

RESPONSE

DISCIPLINE AND NOURISH: ON CONSTRUCTING COMMONS

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Scholarship has examined many possible ways to encourage the creation and dissemination of art, works of authorship, ideas, and inventions: rights of exclusion (copyrights and patents), prizes, governmental subsidies, private subsidies (including both foundations and patronage), reputation, and so forth. Legal scholars have long recognized that copyright and patent are not the only options.¹ And while some legal academics have mentioned the possibility of groups of users and creators interacting on a voluntary² but structured basis,³ legal scholars did not give much sustained attention to such possibilities until fairly recently.

Historically, reference to self-help was rather limited and often confined to examining how, in the absence of exclusion rights, an entrepreneur or creator might benefit from lead-time advantage,⁴ customer loyalty, secrecy, or retaliatory strike editions⁵ to gain an advantage over competitors. Then there was a revolution. Self-help increasingly became identified not only with individual profit seeking but also with groups dedicated to cooperative creation.

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¹ For example, consider one *locus classicus* in an article on copyright by then-Professor, now-Justice Stephen Breyer: “It would be possible, for instance, to do without copyright, relying upon authors, publishers, and buyers to work out arrangements among themselves that would provide books’ creators with enough money to produce them.” Stephen Breyer, *The Uneasy Case for Copyright: A Study of Copyright in Books, Photocopies, and Computer Programs*, 84 HARV. L. REV. 281, 282 (1970).

² Justice Breyer mentions that “[i]n the nineteenth century American publishers sold countless copies of British works and paid their authors royalties despite the fact that American copyright law did not protect British works.” *Id.* at 282–83.

³ *See id.* at 303 (“[O]ne need only think of a professional association of physicists using dues to support a physics journal, of a group of school districts jointly contracting for the development of a textbook, or even of a book club that provides its members with novels.” (citation omitted)).

⁴ *See id.* at 299–301 (discussing the benefit of the lead-time advantage in publishing).

⁵ Historically, publishers had the ability to punish copiers by producing “punitive ‘fighting editions,’ which they would sell below the copier’s cost.” *Id.* at 300.

In 1979, Lewis Hyde described behavior exhibited by ideal artistic communities⁶ whose members interacted in part by giving and reciprocating creativity. Hyde saw this behavior as a kind of gift exchange. At midcentury, Robert Merton explored similar norms of sharing among scientists.⁷ Then the sharing models exemplified by these rarified groups exploded into new areas.⁸ Notably, cooperative behavior became the everyday experience of a multitude of ordinary techies who in their peer communities did everything from repairing flawed computer code to counting Mars craters.⁹ And *structures* evolved—notably, the General Public License and “copyleft,”¹⁰ the Creative Commons,¹¹ and fair-use guidelines with true creator input¹²—that made cooperation and sharing easier.

In *Constructing Commons in the Cultural Environment (CCCE)*, Michael Madison, Brett Frischmann, and Katherine Strandburg make clear that this new mode of organizing human effort deserves a mainstream place on the agenda.¹³ Their valuable article is of course more than an announcement that constructed commons have come of age; it provides a preliminary framework helpful in developing new com-

⁶ See generally LEWIS HYDE, *THE GIFT: CREATIVITY AND THE ARTIST IN THE MODERN WORLD* (Vintage Books 2d ed. 2007) (describing creativity exchange among artists).

⁷ See ROBERT K. MERTON, *THE SOCIOLOGY OF SCIENCE: THEORETICAL AND EMPIRICAL INVESTIGATIONS* 336–37 (Norman W. Storer ed., 1973) (describing sharing among scientists).

⁸ The scientists' own norms also began changing, caused, among other things, by the incursion of patent into the academy. These changes, touched on in another piece by Michael Madison, Brett Frischmann, and Katherine Strandburg, is outside the scope of this Response. See generally Michael J. Madison, Brett M. Frischmann & Katherine J. Strandburg, *The University as Constructed Cultural Commons*, 30 WASH. U. J.L. & POL'Y 365 (2009) [hereinafter Madison, Frischmann & Strandburg, *University as Commons*].

⁹ See generally Yochai Benkler, *Coase's Penguin, or, Linux and The Nature of the Firm*, 112 YALE L.J. 369, 374 (2002) (discussing the emergence of such cooperative behaviors and their dynamics).

