for the second work. If the first volume were unpopular, the author could avoid high expenditures on rights for the second volume. More generally, any time inventions or creations could be divided into several parts, creators might find it useful to divide the work so as to obtain pricing information to guide the choice of future selections of intellectual property rights.

There is no reason to believe that this sort of division of intellectual property works would be harmful. Indeed, the extensive practice of aggregating patent portfolios, and licensing entire portfolios rather than individual patents suggests that the division of creations into synergistic smaller parts can be quite salutary.¹⁴⁴

B. Litigation, “Trolling” and the Modular System

Our system of modular rights would greatly impact litigation over intellectual property rights. Two factors in particular would impact the incentives of intellectual property owners. First, our system would require intellectual property owners to pay a fee for their rights only upon their initial infringement action. This would greatly increase the marginal cost of the first infringement suit, and greatly disincentivize initial litigation. Second, our system would cap all damages at the price of infringement specified by the creator. This would lead intellectual property owners to tread carefully in filing lawsuits. Owners would certainly prefer to reach settlements or otherwise voluntarily sell or license rights in order to avoid reaching the cap. In addition, owners might well prefer to concentrate their law suits against a few large defendants rather than a large number of small defendants.

Let us begin with the impact on creators’ decisions on whether to sue infringers. In our model, litigation is essentially an option granted to creators of intellectual property. Holders of intellectual property rights might choose to exercise this option, but of course, they would not have to. The ability not to exercise the litigation would reduce the downside risk of having to pay a fee for a non-profitable creation or invention. At the same time, it would raise the marginal cost of the initial lawsuit. A patentee who purchased the right to seek damages of

¹⁴⁴ Cf. Gideon Parchomovsky & R. Polk Wagner, *Patent Portfolios*, 154 U. PA. L. REV. 1 (2005)

Modulating Intellectual Property Protection

up to \$1 million and who purchased a full package of rights would have to pay \$10,000 (1% of 1 million) upon filing the first infringement suit. The obligation to pay the \$10,000 would not be conditioned on the actual amount sought or that awarded by the court. Any suit for any amount would trigger payment. Thus, even if the amount requested by the patentee were only \$50,000 or even \$5,000, she would have to pay the full \$10,000 she had been assessed when she registered the patent.

When creators have not yet litigated their rights, they might turn a blind eye to trivial or small infringements. The reason is simple: it may not be worth their while to pay the full charge they were assessed (\$10,000 in our example) to collect a relatively small amount, say \$4,000 in damages. Of course, intellectual property owners could threaten to sue small-time infringers, but the threat would not be credible in most cases and the recipients of the threat would realize as much. However, the calculus would change dramatically if there were a large number of simultaneous small infringements. In that case, it would make sense for the right-holder to pay the charge and start suing. While each suit in isolation might not justify paying the enforcement charge, in aggregation the amount the intellectual property owner would expect to collect would justify payment. An interesting implication of this possibility is that small time infringers could never be sure that they could infringe with impunity. Their confidence in their immunity from suit would depend not only on the size of their own infringement, but also on whether the owner had previously sued (and paid the fee) as well as the number of like infringers—factors they do not control and may not be able to verify without incurring significant expenses.

Because initial lawsuits could turn out to be quite expensive, there might be cases where intellectual property owners would decide not to sue at all. Quite simply, after the owner has established a high price of infringement, it might turn out that no infringer is worth suing. However, while no suit had been filed, the theoretical possibility would remain that there may yet be a serious infringement that justifies paying the charge and suing. This scenario raises the possibility that the rights in many works would become “idle” for long periods of time. Owners would simply lay in wait for many years until a serious infringement occurs and would then sue for infringement. While this might appear quite problematic, closer examination shows that it is not.

