
DESIGNING THE PUBLIC DOMAIN

Over the years, copyright and patent scholars have had an increasingly intense love affair with the public domain,¹ and for good reason — the public domain is said to be necessary for a “just and attractive” democratic culture,² for meaningful freedom of speech,³ and for the economically efficient production of information.⁴ Though each of these justifications counsels robust access to information, what kind of public domain we should have depends largely on why we want one in the first place. This Note argues that social science research on human motivation suggests that we make the public domain most efficient only by making it more liberal and more republican. In other words, the leading economic theory of the public domain, enriched by an understanding of pro-social motivation, is compatible with liberal and republican theories. This Note organizes research on pro-social motivation around the motivation-fostering effects of empowerment, community, and fairness. By incorporating these norms into the cultural architecture of the public domain, we can promote greater information production at less cost than by relying solely on the intellectual property system’s traditional tools of exclusion.

After an introduction to core concepts, Part I presents the three standard arguments in favor of a robust public domain. Part II describes recent social science research on human motivation, explains how this research should shape an understanding of incentives in the public domain, and organizes the myriad available policy levers into three intrinsic motivation-fostering strategies that shape the analysis in Part III. Relying on two case studies — one concerning patent va-

¹ See generally Anupam Chander & Madhavi Sunder, *The Romance of the Public Domain*, 92 CAL. L. REV. 1331 (2004) (describing and criticizing the “romance” of the public domain in intellectual property scholarship).

² William Fisher, *Theories of Intellectual Property*, in NEW ESSAYS IN THE LEGAL AND POLITICAL THEORY OF PROPERTY 168, 172 (Stephen R. Munzer ed., 2001) (advocating a “social-planning” theory of copyright, with obvious implications for a republican public domain); see also Jack M. Balkin, *Digital Speech and Democratic Culture: A Theory of Freedom of Expression for the Information Society*, 79 N.Y.U. L. REV. 1 (2004).

³ See Yochai Benkler, *Free as the Air to Common Use: First Amendment Constraints on Enclosure of the Public Domain*, 74 N.Y.U. L. REV. 354 (1999).

⁴ Economic defenses of the public domain as such are relatively uncommon. Instead, economic theories of intellectual property recommend a certain level of exclusive rights protection and a corresponding public domain, beyond which further enclosure would be inefficient. For important contributions to the economic analysis of intellectual property, see WILLIAM M. LANDES & RICHARD A. POSNER, *THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW* (2003); Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources for Invention*, in NAT’L BUREAU OF ECON. RESEARCH, *THE RATE AND DIRECTION OF INVENTIVE ACTIVITY: ECONOMIC AND SOCIAL FACTORS* 609 (1962); Harold Demsetz, *Information and Efficiency: Another Viewpoint*, 12 J.L. & ECON. 1 (1969).

lidity and the other copyright's fair use doctrine — that final Part argues that, given what we know about intrinsic motivation, the most efficient public domain is in many respects compatible with the most liberal or republican one.

I. DEFINING AND DEFENDING THE PUBLIC DOMAIN

A. *What Is the Public Domain?*

Definitions of the public domain are both contested⁵ and bound up in normative commitments.⁶ The recent trend, running from works by Professors Jessica Litman, Yochai Benkler, and James Boyle⁷ through those by Professors Anupam Chander and Madhavi Sunder,⁸ sees the public domain as “the range of uses of information that any person is privileged to make absent individualized facts that make a particular use by a particular person unprivileged.”⁹ If information is *not* protected by an exclusive right, or if a given use of otherwise protected information is privileged (through the fair use doctrine, for example¹⁰), then it is in the public domain.¹¹

⁵ See Chander & Sunder, *supra* note 1, at 1337–38 (surveying various definitions and providing one of their own); Christine D. Galbraith, *Remembering the Public Domain*, 84 DENV. U. L. REV. 135, 135 n.5 (2006). For a historical overview of the public domain, see Tyler T. Ochoa, *Origins and Meanings of the Public Domain*, 28 U. DAYTON L. REV. 215 (2003).

⁶ Some definitions are more obviously normative than others. See, e.g., David Lange, *Reimagining the Public Domain*, LAW & CONTEMP. PROBS., Winter/Spring 2003, at 463, 470 (describing the public domain as “a place like home, where, when you go there, they have to take you in and let you dance”); cf. ROBERT FROST, *The Death of the Hired Man*, in THE POETRY OF ROBERT FROST 34, 38 (Edward Conneruy Latham ed., 1969) (“Home is the place where, when you have to go there, / They have to take you in.”).

⁷ See Benkler, *supra* note 3, at 362; James Boyle, *The Second Enclosure Movement and the Construction of the Public Domain*, LAW & CONTEMP. PROBS., Winter/Spring 2003, at 33, 61–68; Jessica Litman, *The Public Domain*, 39 EMORY L.J. 965, 976 (1990) (including “works not subject to copyright” and the “aspects of copyrighted works that copyright does not protect” in definition of the public domain). Some believe that there are multiple “public domains,” which complicates matters. See, e.g., Boyle, *supra*, at 58–62; Pamela Samuelson, *Enriching Discourse on Public Domains*, 55 DUKE L.J. 783 (2006). This Note addresses such a possibility *infra* p. 1510.

⁸ See Chander & Sunder, *supra* note 1.

⁹ Benkler, *supra* note 3, at 362. This definition is not universally accepted in its particulars, but it is standard in its inclusion of both uncopyrighted works and privileged uses of copyrighted works. Part of the appeal of the definition is that both those who vigorously support the public domain, such as Boyle and Benkler, and those who question it, such as Chander and Sunder, seem to endorse the definition. See *id.*; see also sources cited *supra* notes 7–8.

¹⁰ See 17 U.S.C. § 107 (2006).

¹¹ One question left open by this definition is whether uses that are permitted to anyone *for a fee* ought to be considered part of the public domain. Compare Chander & Sunder, *supra* note 1, at 1338 (including use “for nominal sums” in definition of the public domain), with Lawrence Lessig, *Re-crafting a Public Domain*, 18 YALE J.L. & HUMAN. 56, 57 (2006) (explaining that the public domain is “free” in that “[n]o one is paid for its use”). This Note takes no position on this debate.

This abstract, “crumbs theory” definition¹² is supplemented with metaphor in practice to signal the normative relevance of the public domain.¹³ Environmental or space-based metaphors, such as a “commons” in danger of “enclosure,”¹⁴ are most common, and they are complemented by Professor Lawrence Lessig’s vision of “free culture.”¹⁵ Such metaphors and narratives make the problems of the public domain cognizable.¹⁶ But if the public domain is nothing more than the holes in the intellectual property system, why reify it with theory and metaphor?¹⁷ Boyle provides one answer: “language matters.”¹⁸ He argues that just as an atomistic approach to land use problems can isolate diffuse concerns but obscure the salience of “the environment,” so too can a property-centered approach to information “make the public domain disappear”¹⁹ from public consciousness. This is particularly so when “well-organized groups with stable, substantial and well-identified interests face off against diffuse groups with high information costs whose interests, while enormous in the aggregate, are individually small.”²⁰ In the absence of a compelling core story of access to raw materials for information production,²¹ well-organized interests like the pharmaceutical and recording industries could more easily speed the trend toward increased exclusion.

This combination of metaphor and formal definition constructs the public domain as an “institutional space, where human agents can act free of the particular constraints [such as property rights] required for markets, and where they have some degree of confidence that the resources they need for their plans will be available to them.”²²

¹² The “crumbs theory” description refers to the crumbs left over after the intellectual property system has claimed all of the proprietary uses of information goods. See Chander & Sunder, *supra* note 1, at 1337.

