

2009

Hume's Penguin, or, Yochai Benkler and the Nature of Peer Production

Steven A. Hetcher

Follow this and additional works at: <https://scholarship.law.vanderbilt.edu/jetlaw>



Part of the [Intellectual Property Law Commons](#)

Recommended Citation

Steven A. Hetcher, Hume's Penguin, or, Yochai Benkler and the Nature of Peer Production, 11 *Vanderbilt Journal of Entertainment and Technology Law* 963 (2021)

Available at: <https://scholarship.law.vanderbilt.edu/jetlaw/vol11/iss4/8>

This Article is brought to you for free and open access by Scholarship@Vanderbilt Law. It has been accepted for inclusion in Vanderbilt Journal of Entertainment & Technology Law by an authorized editor of Scholarship@Vanderbilt Law. For more information, please contact mark.j.williams@vanderbilt.edu.

Hume's Penguin, or, Yochai Benkler and the Nature of Peer Production

Steven A. Hetcher*

ABSTRACT

This Article examines "peer production," a term coined and a concept explicated by Yochai Benkler. My own interest in peer production stems from its importance as a new form of user-generated content. User-generated content is particularly interesting if Benkler is right in his claim that the positive analysis of peer-produced content may have normative implications with respect to copyright law—in particular, the implication that copyright law may play a deleterious role in the formation and maintenance of this potentially significant new form of user-generated content. We are in need of a theory of collective action for the social world that is emerging in cyberspace. Benkler's theory of peer production makes an important contribution to this project. The present Article seeks to expand on Benkler's account by demonstrating that collective-action problems are not synonymous with the tragedy of the commons. In particular, one important type of solution to a collective-action problem of a sort not countenanced by Benkler is the convention or coordination norm. This Article will show that not only would a more comprehensive theory of collective action in cyberspace need to fit conventions into its account but also that even Benkler's examples of peer production must take account of conventions as well.

* Professor of Law, Vanderbilt Law School. J.D., Yale Law School, 1993; Ph.D., University of Illinois, 1990; M.A., University of Chicago, 1989; B.A., University of Wisconsin, 1983. The author would like to gratefully acknowledge the research and administrative assistance of Casey Fiesler, Pam Holland, and Nicole Lytle, as well as the staff of the *Vanderbilt Journal of Entertainment and Technology Law* for their expert editorial support. The author would also like to thank the participants at the Fall 2008 User-Generated Content, Social Networking and Virtual Worlds Roundtable at Vanderbilt University Law School.

TABLE OF CONTENTS

I.	BENKLER'S ACCOUNT	967
	A. <i>Examples of Peer Production</i>	969
	B. <i>Contributor Motivations</i>	971
	1. A Closer Look at the Tragedy of the Commons	973
	2. Peer Production as a Potential Solution to the Tragedy of the Commons	977
	C. <i>Alternative Perspectives</i>	979
II.	THE CRITIQUE OF BENKLER'S ACCOUNT	983
III.	THE BROADER CONCEPTION OF PEER PRODUCTION	993
IV.	CONCLUSION.....	998

There is no account at all in the legal literature about the relationship between technology and collective action.

-Beth Simone Noveck¹

This Article examines “peer production,” a term coined and a concept explicated by Yochai Benkler—a leading Internet theorist—in an important and widely read article.² My own interest in peer production stems from its importance as a new form of user-generated content (UGC).³ Peer production is interesting in its own terms, but particularly so if Benkler is right in his claim that the positive analysis of peer-produced content may have normative implications with respect to copyright law—in particular, the implication that copyright law may play a deleterious role in the formation and maintenance of this potentially significant new form of UGC. Before examining Benkler’s account in greater detail, I will set the stage by briefly considering the varying roles that copyright law plays with respect to other forms of UGC.

1. Beth Simone Noveck, *Democracy—The Video Game*, in *THE STATE OF PLAY: LAW, GAMES, AND VIRTUAL WORLDS* 258 (Jack M. Balkin & Beth Simone Noveck eds., 2006).

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

3. For a definition of user-generated content, see Steven Hetcher, *User-Generated Content and the Future of Copyright: Part One—Investiture of Ownership*, 10 *VAND. J. ENT. & TECH. L.* 863, 870-71 (2007) [hereinafter Hetcher, *User-Generated Content*].

UGC is exploding,⁴ a dramatic development that cuts to the core of copyright law. The reason is simple: by the orthodox account, the U.S. system justifies copyright law in instrumental terms rather than with a recognition of fundamental rights possessed by creators in their works.⁵ This means that rights afforded to creators under copyright law are justified only as long as they continue to serve the goals of copyright, which, at least on the hegemonic, economic account, is to incentivize the production of creative works.⁶ What is earth shattering about UGC from this perspective is that because it is produced by literally millions of ordinary people, apparently without any expectation of economic gain, the very rationale for providing copyright protection to this growing body of creators and their works is called into question.⁷ Notwithstanding this question of the necessity of copyright protection for UGC, the fact is that currently these works are indeed protected under copyright law. Thus, copyright necessarily plays a role, but interestingly, a novel one with respect to UGC. Moreover, that role varies depending on the type of UGC at issue.

For example, UGC creators who upload original content to Facebook do not do so because they are motivated by the potential rewards promised by copyright law. Pursuant to the Terms of Service that these users agree to, Facebook takes a license in the users' creative works.⁸ It is this license that allows Facebook to function; otherwise potential competitors could create mirror sites and Facebook would lose its exclusive control over this content. The result would be no copyright protection for users' creations, no licenses for Facebook, and thus no Facebook. We see, then, that copyright law plays an essential role in the production of the creative content found on Facebook, albeit indirectly, incentivizing the Internet intermediary rather than creators themselves.

4. See Matthew Mirapaul, *Why Just Listen to Pop When You Can Mix Your Own?*, N.Y. TIMES, Aug. 20, 2001, at E2. ("In postmodern culture, in which existing elements are routinely cut, pasted and blended into new works, computers are providing handy tools for these transformations, and the Internet is supplying an eager audience for the results."). Like amateur musicians who produce derivative musical works, amateur authors maintain hundreds of literary "fan fiction" websites, publishing stories about popular characters from television shows like *Star Trek* and *The West Wing*. *Id.*

5. Harper Row Publishers, Inc. v. Nation Enter., 471 U.S. 539, 580 (1985) ("Congress thus seeks to define the rights included in copyright so as to serve the public welfare and not necessarily so as to maximize an author's control over his or her product.").

6. See Twentieth Century Music Corp. v. Aiken, 422 U.S. 151, 156 (1975); Bond v. Blum, 317 F.3d 385, 393 (4th Cir. 2003).

7. Hetcher, *User-Generated Content*, *supra* note 3, at 875-76.

8. See Terms of Use - Facebook, <http://www.facebook.com/terms.php> (last visited Mar. 20, 2009).

Similarly with another important category of UGC—fan fiction and remix works—copyright does not play the role of motivating creation. With exceptions at the margin, these works are overwhelmingly produced with no expectation of economic gain.⁹ Once again, whereas we might at first assume otherwise, copyright law actually plays a complex and significant role in bringing about these works—and indeed, one of the contours of this role is still evolving and in dispute.¹⁰ For example, instead of incentivizing the production of this category of UGC, copyright law sometimes does exactly the opposite. Because fan fiction and remix works build upon preexisting commercial works, typically without authorization, these latter works are potentially subject to infringement liability.¹¹ Not surprisingly, creators of fan fiction and remix sometimes live in fear that their creations will cause them to be sued.¹² This is bound to have, as the phrase goes, a “chilling effect” on these creators.¹³ In this respect, copyright law disincentivizes this type of production. While the extent to which potential creators are deterred is an empirical question in need of research, one straightforward economic implication is that raising the cost of creation via credible threats of legal action will reduce the level of such activity at the margin.

Yet, because much work of this sort is fair use, one might suppose that the threat of infringement liability, and thus its chilling effect, would be marginal in practice.¹⁴ But as the *Lenz v. Universal* case demonstrates,¹⁵ the fact that a remix use is fair will not necessarily deter the owner of the underlying work from invoking copyright law in order to curtail use of that work. The court’s decision in *Lenz* promises to make the role of copyright even more complex, as the court held that owners seeking to invoke the notice and takedown provisions in the Digital Millennium Copyright Act (DMCA) must

9. See, e.g., Rebecca Tushnet, *Legal Fictions: Copyright, Fan Fiction, and a New Common Law*, 17 LOY. L.A. ENT. L.REV. 651, 657 (1997) (“The ethos of fandom is one of community, of shared journeys to understanding and enjoyment Fans also see themselves as guardians of the texts they love, purer than the owners in some ways because they seek no profit.”) [hereinafter Tushnet, *Legal Fictions*].

10. HENRY JENKINS, *CONVERGENCE CULTURE*, 142-45 (2008); see generally *Lenz v. Univ. Music Group, Inc.*, 572 F. Supp. 2d 1150 (N.D. Cal. 2008).

11. On remix generally, see LAWRENCE LESSIG, *REMIX: MAKING ART AND COMMERCE THRIVE IN THE HYBRID ECONOMY* (2008); on fan fiction generally, see Tushnet, *Legal Fictions*, *supra* note 9.

12. See, e.g., *Lenz*, 572 F. Supp. 2d 1150 (involving issuance of a takedown notice regarding a video of a YouTube member’s child dancing to a Prince song).

13. Steven A. Hetcher, *Using Social Norms to Regulate Fan Fiction and Remix Culture*, U. PA. L. REV. (forthcoming 2009) [hereinafter Hetcher, *Using Social Norms*].

14. *Id.*

15. *Lenz*, 572 F. Supp. 2d 1150.

make a good faith representation that the use in question is not a fair use.¹⁶ Thus, instead of simplifying the connection between copyright and remix, fair use doctrine, combined with the DMCA, has added an additional layer of complexity to the relationship.

The general lesson to be drawn from these examples is that while UGC may lack the typical and paradigmatic relationship between creative works and copyright law, it nevertheless still has interesting connections that vary depending on the type of UGC at issue. As the following discussion will bear out, the relationship between UGC and copyright law only becomes more complex and interesting when we closely examine the UGC that results from peer production.

At this early stage of our understanding of this extraordinarily fecund new source of creativity, it is useful to work out these divergences in different types of UGC as a step toward a more general theory of UGC and its relationship to copyright law. The proceeding discussion is an effort in this direction. It will follow Benkler's conceptual framework, which is to engage primarily in positive analysis and only later give a preliminary indication of normative issues raised, or implications suggested, in light of that positive analysis.¹⁷ This is not meant as an indication of the relative unimportance of the normative analysis, but rather just the opposite. Because the potential normative concerns that may be raised are of such a significant magnitude—in particular, calling into question the very existence of copyright protection with respect to the domain of UGC—they merit extended treatment of a sort that will best be pursued only after the positive issues are more clearly understood.