Under current law, it is already possible for patent and copyright owners to wait for infringements, and then leap forth to sue. This

Modulating Intellectual Property Protection

strategy is potentially problematic for society for two reasons. First, right-holders might potentially eschew efficient bargaining in favor of litigation, because societal subsidies of the legal system may make litigation more lucrative for the individual right-holder, even as it is more expensive for society. Worse, right-holders may wait until their rivals make significant investments and only then sue for infringement. This creates the possibility of holdups. Our proposed system reduces the potential losses from these strategies both by ending the possibility of true injunctive relief and, more generally, by reducing the attractiveness of litigation. Under our system, there would be no real injunctive relief, which dramatically reduces potential hold ups. In our system, all injunctions could potentially be commuted to monetary relief and therefore could always be bought by defendants. At the same time, because our proposal would cap damages but not license fees, our proposal would create strong incentives for owners to avoid litigation. Thus, the incentives for owners to lay in wait would be considerably reduced.

This last point warrants further explication. As we noted, our system would cap all damages at the price of infringement specified by the creator. This would create a powerful incentive to reach license agreements in all cases, even after lawsuits were filed. So long as courts never issue damage judgments, owners could realize the price of infringement many times over. This strength, however, would also be a vulnerability. Because intellectual property owners would have such strong incentives to avoid court rulings, users' power in bargaining would be greatly enhanced. The end result would be that the creator's specified price would not only cap damages, it would also impact negotiations for consensual use.

Overall, we can estimate that our proposal would incentivize owners of intellectual property to litigate less, and to allow more use of protected intellectual property rights. In other words, our system would reduce artificial incentives for transferring intellectual property rights through litigation (which are subsidized), and likely increase the number of efficient uses of creations.

C. Other Benefits of the Modular System

The modular system we propose gives rise to two additional benefits. First, because our modular system would require owners to register their creations and their legal rights, potential users could more easily discern the legal protections that attach to any given work. This would be particularly valuable for copyright, which under

Modulating Intellectual Property Protection

current law protects works even without registration.¹⁴⁵ But even for patents, which must already be recorded under current law,¹⁴⁶ our modular system would be valuable since it would inform users not only of the nature of the invention, but also of the nature and duration of the rights the owner wishes to protect.

A second, and arguably more important, advantage of our system is that in many cases it would lead to shorter *de facto* protection term. Not only would our system incentivize creators to establish shorter terms of protection with fewer protected rights, it would also potentially end protection even before the end of the chosen term. Under our system, once an inventor or a creator reached her self-selected protection cap, she could no longer sue for infringement. For example, under our system, if Apple were to select a cap of \$1 billion for all the patents asserted in its recent lawsuit against Samsung,¹⁴⁷ and if a court of law were to find Samsung liable and ordered it to pay Apple \$1 billion in damages, subsequent infringers could use the relevant Apple patents without risking liability.

More generally, under our system, once a right-holder exhausts the monetary compensation to which she had been entitled based on her original purchase decision, the protection effectively lapses. This may seem an anomalous result, but it is not. The modular system requires creators to set the price of infringement at a price that gives sufficient incentives to the creators to produce intellectual property. Once the owner of the intellectual property right has realized this amount through litigation, there is no need to offer any further protection of the right. From the perspective of *ex ante* incentives, once an author or an inventor produces a work and self-selects the protection she desires to have, she essentially reveals that if she were to receive the compensation selected, it would have sufficed to prompt her to produce the work. No doubt, she would prefer to have the possibility of receiving a much greater award, if the legal system were to grant her this wish. But this is not a relevant consideration. So long as incentives to create are preserved, an efficiency standpoint

¹⁴⁵ Mandatory registration (together with all other formalities) was abolished in 1989 by the Berne Convention Implementation Act, Pub. L. No. 100-568, 102 Stat. 2853. For criticisms, see Pamela Samuelson, *Preliminary Thoughts on Copyright Reform*, 2007 UTAH L. REV. 551, 562-63 (2007) (rethinking the possibility of reintroducing formalities); Christopher Sprigman, *Reform(aliz)ing Copyright*, 57 STAN. L. REV. 485 (2004) (calling for the reintroduction of formalities albeit in a new form).

¹⁴⁶ 35 U.S.C. § 153.

¹⁴⁷ Apple Inc. v. Samsung Electronics Co. Ltd. et al. C 11-1846 & C 12-0630. (Aug. 25, 2012).

Modulating Intellectual Property Protection

demands that society strive to achieve the broadest possible dissemination and use of the work and the invention.