¹³ The metaphor helps signal to the moral apparatus that there is a moral “situation.” See LAWRENCE A. BLUM, *MORAL PERCEPTION AND PARTICULARITY* 42 (1994).

¹⁴ See generally Benkler, *supra* note 3; Boyle, *supra* note 7.

¹⁵ See LAWRENCE LESSIG, *FREE CULTURE: HOW BIG MEDIA USES TECHNOLOGY AND THE LAW TO LOCK DOWN CULTURE AND CONTROL CREATIVITY* (2004).

¹⁶ Cf. Roger J.H. King, *Narrative, Imagination, and the Search for Intelligibility in Environmental Ethics*, 4 *ETHICS & ENV'T* 23 (1999) (arguing that environmental ethical theories, to be cognizable, must be contextualized with narrative and metaphor).

¹⁷ See Edward Samuels, *The Public Domain in Copyright Law*, 41 *J. COPYRIGHT SOC'Y U.S.A.* 137, 150 (1993).

¹⁸ Boyle, *supra* note 7, at 70 (emphasis omitted).

¹⁹ *Id.* at 71.

²⁰ *Id.* at 72.

²¹ Regarding core stories, see Linda Hamilton Krieger, *The Content of Our Categories: A Cognitive Bias Approach to Discrimination and Equal Employment Opportunity*, 47 *STAN. L. REV.* 1161, 1166–67 (1995). For a more general discussion of narrative in law, see ANTHONY G. AMSTERDAM & JEROME BRUNER, *MINDING THE LAW* 110–42 (2000).

²² YOCHAI BENKLER, *THE WEALTH OF NETWORKS* 144 (2006). Professor Niva Elkin-Koren adds a helpful discursive element to this account, arguing that “social dialogue” in the public domain is a “meaning-making process[]” in which “[v]arious social agents are engaged in an on-

B. Three Arguments for a Robust Public Domain

This section addresses three standard arguments for a robust public domain: the economic, the liberal, and the republican.²³

1. *The Economic Argument.* — Economic theory dominates mainstream accounts of intellectual property in the United States but is less salient in defenses of the public domain as such.²⁴ The standard economic argument for exclusive rights in information proceeds as follows. Information is a public good: it is nonrival (the marginal cost of its production is zero) and nonexcludable (without legal intervention, anyone given access to information “has” it).²⁵ Nonrivalry implies that, in a competitive market, information would be priced at its marginal cost of zero,²⁶ and zero is therefore the efficient price.²⁷ But if

going process of constructing the meaning of symbols.” Niva Elkin-Koren, *Cyberlaw and Social Change: A Democratic Approach to Copyright Law in Cyberspace*, 14 CARDOZO ARTS & ENT. L.J. 215, 232 (1996) [hereinafter Elkin-Koren, *Cyberlaw and Social Change*]; see also Niva Elkin-Koren, *Copyright Law and Social Dialogue on the Information Superhighway: The Case Against Copyright Liability of Bulletin Board Operators*, 13 CARDOZO ARTS & ENT. L.J. 345 (1995) [hereinafter Elkin-Koren, *Copyright Law and Social Dialogue*].

²³ The simple conceptual geography here belies some complexity, since the conversation about the public domain is fractured, and much of the important work in support of the public domain comes in the form of arguments against the broadening of exclusive rights in information. The first major contributions to the public domain discussion were David Lange, *Recognizing the Public Domain*, LAW & CONTEMP. PROBS., Autumn 1981, at 147, and Litman, *supra* note 7, with a proliferation since the 1990s in works such as those cited *supra* notes 1–7. Emblematic of the recent focus on the public domain is the “free culture” movement. See LESSIG, *supra* note 15; see also Freeculture.org—Students for Free Culture, <http://freeculture.org/> (last visited Feb. 8, 2009).

²⁴ There is some support for the public domain as such at the fringes of the economic discussion. See, e.g., LANDES & POSNER, *supra* note 4, at 306 (describing the social costs of patenting basic research); *id.* at 93 (explaining why copyrighting ideas increases the cost of producing expression and thus decreases the amount and diversity of outputs). Professor Mark Lemley has offered an interesting proposal to allow more efficient use of copyrighted expression by giving public domain–like access to expression where users produce radical improvements, by analogy to “blocking patents.” See Mark A. Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989 (1997).

²⁵ See BENKLER, *supra* note 22, at 35–37.

²⁶ Nonexcludability makes a market in information impossible without legal intervention, insofar as a market depends on excludability: *A* will not pay *B* for access to information unless *B* can exclude *A* barring such payment. Secrecy is one solution — reminiscent in some ways of the stationer’s monopoly that preceded modern exclusive rights regimes, see PAUL GOLDSTEIN, *COPYRIGHT’S HIGHWAY: FROM GUTENBERG TO THE CELESTIAL JUKEBOX* 33 (2003) — but *A* is unlikely to pay *B* for information without knowing what *A* is paying for, by which time *A* already has the information. In practice, of course, excludability can be achieved in certain circumstances through the operation of ordinary property law — by restricting licenses to access performance venues, for example — or through technology. See, e.g., Timothy K. Armstrong, *Digital Rights Management and the Process of Fair Use*, 20 HARV. J.L. & TECH. 49, 59–65 (2006) (describing how digital rights management can limit access to information). To supplement intellectual property protections, some industries rely on nondisclosure and noncompete agreements. See generally Ronald J. Gilson, *The Legal Infrastructure of High Technology Industrial Districts: Silicon Valley, Route 128, and Covenants Not to Compete*, 74 N.Y.U. L. REV. 575 (1999).

²⁷ See Arrow, *supra* note 4, at 615–17.

information were priced at zero, it would be underproduced. The law must therefore intervene through exclusive rights regimes to raise the price of information to a level consistent with optimal *dynamic* incentives to produce information.²⁸ Information is a unique kind of good, however, which makes setting the price too high particularly dangerous: information is both an *input* and an *output* in its own production process.²⁹ Thus, as the price of information increases, so too do the prices of its inputs and thus its production costs. This last point, sometimes called the “standing on the shoulders of giants” effect,³⁰ is a crucial one for the public domain. Because information production uses information as an input, the economic argument recommends extensive access to information resources to keep production costs sufficiently low.

The public domain on this account is significant on both the front and back ends. If the marginal cost and therefore (statically) efficient price of information is zero, then any legal intervention that leads to positive pricing creates welfare losses — everything should be in the public domain. In order to incentivize information production, however, we need exclusive rights to support positive pricing, but only so far as is necessary to provide optimal incentives to produce. Finally, the standing on the shoulders of giants effect suggests that for efficient *production* (not just access), it is socially desirable to keep the input costs of information production low and therefore to have a robust public domain.

2. *The Liberal Argument.* — The liberal argument for the public domain sees free access as the baseline norm and exclusive rights as a government restriction on freedom, to be resisted except where absolutely necessary. This argument finds support among the Framers and the courts; in the copyright context, it is in part an affirmation of one view of the freedom of speech.

²⁸ See BENKLER, *supra* note 22, at 36–37.

²⁹ See Arrow, *supra* note 4, at 618 (“Information is not only the product of inventive activity, it is also an input . . .”).

³⁰ See, e.g., Suzanne Scotchmer, *Standing on the Shoulders of Giants: Cumulative Research and the Patent Law*, 5 J. ECON. PERSP. 29 (1991).

Though the Exclusive Rights Clause³¹ generated little debate at the Constitutional Convention,³² there are Framing-era sources that support the liberal argument for the public domain.³³ Madison expressed aversion to all forms of monopoly, especially government-sanctioned monopoly, but “as encouragements to literary works and ingenious discoveries,” he felt that monopolies might be “too valuable to be wholly renounced.”³⁴ Jefferson similarly resisted monopolies on information: “That ideas should freely spread from one to another over the globe, for the moral and mutual instruction of man, and improvement of his condition, seems to have been peculiarly and benevolently designed by nature”³⁵ He, too, admitted that governments could grant exclusive rights in information “as an encouragement,”³⁶ but, like Madison, Jefferson expressed a baseline preference for unregulated access and a distaste for monopolies.