I. BENKLER'S ACCOUNT

The distinctive feature of peer production is that it does not involve individuals or small groups working over a defined period of time. Instead, peer-produced content is the result of the combined efforts of large numbers of “peers”—that is, ordinary volunteers whose

16. Digital Millennium Copyright Act, 17 U.S.C. § 512(f) (2000); *Lenz*, 572 F. Supp. 2d at 1154-55.

17. Benkler, *supra* note 2, at 399.

What remains is the interesting and difficult task of explaining the phenomenon so as to begin to think about the policy implications of the emergence of this strange breed in the middle of our information economy. I will by no stretch of the imagination claim to have completed this task in the following pages, but I hope to identify some basic regularities and organizing conceptions that will be useful to anyone interested in pursuing the answer.

efforts “produce” something that continues to grow and evolve over time.¹⁸ Another feature of peer production is that it is significantly enabled by emerging technologies.¹⁹ For Benkler, the ambit of peer production extends beyond the world of copyrightable content, as Benkler counts, for example, the combined efforts of the thousands of amateur volunteers who have helped analyze data to more accurately map the craters of Mars, searching for alien life.²⁰ With all due respect to Mulder and Scully, in the present context the focus is not on Benkler’s broader concept of peer production, per se, but instead on production that makes use of, or adds to the sum total of, copyrightable content. This divergence notwithstanding, Benkler’s article demonstrates a great interest in, and has much to say with respect to, creativity and culture—two topics of overarching interest to copyright law.²¹

18. Benkler does not define “peer.” The term has a certain connotation in ordinary language that he would probably not disavow, and indeed would likely welcome as applicable in the context in which he uses it. The notion of peers evokes a certain sense of equality. Equality in the context of peer production is instantiated in the sense that such productions result from a horizontally structured, informal labor force rather than a formal, legal, and hierarchical one. Benkler, *supra* note 2 at 375 (“The phenomenon of large- and medium-scale collaborations among individuals that are organized without markets or managerial hierarchies is emerging everywhere in the information and cultural production system.”). Despite his claim to be doing positive theory, Benkler makes normatively loaded comments, such as characterizing peer production as having a democratic component. *Id.* at nn.36, 42 & 43 (describing the structure of various peer productions as “democratic”). One might question whether the Wikipedia production process is as non-hierarchical as Benkler suggests. Posting of Eric Goldman (*Wikipedia Will Fail in Four Years*) to Technology & Marketing Law Blog, http://blog.ericgoldman.org/archives/2006/12/wikipedia_will_1.htm (Dec. 5, 2006, 14:01).

19. Yochai Benkler, *Freedom in the Commons: Towards a Political Economy of Information*, 52 DUKE L.J. 1245 (2003) (discussing the economic and technological developments that have led to the current state of peer production).

20. Benkler, *supra* note 2, at 374.

21. *Id.* at 377.

The advantages of peer production are, then, improved identification and allocation of human creativity. These advantages appear to have become salient, because human creativity itself has become salient. In the domain of information and culture, production generally comprises the combination of preexisting information/cultural inputs, human creativity, and the physical capital necessary to (1) fix ideas and human utterances in media capable of storing and communicating them and (2) transmit them. Existing information and culture are a public good in the strict economic sense of being nonrival.

Id. at 377 n.16

While the reference to information as a public good is common, the reference to culture is not. I have no intention to go into subtle definitions of culture here, though I tend to follow the approach offered in J.M. Balkin, *Cultural Software* (1998), by thinking of culture as a framework for comprehension. By “culture” I mean a set of representations, conceptions, interpretations, knowledge of social behavior patterns, etc., whose particular application to reducing uncertainty for human action is too remote to be called “information,” but which is indispensable to the way we make sense of the world. “Cultural production” as I use it here can

A. Examples of Peer Production

Benkler considers open-source software and GNU/Linux in particular to be his paradigm case²² due to its phenomenal success.²³ It is also an important case because of its arguable political implications. When people have talked about the democratization of content production, they have typically emphasized the fact that the makeup of the content is not dictated by a small group that will have an undue influence on culture.²⁴ There is a different sort of political implication in as much as free software is self-consciously meant to weaken the monopoly position of major software vendors—Microsoft, in particular. This is political for those who seek to displace the importance of Microsoft software, viewing Microsoft as a danger to basic democratic values such as free speech and autonomy.²⁵

Another important example for Benkler is Wikipedia.²⁶ A few factors make Wikipedia of such great interest. One is the manner in which it is produced and maintained: mainly by volunteers making piecemeal contributions, adding to and subtracting from the former contributions of others. Another factor that makes Wikipedia so important is that it is wildly successful in the sense that it is used

be done by parents, teachers, Hollywood, Mozart, the Pope, peer groups, and the guys playing guitars in Washington Square Park. Defined as a set of conceptions and their representations and as sets of behavioral instructions, its economic character is similar to ideas or information. Obviously, embodiments of culture, like a specific statue or building, are no more nonrival than embodiments of any other form of information, like a book or a corkscrew.

Id. at 377 n.16.

22. *Id.* at 371-72 (“The emergence of free software and the phenomenal success of its flagships—the GNU/Linux operating system, the Apache web server, Perl, sendmail, BIND—and many other projects should force us to take a second look at the dominant paradigm we hold about productivity.”).

23. *Id.* at 440.

24. JENKINS, *supra* note 10, at 3 (noting the cultural shift towards consumers as producers rather than the segregation of those roles).

25. YOCHAI BENKLER, *THE WEALTH OF NETWORKS* 434-47 (Yale University Press 2006) (describing Microsoft’s attempt to maintain control over the web browser market and noting how free software like the Mozilla web browser presents a serious problem for “anyone who seeks to constrain the range of uses made of the Internet”).

26. Benkler, *supra* note 2, at 386-87. Contributors to Wikipedia sign away any copyright interest they might possess in their contribution. Wikipedia: Copyrights - Wikipedia, <http://en.wikipedia.org/wiki/Wikipedia:Copyrights> (last visited Mar. 20, 2009). See *id.* Wikipedia is a not-for-profit foundation and it would appear necessary that contributors release any copyright interest. Otherwise it would be unable to function, as edits to entries could not occur without the permission of the array of contributors. See *id.* Wikipedia’s founder, Jimmy Wales, has gone on to create a for-profit wiki: Wikia. Tom McNichol, *Building a Wiki World*, BUS. 2.0 MAG., Apr. 3, 2007, available at http://money.cnn.com/magazines/business2/business2_archive/2007/03/01/8401010/index.htm.

every day by millions of people. In addition, it is broadly used for educational purposes, one of copyright's preferred categories.²⁷ Given that one of the goals—and on some accounts, *the* goal—of copyright is to promote social welfare, it is sensible that the fact that Wikipedia is so fecund in this regard would entitle it to the large amount of attention it has received from the public. It strengthens Benkler's argument to focus on a type of content that is highly valuable and widely desirable, thus comparable to the best of commercial content and yet produced in an alternative manner—democratically and for free. The more socially valuable and widely used the peer productions that Benkler discusses are, the stronger his argument is that peer production is an important compliment to other modes of production.

Other examples that he discusses in some detail include Slashdot, a peer-reviewed online publication of commentary on technology and culture; more efficient directories for the web, made up of contributions from the public;²⁸ and even multiplayer games like *Ultima Online* and *EverQuest*.²⁹ It is not clear at this point what other works would potentially fit Benkler's model. Some commentators have expressed great optimism with respect to the general sorts of peer production Benkler has in mind.³⁰ While overall an optimist with regard to the possibilities of the peer model of production, Benkler is somewhat more cautious. He questions the likelihood of, for instance, peer production novels, although he does hedge his bets, remarking that novels "that look like our current conception of a novel . . . are likely to prove resistant to peer production."³¹

Even if Benkler's model of peer production is flawed in certain respects, it is nevertheless of great interest, given the significant examples he discusses. Some commentators have, however, called into question the long-term viability of these innovations. Eric Goldman, for example, has predicted the demise of Wikipedia by 2010.³² As Benkler notes, others have questioned the long-term

27. 17 U.S.C. §107 (2000).

28. Benkler, *supra* note 2, at 374-75.

29. *Id.* at 389. While Benkler's discussion centers more on "peer production of information" and "cultural productions," he claims to include within its scope "entertainment" goods. *Id.* at 382-83.

30. DAN TAPSCOTT & ANTHONY D. WILLIAMS, WIKINOMICS: HOW MASS COLLABORATION CHANGES EVERYTHING ix (Expanded ed., Penguin Group 2008) (2006) ("With the costs of collaboration falling precipitously, companies can increasingly source ideas, innovations, and uniquely qualified minds from a vast global pool of talent.").

31. Benkler, *supra* note 2, at 379 n.18. *See also id.* ("Most collaborative fiction sites, however, suffer from the fact that modularity and granularity lead to disjunction relative to our expectations of novels.").

32. Goldman, *supra* note 18. Goldman predicts that problems with spamming and squabbles over content edits and vandalism will bring the site down. *Id.*

viability of open-source software.³³ In the following discussion, I will explore a different issue that may arise for Benkler's model—one having to do with his account of contributor motivation and, more generally, the strategic structure of the sorts of activities he intends to model. If Benkler is wrong in his account of the human motivations that maintain peer production, perhaps the correct model will lead to a more pessimistic prediction regarding the sustainability of these important contributions to social welfare. The opposite may be true as well, however; perhaps the better account is one that is optimistic about the potential for peer production.

B. Contributor Motivations

Benkler contends that problems in providing peer production have the strategic structure of a "tragedy of the commons." Benkler notes, "These generally would fall under the 'tragedy of the commons' critique, which I purposefully invoke by calling the phenomenon 'commons-based' peer production."³⁴ Benkler fairly states that "[t]he traditional objections to the commons are primarily twofold. First, no one will invest in a project if they cannot appropriate its benefits. That is, motivation will lack. Second, no one has the power to organize collaboration in the use of the resource."³⁵ Of these two concerns, Benkler's focus is on the motivation question, as this is what has historically been seen as the most serious obstacle to overcome.³⁶

If Benkler is correct in this characterization, there is reason for concern, as solutions to the tragedy of the commons are widely considered to be fragile.³⁷ Given Benkler's modeling of the problem, a

33. Benkler, *supra* note 2, at 423 n.93.

This skepticism is more often encountered in questions in conferences and presentations than in formal papers. A well-articulated written example of a skeptic's view, however, is Glass, comparing recruiting operating system developers to Tom Sawyer's whitewashing the fence trick and arguing that eventually operating system efforts will die because too many important programming tasks are not fun/sexy enough.

Id.

34. *Id.* at 378.

35. *Id.*

36. *Id.* at 378.

37. RUSSELL HARDIN, *COLLECTIVE ACTION 8 & 9* (Johns Hopkins University Press, 1982). Hardin argues that if collective-action problems are solved due to a bout of other-regarding behavior, they will tend to unravel over time due to the collective-action problem. Cass Sunstein, *Human Behavior and the Law of Work*, 87 VA. L. REV. 205, 251 (2001) ("It is possible that workers will relinquish these rights too cheaply or that collective action problems will induce workers to act against their best interests [T]his argument cannot be said to be wrong, but it rests on fragile grounds."); see also generally STEVEN HETCHER, *NORMS IN A WIRED WORLD* (Cambridge University Press, 2004) [hereinafter

full appreciation of the issues on the table in this Article requires some background discussion of the rational actor or economic approach to collective-action problems such as the tragedy of the commons.³⁸

As the epigram to this Article indicates, Beth Novack has rightly noted that there currently exists no theory of collective action in a networked digital context.³⁹ Benkler's article is a seminal contribution toward the sort of theory Novack calls for. Of particular importance, it challenges the iconic model of production outlined by Ronald Coase in his seminal work on the theory of the firm.⁴⁰ Benkler analyzes peer production as an alternative, or compliment, to production by a traditional firm. Peer production emerges, as firms do in Coase's analysis,⁴¹ because it can have lower information opportunity costs under certain technological and economic conditions.