IV. POTENTIAL OBJECTIONS

In this part, we anticipate possible objections to our proposal and address them as best as we can. The challenges we foresee concern: (1) the administrative costs that would attend our proposal; (2) the arguable superiority of private ordering via market transactions as means for introducing differentiation among intellectual property rights; (3) the cognitive inability of inventors and authors to estimate the scope of protection they would need; and (4) the availability of an alternative system of tailored rights by industry rather than the choice of the creator.

A. Administrative Costs

The first objection that may be raised against our proposal is that it would significantly increase administrative costs relative to the current system. Our proposal would greatly multiply the variations of intellectual property rights, protections and remedies, necessitating a more complex system of data keeping. Patent and copyright offices all over the world would be required to handle a much richer menu of intellectual property bundles. Furthermore, they would have to ensure that they accurately recorded the precise scope of protection each creator or inventor required. Courts, as well, would have to investigate the precise scope of rights and remedies that attach to each item of intellectual property, and could no longer rely on broad categories as baselines.

While we do not deny that the implementation of our proposal would add complexity to the system, we believe that the administrative costs objection is not nearly as powerful as it may first appear. While implementation of our proposal would certainly add new intellectual property forms, it would not introduce any new parameters that do not exist at present. This means that our proposal would not require the employees of the Patent and Trademark Office or courts to learn new tasks. Nor would it require them to educate themselves about new substantive criteria. Furthermore, we expect our proposal would lower the overall amount of intellectual property rights. Hence, our proposal involves a tradeoff between complexity and quantity, with the former going up and the latter down.

Modulating Intellectual Property Protection

More importantly, the increase in complexity does not necessarily imply a corresponding rise in administrative costs. In fact, because self-registration is central to our system, it is unlikely there would be substantial new costs to administrative agencies. The patent and copyright offices would simply have to put together a list of protection variables. Creators and inventors would then be asked to select the variables they would like to have and once they have finalized the selection submit a form to the relevant office. Thereafter, intellectual property owners would be required by courts to produce a receipt showing they have paid for the rights as a procedural precondition for proceeding with the law suit. The creator/inventor would initiate payment at her convenience, and the patent and copyright office could easily calculate the required fee based on the information already within the system (the creator/inventor's selected price of infringement and package of protections).

At the same time, the reductions in expected litigation would likely reduce costs of administering law suits. And the wider scope of information available from central registries would reduce costs for potential users. Overall, we predict that our system would not substantially increase, and might even decrease the administrative costs of protecting intellectual property rights.

B. Private Ordering

The one-size-fits-all system of current copyright and patent law creates uniformity. However, critics might claim that this uniformity only exists *de jure*. *De facto*, there is a lot of variance. The law is just the starting point, not the end. As Robert Merges famously observed, a right-holder can settle for less protection than the law gives her.¹⁴⁸ Nothing forces her to take advantage of the full scope of protection granted to her by the law.

We do not disagree with this argument in principle. We concede that even under extant law, market transactions can lead to more narrowly- (or broadly-) tailored intellectual property rights. The best example of this phenomenon is the creative commons movement that has resulted in a voluntary relinquishment of rights by a multitude of copyright owners.¹⁴⁹ At its core, the creative commons movement offers creators an alternative menu of protection forms all of which

¹⁴⁸ Merges, *supra* note 76.

¹⁴⁹ See Michael W. Carroll, *Creative Commons and the New Intermediaries*, 2006 Mich St. L. Rev. 45, 47-49 (2006) (describing the structure of the creative commons movement).

Modulating Intellectual Property Protection

fall short of the high protection mark offered by the Copyright Act.¹⁵⁰ This is no accident: the creative commons set of protection defaults were designed in order to enable authors to give up a portion of their legal protection and thereby make more content available to users.¹⁵¹ Although there is some debate in the academic community as to the success of the creative commons movement,¹⁵² we tend to side with the champions of the movement. Yet, the success of the creative commons movement is perhaps the strongest data point that supports our proposal. Neither we nor the biggest supporters of the movement would argue that the movement has obviated the need for further reform, nor that it has made legislative intervention unnecessary.