In patent and copyright cases, the Supreme Court has also invoked liberal arguments for the public domain. Perhaps the most famous invocation came in dissent, when Justice Brandeis described the “general rule of law” that “the noblest of human productions — knowledge, truths ascertained, conceptions, and ideas — become, after voluntary communication to others, free as the air to common use.”³⁷ This liberal impulse exists in majority opinions as well, as in *Bonito Boats*,

³¹ U.S. CONST. art. I, § 8, cl. 8 (empowering Congress “[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries”). This clause goes by many names. See, e.g., *Eldred v. Ashcroft*, 537 U.S. 186, 214 n.20 (2003) (“Patent and Copyright Clause”); Yochai Benkler, *Through the Looking Glass: Alice and the Constitutional Foundations of the Public Domain*, LAW & CONTEMP. PROBS., Winter/Spring 2003, at 173, 175 & n.10 (“Exclusive Rights Clause”); Lawrence Lessig, *The Architecture of Innovation*, 51 DUKE L.J. 1783, 1793 (2002) (“Promote Progress Clause”). For a recent attempt to outline the scope of Congress’s power under the Exclusive Rights Clause, see *Recent Case*, 121 HARV. L. REV. 1455 (2008).

³² See Paul M. Schwartz & William Michael Treanor, *Eldred and Lochner: Copyright Term Extension and Intellectual Property as Constitutional Property*, 112 YALE L.J. 2331, 2375 (2003).

³³ The discussion of Framing-era support here is meant to help outline the liberal position, not to argue either that this is a full description of the Framers’ views, or even that the Framers’ views are necessarily relevant to an analysis of the public domain. Some scholars have recently criticized the kind of historical account provided here. See, e.g., Justin Hughes, *Copyright and Incomplete Historiographies: Of Piracy, Propertization, and Thomas Jefferson*, 79 S. CAL. L. REV. 993, 998–1046 (2006). But Professor Hughes’s argument, while important, is largely inapt here, since unlike the scholars he criticizes, this Note does not intend to take this historical account to be of normative significance.

³⁴ Letter from James Madison to Thomas Jefferson (Oct. 17, 1788), in JAMES MADISON: WRITINGS 418, 423 (Jack N. Rakove ed., 1999).

³⁵ Letter from Thomas Jefferson to Isaac McPherson (Aug. 13, 1813), in 13 THE WRITINGS OF THOMAS JEFFERSON 326, 334 (Albert Ellery Bergh ed., 1905).

³⁶ *Id.*

³⁷ *Int’l News Serv. v. Associated Press*, 248 U.S. 215, 250 (1918) (Brandeis, J., dissenting). This passage frames Professor Benkler’s analysis of the public domain in Benkler, *supra* note 3.

Inc. v. Thunder Craft Boats, Inc.,³⁸ where the Court cited “a congressional understanding, implicit in the Patent Clause itself, that free exploitation of ideas will be the rule, to which the protection of a federal patent is the exception.”³⁹ The Court recognizes Congress’s power to provide exclusive rights in expression, but at the same time, it has explained that free access is the general rule.

The liberal concern with copyright is unsurprising given the apparent tension between copyright and the freedom of speech. Copyrights are exclusive rights in expression, and copyright holders may demand payment for licenses from those who wish to use a copyrighted work. If a person should use copyrighted material without a license, then (barring fair use) the copyright holder may enjoin the speech and/or seek damages.⁴⁰ Copyright is thus in tension with the First Amendment’s guarantee that Congress “shall make no law . . . abridging the freedom of speech.”⁴¹ While there is little doubt as to copyright’s constitutionality as a general matter,⁴² the desire for limited copyright and a robust public domain is consistent with an affirmation of the importance of free speech.⁴³

3. *The Republican Argument.* — The republican argument — or arguments, since this group is the most diffuse of the three addressed here — maintains that a robust public domain is important for a “just and attractive”⁴⁴ democratic culture.⁴⁵ This argument takes many forms, but all of them tend to involve a picture of an ideal society that stresses democratic participation, which is why this Note groups these arguments together as “republican.”⁴⁶

³⁸ 489 U.S. 141 (1989).

³⁹ *Id.* at 151. Justice O’Connor, the author of *Bonito Boats*, had similar things to say about copyrights and the importance of the public domain in *Feist Publications, Inc. v. Rural Telephone Service Co.*, 499 U.S. 340 (1991).

⁴⁰ On free speech and copyright injunctions, see Mark A. Lemley & Eugene Volokh, *Freedom of Speech and Injunctions in Intellectual Property Cases*, 48 DUKE L.J. 147 (1998).

⁴¹ U.S. CONST. amend. I.

⁴² See *Eldred v. Ashcroft*, 537 U.S. 186 (2003).

⁴³ The literature on copyright and free speech is enormous, with important early contributions from Paul Goldstein, *Copyright and the First Amendment*, 70 COLUM. L. REV. 983 (1970), and Melville B. Nimmer, *Does Copyright Abridge the First Amendment Guarantees of Free Speech and Press?*, 17 UCLA L. REV. 1180 (1970). More recent contributions include Benkler, *supra* note 3; Steven J. Horowitz, *A Free Speech Theory of Copyright*, 2009 STAN. TECH. L. REV. 2, <http://stlr.stanford.edu/pdf/horowitz-free-speech-theory.pdf>; Neil Weinstock Netanel, *Locating Copyright Within the First Amendment Skein*, 54 STAN. L. REV. 1 (2001); and Jed Rubenfeld, *The Freedom of Imagination: Copyright’s Constitutionality*, 112 YALE L.J. 1 (2002).

⁴⁴ Fisher, *supra* note 2, at 172.

⁴⁵ See Balkin, *supra* note 2.

⁴⁶ For arguments of this kind, which have been primarily deployed in the copyright as opposed to the patent literature, see *id.*; Rosemary J. Coombe, *Objects of Property and Subjects of Politics: Intellectual Property Laws and Democratic Dialogue*, 69 TEX. L. REV. 1853 (1991); Elkin-Koren, *Copyright Law and Social Dialogue*, *supra* note 22; Elkin-Koren, *Cyberlaw and Social*

The great image of the republican argument is a “semiotic democracy,” in which “all persons are able to participate in the process of making cultural meaning.”⁴⁷ Expressive works can have cultural relevance, and an ideal society would give citizens effective access to culturally relevant expression in order to facilitate participation in a democratic culture. Copyrights, while perhaps necessary as incentives to produce culturally relevant expression,⁴⁸ can get in the way of semiotic democracy. The public domain, on this account, is the forum in which a democratic culture can be realized — indeed, it is the republican account that best incorporates Professor Niva Elkin-Koren’s vision of “social dialogue.”⁴⁹

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This survey of the economic, liberal, and republican arguments for the public domain is not meant to be exhaustive but instead to outline some of their basic features. It is worth noting that these various accounts might each recommend a different *kind* of public domain: importantly, the most efficient public domain may not be the least intrusive or the most democracy-promoting. The next Part, however, argues that the economic argument’s picture of human motivation is importantly incomplete. When intrinsic motivations are incorporated into the rational actor model — now, much less selfish⁵⁰ — the efficient public domain is surprisingly consonant with most liberal and most republican ones.