There is an alternative theoretical framework—rational-choice theory—that may also be brought to bear on the topic. One of the patron saints of this literature, Thomas Schelling, relies on his background as an economist, but much of the work most relevant to rational-choice theory has come from political theorists and philosophers.⁴² Their focus is not on the firm, but on patterns of social behavior. One might argue that the rational-choice approach is more

HETCHER, NORMS]; Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243 (1968), available at <http://www.physics.ohio-state.edu/~wilkins/sciandsoc/tragedy.pdf>.

38. Benkler, *supra* note 2, at 379. Benkler notes, "As for a project's mechanisms for defending itself from incompetent or malicious contributions, one sees peer production enterprises using a variety of approaches toward solving collective action problems that are relatively familiar from the commons literature offline." *Id.*

39. See also NOVECK, *supra* note 1, at 266 ("[I]f we want to engage in participatory groups, which depend upon the sharing of responsibility and power, the nature of cyberspace itself thwarts the coordination of such forms of collective action . . . [W]e, thus far, have had limited experience creating structured environments for group life.")

40. Benkler, *supra* note 2, at 374.

In this Article, I approach this puzzle by departing from free software. Rather than trying to explain what is special about software or hackers, I generalize from the phenomenon of free software to suggest characteristics that make large-scale collaborations in many information production fields sustainable and productive in the digitally networked environment without reliance either on markets or managerial hierarchy. Hence the title of this Article—to invoke the challenge that the paunchy penguin mascot of the Linux kernel development community poses for the view of organization rooted in Coase's work.

Id.

41. See generally R.H. Coase, *The Nature of the Firm*, 4 ECONOMICA 386 (1937).

42. THOMAS C. SCHELLING, *THE STRATEGY OF CONFLICT* 300 (Harvard University Press, 1981). See Benkler, *supra* note 2. Benkler does not tie his discussion into the rational choice literature in a systematic way. For instance, he does not cite to any of the canon of contributors, such as Schelling, Olson, Axelrod, Hardin, Elster, or Barry. This is not a criticism, as the article accomplishes a great deal. But it does suggest an avenue of cognate research of a sort initiated in the present Article. *Id.*

applicable, given that as Benkler defines peer productions, they do not essentially depend on any elements of a firm. The better thought, however, is that each perspective has its function, as some of the most compelling examples of peer production seem to be hybrids of firms and informal patterns of coordinated behavior.⁴³ Thus, part of developing a broader theory of collective action in a digital environment is to situate peer productions more firmly within the rational choice literature than Benkler does. Benkler does this to some extent, of course, as he models peer production after the tragedy of the commons, and refers to non-participation as “defection.”⁴⁴ But as will be seen below, the tragedy of the commons is only part of the story.

1. A Closer Look at the Tragedy of the Commons

The tragedy of the commons, at least in the more capacious use of the term in which “commons” refers to public goods, is roughly synonymous with other frequently used terms: the prisoner’s dilemma, the free-rider problem, the public-goods problem, and the collective-action problem.⁴⁵ The term “commons,” in its more literal use, refers to a resource accessible to all members of a group such as a plot of land accessible to all members of a community for grazing livestock or a body of water accessible to all for fishing or whaling.⁴⁶

Modern economic theory draws a fundamental distinction between private goods and public goods.⁴⁷ When markets are

43. While Benkler’s focus is on not-for-profits such as Linux and Wikipedia, Lawrence Lessig, in his recent book, focuses on the potential for for-profit firms to develop business models built around such hybrids. LESSIG, REMIX, *supra* note 11, at 178 (“The Internet is the age of the hybrid If sharing economies promise value, it is the commercial economy that is tuned to exploit that.”).

44. *E.g.*, Benkler, *supra* note 2, at 379-80.

45. While the term “collective-action problem” is often used synonymously with these other terms, I have argued for a revision in usage based on the fact that important solutions to collective-action problems, such as forming coordination norms or epistemic norms, do not have the strategic structure of the classic public-goods/prisoner’s dilemma/tragedy of the commons/free-rider problem. HETCHER, NORMS, *supra* note 37, at 250-51.

46. For a discussion of livestock grazing in the context of tragedy of the commons, see Hardin, *supra* note 37, at 1244.

47. Niva Elkin-Koren & Eli M. Salzberger, *Law and Economics in Cyberspace*, 19 INT’L REV. L. & ECON. 553, 559 (2000), available at <http://www.sciencedirect.com/science/article/B6V7M-3YJYR6T-9/2/13f1ebae18465007b77f31ccbd9a367c>.

A public good is a commodity with two distinctive but related characteristics: nonexcludability and nonrivalry Public goods are not likely to be produced and supplied by the market, and if they are privately provided, they are likely to be undersupplied. Thus, government intervention is necessary to guarantee the

functioning properly, private goods will be provided and consumed at an efficient level.⁴⁸ By contrast, public goods present a problem for markets. Public goods have two features that create the problem—jointness of supply and impossibility of exclusion.⁴⁹ Rational actors will naturally seek to free ride on the provision of goods provided by others, because if the good is supplied and other steps are not taken, exclusion from consumption will be impossible; moreover, since the good will be in joint supply, the fact that the person did not take part in providing the good will not deter her from taking part in its consumption.⁵⁰ The problem is that every other rational actor is in the same position; each will do best if she is able to free ride on the provision of the public good by others. Thus, even though the good would be beneficial to the public in the sense that all would benefit from its provision, if each had to contribute to that provision, the good would not be provided.

The peer productions that Benkler cites are not commons in the literal sense, but rather are public goods in that if they are provided for one, they are provided for all, and consumption by one does not lessen the amount available to others. Thus when Benkler refers to a commons, he is using the term in the increasingly common metaphorical sense in which it is applicable to any good (or service) satisfying the conditions for a public good—jointness of supply and impossibility of exclusion. The reference to tragedy is apt, as any rational actor will ask herself why she should spend the time contributing to Wikipedia or Linux when she can alternatively engage in some unrelated activity yet still be able to use Wikipedia or Linux when it suits her. The problem is that if other potential contributors to Linux and Wikipedia reason in the same manner (which, under the assumptions of rational actor theory, they will), all will decide to free ride. But if everyone reasons in this manner, these revolutionary

optimal supply of public goods, either by subsidizing the private provision of the good or by producing it itself.

Id.

48. *Id.*

49. *Id.* Benkler holds that nonexcludibility is less important to his account than is nonrivalry. Benkler, *supra* note 2, at 404 n.74.

50. Elkin-Koren & Salzberger, *supra* note 47, at 559 (“The marginal costs of exclusion are often greater than the marginal costs of provision, so it is inefficient to spend resources to exclude nonpayers. Such free-riding reduces the incentives for investment in generating new information . . .”). With respect to software, some commentators have discussed Gnutella as an example of free riding. See Eytan Adar & Bernardo A. Huberman, *Free Riding on Gnutella*, FIRST MONDAY, Oct. 2, 2000, <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/792/701>; Clay Shirky, *In Praise of Free Loaders*, OPENP2P.COM, Dec. 1, 2000, http://www.openp2p.com/pub/a/p2p/2000/12/01/shirky_freeloading.html.

informational goods will cease to be provided or never be provided in the first place—a tragedy, to be sure.

It is typical for the economic analysis of intellectual property to be modeled as a public good due to its intangible nature.⁵¹ Their intangibility is what allows intellectual-property goods to satisfy the conditions for a public good. Creative works are non-rival in their consumption in as much as consumption by one person does not mean there is any less—of a book, for instance—to be consumed by another person. Once a book is published, unless copyright steps in to create artificial barriers (via digital-rights management, for example), there is nothing but the increasingly small cost of making a copy to stop those who wish to consume the book for free from doing so, despite their having played no role in the production of the work. Thus, there is both impossibility of exclusion and jointness of supply.

The difference between a typical creative work such as a book and those peer-produced works considered by Benkler, then, is not the rational structure of the good, since both typical intellectual-property goods and Benkler's peer productions fit the requirements for a public good. In a typical example from copyright, discussion focuses on the "work" of an "author."⁵² From this standpoint, what is so striking about the examples of peer production that Benkler discusses is that the number of producers of the good is not just somewhat larger than a single author, as is the case with a film involving the creative efforts of a number of people. With peer production of the sort Benkler has in mind, the number of producers is huge; as he notes, the contribution can be in the "tens of thousands" or even a "quarter million" people.⁵³

The large size of the producing group is something Benkler's peer productions share with some of the classic examples in rational-

51. Elkin-Koren & Salzberger, *supra* note 47, at 559 ("Information under standard economic analysis is such a public good This is because information has no physical boundaries, and its duplication and distribution involve relatively low costs.")

52. See, e.g., Oren Brancha, *The Ideology of Authorship Revisited: Authors, Markets, and Liberal Values in Early American Copyright*, 118 YALE L.J. 186, 188 (2008) ("Copyright in the West, we are often told, is deeply entangled with the modern notion of authorship. Authorship is copyright's ghost in the machine. In American culture, too, the author—as the heroic creator of original intellectual works and as their rightful owner—looms large.")

53. Benkler, *supra* note 2, at 374.

Tens of thousands of individuals collaborate in five-minute increments to map Mars's craters, fulfilling tasks that would normally be performed by full-time Ph.D.s. A quarter of a million people collaborate on creating the most important news and commentary site currently available on technology issues. Twenty-five thousand people collaborate to create a peer-reviewed publication of commentary on technology and culture. Forty thousand people collaborate to create a more efficient human-edited directory for the Web than Yahoo.

choice literature. For example, in his seminal work, *Collective Action*, Russell Hardin provides extended analyses of large-scale groups.⁵⁴ The groups Hardin focuses on do not produce works, creative or otherwise, but instead take part in political action. Hardin studies the environmental movement and the woman's movement, each of which involved thousands or even millions of participants in its heyday.⁵⁵ This similarity of numerosity alone suggests why Benkler would do well to pay more attention to the classic rational-choice literature. In the literature on the collective-action problem, size matters: generally speaking, the larger the group involved, the greater difficulty the group will encounter in solving its collective-action problems.⁵⁶ Thus, on the one hand, Benkler might well mention that in light of the public-goods problem as generally understood, the sorts of examples he is interested in promise to be especially difficult to solve. On the other hand, to the extent that his proposed solution is credible, it is all the more impressive given the large sizes of the groups he studies.

Indeed, Benkler's explanation as to how the tragedy of the commons is solved with regard to peer production is all the more interesting in that he provides reason to think that, at least with respect to the examples he develops, larger size may actually be a positive factor. For example, with the continuing development of Linux, the more eyes that are looking at some software bug, the more likely it is to be solved; in the case of Wikipedia, the more people involved in contributing, the more likely it may be that someone with greater knowledge of a particular subject will provide a contribution in the area of her expertise.⁵⁷ In other words, larger size can actually be

54. HARDIN, *supra* note 37.

55. *Id.* at 15, 32 (noting the involvement of the environmentalists and the women's movement, respectively).