There are several reasons for this. To begin with, extant law does not permit owners of intellectual property rights perfect freedom in waiving their rights. Copyright law provides two outstanding examples. The first involves “termination rights.” Authors of copyrighted expressions have the right to transfer ownership of their standard copyright rights (such as the right to copy), but authors also enjoy termination rights permitting the author to nullify the transfer within a statutorily specified window of time and recover ownership of the copyright rights.¹⁵³ The termination rights cannot be assigned or waived, meaning that even if the author contractually promises never to terminate her transfer, the transferee may still find the rights he acquired taken away by the author or her successors.¹⁵⁴ The second example involves what are known as “moral rights.” Moral rights in a copyrighted work include the right to “attribution” (the right, when works are displayed, to have the author properly identified)¹⁵⁵ and the right to “integrity” (the right to protect the proper form of works and to prevent their “mutilation”).¹⁵⁶ Federal copyright law establishes

¹⁵⁰ Creative Commons, About Us: “Some Rights Reserved”: Building a Layer of Reasonable Copyright, <http://creativecommons.org/about/licenses> (last visited February 14, 2013).

¹⁵¹ See *id.* at 48 (noting that Creative Commons offers copyright holders the option to dedicate their works to the public domain).

¹⁵² See, e.g., Zachary Katz, *Pitfalls of Open Licensing: An Analysis of Creative Commons Licensing*, 43 IDEA 391 (2006); Shu-Ling Chen, *To Surpass or Conform – What are Public Licenses For*, 2009 U. ILL. J.L. TECH. & POL’Y 107 (2009).

¹⁵³ 17 U.S.C. §§ 203, 304 (2011).

¹⁵⁴ See *id.* § 203(a)(5) (“Termination of the grant may be effected notwithstanding any agreement to the contrary, including an agreement to make a will or to make any future grant.”). See also Benjamin Melniker & Harvey D. Melniker, *Termination of Transfers and Licenses Under the New Copyright Act*, 22 N.Y. L. SCH. L. REV. 589 (1977) (summarizing the relevant history of the termination right).

¹⁵⁵ 17 U.S.C. § 106A(a)(1) (2011).

¹⁵⁶ *Id.* § 106A(a)(3).

Modulating Intellectual Property Protection

limited moral rights over works of visual art,¹⁵⁷ and state¹⁵⁸ and foreign¹⁵⁹ copyright law recognize a broader scope of moral rights and protected works. All the moral rights share the feature of being personal and inalienable.¹⁶⁰ Authors cannot waive or transfer their moral rights, and transferees can never acquire the right to disregard a legally protected right of attribution or integrity.

More broadly, the ability of the market to modulate intellectual property protection critically depends on the level of transaction costs in that market. If transaction costs are sufficiently low, we should expect to see a lot variance in the scope and content of rights. In the extreme, in a world without transaction costs, the initial legal specification of intellectual property rights would be of no consequence. In such a world, it would not be necessary for lawmakers to specify legal rights; this task would better be left for the market.¹⁶¹

In reality, though, the transaction costs that attend intellectual property rights are quite significant. As numerous scholars have pointed out, the domain of intellectual property rights exhibits high information costs, significant negotiation costs and non-trivial enforcement costs.¹⁶² Hence, ideally configured intellectual property

¹⁵⁷ See *id.* § 106A(a) (extending moral rights only to visual arts).

¹⁵⁸ See Dane S. Ciolino, *Moral Rights and Real Obligations: A Property Law Framework for the Protection of Authors' Moral Rights* 69 TUL. L. REV. 935, 952-55 (1995) (describing various state moral rights laws).

¹⁵⁹ See Cyrill P. Rigamonti, *Deconstructing Moral Rights*, 47 HARV. INT'L L.J. 353, 359-67 (summarizing the more-expansive moral rights regimes of Europe).

¹⁶⁰ The rights are personal in that they inhere in the author, not the work. See 35 U.S.C. § 106A(e)(2) (2011) ("Ownership of the [moral] rights conferred...with respect to a work of visual art is distinct from ownership of any copy of that work, or of a copyright or any exclusive right under a copyright in that work."). They are explicitly inalienable by statute as well. *Id.* § 106A(e)(1).