II. INCENTIVES AND HUMAN MOTIVATION

The standard economic theory of intellectual property includes the simplifying assumption that humans are selfish rational actors. Thus, if information prices are competitive, and if the marginal cost of producing information is zero, then economic theory would predict that information would be underproduced absent government intervention. In other words, information is a public good, and selfish rational actors will not typically contribute to a public good because the cost of contributing is greater than the expected return to the individual. But this simplifying assumption seems an ill fit for information production: it cannot supply a useful account for the widespread production of information goods in the absence of market incentives. For example, the

Change, *supra* note 22; Fisher, *supra* note 2; Michael Madow, *Private Ownership of Public Image: Popular Culture and Publicity Rights*, 81 CAL. L. REV. 125 (1993).

⁴⁷ Fisher, *supra* note 2, at 193; *see also* WILLIAM W. FISHER III, PROMISES TO KEEP: TECHNOLOGY, LAW, AND THE FUTURE OF ENTERTAINMENT 30–31 (2004).

⁴⁸ *See* the economic argument, *supra* section I.B.1.

⁴⁹ *See* Elkin-Koren, *Copyright Law and Social Dialogue*, *supra* note 22.

⁵⁰ *See generally* Yochai Benkler, *After Selfishness* (Oct. 18, 2007) (unpublished manuscript, on file with the Harvard Law School Library).

model would predict that Wikipedia could never be as accurate as *Encyclopædia Britannica*, since the latter relies on copyrights to charge for access and pay contributors, whereas the former provides no financial incentives to contribute. Nonetheless, the two are now at least of comparable accuracy.⁵¹ How can this be? The answer is that humans are not, or at least not always, selfish rational actors. Indeed, humans have many disparate, complicated motivations, many of which do not respond — or respond even negatively⁵² — to traditional economic incentives.

This Part outlines research on pro-social motivation that helps to describe why people act in ways inconsistent with the selfishness of the rational actor model. But the motivation literature is diffuse and its recommendations many,⁵³ and thus this Part aims to distill the literature's findings into tractable strategies for promoting innovation. To that end, it suggests organizing the literature around the intrinsic motivation–fostering effects of empowerment, community, and fairness.

A. Beyond the Selfish Rational Actor Model

The idea that information production is not always consistent with the traditional vision of the selfish rational actor is not entirely new to intellectual property scholarship. Professor Benkler has highlighted the importance of information-production strategies that do not depend on exclusive rights, for example.⁵⁴ Most significantly, some information is *more* efficiently produced on a peer-production model — with many distributed contributors who do not seek monetary rewards — than on traditional market- or firm-based models.⁵⁵ In order for peer production to be as successful as it has been in the case of Linux, Wikipedia, or SETI@home,⁵⁶ people must be motivated by something other than money. Benkler recognizes that humans have diverse moti-

⁵¹ See Jim Giles, *Internet Encyclopaedias Go Head to Head*, 438 NATURE 900 (2005).

⁵² See generally Bruno S. Frey & Reto Jegen, *Motivation Crowding Theory*, 15 J. ECON. SURVEYS 589 (2001).

⁵³ For a recent account of the complex relationship among the behavioral sciences, see Herbert Gintis, *A Framework for the Unification of the Behavioral Sciences*, 30 BEHAV. & BRAIN SCI. 1 (2007).

⁵⁴ See Yochai Benkler, *Coase's Penguin, or, Linux and The Nature of the Firm*, 112 YALE L.J. 369 (2002).

⁵⁵ See *id.* This important contribution is analogous to Professor Ronald Coase's observation that firms can often produce goods more efficiently than the market, and this analogy is reflected in the title of Benkler's seminal paper. See Ronald H. Coase, *The Nature of the Firm*, 4 ECONOMICA 386 (1937).

⁵⁶ Linux and Wikipedia are familiar enough. SETI@home is a distributed computing system that uses leftover computing cycles from internet-connected computers to run computations relevant to the search for extraterrestrial life. See SETI@home, <http://setiathome.berkeley.edu/> (last visited Feb. 8, 2009); see also BENKLER, *supra* note 22, at 81–82.

vations,⁵⁷ but if we can better understand precisely what motivates people to produce information goods when extrinsic rewards are unavailable, we might be able to design a more effective system of information regulation that imposes fewer costs on the public domain while stimulating as much or more information production.

What explains the seeming anomaly of peer production is the fact that humans are both intrinsically and extrinsically motivated. Extrinsic motivations such as punishment and reward are the standard focus of the selfish rational actor model, but intrinsic motivation to perform an activity exists when “one receives no apparent rewards except the activity itself.”⁵⁸ When a Wikipedia visitor sees and corrects an error in a given entry, she is said to be intrinsically motivated because she seeks no reward beyond the pleasure that comes from her contribution. Like almost any psychological distinction, the intrinsic/extrinsic divide describes a continuum rather than a pure duality. For simplicity, this Note treats as intrinsically motivated all activities performed primarily for their own sake rather than for the sake of earning economic gains or avoiding sanctions.⁵⁹

Most economic analyses of information production and regulation account for intrinsic motivation by assuming that it is “an exogenously given constant” and may thus be disregarded.⁶⁰ But intrinsic motivation can change; it can even be affected by interventions designed to create extrinsic motivations. An intervention is said to *crowd out* intrinsic motivations when it undermines them, whereas it is said to *crowd in* intrinsic motivations when it supports them. For example, making a reward contingent on performance of a task tends to crowd out intrinsic motivations⁶¹ — if the Red Cross pays people to donate blood, then people may be less inclined to donate blood simply for the sake of donating.⁶² Yes, payment increases *extrinsic* motivation, but

⁵⁷ After recognizing the diversity of motivations, Benkler moves on, since an analysis of human motivation is beyond the scope of his project and, so long as people are diversely motivated, his model is an accurate one. See Benkler, *supra* note 54, at 423–36; see also Boyle, *supra* note 7, at 45–46.

⁵⁸ See Edward L. Deci, *Effects of Externally Mediated Rewards on Intrinsic Motivation*, 18 J. PERSONALITY & SOC. PSYCHOL. 105, 105 (1971).

⁵⁹ For reasons to resist a sharp dichotomy, see, for example, Mia Reinholdt, No More Polarization, Please! Towards a More Nuanced Perspective on Motivation in Organizations (May 2006) (unpublished working paper), available at <http://ssrn.com/abstract=982108> (arguing for consideration of some motivations as between the poles of intrinsic and extrinsic).

⁶⁰ Frey & Jegen, *supra* note 52, at 591.

⁶¹ Margit Osterloh & Bruno Frey, *Motivation, Knowledge Transfer and Organizational Forms*, 11 ORG. SCI. 538, 544 (2000).

⁶² Whether, as an empirical matter, this is the case has been the subject of debate, most notably between Professor Richard Titmuss, see RICHARD TITMUSS, *THE GIFT RELATIONSHIP: FROM HUMAN BLOOD TO SOCIAL POLICY* (1971), and Professor Kenneth Arrow, see Kenneth Arrow, *Gifts and Exchanges*, 1 PHIL. & PUB. AFF. 343 (1972). For a helpful description of this

the bottom line question is whether the increase in extrinsic motivation (1) makes up for the decrease in intrinsic motivation and (2) is cost-justified, given that intrinsic motivation does not require investing in payments.

Intrinsic motivation has not yet been fully incorporated into economic analyses of intellectual property, but it is an important factor in information production. Legal interventions designed to increase extrinsic motivation may do so at the cost of intrinsic motivation, or they may foster intrinsic motivation. How interventions affect intrinsic motivation is a complicated question, in part because human motivation is complicated. But intrinsic motivation can be incorporated into an economic analysis of the public domain if one can develop a sufficiently tractable account, which is the aim of the next section.