¹⁰ Free Software Foundation, GNU General Public License (June 29, 2007), <http://www.gnu.org/licenses/gpl.html>. For a description of “copyleft,” see *infra* note 51 and accompanying text.

¹¹ Creative Commons, <http://creativecommons.org/> (last visited Jan. 26, 2010).

¹² American University School of Communication, Center for Social Media, Fair Use & Copyright, http://www.centerforsocialmedia.org/resources/fair_use (last visited Jan. 26, 2010). These new guidelines provide a realistic framework in which the makers and insurers of documentary films do not need to clear every accidentally recorded bit of background music with the copyright owner.

Note that there are two commons here. One commons is the public domain of fair use, which preexisted the guidelines. Another commons is the guidelines themselves, which make the fair use doctrine more understandable and usable; the guidelines are a public good, freely usable by the relevant communities and produced as a joint effort. See generally CTR. FOR SOC. MEDIA, AM. UNIV. SCH. OF COMM'N, *DOCUMENTARY FILMMAKERS' STATEMENT OF BEST PRACTICES IN FAIR USE* (2005), http://www.centerforsocialmedia.org/files/pdf/fair_use_final.pdf (outlining what filmmakers regard as a reasonable application of the fair use doctrine).

¹³ Michael J. Madison, Brett M. Frischmann & Katherine J. Strandburg, *Constructing Commons in the Cultural Environment*, 95 CORNELL L. REV. 657 (2010).

mons and for improving the function of existing commons. What the *CCCE* authors call a “constructed cultural commons” is one of many forms of sharing; roughly speaking, a constructed commons is a more or less deliberate attempt to coordinate group production of knowledge by some mode of self-imposed governance. The *CCCE* authors’ definition of “commons,” however, is open-ended.¹⁴

This open-endedness means that “constructed commons” can blend into other institutions. For example, consider the relation between constructed commons and gifts. Although sometimes gifts can be boundaryless and obligation free, often times gifts have specific destinations, and obligations of reciprocity are enforced informally but stringently.¹⁵ At other points, the constructed commons resemble firms, which allow sharing among their members (employees) and employ governance. On yet other occasions, a constructed commons can function like the public domain.¹⁶

I will not pursue these definitional ambiguities¹⁷ in this Response. Rather, I will single out a particular aspect of the *CCCE* article to discuss.

¹⁴ Madison, Frischmann, and Strandburg define a “commons” as “a managed-access property regime.” *Id.* at 659; *see also id.* at 694 (“Commons regimes are defined both by the *degree of openness and control* that they exhibit with respect to contributors, users, and resources, and by the *assignment of control, or custody of the power to administer access.*”); *id.* at 699 (“A commons is a rhetorically open place.”). The authors also articulated that a “commons is not a singular concept,” and that “[c]ommons have multiple levels, sources, and products.” Madison, Frischmann & Strandburg, *University as Commons*, *supra* note 8, at 366; *see also id.* at 372 (“Commons serves as a metaphor for an environment defined by resources that can be contributed and appropriated by some population of creators and consumers (often, these are the same actors), operating according to some specified degree of openness.”); *id.* (“Commons are constructed by human actors and institutions, acting intentionally.”); *id.* at 373 (“Commons are distinguished and distinguishable from the environment around them. . . . Commons are managed by some population of insiders. In both senses, [Elinor Ostrom] recognizes that commons are not simply given. Commons are created or constructed.”); *id.* at 374–75 (“Commons are built from intentional human activity.”); *id.* at 375 (“Commons consist in the first place of some pool of resources.”). The authors also specify that “[a]mong other things, commons typically have membership criteria (specifying who may contribute to and appropriate resources from the commons); resource contribution and appropriation standards; decision-making rules; and provisions for resolving conflicts over membership and resources and sanctions for violations.” *Id.* at 376.

¹⁵ *See, e.g.,* MARCEL MAUSS, *THE GIFT: THE FORM AND REASON FOR EXCHANGE IN ARCHAIC SOCIETIES* 3–4 (W.D. Halls trans., Routledge 1990) (1950); ANNETTE B. WEINER, *INALIENABLE POSSESSIONS: THE PARADOX OF KEEPING-WHILE-GIVING* 17–18, 28–33 (1992); Jeanne L. Schroeder, *Pandora’s Amphora: The Ambiguity of Gifts*, 46 *UCLA L. REV.* 815, 844–47 (1999).