56. *Id.* at 20-22 (describing Mancur Olson's famous hypothesis that larger groups are more likely to fail than smaller ones). In the legal literature, Robert Ellickson provides the seminal theory as to solving iterated collective action problems. ROBERT ELLICKSON, *ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES* (1991). In his account, size matters as well—his account relies on close-knit communities—and, other things equal, the larger a group, the more difficulty it will have being close-knit. *Id.* at 182 (“Smallness is therefore indeed highly correlated with close-knittedness.”).

57. Benkler, *supra* note 2, at 414.

The widely distributed model of information production will better identify who is the best person to produce a specific component of a project, all abilities and availability to work on the specific component of a project, all abilities and availability to work on the specific module within a specific time frame considered.

Id. If this is true, it is an important reply to the sort of argument made by Andrew Keen, who argues that amateur production will lead to a lowering of quality. See generally ANDREW KEEN, *THE CULT OF THE AMATEUR: HOW TODAY'S INTERNET IS KILLING OUR CULTURE* (2007). Keen focuses on the sorts of examples in which it is more plausible to

a positive factor in providing peer-produced content. To the extent that Benkler can establish this claim, it is highly significant, particularly in comparison to the orthodox solution to the free-rider problem on which ease of solution is inversely correlated with the size of the group.⁵⁸ Indeed, the question is begged as to how the sorts of informational and cultural goods that Benkler studies are different from those studied by classic collective-action theory, such that this important difference emerges. As I discuss below, other important differences emerge as well, such as that sanctions and iterated play have almost no role in Benkler's account, while they are crucial to the classic accounts that purport to solve the collective-action problem.

2. Peer Production as a Potential Solution to the Tragedy of the Commons

In light of the above remarks, the fundamental question is whether Benkler is right in his characterization of peer production as a solution to the tragedy of the commons.⁵⁹ If the answer is yes, then the next important inquiries include how widespread the phenomenon he describes is, and what potential there is for significant new peer production. Given the great social utility of the examples he develops, there would, other things equal, be a great social interest in new types of peer production, and perhaps in altering some details of copyright law so as to facilitate this goal. Considering the explosive growth of multiplayer video games, the model may be very generalizable indeed if Benkler is correct that these games are properly viewed as peer

suppose that an army of amateurs will not be in a position to provide the same quality of contributions. He provides the example of journalists who have spent years gaining expertise and compares these to amateur bloggers. *Id.* at 46-56. He draws the conclusion that bloggers spouting their opinions are in no position to be able to offer news or analysis with a comparable level of quality because they do not have a comparable level of expertise. *Id.* With the sorts of peer productions Benkler examines, however, it is plausible that individual amateurs may indeed possess specialized knowledge or skills that can lead to uniquely valuable contributions. *See id.*

58. *See infra* text accompanying note 76.

59. Benkler, *supra* note 2, at 379 (acknowledging that free software may be an exception, commenting that, "It certainly should not be that these volunteers will beat the largest and best-financed business enterprises in the world at their own game. And yet, this is precisely what is happening in the software industry"). There have been writings that focus on the special characteristics of software as peer production. *E.g.*, James Bessen, *Open Source Software: Free Provision of Complex Public Goods* (July 2005), available at <http://www.researchoninnovation.org/opensrc.pdf> (explaining how open-source software contradicts the traditional idea that public goods will not be efficiently provided without ownership rights or government intervention).

production.⁶⁰ Whereas he does include games in passing as within the ambit of peer production, Benkler says very little about this subcategory.⁶¹ One cannot help but wonder if this is because game playing is not so obviously a net provider of substantial social welfare in the manner of free software and Wikipedia.⁶² To the extent that video games are accurately viewed as peer productions, and video-game playing has questionable social value, the implication arises that peer productions are not per se socially valuable; there are valuable ones—Benkler's exemplars, for instance—but there are deleterious ones as well. Peer-produced pornography may be an example.⁶³

In the following discussion, I will argue that while Benkler's account is important and original, it suffers from a conflation of collective-action models. In particular, in light of his own analysis, his modeling of peer production as a tragedy of the commons is flawed. Under the motivational assumptions that Benkler defends, peer production is properly modeled as involving coordination norms or conventions.⁶⁴ This distinction may have important consequences, for, as Benkler notes, the "descriptive" thesis he propounds may have

60. Scott Duke Harris, *Gazillion Debuts with Marvel, Lego Online Game Deals*, SAN JOSE MERCURY NEWS, Mar. 16, 2009, http://www.mercurynews.com/business/ci_11928516?nclick_check=1 (noting that, despite the recession, the online-game industry has recorded double-digit growth).

61. See Benkler, *supra* note 2, at 389.

62. Giles Whittell, *Video Games: I'll Never Buy One*, THE TIMES (London), Apr. 2, 2008, available at http://www.timesonline.co.uk/tol/comment/columnists/guest_contributors/article3663097.ece ("[C]ompared with everything else on offer in a kid's life, video games and heroin and teenage pregnancy are a colossal waste of time."). Benkler compares socially valuable peer production with so-called "purely nonproductive consumption." Benkler, *supra* note 2, at 371. He writes, "[P]eer production draws effort that in many cases would otherwise have been directed toward purely nonproductive consumption—say, watching television instead of marking craters on Mars, ranking websites for the Open Directory Project, or authoring entries for Wikipedia." This argument is specious, however, given that he counts gaming as relevant peer-productive activity. *Id.*

63. Ann Bartow, *Pornography, Coercion, and Copyright Law 2.0*, 10 VAND. J. ENT. & TECH. L. 799, 838-39 (2008).

Copyright law could be reconfigured to alter incentives related to current pornography creation and distribution patterns. The ability to register and enforce copyrights on pornographic works could be linked to compliance with a regulatory scheme intended to promote the safety and well-being of everyone connected with the works' production and commercial exploitation.

Id.

64. The *locus classicus* on conventions is DAVID HUME, A TREATISE OF HUMAN NATURE (Project Gutenberg 2003) (1739), available at <http://www.gutenberg.org/etext/4705>. For discussion on the distinction between conventions and coordination norms, see HETCHER, NORMS, *supra* note 37. See also Gerald J. Postema, *Coordination and Convention at the Foundations of Law*, 11 J. LEGAL STUD. 165 (1982).

significant normative implications,⁶⁵ and these implications, he speculates, may stretch to core issues in copyright law and beyond that to political morality.⁶⁶ Particularly interesting in this respect is Benkler's suggestion that ownership itself may actually introduce transaction costs that impede peer production.⁶⁷ Benkler's account thus serves to provide novel support that might help to revive the dotCommunist manifesto of Web 1.0 lore.⁶⁸

C. Alternative Perspectives

There are two key analytic moves in Benkler's account. His first is to argue that contributors to peer production, under the right conditions, may receive "social-psychological rewards" that serve to motivate the creators despite a lack of, or indeed an inverse relation to, monetary rewards.⁶⁹ The second analytic move focuses on the size of the contribution that must be made, the basic intuition being that the smaller the contribution, the less sacrifice required and thus the more inclined people will be to make such contributions.⁷⁰

Benkler contends that agents have preferences for rewards of three types.

65. Benkler, *supra* note 2, at 379 n. 18. Elsewhere, Benkler does draw out normative implications from the general sort of framework developed in this article. See Yochai Benkler, *There is No Spoon*, in THE STATE OF PLAY 183-84 (Jack M. Balkin & Beth Simone Novack, eds., 2006) [hereinafter Benkler, *Spoon*]. Benkler suggests that there may be substantial costs to introducing property rights into an enterprise such as *Second Life*, such that it may be normatively preferable to have the game gods keep control of the property. This is a potentially important implication, as it flies in the face of much contemporary commentary on the desirability of property rights in UGC by the participants in virtual worlds. *Id.* See, e.g., Cory Ondrejka, *Escaping the Gilded Cage: User Generated Content and Building the Metaverse*, in THE STATE OF PLAY, *supra*, at 158-76 (Jack M. Balkin & Beth Simone Noveck eds., 2006).

66. Benkler, *supra* note 2, at 380.

67. *Id.* at 407 (holding out the prospect of "allocation efficiencies gained from the absence of property").

68. Dot-communism is roughly the view that content on the Internet should be subject to less or no copyright protection. See, e.g. Eben Moglen, Lecture at the University of North Carolina, Chapel Hill, *The dotCommunist Manifesto: How Culture Became Property and What We're Going To Do About It* (Nov. 8, 2001), available at <http://www.ibiblio.org/speakers/index.cgi/2001/11/1> (video stream).

69. *Id.* at 378.

70. *Id.* Benkler sets out conditions for producing commons-based peer productions on the second model. First, peer productions must be modular. *Id.* at 378. Second, the "modules" that are contributed "should be predominantly fine-grained, or small in size." *Id.* at 379. The reason for this condition is that this will allow for the maintenance of peer productions that require "contributions from larger numbers of contributors whose motivation levels will not sustain anything more than small efforts toward the project." *Id.*

M → *Monetary rewards*, which decrease in value because of the decreasing marginal utility of money. Call the rate at which *M* decreases *s* (satiation).

H → *Intrinsic hedonic rewards* experiences from taking actions.

SP → *Social-psychological rewards*, which are a function of the cultural meaning associated with the act and may take the form of actual effect on social associations and status perception by others or on internal satisfaction from one's social relationships or the culturally determined meaning of one's action.⁷¹

Benkler refers to "mechanisms for indirect appropriation of the benefits of participation" in order to indicate all three of the above preferences.⁷² The first of these corresponds to economic benefit—he considers the sorts of factors that others have pointed to, such as reputation benefits, or other indirect economic benefits, such as enhanced job prospects.⁷³ He also includes what he refers to as "more mundane benefits, such as consulting contracts, customization services, and increases in human capital that are paid for by employers who can use the skills gained from participation in free software development in proprietary projects."⁷⁴ Benkler is willing to acknowledge that these economic factors may all play some role—either within one person or across persons—in the panoply of preferences that sustain peer production.⁷⁵

To the extent that Benkler's model relies on indirect economic benefits such as reputation enhancement, it falls within a venerable solution to the tragedy of the commons that has been developed elsewhere. The best-known example in the legal literature comes from Robert Ellickson, the seminal figure in the law and norms movement, who argues that rational actors in close-knit groups may cooperate in situations with the strategic structure of a prisoner's dilemma when that close-knitedness allows both for "iterated" play—that is, a repetition of the situations at issue—and for the formation of reputations.⁷⁶ By contrast, iterated play and reputation formation,

71. *Id.* at 426.

72. *Id.* at 424.

73. *Id.* at 425.

74. *Id.*

75. *Id.* at 378.

76. ELLICKSON, *supra* note 56, at 177-81; *see also* Benkler, *supra* note 2, at 438. Benkler notes in passing that tight-knit relationships may be a factor in the explanation of a particular example. "[T]he likelihood of free-riding generally increases as the size of the

per se, play no essential role in Benkler's account of rational conformity. His peer-production participants would presumably be motivated to conform even in a single-shot game,⁷⁷ because due to the "indirect appropriation" Benkler describes, it is in their interest to do so.⁷⁸ Thus, while Ellickson and Benkler both accord a role to reputation, their accounts are significantly different. For Ellickson, reputation as a cooperator is essential. For Benkler, the pursuit of a good reputation may be one of the operative motives of a peer-production participant, depending on the person and the type of peer production at issue, but it is not essential to his model.⁷⁹

Indeed, Benkler does not rely on the sort of economic model championed by Ellickson in the legal literature. This fact is evident when Benkler writes, "A new model of production has taken root, one that should not be there, at least according to our most widely held beliefs about economic behavior."⁸⁰ According to the widely held beliefs that Benkler is referring to, namely those that together make up the traditional rational-choice model, free riders should doom the putative peer production to failure. He even goes further, explicitly

pool increases and the probability of social-norms-based prevention of free-riding declines."). One example that Benkler gives of a close-knit community is that of Distributed Proofreaders, a group of volunteers who proofread Project Gutenberg texts.