B. *Intrinsic Motivation—Fostering Strategies*

The literature on intrinsic motivation is diffuse, and its recommendations and potential design levers are many.⁶³ To the extent that increased complexity brings increased predictive effectiveness, it is worth the cost. Still, one must bring at least some order to the complexity for the literature to become useful. Thus, this Note does not describe each of the myriad potential design levers in isolation. Instead, it organizes them into three intrinsic motivation–fostering strategies informed by the self-determination theory of psychologists Edward Deci and Richard Ryan. These strategies are (1) empowering the individual, (2) connecting to a community, and (3) maintaining fairness in the system; in short, empowerment, community, and fairness.

1. *Empowerment.* — One of the primary messages of Professors Deci and Ryan’s self-determination theory is that fostering intrinsic motivation requires satisfying basic psychological needs.⁶⁴ Among these basic needs are autonomy and competence,⁶⁵ both of which are closely related to the importance of individual empowerment. To be optimally productive, humans must sense that they are effective agents. They must feel a sense of participation.⁶⁶ This need can help to explain why external interventions can undermine intrinsic motivation: an intervention that seems to strip an individual of her ability to determine her choices will likely diminish her senses of autonomy,

debate, see Yochai Benkler, *Sharing Nicely: On Shareable Goods and the Emergence of Sharing as a Modality of Economic Production*, 114 YALE L.J. 273, 321–24 (2004).

⁶³ For a description of various design levers, see Yochai Benkler, *Law, Policy, and Cooperation*, in GOVERNMENT AND MARKETS: TOWARD A NEW THEORY OF REGULATION (Edward J. Balleisen & David A. Moss eds., forthcoming 2009).

⁶⁴ See Edward L. Deci & Richard M. Ryan, *The “What” and “Why” of Goal Pursuits: Human Needs and the Self-Determination of Behavior*, 11 PSYCHOL. INQUIRY 227 (2000).

⁶⁵ See *id.* at 228.

⁶⁶ See Osterloh & Frey, *supra* note 61, at 543.

competence, and participation. Feeling less empowered, she is less likely to be intrinsically motivated to act. Experimental evidence bears this intuition out. Interventions that seem controlling tend to negatively affect intrinsic motivation, whereas interventions that seem supportive do not.⁶⁷ An optimally designed system would, as much as possible, intervene only in ways that do not impinge on individual empowerment.⁶⁸

2. *Community.* — Deci and Ryan also describe relatedness as a basic psychological need,⁶⁹ and thus humans are more motivated the more they feel connected to others. Systems that allow people to develop personal relationships, “psychological contracts,” and “team spirit”⁷⁰ are likely to fare better than those that do not.⁷¹ Connecting individuals to a community directly fosters motivation insofar as it helps people feel more related to one another, and it also indirectly helps to develop another set of motivation-fostering factors. Chief among these are reputation and trust,⁷² both of which rely for their effectiveness on a community. Within communities, individuals can develop trusting relationships, and they can develop a reputation from prior action. For example, various internet communities depend on reputation effects to foster intrinsic motivations. A simple one is eBay. Without a community reputation system,⁷³ sellers might collect payments and not deliver, or buyers who fear that sellers might do so might not buy. But buyers are more likely to buy and sellers more likely to deliver because eBay is a community of repeat players who can be trusted on the basis of reputation.

One might object that the eBay example and its reference to reputation and trust in this context are perfectly compatible with the selfish rational actor model. After all, if a selfish rational actor knows that by developing a reputation she can increase her welfare, she would choose

⁶⁷ Frey & Jegen, *supra* note 52, at 594–95.

⁶⁸ For support of the claim that empowerment increases production, see, for example, Erika A. Patall, Harris Cooper & Jorgianne Civey Robinson, *The Effects of Choice on Intrinsic Motivation and Related Outcomes: A Meta-Analysis of Research Findings*, 134 PSYCHOL. BULL. 270 (2008) (analyzing forty-one studies and finding that providing choice enhances intrinsic motivation); Sally Thomas & Penny Oldfather, *Intrinsic Motivations, Literacy, and Assessment Practices: “That’s My Grade. That’s Me.”*, 32 EDUC. PSYCHOL. 107 (1997) (applying Deci and Ryan’s theory to the design of educational and grading systems).

⁶⁹ Deci & Ryan, *supra* note 64, at 235.

⁷⁰ Osterloh & Frey, *supra* note 61, at 545.

⁷¹ See Iris Bohnet & Bruno S. Frey, *The Sound of Silence in Prisoner’s Dilemma and Dictator Games*, 38 J. ECON. BEHAV. & ORG. 43, 53 (1999) (arguing that increasing solidarity and decreasing social distance are important in increasing intrinsic motivation).

⁷² See Elinor Ostrom, *A Behavioral Approach to the Rational Choice Theory of Collective Action*, 92 AM. POL. SCI. REV. 1 (1998).

⁷³ See eBay, Feedback Forum, <http://pages.ebay.com/services/forum/feedback.html> (last visited Feb. 8, 2009) (describing the “Feedback Forum,” eBay’s reputation system).

to do so.⁷⁴ But the selfish rational actor model may underpredict the potential benefits of reputation and trust within a community. Humans engage in reputation building activities not only to enjoy extrinsic benefits (such as increased selling power in the eBay community) but also to achieve a sense of affiliation or community feeling because doing so is “inherently satisfying.”⁷⁵ To the extent that this is so, reputation and trust foster intrinsic motivation, and thus improve well-being and lead to greater production even in the absence of extrinsic interventions.⁷⁶ The intrinsic motivations account can also avoid pitfalls not adduced by the selfish rational actor model of reputation, as research suggests that seeking reputation for purely instrumental reasons such as rewards or popularity actually undermines basic psychological needs.⁷⁷

3. *Fairness.* — A third important intrinsic motivation–fostering strategy is maintaining a fair system. In experiments testing altruistic cooperation, where altruistic cooperators cooperate even though not doing so is in their rational self-interest,⁷⁸ researchers have shown that the extent to which participants cooperate depends in part on whether they perceive the actions of others as fair. Professors Ernst Fehr and Bettina Rockenbach found, for example, that participants who ask for substantial cooperation from coparticipants and simultaneously threaten sanctions for noncooperation are often perceived as greedy

⁷⁴ See, e.g., Eric A. Posner & Adrian Vermeule, *The Credible Executive*, 74 U. CHI. L. REV. 865 (2007).

⁷⁵ Peter Schmuck, Tim Kasser & Richard M. Ryan, *Intrinsic and Extrinsic Goals: Their Structure and Relationship to Well-Being in German and U.S. College Students*, 50 SOC. INDICATORS RES. 225, 226 (2000). One way to draw this distinction is to say that the intrinsic motivation account recommends reputation systems as a means to foster an individual’s sense of belonging within a community, whereas an extrinsic account sees the value of reputation in producing “popularity” or instrumental power. See, e.g., Kennon M. Sheldon & Tim Kasser, *Psychological Threat and Extrinsic Goal Striving*, 32 MOTIVATION & EMOTION 37 (2008) (distinguishing between the intrinsic goal of community and the extrinsic goal of popularity).

⁷⁶ See Alexander Ardichvili, Vaughn Page & Tim Wentling, *Motivation and Barriers to Participation in Virtual Knowledge-Sharing Communities of Practice*, 7 J. KNOWLEDGE MGMT. 64, 69 (2003) (including a finding that knowledge contributions increase when employees see knowledge as a public good for the organization as a whole); Adam M. Grant, *Does Intrinsic Motivation Fuel the Prosocial Fire? Motivational Synergy in Predicting Persistence, Performance, and Productivity*, 93 J. APPLIED PSYCHOL. 48 (2008) (describing performance gains produced by intrinsic motivation); Schmuck, Kasser & Ryan, *supra* note 75, at 226 (describing the improved well-being that results from the realization of intrinsic goods); Kennon M. Sheldon & Holly A. McGregor, *Extrinsic Value Orientation and “The Tragedy of the Commons”*, 68 J. PERSONALITY 383 (2000) (providing experimental evidence that groups of intrinsically-oriented persons outperform groups of extrinsically-oriented persons in commons dilemmas).