¹⁶ *See* Madison, Frischmann & Strandburg, *supra* note 13, at 695 (“It is entirely possible and desirable for a community to produce and/or manage a cluster of cultural goods that is accessible to outsiders.”).

¹⁷ For an excellent discussion of some of the definitional tasks that future work will need to explicate, see Lawrence B. Solum, *Questioning Cultural Commons*, 95 *CORNELL L. REV.* 817, 830–31 (2010).

The *CCCE* authors aim to adapt the framework that Elinor Ostrom and her colleagues originally developed to examine natural resource commons.¹⁸ *CCCE* aims to extend Ostrom's framework¹⁹ to the cultural arena.²⁰ The *CCCE* authors thus examine some important distinctions between the domain of culture and Ostrom's domain of natural resources.²¹ They propose "adjustment[s] [to Ostrom's framework] to account for differences between the natural environment and the cultural environment."²²

Given that goal, at least one aspect of Ostrom's framework needs more emphasis than it currently receives in the *CCCE* authors' work: how to structure any particular commons to monitor and discipline its members and to enforce its boundaries. Ostrom and the *CCCE* authors call this aspect "sanctions"—a subset of "governance mechanisms."²³ Sanctions and governance constitute an area where natural resource management is particularly likely to differ from operations in the cultural domain.

In the work likely to generate from the *CCCE* article, therefore, greater emphasis should be given to the need for studying and designing sanctions. This Response highlights three points arguing for such an increased emphasis: (1) the need for sanctions even in the case of nonrival resources, (2) the difficulty of crafting sanctions (whether rewards or punishments) for creative domains, and (3) the need for an existing *CCCE* case study to employ greater detail and empirical data to examine more fully the interplay between rewards and punishments on the one hand and behavior on the other.

WHY SANCTION?

What often discourages participation in a constructed commons is the fear of being exploited. People have a taste for not being a taken for a sucker, a fool, a simpleton, a jerk, or a sap. They have what one might call "sap aversion."²⁴ They do not want their hard

¹⁸ See generally ELINOR OSTROM, GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION (1990) (discussing commons in the context of natural resource systems).

¹⁹ Madison, Frischmann & Strandburg, *supra* note 13, at 659–60.

²⁰ See *id.* at 665–66.

²¹ See *id.* at 683–84.

²² See *id.* at 666.

²³ See *id. passim*. My concern is with the matter of emphasis; the *CCCE* authors certainly do recognize that sanctions are important. Thus, among the "relevant clusters or 'buckets' of variables that will be important to explore," the *CCCE* authors list "governance mechanisms of the commons (membership rules, resource contribution or extraction standards and requirements, conflict resolution mechanisms, sanctions for rule violation)." *Id.* at 698.

²⁴ I treat various terms, such as sap, simpleton, and sucker, as interchangeable.

work—or their contribution to a commons—to give them nothing while others benefit from their restraint or their effort.

Sap aversion is easiest to see in the natural resource context. For example, H. Scott Gordon wrote in 1954: “Wealth that is free for all is valued by none because *he who is foolhardy enough* to wait for its proper time of use will only find that it has been taken by another.”²⁵ Ostrom makes a similar point; speaking of the danger that a user of common water will breach the rotation schedule and take too much water, she writes that “[n]o one wants to be a ‘sucker,’ keeping a promise that everyone else is breaking.”²⁶ The fear of being taken for a sap or a sucker is even clearer in Garrett Hardin’s *The Tragedy of the Commons*.²⁷

Hardin’s primary concern in that article was population control.²⁸ He suggested that what discourages participation in voluntary limits on family size is the feeling not only that the participator will deny *himself* or *herself* the benefit of multiple progeny, but also that the participator’s very self-restraint will be mocked by the way the rest of the world takes advantage of the participator’s sacrifice but makes no sacrifice in return. Hardin stated:

If we ask a man who is exploiting a commons to desist “in the name of conscience,” what are we saying to him? What does he hear?—*not only at the moment but also in the wee small hours of the night* when, half asleep, he remembers not merely the words we used but also the nonverbal communication cues we gave him unawares? Sooner or later, consciously or subconsciously, he senses that he has received two communications, and that they are contradictory: (i) (intended communication) “If you don’t do as we ask, we will openly condemn you for not acting like a responsible citizen”; (ii) (the unintended communication) “If you *do* behave as we ask, *we will secretly condemn you for a simpleton* who can be shamed into standing aside while the rest of us exploit the commons.”²⁹

²⁵ H. Scott Gordon, *The Economic Theory of a Common-Property Resource: The Fishery*, 62 J. POL. ECON. 124, 135 (1954) (emphasis added); see OSTROM, *supra* note 18, at 3 (quoting Gordon, *supra*).