Distributed Proofreaders, a site unaffiliated with Project Gutenberg, is devoted to proofing Project Gutenberg e-texts more efficiently by distributing the volunteer proofreading function in smaller and more information-rich modules. In the Distributed Proofreaders process, scanned pages are stored on the site and volunteers are shown a scanned page and a page of the e-text simultaneously so that the volunteer can compare the e-text to the original page. Because of the fine-grained modularity, proofreaders can proof one or a few pages and submit them. By contrast, the entire book is typically exchanged on the Project Gutenberg site, or at minimum a chapter. In this fashion, Distributed Proofreaders clears the proofing of thousands of pages every month. Interestingly, these sites show that even the most painstaking, some might say mundane, jobs can be produced on a distributed model. Here the motivation problem may be particularly salient, but it appears that a combination of bibliophilia and community ties suffices (both sites are much smaller and more tightly knit than, for example, the Linux kernel development community).

Id. at 399.

77. A single-shot game is one in which the players interact in a strategic situation only once. For a discussion of the single-shot game, see Steven Hetcher, *Changing the Social Meaning of Privacy in Cyberspace*, 15 HARV. J.L. & TECH. 149, 199-203 (2001).

78. Benkler, *supra* note 2, at 425 ("Given that two-thirds of the revenues of the software industry are service-based and that the total revenues of the software industry are three times the size of the movie, video, and sound-recording industries combined, indirect appropriation offers a rich field of enterprise for participants in free-software development.").

79. *Id.* at 396 ("[T]he system also allows users to build reputation over time and to gain greater control over the accreditation of their own work relative to the power of the critics." (emphasis added)). But he also considers peer productions in which reputation plays no role. *Id.* at 424-25.

80. *Id.* at 371.

characterizing his model as an affront to hegemonic motivational assumptions that he sees as characterizing the American psyche beyond the confines of academic discourse. He writes, "The intuitions of the late twentieth-century American resist the idea that thousands of volunteers could collaborate on a complex economic project."⁸¹ Benkler begs to differ.

With regard to the second type of preference for reward, Benkler notes, "At the broadest level, there is the pleasure of creation. Whether you refer to this pleasure dispassionately as 'hedonic gain' or romantically as 'an urge to create,' the mechanism is simple. People are creative beings. They will play at creation if given an opportunity, and the network and free access to information resources provide this opportunity."⁸² He claims that in some circumstances participation is "fun,"⁸³ and that these considerations mean that, in the end, the participant benefits from "indirect appropriation."⁸⁴

Of these three types of preferences for rewards, the last is the most difficult to understand. He characterizes social-psychological rewards as "a function of the cultural meaning associated with the act [that] may take the form of actual effect on social associations and status perception by others or on internal satisfaction from one's social relations or the culturally determined meaning of one's action."⁸⁵

As will be seen in the next Part, there is deep disagreement regarding the existence of these social-psychological rewards. Returning for a moment to the mention of Ellickson above, one might suppose that Benkler does not discuss venerable rational-choice accounts with respect to the tragedy of the commons because he may see himself as setting out a competing theory. It is not clear that he sees himself as doing so, however, as Benkler does not make this claim. Thus, even if Benkler is correct regarding peer production, he

81. *Id.*

82. *Id.*

83. *Id.* at 390.

84. *Id.* at 405 n.76; Benkler characterizes indirect appropriation as follows:

"Indirect appropriation" is appropriation of the value of one's effort by means other than reliance on the excludability of the product of the effort. For example, someone who is paid as a teacher but gets the position in reliance on his scholarship is indirectly appropriating the benefit of his scholarship. An IBM engineer who gains human capital by working on GNU/Linux from home in the evening is indirectly appropriating the benefits of her efforts in participating in the production of GNU/Linux. The term is intended to separate out appropriation that is sensitive to excludability of information—direct appropriation through intellectual property—and appropriation that is independent of exclusion from the information—indirect appropriation without intellectual property.

Id.

85. *Id.* at 426-27.

has made no claim that all tragedies of the commons are currently being, or should be, solved in this manner. Perhaps the methods explored by Ellickson and Hardin, among others, are more appropriate to some types of peer production, and Benkler's to others. Or perhaps the best approach will combine the classic approaches of Hardin and Ellickson with that of Benkler. Given the social value of peer-produced content such as open-source software and Wikipedia, surely it is worth exploring whether hybrid regulatory solutions may be most effective in certain circumstances. Thus, the following discussion will critique Benkler's account not just for critique's sake, but also in order to better understand whether the solution he proffers might possibly dovetail with the classic solutions to form a hybrid solution that is more potent than either alone.

II. THE CRITIQUE OF BENKLER'S ACCOUNT

The question of whether Benkler has solved the tragedy of the commons is actually two questions: first, does Benkler's solution work in the context of peer production, and second, does it work more generally? I argue that it does neither, and the reason is simple. To the extent that cooperation is primarily explained by characterizing participation as (1) fun, (2) providing a social-psychological benefit, or (3) in some other way in the direct economic interest of the participants,⁸⁶ there is no longer a tragedy of the commons. Here it is important to distinguish between solving the tragedy of the commons or free-rider problem, on the one hand, and in essence changing the structure of the game to avoid the problem, on the other. In sum, my claim is that Benkler does the latter.

As already noted, the defining feature of a tragedy of the commons or free-rider problem is that a rational actor will prefer not to contribute or continue contributing toward the production of the public good, but instead to free ride on the contributions of others.⁸⁷ Actors cooperate only if this preference for defection in the single-shot game is outweighed by some stronger consideration. For example, according to Ellickson, under suitable conditions of close-knitedness and iterated interactions, the prospective benefits of cooperation over the course of repeated interactions will outweigh those benefits to be gained by defection from cooperative behavior, due to the cost of being

86. *Id.* at 384-85. Benkler uses the example of the NASA Clickworkers project as something done for "fun." Benkler, note 2, at 384 n.29.

87. *See supra* text accompanying notes 45-51.

sanctioned for one's defection.⁸⁸ The key is that this initial preference to defect remains, such that if the countervailing consideration of the benefits to be gained through cooperative iterative behavior disappear, the rational actor will prefer to defect from cooperation.

By contrast, the core features of a free-rider problem do not exist in the solution Benkler sets out. This requires some explanation, however, as Benkler unhelpfully refers to all three types of motivations that drive participation as "indirect."⁸⁹ To paraphrase Abraham Lincoln, to call a tail a leg does not change the fact that a dog has four legs.⁹⁰ Similarly, to label what are most meaningfully seen to be direct preferences as indirect preferences does not make them indirect preferences. One cannot change the actual nature of the preferences that drive people to cooperate in real-world situations by a simple act of labeling. The question, then, is which label is more meaningful or conceptually accurate as a characterization of the framework Benkler prefers. I would contend that either one or two of Benkler's three types of preferences for rewards are best characterized as direct, depending on whether one is an adherent to a Hobbesian or a Humean approach to rational actor theory.⁹¹ What matters is whether, for any given participant, it is the direct or indirect

88. The main form of sanction is that others will refuse to enter into future cooperative relationships. ELLICKSON, *supra* note 56, at 179-80.

89. Benkler, *supra* note 2, at 424 ("[T]he incentive problem as an objection to the general sustainability of peer production is in large part resolved by the existence of a series of mechanisms for indirect appropriation of the benefits of participation . . .").

90. Abraham Lincoln Dog Quotes, DogQuotations.com, <http://www.dogquotations.com/abraham-lincoln-dog-quotes.html> (last visited Mar. 17, 2009) ("How many legs does a dog have if you call the tail a leg? Four. Calling a tail a leg doesn't make it a leg.")

91. HETCHER, *NORMS*, *supra* note 37, at 100. The most extreme rationalist position holds that all behavior is narrowly rational. Because this is sometimes thought to have been Hobbes's position, I will refer to holders of this view as Hobbesians. These theorists characteristically offer accounts of how patterns of behavior that seem to be moral on their face really result from the subtle machinations of enlightened self-interest. Impressionistic evidence strongly suggests, however, that few rational-choice theorists who explicitly discuss the matter defend this extreme position. Another group of rational theorists, while also delighting in debunking conventional understandings of many practices, nevertheless are willing to grant the real though limited existence of genuinely moral motivation. Typically, these theorists appear to think that although morality cannot be entirely forgotten, it is nevertheless marginal so that, for most purposes, straightforward rational-choice analysis is still the best approach. See HETCHER, *supra* note 37, at 100. ("[C]onventions may be a species of norms: regularities to which we believe one ought to conform. I shall argue that they are. There are certain probable consequences implied by the fact that an action would conform to a convention (whatever the action and whatever the convention) which are presumptive reasons, according to our common opinions, why that action ought to be done. This position is historically most associated with Hume, who took a view of the world that natural human sympathy could be a source of genuinely other-regarding behavior.")

preferences that drive participation. Either way, however, Benkler's account is incorrect. If direct preferences alone are enough to motivate individual participation, then the situation for this participant no longer presents a tragedy of the commons or free-rider problem and there is no need to bring the indirect preferences into the explanation. People are not participating against their direct preferences in a single-shot game in order to garner the long-term benefits of iterated, cooperative play, but instead are cooperating because of direct preferences to do so.

On the other hand, if it takes the addition of indirect preferences to shift the rational choice from defection to conformity, then it is these indirect preferences that tip the balance. The actor indeed faces a situation with the structure of a free-rider problem as the direct motivation in the single-shot game is to defect from cooperation. It is only the prospect of indirect benefits that makes participation the maximizing choice on balance. If Benkler's account is to rely on indirect benefits outbalancing direct benefits, however, he owes us a more detailed explanation as to why indirect trumps direct. Benkler's comments with regard about indirect benefits do not provide sufficient detail to provide a plausible explanation as to how the indirect benefits could function in the absence of sanctions or iterated play to turn erstwhile defectors into cooperators. The reason for Benkler's failure to even attempt to provide such an account should be obvious; he does not think it is incumbent upon him to do so, given his (mistaken, I argue) belief that it is sufficient that all three types of motivation in aggregate are enough to motivate participation.