⁷⁷ See Schmuck, Kasser & Ryan, *supra* note 75, at 226. Whether eBay’s reputation system is purely instrumental or at least partly intrinsically valuable is an empirical question.

⁷⁸ See Ernst Fehr & Bettina Rockenbach, *Detrimental Effects of Sanctions on Human Altruism*, 422 NATURE 137, 137 (2003).

and unfair, and that coparticipants tend not to respond cooperatively.⁷⁹ Similarly, Professors Armin Falk, Ernst Fehr, and Urs Fischbacher found that, where players in prisoner's dilemma games were able to punish each other, they regularly imposed sanctions on defectors to retaliate for "unfair" behavior.⁸⁰ The observation that pro-social behavior depends in part on perceptions of fairness fits within Deci and Ryan's self-determination theory: to the extent that perceptions of fairness are aligned with a sense of control over outcomes, fairness is importantly connected to autonomy, a basic psychological need on Deci and Ryan's account.⁸¹

Fairness can also promote pro-social behavior through the related dynamic of reciprocity. A selfish rational actor would not typically contribute to a public good, since any contribution is by definition more costly than beneficial for the actor, but she might if she could anticipate that others would respond in kind: where cooperation leads to mutual gains, actors who can expect others to cooperate may choose to do so themselves. This is the reciprocity dynamic: humans respond in kind to anticipated or past cooperative acts.⁸² Reciprocity and fairness are close cousins in that response in kind may correlate to a normative judgment about the actions of others. That is, *A* contributes to a public good because *B* will do so and because *A* believes it would be *unfair* to benefit from *B*'s contribution without a corresponding contribution of *A*'s own.⁸³

4. *The Problem of Tradeoffs.* — The three strategies above are valuable tools for systems design. Helpful as they may be, they present a problem of tradeoffs: Design choices are likely to align with one strategy at the cost of another. Because autonomy, community, and fairness are irreducible to a common metric, one cannot hope to iden-

⁷⁹ See *id.* at 139–40.

⁸⁰ See Armin Falk, Ernst Fehr & Urs Fischbacher, *Driving Forces Behind Informal Sanctions*, 73 *ECONOMETRICA* 2017, 2026–29 (2005).

⁸¹ See Deci & Ryan, *supra* note 64. For support of the claim that perceived fairness affects pro-social behavior, see, for example, Oded Nov & George Kuk, *Open Source Content Contributors' Response to Free-Riding: The Effect of Personality and Context*, 24 *COMPUTERS HUM. BEHAV.* 2848 (2008).

⁸² On reciprocity, see generally Dan M. Kahan, *The Logic of Reciprocity: Trust, Collective Action, and Law*, in *MORAL SENTIMENTS AND MATERIAL INTERESTS* 339 (Herbert Gintis et al. eds., 2005). In public good games, communication tends to increase cooperation, a finding that Professors Colin Camerer and Ernst Fehr have interpreted to be evidence of anticipated reciprocity. Colin F. Camerer & Ernst Fehr, *Measuring Social Norms and Preferences Using Experimental Games: A Guide for Social Scientists*, in *FOUNDATIONS OF HUMAN SOCIALITY* 55 (Joseph Henrich et al. eds., 2004).

⁸³ This is, of course, not the only possible explanation. *A* may also contribute because she can only expect *B*, *C*, and *D* to contribute in the future if *A* does so as well, and the benefits of *B*, *C*, and *D*'s future contributions outweigh the costs to *A* of contributing. But since *A* cannot count on the future contributions of others, trust and reciprocity dynamics would seem to be in play even in this scenario.

tify an “optimal” balance using the standard quantitative tools of economic analysis. But even if the consequences of these strategies cannot be perfectly quantified, they can nonetheless inform systems design in a qualitative way. They represent important considerations to be weighed, and, all things considered, large gains in empowerment and fairness are likely to make up for small losses in values such as community.

III. PRO-SOCIAL MOTIVATION AND THE PUBLIC DOMAIN

This Part addresses how the economic argument might be amended in light of the three intrinsic motivation–fostering strategies discussed above. It first considers whether the costs of implementing these strategies likely outweigh the benefits. If so, there is no reason to incorporate the lessons from the pro-social motivation literature into economic analysis of the public domain. After concluding that the strategies can produce efficiency gains, this Part turns to a pair of case studies whose object is to uncover how the now-enriched economic account comes to resemble the liberal and republican ideals in practice.

A. *Is Fostering Intrinsic Motivation Cost-Justified?*

To best support intrinsic incentives to produce information, the public domain ought to empower individuals, connect them within a community, and maintain a fair system. Assuming constant costs, a system that increases intrinsic motivations by applying these strategies will produce greater output. But is fostering intrinsic motivation cost-justified? First, there are switching costs, both in fleshing out the details of and in adapting to the new system. Distributed over a sufficiently long time horizon, however, such costs are less significant. More significant are the losses in *extrinsic* incentives to produce information. But losses in extrinsic motivation may be completely offset (or surpassed) by the gains in intrinsic motivation. The value of any given intervention will be an empirical question, but there are at least two reasons to err in favor of intrinsic gains. First, a focus on extrinsic incentives tends to lead to increased regulation through stronger exclusive rights. Such regulation involves administrative and monitoring costs and is less consistent with the liberal ideal. Second, fostering intrinsic motivation necessarily supports basic psychological needs, which generates the important positive externality of supporting human “growth, integrity, and well-being.”⁸⁴ Therefore, even if the public domain as an isolated system is marginally less productive, it might

⁸⁴ Deci & Ryan, *supra* note 64, at 229 (emphasis omitted).

be worth employing the strategies in order to help people lead happier, more fulfilling lives.

Even if it is not clear whether employing the intrinsic motivation-fostering strategies is cost-justified in the short run, the benefits of designing the public domain with basic psychological needs and intrinsic motivation in mind are *iterative* because people are likely come to identify with the system's design and internalize its regulations.⁸⁵ As Professors Deci and Ryan explain, "[w]hen the internalization process functions optimally, people will identify with the importance of social regulations, assimilate them into their integrated sense of self, and thus fully accept them as their own."⁸⁶ The more internalized a social system becomes, the less the system needs to rely on costly extrinsic incentives to guide and shape behavior. Because intrinsic motivation-fostering strategies are more likely to satisfy basic psychological needs, a public domain that applies these strategies may over time be less expensive to maintain, even if it were marginally more so up front.

B. Case Studies in the Efficient, Pro-Social Public Domain

Economic analysis enriched by social scientific insights suggests that the efficient public domain should foster intrinsic motivation by supporting empowerment, community, and fairness. This section turns to two case studies relating to the boundaries of the public domain — patent validity and copyright's fair use doctrine — to show how incorporating pro-social motivation into the economic account comports with the liberal and republican ideals. The first addresses the Peer to Patent Project,⁸⁷ which incorporates contributions from members of the relevant scientific community in the Patent and Trademark Office's (PTO) review of patent applications. The second focuses on the *Documentary Filmmakers' Statement of Best Practices in Fair Use*,⁸⁸ in which documentary filmmakers came together to outline industry standards for the fair use of copyrighted works. Both of these examples depart from standard strategies for managing the public domain, both are consistent with the three intrinsic motivation-fostering strategies outlined above, and together they demonstrate how the most efficient public domain resembles the most liberal and most republican ones.

⁸⁵ See *id.* at 235–37.

⁸⁶ *Id.* at 236.

⁸⁷ The Peer to Patent Project: Community Patent Review, <http://dotank.nyls.edu/communitypatent/> (last visited Feb. 8, 2009).