²⁶ See OSTROM, *supra* note 18, at 44.

²⁷ Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243 (1968).

²⁸ See *id.* at 1243.

²⁹ *Id.* at 1246 (first and third emphases added). Although here I follow the usual practice of examining how sap aversion can inhibit cooperation, Ernst Fehr and Simon Gächter’s experiments remind us that “a strong aversion against being the ‘sucker’ in social dilemma situations” can also be a motivational resource from which cooperation-enhancing punishment can emerge. See Ernst Fehr & Simon Gächter, *Cooperation and Punishment in Public Goods Experiments*, 90 AM. ECON. REV. 980, 980 (2000) (testing whether such an aversion will result in less free riding). Fehr and Gächter “deliberately designed [their] experiments . . . to examine whether people punish free-riders even if it is against their material self-interest.” *Id.* at 981. For a brief discussion on sap aversion as a motivational resource that can *help* commons flourish, see *infra* notes 62–63 and accompanying text.

As Ostrom makes clear and the *CCCE* authors also acknowledge, in order to sustain many commons, sanctions often will be essential to avoid overuse, undercontribution, and promise breaking.³⁰ In other words, cooperation is a good thing *if* others cooperate, and participants need some assurance that when it is their turn to kick, others will not pull the ball away.

Compared to the context of natural resources, it is sometimes harder to see the need for sanctions for cultural goods, whose products are nonrival (inexhaustible).³¹ Because thousands of people can enjoy a nonrival song or invention simultaneously (it might be argued), everyone can employ the good and no one need feel like a sap. The argument might alternatively go as follows: We do not need sanctions for knowledge commons. The public domain functions without sanctions.³² Why do we need the complication of a constructed commons with carefully designed sanctions? An example might help answer the question.

Imagine that a newly graduated PhD is deciding whether to enter into business or academia. The young academic prefers the latter option but learns about tenure being denied on arbitrary bases and of excellent scholars being turned into itinerant adjuncts without health benefits and with so many classes to teach that they lack time to write. Unless the young academic has some assurance that his or her hard work and talent will be rewarded, he or she may choose not to participate in the common academic enterprise. If the young scholar could be more sure of the merit basis of universities' sanction decisions, he or she might be more likely to choose academia. The young academic does not want to spend years generating scholarship on which he or she later will lack the time and resources to build; the young academic does not want to be a sucker. The nature and reliability of appropriate sanctions may be crucial.

³⁰ See OSTROM, *supra* note 18; Madison, Frischmann & Strandburg, *supra* note 13.

³¹ Nonrivalry is one characteristic of the phenomenon known as a "public good." Economists tend to treat nonrivalry as a "problem"—a technical analytic problem—because it does not fit their neoclassical private-goods models. In the real world, nonrivalry is of course an immense source of wealth. See generally Brett Frischmann, *Spillovers Theory and Its Conceptual Boundaries*, 51 WM. & MARY L. REV. 801, 810 (2009) (coining and defining the phrase "leveraging nonrivalry" (emphasis omitted)); Madison, Frischmann & Strandburg, *supra* note 13, at 695 n.141 (discussing nonrivalry). Unfortunately, too many copyright scholars borrow the economists' nomenclature and speak of the "public-good *problem*" when the public-good characteristic of intangibles is not a "problem" but instead is a wonderful asset.

³² Ironically, of course, the last few decades have seen arguments that the public domain also is being used in ways that make some people into saps. See Anupam Chander & Madhavi Sunder, *The Romance of the Public Domain*, 92 CAL. L. REV. 1331, 1335 (2004) (arguing that "the public domain has been a source for exploiting the labor and bodies of the disempowered").

In short, nonrivalry (of the young scholar's knowledge) does not assure immunity from becoming a sucker. Although it is appropriate to focus on nonrivalry (inexhaustibility) as a base for optimism about the chance for the success of cultural commons, there are limits to nonrivalry. The resources that generate the initial instantiation of an artwork or an invention are exhaustible. Furthermore, the possibility of physical co-use does not eliminate the possibility of an originating donor monetarily, emotionally, or practically losing the ability to use what he or she helped to create. If the possibility of being made a sap is *less* present in constructed knowledge commons than in other areas, the possibility is nevertheless far from absent.