¹⁶¹ This is a feature of Ronald Coase's famous observation that the allocation of legal entitlements loses consequence in a world of zero transaction costs. See Ronald Coase, *The Problem of Social Cost*, 3 J. L. & ECON. 1 (1960).

¹⁶² See e.g., Landes & Posner, *supra* note 79 at 16 ("transaction costs tend to be high in the case of intellectual property even when there are only a few transactors, actual or potential, in the picture."); Dan L. Burk & Brett H. McDonnell, *The Goldilocks Hypothesis: Balancing Intellectual Property Rights at the Boundary of the Firm*, 2007 U. ILL. L. REV. 575, 613 (2007) (observing that "[g]iven that intellectual property rights have effects on transaction costs both within firms and between firms, it follows that any provision of property rights will have simultaneous effects within firms as well as between firms"); Jonathan M. Barnett, *Property As Process: How Innovation Markets Select Innovation Regimes*, 119 YALE L. J. 384, 407 (2009) (noting that "allocating entitlements over upstream innovations can generate transaction costs that in turn impede downstream innovations."); Michael J. Burstein, *Exchanging Information Without Intellectual*

Modulating Intellectual Property Protection

rights will not be produced by the market. The market for intellectual property is often characterized by overlapping claims, which create opportunities for hold ups and strategic bargaining.¹⁶³

In the real world, where transaction costs are a factor, legal defaults matter. A growing body of research shows that the initial specification of the default entitlements affects the willingness of their holders to transact over them.¹⁶⁴ Default rights, it turns out, are “sticky.” Once endowed with a legal entitlement, right-holders ascribe sufficient importance to the initial legal specification of their entitlement that they are reluctant to deviate from it even in the presence of low transaction costs.¹⁶⁵ Hence, if the law provides intellectual property holders with an expansive list of rights, they will tend to retain the rights they received and not give them up voluntarily. Contrarily, if the law were to provide owners with only a modest list of entitlements, they would tend to refrain from accruing more rights contractually.

The end result is that even if extant law permitted enough tailoring of rights — and it does not — it would still distort owners’ and users’ choices by setting default rights levels too high. Our modular approach reduces the magnitude of this distortion.

C. Tailoring Rights by Industry

In an influential article, Dan Burk and Mark Lemley sought to reform patent law by making it industry- or technology- specific.¹⁶⁶ Their proposal draws on the empirical observation that patent protection has differential effect on different industries.¹⁶⁷ For

Property, 91 TEX. L. REV. 227, 277 (2012) (challenging the conventional view that the dynamic benefits from intellectual property protection outweigh the static costs and pointing out that allocating entitlements over upstream innovations can generate transaction costs that in turn impede downstream innovations.”).

¹⁶³ See, e.g., Robert P. Merges, *Of Property Rules, Coase, and Intellectual Property*, 94 COLUM. L. REV. 2655, 2659 (noting the difficulty of valuation caused by overlapping rights, which erodes the possibility of Coasian bargaining).

¹⁶⁴ See, e.g., Russell Korobkin, *The Endowment Effect and Legal Analysis*, 97 NW. U. L. REV. 1227 (2003); Cass Sunstein, *Endogenous Preferences*, *Environmental Law*, 22 J. L. STUD. 220 (1993); Richard Thaler, *Toward a Positive Theory of Consumer Choice*, 1 J. ECON. BEHAV. & ORG. 39, 44 (1980) (coining the term “endowment effect” to describe this principle).

¹⁶⁵ Korobkin, *supra* note 164, at 1251-52.

¹⁶⁶ Burk & Lemley, *Technology-Specific*, *supra* note 10.