⁸⁸ ASS'N OF INDEP. VIDEO & FILMMAKERS ET AL., DOCUMENTARY FILMMAKERS' STATEMENT OF BEST PRACTICES IN FAIR USE (2005), available at <http://www.centerforsocialmedia.org/rock/backgrounddocs/bestpractices.pdf> [hereinafter STATEMENT].

1. *Peer to Patent*. — Patents form the boundaries of the public domain in the context of invention. These boundaries are defined by the PTO, whose expert examiners evaluate patent applications for appropriate subject matter, utility, novelty, and nonobviousness.⁸⁹ This arrangement has supposed advantages, given standard economic arguments concerning agency expertise.⁹⁰ In practice, however, the PTO is overworked, understaffed, and limited in its ability to evaluate patent applications effectively.⁹¹ The PTO's primary problem is high information costs: to determine whether a patent should issue, examiners must consider an application in light of the pertinent prior art, but examiners have neither the time nor the resources to conduct a careful enough search to find or understand the most relevant prior art.⁹² Thus, the boundaries of the public domain are defined by a failed version of the expert agency ideal — invalid or overly broad patents regularly issue, and litigating validity is an expensive and risky way to remedy the PTO's shortcomings.

Professor Beth Noveck's Peer to Patent project aims to mitigate the PTO's information deficit by inviting participants from the scientific community to contribute and evaluate the best prior art for examiners to use during patent prosecution.⁹³ Community reviewers participate voluntarily, self-selecting to supply prior art for those applications they are most interested in and most competent to evaluate.⁹⁴ The project relies on a peer production model similar to that of Wikipedia: the information produced by many diffuse participants, contributing as much or as little as they see fit, exceeds in quality and quantity what the PTO experts can produce.⁹⁵ To avoid overwhelming an examiner with the community reviewers' prior art, Peer to Patent includes a community rating system, which ranks the prior art collected according to relevance.⁹⁶ Peer to Patent also incorporates a reputation system like eBay's, which allows reviewers to earn reputations for trust-

⁸⁹ See ROGER E. SCHECTER & JOHN R. THOMAS, *INTELLECTUAL PROPERTY: THE LAW OF COPYRIGHTS, PATENTS AND TRADEMARKS* § 13.1 (2003) (providing a brief overview of patent law).

⁹⁰ See, e.g., Arti K. Rai, *Engaging Facts and Policy: A Multi-Institutional Approach to Patent System Reform*, 103 COLUM. L. REV. 1035, 1066 & n.139 (2003).

⁹¹ See, e.g., Gideon Parchomovsky & R. Polk Wagner, *Patent Portfolios*, 154 U. PA. L. REV. 1, 61 (2005). Professor Lemley has argued that the "rational ignorance" built into the system is efficient and by design. See Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1495, 1495–97 (2001).

⁹² See Beth Simone Noveck, "*Peer to Patent*": *Collective Intelligence, Open Review, and Patent Reform*, 20 HARV. J.L. & TECH. 123, 124 (2006).

⁹³ See generally Noveck, *supra* note 92.

⁹⁴ See *id.* at 146.

⁹⁵ See *id.* at 151–61 (describing the benefits of the Peer to Patent project).

⁹⁶ See *id.* at 148–49.

worthiness within the community.⁹⁷ Noveck's idea was piloted by the PTO starting in 2007, and the PTO has recently extended and expanded the pilot project.⁹⁸

Peer to Patent is difficult to explain on a selfish rational actor model: voluntary reviewers have few extrinsic incentives to contribute to the process, where the cost of each contribution exceeds any private benefit. And yet the project has thus far been successful, at least in light of the PTO's decision to extend and expand it. Peer to Patent's success is unsurprising given the ways in which its design incorporates empowerment, community, and fairness. The group of experts contributing to Peer to Patent are precisely the same people who are inventing within the public domain. This means that the inventors themselves are empowered to help define the public domain, and if they are successful in blocking bad patents, the public domain will be enlarged, allowing greater room for invention.

The project also creates a community, complete with reputation, where people come together to discuss and shape the boundaries of the public domain by helping to determine not only *whether* patents issue but also *what* the successful patents protect — the prior art that reviewers provide may force the PTO to deny an application or to force amendments restricting the scope of its claims. The value of the community's information is likely to ease settlement of patent disputes: patents that survive the prior art searches of the Peer to Patent contributors are more likely to be "good" patents, which suggests that potential infringers are less likely to win (at least on invalidity grounds) if suits arise. This is an example of how the benefits of an intrinsic motivation-fostering approach can be iterative. Because the community of autonomous inventors comes together to apply the rules of patent law to shape the boundaries of their inventive space, its members are more likely to internalize the validity of those boundaries.⁹⁹ Inventors may be more careful to avoid infringement, and where potential infringement arises, they may be more likely to pay for licenses than to litigate. The administrative costs of Peer to Patent could potentially be recouped in reduced litigation costs alone.

Peer to Patent's greatest gains over the current regime may come under the heading of fairness. The current combination of the PTO

⁹⁷ See *id.* at 149–50.

⁹⁸ See Extension and Expansion of Pilot Concerning Public Submission of Peer Reviewed Prior Art, 133 Off. Gaz. Pat. & Trademark Office 103 (Aug. 12, 2008), available at <http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/peerreviewexpansion071708.pdf>; see also Press Release, The Peer to Patent Project: Community Peer Review of Patents, USPTO Extends and Expands Peer Review Pilot (July 20, 2008), available at <http://cairns.typepad.com/peertopatent/2008/07/uspto-extends-a.html>.

⁹⁹ On internalization, see *supra* p. 1504.

granting bad patents and the strategy of some firms (“patent trolls”) to collect bad patents in order to extract licensing fees¹⁰⁰ is often unfair. Because the boundaries of the public domain can be unfairly and unevenly defined, inventors often have to pay or litigate for access to traditional materials that would otherwise be available to them in the public domain, such as the ideas taught by expired patents or inventions that are obvious given the prior art or are insufficiently novel. Peer to Patent offers the prospect of better patents based on better information provided by the community of inventors. The boundaries of the public domain formed by better patents are likely to be perceived as fairer than the current boundaries, since better boundaries are more conducive to the incentives-based purposes of the patent system and more consistent. An increased sense of fairness will likely increase cooperation,¹⁰¹ which can help to produce greater innovation at lower social cost.

Peer to Patent’s connection to the republican vision of the public domain is straightforward: the very inventors engaged in creative processes in the public domain participate in the construction of its boundaries. Consistent with the vision of semiotic democracy, inventors have greater access to and control over the ideas that give rise to invention, and they also have greater control over the processes that determine what ideas will be available to them. Peer to Patent also comports with the liberal ideal in that it will likely decrease the scope of patent monopolies, leaving more space for unfettered creativity. Assuming the wheels of peer production turn properly and enough reviewers participate, it is also likely to be more efficient than the status quo. Peer to Patent does increase administrative costs to some extent by grafting an additional review system onto the current process, but the most important part of the system — the information and expertise of the contributors — is free. Additionally, better patents mean fewer lawsuits, quicker settlements, and less extraction of monopoly rents for ideas that are already known or obvious. And because the intrinsic motivation–fostering strategies help inventors to internalize the boundary norms of the public domain, infringement may decrease.

In short, Peer to Patent is an example of how applying motivation fostering–strategies to economic analysis of the public domain moves IP scholarship toward an account that coheres with the seemingly disparate republican and liberal theories.

2. *Documentary Filmmaking Standards.* — Creators of expressive works in the public domain face a similar boundary problem. An im-

¹⁰⁰ See generally Gerard N. Magliocca, *Blackberries and Barnyards: Patent Trolls and the Perils of Innovation*, 82 NOTRE DAME L. REV. 1809 (2007).