Note, however, that in his remarks on economic motivations, Benkler does implicitly appeal to what are in effect considerations of iterated play—for example, in his comments on the manner in which the desire to be awarded contracts, better jobs, tenure, et cetera, may motivate cooperation.⁹² Note that while Benkler does not speak of it as such, this is in effect an iterated-play argument in that one may plausibly think that contributing toward Linux, for example, could enhance one's potential to be awarded contracts or to receive other benefits. Benkler's argument, in effect, depends on a cooperator's ability to develop a good reputation, and this supposes some sort of iterated-play account. If one is always in one-shot interactions with others, one will not be able to develop a reputation as a good software writer, since reputation depends on others' knowledge of one's previous software writing actions—in particular, knowledge that one's previous actions somehow speak well enough that one is deemed more

92. *Supra* text accompanying notes 70-75.

worthy of contracts, promotions, et cetera, than one would otherwise be.⁹³ There can be knowledge of one's previous software writing accomplishments, however, without iterated play of some sort. The iterated play need not be with the same person. In a close-knit community, reputation is also spread by word of mouth, such that the iteration of behavior that is evaluated for reputational purposes may develop across a series of dyadic relationships, as long as there is a sufficient amount of overlap between dyads so that there is enough flow of information to allow reputations to form.⁹⁴

The Hobbesian and Humean accounts will differ in their treatment of Benkler's "social-psychological benefits." Are these direct benefits pursued for their own sake or done in the pursuit of something else? In the classic examples of the tragedy of the commons, no social-psychological benefit accrues from participation. In other classic commons problems, participation means refraining from, for example, overgrazing one's livestock on the commons, or refraining from whaling, despite the fact that one's livelihood depends on these activities. A typical husbandman or fisherman could not be expected to garner intrinsic satisfaction from foregoing the benefits to be had for himself and his family due to better fed livestock or bigger catches. Under the assumption of Hobbesian rational-actor theory, there are no social-psychological benefits apart from those garnered from taking part in activities that promote one's narrow self-interest, and the above activities clearly would not do so. Quite the opposite—others benefit at the expense of oneself and one's family.

Humean theorists might, however, contend that a rational actor does receive social-psychological benefits from refraining from over-grazing or over-whaling. Even here, though, it may depend on whether or not others in the community are likewise refraining. If they are, then the Humean rational actor would be motivated by a sense of fairness or reciprocity or altruism to do so as well.⁹⁵ If others

93. ELLICKSON, *supra* note 56, at 57-58.

94. HARDIN, *supra* note 37, at 185-87.

95. Some commentators have sought to explore the emergence of informational public goods such as free software by postulating a "gift economy" or "sharing" economy. See, e.g., Rishab Aiyer Ghosh, *Cooking Pot Markets: An Economic Model for the Trade in Free Goods and Services on the Internet*, FIRST MONDAY, Mar. 2, 1998, <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/580/501> (noting that the motivation for production on the Internet is not necessarily money or altruism, but rather intangibles that represent a "very tangible market dynamic"). While he cites some of this work in passing, Benkler's model does not rely on it. Peer participants are not characterized as sharers or gift givers. Benkler, *supra* note 2, at 373. Some theorists in the context of UGC and Web 2.0 economy implicitly acknowledge the problem as well when they postulate notions such as the "reputation economy" or the "attribution economy." E.g.,

are not refraining, however, the altruist might nevertheless refrain while those motivated by fairness or reciprocity might not. Empirical research has grounded the move away from the Hobbesian account in favor of the Humean account, and arguably this research is more robust with regard to fairness and reciprocity than with regard to altruism.⁹⁶

One facile “solution” to the free-rider problem sometimes given in traditional economic literature is to postulate preferences for activities such as voting, giving to charity, or the pursuit of esteem.⁹⁷ Thus, one is not acting against one’s self-interest in giving to charity, but rather has a “preference” or “taste” for this activity. The problem with such explanations, however, is that they are circular. Rational-choice theory is correct by definition if any behavior can be characterized as rational, simply by postulating a preference for the behavior, despite the fact that the preference works in opposition to an intuitively plausible conception of narrow self-interest. Thus, it might not be overly glib to contend that there are two versions of rational-actor accounts—circular and non-circular ones.⁹⁸

Humean theorists are disposed to see other-regarding preferences as being as fully capable of directly motivating certain people, as do preferences for narrowly self-interested outcomes.⁹⁹ It appears clear that Benkler would consider himself to be a Humean

Rebecca Tushnet, *Payment in Credit: Copyright Law and Subcultural Creativity*, 70 LAW & CONTEMP. PROBS. 135, 153 (2007).

Blogs reflect a pervasive sense among different types of creators that credit can substitute for other indicia of authorship such as payment or control. To take a highly salient example, legal scholars, like other academics, are often far more concerned with credit than payment. Discussions with artists and nonlegal scholars about their perceptions of copyright law and fair use also revealed that many think of attribution as a legitimate substitute for payment in cases of nonprofit use.

Id.

96. See, e.g., Ernst Fehr & Urs Fischbacher, *The Nature of Human Altruism*, NATURE., Oct. 23, 2003, at 425, 785-791; see generally, articles collected in BEHAVIORAL ECONOMICS (Cass R. Sunstein ed., 2000).

97. Richard H. McAdams, *The Origin, Development and Regulation of Norms*, 96 MICH. L. REV. 338, 358 (1997).

98. Note that the prospect of circular and non-circular accounts is possible on both Humean and Hobbesian approaches. While Humean theorists have a broader conception of the range of motivations that cause behavior, nevertheless, not anything goes. HETCHER, *supra* note 37, at 112. For example, one might be a Humean theorist who acknowledges the direct motivational force of the desire to behave reciprocally, but rejects the notion that rational actions are motivated by altruism. I have elsewhere criticized otherwise insightful accounts such as those of Margolis and Kavka for an undue reliance on altruism, per se, as opposed to a more nuanced—and more strongly empirically supported—account that looks to non-altruistic forms of other-regarding motivation. *Id.*

99. GREGORY KAVKA, HOBBSIAN MORAL AND POLITICAL THEORY 65 (1986).

theorist, as he thinks that people sometimes participate contrary to their self-interests as defined in traditional economic terms.¹⁰⁰ This would mean that he would see a larger number of motives to participate in peer production as direct motivations, in the sense that the actions are pursued for their own sake rather than as an indirect means serving the narrow self-interest of the cooperators over a series of iterations. If these direct motivations do provide sufficient motivation for some peer production, the practice whereby the content continues to be produced would have the structure of a convention as opposed to that of an iterated prisoner's dilemma.¹⁰¹

Benkler's best example for which a direct form of motivation would be a plausible explanation of participation is that of multiplayer games such as *Ultima Online* and *EverQuest*.¹⁰² As he notes, such participation is "fun."¹⁰³ Massively multiplayer online role-playing games are unlike Benkler's examples of peer productions, however. Benkler refers to the "screenwriter," meaning all the participants in the game, and speaks of the users as "coauthors" who each make "individual contributions to the storyline."¹⁰⁴ The terms in this description have an odd ring to them. We do not naturally think of game players as coauthors or the result of their actions as the production of a storyline; this is supported by the fact that it is highly

100. Benkler, *supra* note 2, at 378.

The interaction between money, love, and sex offers an obvious and stark example, but the tradeoffs that academics face between selling consulting services, on the one hand, and writing within a research agenda respected by peers, on the other hand, are also reasonably intuitive. Given these propositions, it becomes relatively straightforward to see that there will be conditions under which a project that can organize itself to offer social-psychological rewards removed from monetary rewards will attract certain people, or at least certain chunks of people's days, that monetary rewards would not.

Id.

101. The classic account of convention is DAVID LEWIS, CONVENTION 97 (1969). *RATIONAL MAN AND IRRATIONAL SOCIETY?* 21 (Brian Barry and Russell Hardin, eds., 1982) ("Part of the appeal of the assumption of narrow rationality is almost methodological: it is easy to accommodate in analysis and it is relatively easy to assess in generalizable behaviors. An additional appeal might be, as is sometimes claimed, that it explains a very large fraction of behavior in certain realms. One can too easily overrate the size of that fraction even in the most explicitly economic contexts. But often the assumption of narrowly rational motivation yields predictions that are the most useful benchmark against which to assess the extent and the impact of other motivations. Occasionally it yields predictions that so nearly fit behavior that investigation need to go no further to satisfy us that we have understood why certain outcomes occur and others do not.")

102. See Benkler, *supra* note 2, at 389-90.

103. *Id.* at 390; see also text accompanying notes 87-89.

104. *Id.*

doubtful that one could copyright the playing of a game by a large number of uncoordinated players as a “work” of authorship.¹⁰⁵

Coauthors are presumably synonymous with joint authors. It is not surprising that, under copyright law, joint authors must each intend to be a joint author, a condition that is not satisfied in the gaming context Benkler envisions.¹⁰⁶ On Benkler’s behalf, however, one might observe that even if massively multiplayer games are not stories or works for purposes of copyright, they nevertheless may be peer production in light of his analysis. After all, his characterization of peer production does not require copyrightable content.¹⁰⁷ Note, however, that if peer productions like Linux and Wikipedia are incorrectly modeled as solutions to tragedies of the commons, it is especially unintuitive to view multiplayer games in this light: where is the commons, and who are the free riders? Rather, games are best viewed as having the structure of a convention—one benefits directly by participating in games in which others are participating. Otherwise, why would one do so, given the lack of sanctions for foregoing such behavior?

If one is inclined toward the Humean account, Benkler’s examples seem like plausible ones. Note how they differ from the classic examples of tragedies of the commons, where it is implausible to think that rational actors would have a preference for, for example, refraining from grazing their cattle, if one’s family’s livelihood

105. *Midway Manufacturing Co. v. Artic Int’l, Inc.*, 704 F.2d 1009 (7th Cir. 1983) (holding that even though the images on the screen were transient, aspects of a video arcade game are copyrightable by the creator). However, this has become an increasingly difficult question with increased interactivity in games. Leena M. Sheet & A. Benjamin Katz, *Protecting Rights in Videogames: Next Generation Licensing*, 6 VA. SPORTS & ENT. L.J. 124, 131 (2006).

The *Midway* court also likened playing a videogame to changing a channel on the television, rather than the more creative effort required in writing a novel or painting a picture, and thus, the action on-screen was not a new creation by the user, and the game was copyrightable. That was twenty-three years ago and, today, increased interactivity of gaming may deserve another look at the question of whether what is created on the screen belongs to the player, the game publisher, or the developer.

Id.

106. 17 U.S.C. § 101 (2000) (“A ‘joint work’ is a work prepared by two or more authors with the intention that their contributions be merged into inseparable or interdependent parts of a unitary whole.”). It is perhaps worth asking whether peer productions are of significance to copyright even if they are not properly seen as coauthored works of authorship. For example, perhaps they can colorably be conceptualized as compilations. This seems problematic as well, however, as the notion of a compilation implies a compiler. A compilation is copyrightable as a work because the resulting effort itself displays sufficient creativity to pass the test for copyrightability under *Feist*. See *Feist Publ’ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 361 (1991).