¹⁶⁷ *Id.* at 1156, 1158-1185; see also Dan L. Burk & Mark A. Lemley, *Biotechnology’s Uncertainty Principle*, in F. SCOTT KIEFF, *PERSPECTIVES ON PROPERTIES OF THE HUMAN GENOME PROJECT* 40-41 (2003) (explaining “different

Modulating Intellectual Property Protection

example, the pharmaceutical industry is heavily dependent on patent protection. Patents are a primary driver of innovation in the industry and pharmaceutical companies take full advantage of the protection afforded to them by the law.¹⁶⁸ The pharmaceutical industry is an outlier.¹⁶⁹ Firms in other technological sectors do not place the same significance on patent protection, and the average firm in most other industries does not need the full range of rights and powers which patent law offers. Burk and Lemley argue that differences in the utilization and importance of patent rights mean that notwithstanding its uniform legal design, patent law is varied in practice.¹⁷⁰ They claim that courts apply the doctrines of patent law differently based on the technological categories to which the patents belong. Burk and Lemley proceed to propose that patent protection adopt *de jure* what has already become the *de facto* practice. Patent law should be divided by industrial categories, with each industry receiving a different package of rights. Specifically, they discuss five different industries—chemistry, pharmaceuticals, biotechnology, semiconductors, and software—and suggest how lawmakers can utilize policy levers to tailor the protection based on the specific characteristics of each of the industries.¹⁷¹

We share Burk and Lemley’s belief that it would be socially advantageous to abandon the one-size-fits-all design of patent protection. We part ways as to the best method of achieving this goal. We believe that our model of modular model is superior to theirs for several reasons. It is important to understand that even if innovation in every industry shares certain important characteristics, there is also a lot of variance within industrial sectors. There is variance among inventions and variance among inventors. This means that any standard protection package would invariably miss on the margin. Some inventors would find the standard bundle insufficient, which means that certain inventions would not come about. For other

industries experience both innovation and the patent system in very different ways.”).

¹⁶⁸ See Richard Levin et al., *Appropriating the Returns from Industrial Research and Development*, Brookings Papers on Economic Activity, No. 3, 783 (1987); see also, C.T. TAYLOR AND Z.A. SILBERSTON, *THE ECONOMIC IMPACT OF THE PATENT SYSTEM: A STUDY OF THE BRITISH EXPERIENCE* (Cambridge University Press, 1973).

¹⁶⁹ Levin, et al., *supra* note 168.

¹⁷⁰ Burk & Lemley, *Technology-Specific*, *supra* note 10 at 1156 (noting that “[a]s a practical matter, it appears that while patent law is technology-neutral in theory, it is technology-specific in application”). For a similar claim about copyright law see generally Joseph Liu, *Regulatory Copyright*, 83 N.C. L. REV. 87, 105–06 (2004).

¹⁷¹ Burk & Lemley, *Technology-Specific*, *supra* note 10 at 1158-1185.

Modulating Intellectual Property Protection

inventors, the standard bundle would be too generous, leading to more monopoly protection than necessary to incentivize creation. The commonality of industries would reduce, but not eliminate these losses. Our proposal, by contrast, allows for individual tailoring by giving every inventor, author or business owner the power to decide the optimal protection they would be granted.

Second, Burk and Lemley's proposal, if implemented, would impose a heavy informational burden on lawmakers and, worse yet, would engender massive rent-seeking. At the same time, it would burden courts who would have to struggle after the fact to classify the industry to which an invention belongs. It is important to understand that the classification of the industrial world into sectors and categories per Burk and Lemley's proposal would likely give rise to serious disagreement. Every inventor could be expected to seek the most profitable protection. Increasing the number of recognized industrial classes would increase lawmakers' ability to tailor the law to more inventors. But there is a catch. As the number of industrial classes would grow, so too would the burdens increase on courts and lawmakers. Courts would have to police the boundaries of the industrial groups; lawmakers would have to fashion a specific package of protection for each group. The burdens would be especially acute in the copyright context, as the world of art may be divided into a very large number of communities or groups of creative authorship. Add to this the high cost of the political process that would be called upon to produce the underlying classification as well as the well-known problem that every categorization invites rigging—namely, actors who would try to move between categories based on their specific needs—and you end up with a very costly and burdensome system.

Our proposal, by comparison, avoids most of those costs. It is based on a mechanism of *ex ante* self-screening, eliminating the possibility of strategic recharacterizations of the nature of the invention, and greatly reducing the advantages of lobbying lawmakers for potential protection. Moreover, because our system permits each right-holder to tailor her individual protection, it does not run the risk of under- or over-protecting inventors and creators.