¹⁰¹ Consider, for example, the relationship between fairness, reciprocity, and cooperation, discussed *supra* p. 1502.

portant part of the access to information that the public domain provides is the fair use of copyrighted works: anyone may use portions of copyrighted works for free — without payment or permission — provided that the use is fair under the four-factor test of 17 U.S.C. § 107.¹⁰² That test considers the “character of the use,” the “nature of the copyrighted work,” the “amount and substantiality of the portion used,” and the “effect of the use upon the potential market” for a work.¹⁰³ The four-factor test is notoriously indeterminate, rendering the precise boundaries of the public domain uncertain,¹⁰⁴ and this uncertainty is only exacerbated by the risk of litigation costs and statutory damages of up to \$150,000 for infringement.¹⁰⁵

This uncertainty poses special problems for documentary filmmakers, whose films often rely on copyrighted works for historical context or criticism.¹⁰⁶ Even documentary films that do not rely on copyrighted works may inadvertently capture them, as when music playing in the background is audible during an interview.¹⁰⁷ In order to have their films broadcast or insured against errors and omissions, filmmakers need to establish that they do not infringe.¹⁰⁸ But filmmakers cannot prove with certainty that their uses of copyrighted content would be deemed fair by courts, and the risk of liability may scare off broadcasters or force insurers to demand excessive premiums. As a result, an important portion of the public domain is foreclosed by the uncertain operation of the legal standard, coupled with the contingencies of broadcast and insurance markets.

The *Documentary Filmmakers’ Statement of Best Practices in Fair Use* (“*Statement*”) aims to reduce the chilling effect of uncertainty by establishing safe harbors through customary best practices. The *Statement*, which was produced by associations of documentary filmmakers with the advice of copyright lawyers,¹⁰⁹ describes four situations that filmmakers regularly confront and states principles and limitations for the application of fair use in each case.¹¹⁰ For example, filmmakers using copyrighted content for cultural critique are instructed that their “activity is at the very core of the fair use doctrine,”

¹⁰² 17 U.S.C. § 107 (2006).

¹⁰³ See *id.*

¹⁰⁴ See, e.g., Pierre N. Leval, Commentary, *Toward a Fair Use Standard*, 103 HARV. L. REV. 1105, 1106 (1990).

¹⁰⁵ See 17 U.S.C. § 504(c)(2) (2006).

¹⁰⁶ See generally Peter Jaszi, *Copyright, Fair Use and Motion Pictures*, 2007 UTAH L. REV. 715; Pat Aufderheide & Peter Jaszi, *Fair Use and Best Practices: Surprising Success*, INTELL. PROP. TODAY, Oct. 2007, available at <http://www.iptoday.com/articles/2007-10-aufderheide.asp>.

¹⁰⁷ See, e.g., STATEMENT, *supra* note 88, at 5.

¹⁰⁸ See Aufderheide & Jaszi, *supra* note 106.

¹⁰⁹ See STATEMENT, *supra* note 88, at 1.

¹¹⁰ *Id.* at 4–6.

but that “[t]he use should not be so extensive or pervasive that it ceases to function as critique and becomes, instead, a way of satisfying the audience’s taste for the thing . . . critiqued.”¹¹¹ The *Statement* has succeeded in its goal of reducing uncertainty and promoting access to the public domain: cable companies have accepted fair use claims that rely on the *Statement* in deciding whether to broadcast documentaries, and “all major insurers of documentary film now routinely accept fair use claims that a lawyer asserts are backed by the *Statement*.”¹¹² Whereas the fair use factors are competing and indeterminate, the *Statement* provides sufficiently comprehensible and specific guidance to make fair use meaningful.

Like Peer to Patent, the *Statement* may fit uneasily with the selfish rational actor model. First, the *Statement* itself is a public good: its value derives from the coordination of many distinct entities, but any rational documentarian would free ride on the efforts of others rather than contribute to its production. Second, as copyright holders themselves, filmmakers contributing to the *Statement* diminish their own exclusive rights by strengthening fair use. The *Statement*’s existence thus seems anomalous. On the other hand, one could argue that the *Statement* is the self-serving product of filmmakers who rely heavily on fair use while relying little on the enforcement of their own copyrights. Whether the unselfish or the selfish version is the right one turns on a closer analysis of the circumstances than can be embarked on here. For the purposes of the present case study, however, the unselfish version is assumed to be accurate. If this is true, the *Statement*, like Peer to Patent, owes its success (and its existence) in part to the ways in which it fosters intrinsic motivation.

The *Statement*, like Peer to Patent, empowers the producers of information goods to help define the boundaries of their creative domain. Indeed, the *Statement* is doubly empowering, since it allows the community of documentary filmmakers to state their own standards for best practices and then allows each filmmaker to apply those standards to reach further into the public domain. The *Statement* is also both the product and the reflection of a community of related cultural producers; the community of documentarians worked together to make the *Statement* a success, and the best practices are meant to reflect the practical and normative commitments of that community. Finally, the

¹¹¹ *Id.* at 4.

¹¹² Aufderheide & Jaszi, *supra* note 106. There are some who doubt whether customary practices like the *Statement* are a good idea. See Jennifer E. Rothman, *The Questionable Use of Custom in Intellectual Property*, 93 VA. L. REV. 1899 (2007). But see Michael J. Madison, *A Pattern-Oriented Approach to Fair Use*, 45 WM. & MARY L. REV. 1525 (2004) (suggesting that fair use doctrine is best operationalized through patterns of acceptable uses in particular cultural contexts).

Statement promotes fairness by helping filmmakers access public domain materials to which they are entitled, without the broadcasting and insurance roadblocks that accompany the uncertain traditional model.

The *Statement* and the community within which it operates highlight an interesting wrinkle. This Note has described the public domain as a unitary creative context, but just as fair use depends on circumstances that differ in various creative communities, so too will the shape of the public domain. For example, the needs and rights of nonprofit schools differ from those of filmmakers, so it is no surprise that a statement of best practices for the classroom¹¹³ is very different from the filmmakers' *Statement*. Perhaps it is profitable to reject a unitary account in favor of many finer-grained public domains.¹¹⁴ A proliferation of public domains is consistent with the republican vision, which has as its locus the town square, not the nation-state. Context-specific thinking for information production is hardly radical, given the patent literature's advocates of industry-specific patent systems.¹¹⁵ And a small scale makes connectedness, empowerment, trust, and reciprocity easier.¹¹⁶ There are obvious costs associated with fragmentation,¹¹⁷ but whether increased granularity is ultimately desirable or not, the now-unified account of the public domain suggests that it is worth a second look.

IV. CONCLUSION

There are three standard arguments for a robust public domain — the economic, the liberal, and the republican. Once recent research concerning pro-social motivation is incorporated into the dominant economic analysis, however, it seems likely that what is most efficient will closely track what is most liberal and most republican. This Note has offered three strategies for fostering intrinsic motivation to design an optimal public domain, focusing on empowerment, community, and fairness. Peer to Patent and the *Documentary Filmmakers' Statement of Best Practices in Fair Use* demonstrate how applying these strategies can lead to increased information production at lower cost over traditional models. Thus, both culture and science stand to benefit from an increased focus on intrinsic motivations in the public domain.

¹¹³ See Agreement on Guidelines for Classroom Copying in Not-for-Profit Educational Institutions, H.R. REP. NO. 94-1476, at 68-70 (1976), reprinted in 1976 U.S.C.C.A.N. 5659, 5681-83.

¹¹⁴ See Samuelson, *supra* note 7 (arguing for many public domains).

¹¹⁵ On industry-specific innovation and patenting, see Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575 (2003).

¹¹⁶ See Ostrom, *supra* note 72, at 15.

¹¹⁷ See Burk & Lemley, *supra* note 115, at 1637.