107. Benkler, *supra* note 2, at 384-85.

depends upon it. By contrast, Wikipedia or Linux involve relatively small per-person costs, and the participants are persons who can generally afford such other-regarding behavior, particularly in the small increments in which it is needed for peer production. One does not need to go far down the road of assuming the existence of moral motivations (of the sort studied empirically) to see Benkler's examples as plausible. It is more plausible to suppose that writing a Wikipedia entry or spotting a software bug is minimally costly, or even fun—at least for those whose conforming acts constitute the practice. One sacrifices one's time, and time is money, but jobs are lumpy goods.¹⁰⁸ Spending a few hours writing a Wikipedia entry or fixing a software bug does not typically mean working a few less hours. Instead, people engage in such activity in their free time, so it may be relatively costless in that the tradeoff is less time for some other form of recreation.¹⁰⁹

In a tragedy of the commons, a small number of free riders—perhaps only one—can destroy the value of the commons. Benkler's peer productions do not have this feature. Instead, a very large number of non-participants can potentially free ride on the provision of the good by a relatively small number; Benkler focuses on how large the numbers of contributors are in absolute terms.¹¹⁰ However, these numbers are small in proportion to the number of people benefitting, and hence, in a formal sense, free riding. In the case of Wikipedia, for example, the number of unique visitors to the site is in the millions, while the number of contributors is in the thousands.¹¹¹ This means that the number of free riders outnumbers the number of contributors one-thousand fold. Yet to all appearances there is no sanctioning behavior on the part of the contributors, suggesting that contributors are not bothered by the non-contributions of most others, presumably because they do not perceive the non-conformers as free-riding on their own conforming actions—actions that they do not view as onerous but instead prefer to undertake as a direct preference. Thus, Benkler's social-psychological motivations are thus best interpreted as

108. See generally Michael Taylor & Hugh Ward, *Chickens, Whales, and Other Lumpy Goods: Alternative Models of Public-Goods Provision*, 30 POL. STUD. 350 (1982), available at <http://www2.warwick.ac.uk/fac/soc/economics/ug/modules/2nd/ec228/details/taylorward.pdf> (providing a general background on lumpy goods).

109. Benkler, *supra* note 2, at 436-38. Benkler provides other examples and commentary that go to support the point that participating in peer productions may be less painful and contrary to natural impulse than conformity to classical free-rider problems would be. *Id.*

110. *Supra* note 53 and accompanying text.

111. See Wikipedia Statistics: Contributors, <http://stats.wikimedia.org/EN/TablesWikipediansContributors.htm> (last visited Mar. 20, 2009).

implicitly assuming a Humean economic perspective, according to which people are willing to devote some amount of their efforts to non-self-interested behavior.

For example, it seems quite plausible that people would be willing to devote some non-self-interested effort out of fairness or reciprocity for the benefits they receive from the contributions of others to peer productions such as open-source software.¹¹² Note that it is consistent with this account to maintain that most actors are not motivated in this manner, for as already noted, whereas millions of people benefit from Linux or Wikipedia, their maintenance requires only thousands.

In addition to empirical literature supporting a Humean economic approach,¹¹³ the theoretical literature provides support for the sort of behavior Benkler hypothesizes. For example, the classic rational-choice accounts of Gregory Kavka and Howard Margolis take a basic rational-actor approach, but one that allows for altruistic motivation at the margin.¹¹⁴ Margolis, for example, provides a number of conditions under which we may expect altruistic acts, even by actors with a limited budget for altruism.¹¹⁵ This account is similar to Benkler's in holding that models of social behavior must allow for the fact that people can only be counted on to make small contributions of other-regarding behavior (Benkler's modularity requirement).¹¹⁶

The question is whether there is any meaningful difference between Benkler's social-psychological benefits and Margolis or Kavka's appeal to limited altruism. Benkler's account does not explain why people have the social-psychological preferences that they have; for example, why a preference for small contributions over large contributions? Since it is all indirect appropriation, why are people not as inclined to receive equally desirable social-psychological benefits regardless of the size of the contribution? His model offers no answer. Margolis and Kavka's accounts can provide a more intuitively plausible answer, which is that people are not completely narrowly self-interested, but largely so.¹¹⁷ To the extent they do not act in

112. See Benkler, *supra* note 2, at 401 n.67.

113. See *supra* note 97.

114. HETCHER, *supra* note 37, at 101-02.

115. HOWARD MARGOLIS, SELFISHNESS, ALTRUISM & RATIONALITY: A THEORY OF SOCIAL CHOICE 6 (1982).

116. Benkler, *supra* note 2, at 329.

117. HETCHER, *supra* note 37, at 101-02. Indeed, Hardin is best read as a Humean theorist, albeit one who works with first-generation assumptions for the purpose of methodological rigor. *Id.*

narrowly self-interested ways, they will do so sparingly and in a cost-effective manner, such that we can predict that people who know about software will tend to contribute to the free-software movement, and people who know about odd and sundry topics will contribute to Wikipedia. Kavka and Margolis's accounts provide more clarity on the nature of the behavior implicit in a Humean account. The important feature of other-regarding behavior is that it is not performed because it provides utility or preference satisfaction to the actor—Benkler's social-psychological benefits—but rather because it provides utility to people other than the actor. These are the others who constitute the other-regardingness of the action.

Benkler provides the following quote from Eben Moglin with apparent approval: “[I]f you wrap the internet around every person on the planet, software flows in the network. It's an emergent property of connected human minds that they create things for one another's pleasure”¹¹⁸ This statement suggests a dynamic model. A particular person's preference for participation is affected, or enhanced, by that person's participation in an information ecosystem in which others are participating in part for “one another's pleasure.”¹¹⁹ The quote is strongly suggestive of a position in which someone wants to participate, *simplicitor*, not because of some personal social-psychological benefit from doing so. If this is the model Benkler has in mind, he should clarify this, since the task of creating and maintaining collective-action solutions of one sort will typically vary from what is required for maintaining the other sort of structure. For example, in Moglin's model, individuals will want to participate simply because they want to please others.¹²⁰ If this is the model of motivation Benkler wishes to adopt, then he should jettison the confusing characterizations that such behavior is either “indirect” or provides a “social-psychological benefit.”¹²¹ Participants pursue the behavior because of the benefit it provides to others, not to themselves. This is the nature of other-regarding behavior, and this is how one acts for another's pleasure, to invoke Eben Moglin's words.¹²²

I find it plausible that for enough people, contributing to Linux or Wikipedia could be a cost-justified small altruistic or reciprocal act, or alternatively, enjoyable behavior on its own terms. My only point is that this is no longer a tragedy of the commons. As noted, it is only a

118. Benkler, *supra* note 2, at 380 n.21 (quoting Eben Moglen, the first to identify the phenomenon that Benkler calls peer production).

119. *Id.*

120. *Id.*

121. *Supra* notes 69, 89 and accompanying text.

122. Moglen, *supra* note 118.

tragedy of the commons if one assumes rational actors with narrowly self-interested preferences, but Benkler does not do so. Thus, by the lights of his own assumptions, his solutions are best modeled as conventions, not solutions to tragedies of the commons. This means that in addition to Ronald Coase, Benkler's patron saints are Thomas Shelling and David Hume, the fathers of the convention, rather than Thomas Hobbes, the father of the free-rider problem.¹²³

III. THE BROADER CONCEPTION OF PEER PRODUCTION

Benkler is adamant that his goal in the article is purely descriptive. He indicates in passing, however, the sort of normative implication he thinks may follow from his analysis. While these are not developed in detail, clearly Benkler thinks they are of fundamental importance. He writes,

The normative implications of recognizing peer production are substantial. At the level of political morality, the shape of freedom and equality in the emerging social-technological condition we associate with the Internet is at stake At the level of institutional design, the emergence of commons-based peer production adds a new and deep challenge to the prevailing policy of rapid expansion of the scope of exclusive rights in information and culture that has been the predominant approach in the past twenty-five years, as James Boyle's work on the second enclosure movement elegantly elucidates. Additionally, the dynamic of decentralized innovation plays a central role in Lawrence Lessig's forceful argument for embedding the openness of commons in the architecture of the Internet. In this Article, however, I do not attempt to add to the normative literature. Instead, the Article is intended as a purely descriptive account of the scope of the empirical phenomenon and its analytic drivers.¹²⁴

We see here that Benkler thinks that two of the most fundamental policy issues of the information age may be impacted by the positive argument he makes—first, the expanding reach of copyright law, and second, the functional structure of the Internet.

Like Benkler, my discussion has been positive rather than normative. I also agree with Benkler that the positive analysis portends significant normative implications. In this final Part, I contend that the issue of normative implications is more complex and nuanced than Benkler suggests. The implications he sets out turn to an important extent on the positive examples he chooses to highlight. With respect to revising the trend toward greater enclosure via intellectual property rights, Benkler's argument is that property

123. On Hobbes as the father of the free-rider problem, see Kavka, *supra* note 99. On Schelling and Hume as the fathers of the Convention, see *supra* note 102.

124. Benkler, *supra* note 2, at 380-81.

rights can get in the way of welfare production via peer production because they introduce significant transaction costs.¹²⁵

In a later article, Benkler suggests that there is no default answer as to what is the best property regime for virtual worlds.¹²⁶ He gives the example of the social virtual world of *Second Life* and suggests that the participants might themselves be better off in a situation in which each person did not have ownership in the property she creates.¹²⁷ He sees the situation as akin to Wikipedia or open-source software in the sense that the preferable property-rights regime may not be the one that allocates maximum property rights to individuals; to do so might create the sorts of transaction costs that would make participation less desirable.¹²⁸ The objection Benkler is responding to here is that individual creators are being exploited if they are not allowed Lockean property rights.¹²⁹ Benkler's response in effect is that a Lockean approach fails because it is not welfare maximizing.¹³⁰ The Lockean approach suggests that participants in *Second Life* morally deserve property rights. Benkler says in effect that they may not want them, as these rights may be contrary to their best interests.¹³¹ Whatever the correct answer from a top-down normative perspective, Benkler's view is more consistent with the manner in which property rights are treated in copyright law in the United States. In brief, they are not justified in the manner of fundamental rights like the right to life, liberty, and the pursuit of happiness. Instead, they are justified instrumentally—that is, in terms of the extent to which they promote social welfare. Benkler's example of *Second Life* has the desirable feature that it is plausible to claim that by the lights of the participants' own welfare calculation, they do better in the scenario in which they do not possess ownership rights but the rights are instead held by the corporate creators and maintainers of *Second Life*.

An example worth considering in this regard is the social-networking site Facebook.¹³² First of all, it is of interest to ask whether social networking sites such as Facebook count as examples

125. *Id.* at 375-77.

126. Benkler, *Spoon*, *supra* note 65, at 183-84.

127. *Id.*

128. *Id.*

129. For a recent argument that Lockean rights may emerge in virtual worlds, see F. Gregory Lastowka and Dan Hunter, *The Laws of the Virtual Worlds*, 92 CAL. L. REV. 1 (2004).

130. Benkler, *Spoon*, *supra* note 65, at 183-84.

131. *Id.*

132. Facebook Home Page, <http://www.facebook.com> (last visited Mar. 20, 2009).

of peer production. They would seem to, given that Benkler sees games such as *Ultima Online* as examples of peer production. Benkler even suggests in passing that the Google search engine is a peer-produced good.¹³³ Whereas it is perhaps a tenuous claim that participation in Wikipedia is fun; with games, any other explanation would be strained. They are not shared goods of the sort Benkler and Lessig laud, however. People do not participate because they want to share or contribute to some common project.¹³⁴ With social-networking sites such as Facebook, one participates because one wants to. Participants receive a positive “coordination benefit” when others participate as well. Facebook has “positive coordination benefits” in that the more people who are on Facebook, the more it is in one’s interest to be on Facebook.¹³⁵

With Facebook, the positive externalities come without any intent to share or to be part of some common project. This may make these structures more resilient. A danger expressed about the sharing model is that it may break down if there is an effort to commercialize the activity.¹³⁶ For example, Benkler cites this as a possible explanation for a drop off in participation in Amazon.com by volunteer discussion moderators.¹³⁷ By contrast, with Facebook, because participants do not see themselves as making altruistic contributions, they will not see themselves as being taken advantage of by non-participants. Accordingly, other things equal, their desire to continue participating will be more steadfast, and thus the peer production more durable.