D. Owners' Inability to Value their Rights

A final argument that may be raised against our proposal focuses on the limited cognition of the agents that produce intellectual property. According to this argument, inventors, authors and maybe

Modulating Intellectual Property Protection

even businesses cannot be trusted to assess *ex ante* with any degree of accuracy the value of their intangible assets. Inventors, creators and businesses are likely, so the argument goes, to grossly over- and underestimate the value the market will ultimately place on their brainchildren. Hence, they would buy too little or too much protection.¹⁷²

This criticism simply misses the mark. It is true that the ability of creators to predict the future success of their work is important. According to the incentive theory that underlies our conception of intellectual property, potential creators will only invest in producing intellectual property if they expect to earn more from the creation than they will invest in producing it. Uncertainty about future profits certainly impacts creators' decisions. Because uncertain profits are less valuable than certain profits, creators will want greater property protection for their intellectual rights of uncertain value than they would demand for rights with a clearer stream of future income. Additionally, would-be-creators might erroneously undervalue a potential intellectual property right and decide to forgo the investment in creation altogether. But these problems are not affected in the least by our proposal. Our proposal does not increase or decrease the certainty of creators regarding the value of their creation. Both as things currently stand, and in our alternative proposal, creators will make their investment decisions before they know the ultimate value of their work. Whatever the limitations on their knowledge, creators will decide whether to create and what price to put on their creation *ex ante*. About as much as current law, our proposal assures creators that they can acquire a set of rights that will justify their work.

Ultimately, our proposal is interested in preserving the incentives to produce intangible assets while reducing the price to society. This incentive is based on *ex ante* estimations of value, rather than after-the-fact knowledge. Accordingly, an after-the-fact discovery that a creator has bought too much or too little protection is of no consequence to us, so long as she expected enough value to create. Our proposal preserves the incentive to create and that is enough.

We openly admit that our proposal does marginally affect incentives. If our proposal were adopted, creators of intellectual assets would need to pay more to receive the same protection they get free of charge today under the extant regime. This means both that the

¹⁷² See, e.g., Yariv Brauner, *Value in the Eye of the Beholder: The Valuation of Intangibles for Transfer Pricing Purposes*, 28 VA. TAX R. 79, 87-89 (explaining why it is so difficult to value intangible assets, specifically intellectual property).

Modulating Intellectual Property Protection

investment in any given creation would be larger and the maximum potential return smaller. However, these effects would only be felt at the margins: i.e., where the value of creations were expected to be extremely small, or the investment in the creation expected to be enormous. At these extremes, our proposal might diminish the total number of intellectual assets. It must be borne in mind, however, that this change is not necessarily welfare-diminishing. To see why, it is necessary to return to our starting point. As we noted, the more intellectual property protection is extended, the less valuable is the increase in incentives to create, while the losses to society remain quite significant.¹⁷³ Thus, the marginal loss in creativity by our proposal's minor effect on incentives is likely to be quite small in relation to the savings to society from the elimination of excess protection.

CONCLUSION

In this Article, we developed a modular design of intellectual property rights which would allow inventors and creators to self-select the optimal protection for their intellectual works. Our design works from the bottom up, by giving each right-holder a basic package of rights and enforcement powers and then allows her to add additional rights and legal elements, but in exchange for a fee. An important advantage of our proposal is that lowers the social cost of production and protection of intellectual goods. At the same time, it is capable of maintaining an adequate level of economic incentives to create and invent. Accordingly, the implementation of our proposal would constitute a marked improvement over the extant one-size-fits all design of intellectual property rights.

In an era in which technology is a key determinant of economic growth and information is an important driver of progress, our proposal carries a real promise for wider dissemination and more extensive use of inventions and expressive works. Unlike other proposals for reform that seek to improve access to expressive works and inventions via the use of compulsory licenses and other coercive policies, our model is purely voluntary. It respects authors' and inventors' autonomy and uses market mechanisms—specifically, pricing—to recalibrate our intellectual property system in a way that improves societal well-being.

¹⁷³ See Landes & Posner, *supra* note 79 at 21 (discussing the tradeoff involved in intellectual property protection).