One of the key functions of social networks is that everyday users contribute content. Isn’t that what Benkler is interested in—a social production by peers that produces social welfare due to mass participation? Unlike Benkler’s exemplars, however, social networks do not appear to even colorably have the structure of tragedies of the commons, even if one assumes a Hobbesian economic perspective. Thus, we see that there is nothing in the core notion of peer production that requires this structure. Benkler’s exemplars and sites such as Facebook share the important feature that they produce

133. Benkler, *supra* note 2, at 385.

134. LESSIG, *supra* note 11, at 152-54.

135. See HETCHER, NORMS, *supra* note 37, at 44.

136. LESSIG, *supra* note 11, at 232-33.

137. Benkler, *supra* note 2, at 440 (“This is the effect I introduced into the abstract statement of diverse motivations as the *jalt* factor—the effect of monetary rewards for others on the perceived value of participation. One example of such an effect may have occurred when the early discussion moderators on AOL boards—volunteers all—left when they began to realize that their contributions were effectively going to increase the value of the company.”).

significant amounts of social welfare, but this is not because they share a common strategic structure.

A peer production such as Facebook should also be of interest to Benkler since it exhibits another feature that he highlights with regard to peer productions—namely, that they occur without the formal hierarchical structure of firms.¹³⁸ As noted earlier, Benkler's interest is from the perspective of the theory of the firm; he characterizes peer production as a third type of production lying conceptually between the two poles in Coase's iconic model—the firm and the market.¹³⁹ The reason it is a separate, third type is that the production is not provided from within a firm, with its hierarchical structure and people participating for monetary remuneration. Nor is the production the result of the workings of the market. Instead, peers in significant numbers contribute toward the production despite the fact that the “critical mass of participation in projects cannot be explained by the direct presence of a command, a price, or even a future monetary return”¹⁴⁰ The same can be said for Facebook: users do not post pursuant to a command, price, or future monetary return, nor is the content they post to the site produced under a strong hierarchy such as in a firm. Indeed, I would argue that the hierarchical structure of production is even more attenuated for Facebook than for open-source software or Wikipedia.¹⁴¹

Facebook is not a “common project” or “product,” nor does it aim for a particular outcome. Facebook is more aptly characterized as a spontaneous order.¹⁴² Facebook raises the question for Benkler's model as to why it should not count as peer production despite the fact that it is not a project or product. The fact that Benkler sees peer

138. *Id.* at 443.

139. *Id.* at 381.

I am not suggesting that peer production will supplant markets or firms. I am not suggesting that it is always the more efficient model of production for information and culture. What I am saying is that this emerging third model is (1) distinct from the other two and (2) has certain systematic advantages over the other two in identifying and allocating human capital/creativity. When peer production will surpass the advantages that the other two models may have in triggering or directing human behavior through the relatively reliable and reasonably well-understood triggers of money and hierarchy is a matter for more detailed study.

Id.

140. *Id.* at 372.

141. Least hierarchical of all would be social norms, which may be maintained over time simply due to acts of conformity by individuals that allow a pattern of normatively governed behavior to persist even though no one is in charge. See HETCHER, *supra* note 37, at 30-36.

142. See generally, RONALD HAMONY, *THE SCOTTISH ENLIGHTENMENT AND THE THEORY OF SPONTANEOUS ORDER* (1987).

production in terms of projects and products may come from the fact that his approach comes through the theory of the firm.¹⁴³ But if one takes the term “peer production” literally, it would seem that at a minimum there must be production of something of social value by peers. There would seem to be no reason why that something must be a project or product. Benkler’s approach is social welfarist. So in principle what matters is that peer production promotes social welfare, which spontaneous orders of groups on Facebook do.

Issues of hierarchy and organization are also interesting in the context of Facebook. Its organizational hierarchy is not benevolent in the way that it is for Linux or Wikipedia. Instead, Facebook has incurred significant public backlash on more than one occasion due to its efforts to use its participants’ information in a manner that raised serious privacy concerns.¹⁴⁴ This shows that the issue of intellectual property rights may be more complex in the context of peer production than is suggested by Benkler’s exemplars. Benkler argues elsewhere that there may be less need for intellectual property rights for participants in peer productions.¹⁴⁵ In his examples, it is not that there are no intellectual property rights. Rather, creators cede them to the foundations behind Linux and Wikipedia. Indeed, it is unlikely that these foundations could function without control of these rights. Other examples of peer production, however, involve private ownership and hence a greater likelihood for the exploitation of these rights. In the case of *Second Life*, for example, it may indeed be the case that people are better off without the individual rights, given the nature of the peer production. But with Facebook, peer participants may have good reason to maintain control of the intellectual property they create and control.¹⁴⁶ Thus, although Benkler says that he endorses Lessig’s notion of keeping the Internet as a commons,¹⁴⁷ we

143. Benkler, *supra* note 2, at 401.

144. Ellen Nakashima, *Feeling Betrayed, Facebook Users Force Site to Honor Their Privacy*, WASH. POST, Nov. 30, 2007, at A01, available at http://www.washingtonpost.com/wp-dyn/content/article/2007/11/29/AR2007112902503_pf.html (describing the user complaints and privacy issues associated with Beacon); Brad Stone & Brian Stelter, *Facebook Withdraws Changes in Data Use*, N.Y. TIMES, Feb. 18, 2009, available at <http://www.nytimes.com/2009/02/19/technology/internet/19facebook.html> (describing a user revolt over terms of service changes that involved user content).

145. Benkler, *Spoon*, *supra* note 65.

146. Steven Hetcher, *User-Generated Content and the Future of Copyright: Part Two—Agreements Between Users and Mega-Sites*, 24 SANTA CLARA COMPUTER & HIGH TECH. L.J. 829 (2008).

147. Benkler, *supra* note 2, at 375-76.

now see that the commons is a more complex construct, normatively speaking, than either of their accounts would suggest.

IV. CONCLUSION

In the foregoing discussion, I followed Benkler's methodological approach, as I agree that the issues at stake are of such importance that it is worthwhile to proceed slowly and methodically. Benkler's account is strictly positive in that he claims that peer production has the strategic structure of a tragedy of the commons. My equally positive analysis of this claim was that Benkler was incorrect in his modeling of peer production, at least with regard to the examples he discusses. In essence, Benkler's core mistake was to assume that everything that happens on a commons is subject to potential tragedy—that is, to widespread free riding of a sort that would be destructive to valuable social production. As I set out, however, commons present situations in which different sorts of collective-action problems may be present besides the classic tragedy of the commons.

Indeed, Benkler's exemplars—open-source software and Wikipedia—are not, despite initial appearances, tragedies of the commons, if one follows Benkler in his assumptions regarding the participants' motivations. These exemplars would appear to the Hobbesian economist to be free-rider problems, as the economist would be inclined to wonder why individuals would bother to contribute when their contributions cost them and do not make the good any more available to them. But as we saw, if Benkler is correct, then this first impression would be incorrect. As he notes early on in the article, the notion of peer production that he employs is derived from Eben Moglen, who Benkler quoted approvingly as stating, "It's an emergent property of connected human minds that they create things for one another's pleasure . . ." ¹⁴⁸ Though the above discussion demonstrates that Benkler's account is complex, at the end of the day it comes down to just this sort of claim: people behave in a way that results in peer production for just such non-self interested reasons, although as we saw, Benkler frames these reasons as providing a circular sort of benefit to the rational actor—the social-psychological benefit one receives from pleasuring others.

The important point is that according to either the Hobbesian or Humean economic approach, while there is disagreement over how best to categorize the social-psychological benefits, there is agreement

148. Moglen, *supra* note 118. Benkler, *supra* note 2 at 380 n.21.

that not all three of Benkler's types of benefits can be lumped together as indirect, as the assumptions built into the tragedy of the commons model depend on the distinction between direct and indirect benefits. The tragedy of the commons is not solved but dissolved if the individual's payoff in a single-shot game is to cooperate. If one would participate in a single-shot game of Wikipedia because it is fun, or one receives a social-psychological benefit, there is no prisoner's dilemma.

One of the interesting and telling distinctions between Benkler's paradigm cases of peer production and the paradigm cases of the tragedy of the commons is that in Benkler's examples, sanctions play no role. Participants do not sanction non-participants, suggesting that the participants do not see themselves as being exploited by free riders. In other words, they are not participating as part of an iterated game in which actors conditionally cooperate so that others will do so as well, and hence take part in sanctioning defectors in order to engender mutual participation. Thus, the fact that non-participants are not sanctioned as free riders indicates that participants have a direct preference to conform. The only senses in which the preferences are indirect is either in the sense that someone else in parallel circumstances might prefer to defect (a narrowly self-interested rational actor), or alternatively, that the participant, were she to not have the particular social-psychological preferences she has, would prefer to defect. Once a peer production participant has these social-psychological preferences, however, they are as direct as any other preferences. They are not conditional in the manner that the motives of the narrowly self-interested rational actor in an iterated prisoner's dilemma are.

Part III of this Article explored the logic of peer production beyond the bounds set out by Benkler. I suggested that peer production, per se, need not exhibit features such as a hierarchical structure, and the goal need not be to create discrete projects. This is of interest because it opens up the possibilities for whole new types of peer production that may promote social welfare but in ways not envisioned in Benkler's account. The example touched on briefly was Facebook. As we saw, participation in Facebook does not have the structure of a prisoner's dilemma. Facebook as a corporate entity does have a hierarchical structure, but within this broad framework there is much valuable social creation, collaboration, and interaction taking place that is more aptly modeled as spontaneous, informal ordering. Perhaps most significant, Facebook has some 175 million users and

hence this particular peer production produces social welfare at an extraordinary level.¹⁴⁹

We saw as well that Facebook raises normative issues not considered in the context of Benkler's examples. Benkler is importantly right that intellectual property ownership by participating peers may indeed impede optimal production of social welfare. However, a lack of ownership and control of intellectual property rights by participants may raise normative concerns of a sort that do not arise in Benkler's example, but do in the context of other peer production, such as when privacy concerns arise in the context of Facebook. For Facebook users to have intellectual property rights would put them in a better position to protect their privacy. Thus, not every peer production supports the argument for a lower-protectionist intellectual property regime.

As the epigram to this Article suggested, we are in need of a theory of collective action for the social world that is emerging in cyberspace. As the above discussion has indicated, Benkler's theory of peer production makes an important contribution to this project. The present Article has sought to expand on Benkler's account by demonstrating that collective-action problems are not synonymous with the tragedy of the commons. In particular, one important type of solution to a collective-action problem of a sort not countenanced by Benkler is the convention or coordination norm. We saw that not only would a more comprehensive theory of collective action in cyberspace need to fit conventions into its account but that even Benkler's examples of peer production must take account of conventions as well.

149. See Statistics - Facebook, <http://www.facebook.com/press/info.php?statistics> (last visited Mar. 20, 2009) (noting that Facebook has more than 175 million active users).