One risk of being a sap is exclusion both from the work of the commons and from (the value of) one's own work. Another risk is undertaking work to serve a particular purpose and to find that work turned against one's own goals. Yet another risk is of outsiders taking the work of the commons or of an individual and privatizing it. The *CCCE* authors mention the danger of privatization,³³ and that topic is worth further explication in the context of sap aversion and the need for sanctions.

AN EXTENDED EXAMPLE: SANCTIONS AND BEING A SAP

To illustrate the privatization danger, its relation to being a sap, and methods of avoiding becoming a sucker, consider the free-software movement. Richard Stallman, its founder, wanted software users to have the freedom to copy, adapt, and redistribute software.³⁴ How could Stallman accomplish his goals?

At first it might seem logical that someone desiring to share his software would put it into the public domain. But though that software would be free, it also would be vulnerable. If Stallman had put his code into the public domain, it is true that downstream users would be able to access it, adapt it, improve it, and use it. But given the way that copyright law functions, copyright law could have allowed third parties to co-opt the code.³⁵ That is, its public-spirited author could have been made into a sap. Below is a discussion of how the law

³³ See Madison, Frischmann & Strandburg, *supra* note 13, at 692 ("In some of these cases, a commons is constructed as a defense against potential privatization of commonly useful resources.").

³⁴ See RICHARD M. STALLMAN, *The GNU Project*, in *FREE SOFTWARE, FREE SOCIETY: SELECTED ESSAYS OF RICHARD M. STALLMAN* 15, 17 (Joshua Gay ed., 2002) [hereinafter *STALLMAN, The GNU Project*]. For a discussion of the importance of access to the source code to achieve certain freedoms for users, see RICHARD M. STALLMAN, *Free Software Definition*, in *FREE SOFTWARE, FREE SOCIETY: SELECTED ESSAYS OF RICHARD M. STALLMAN*, *supra*, at 41, 41.

³⁵ *STALLMAN, The GNU Project*, *supra* note 34, at 20–21 (noting that "anyone can make a proprietary modified version" of public-domain software).

might have responded to the software author's (the hypothetical Stallman's) actions.

The initial source code would be copyrightable as a "[l]iterary work[]."³⁶ Ordinarily, that copyright would last for well over one hundred years.³⁷ If the software author later injected the code into the public domain, however, the copyright would have terminated completely. At that point, the code would have been unowned and anyone could use it.

If someone makes use of a public-domain work to make a new work—for example, if someone translates Ovid into English or makes a new movie of William Shakespeare's *Romeo and Juliet*—the person making the adaptation receives a copyright in his or her "derivative work," and the copyright extends to whatever expression is *original with* (not copied by) the maker of the derivative work.³⁸ Others cannot copy the translation or the film but can go back to the original Ovid or Shakespeare.

Sometimes, however, there is a danger that the copyrighted derivative work will make it harder to utilize the public-domain originals. If software is donated to the public domain or placed on an unlimited license to use, a proprietary firm can take the software and so alter, distribute, and advertise the altered version that people will use only the altered proprietary version and not the free-software version. This danger described above will make it harder in turn for those persons who want to use the free-software versions to communicate with persons using the proprietary versions.

Copyright law embodies some protection against the danger of derivative works blocking off the public domain in this way. In the famous case of *L. Batlin & Son, Inc. v. Snyder*,³⁹ an entrepreneur named Jeffrey Snyder created a plastic replica of a metal public-domain Uncle Sam bank.⁴⁰ The court was concerned that the copyright in one plastic version of the bank might discourage the making of all new versions of the nineteenth-century original.⁴¹

³⁶ 17 U.S.C. § 101 (2006) (defining "[l]iterary works"); *id.* § 102(a) (extending copyright protection to original "works of authorship" and including "literary works" as a category within "works of authorship"); *id.* § 117 (outlining the limitations on exclusive rights with respect to computer programs).

³⁷ In the United States today, the copyright duration for those post-1978 works that are not created as works-for-hire is life of the author plus seventy years. *Id.* § 302(a).

³⁸ *Id.* § 101 (defining "derivative work"); *see id.* § 103(a) (extending the subject matter of copyright in § 102 to include derivative works); *id.* § 103(b) (limiting such copyright only to the material contributed by the author of such derivative work).

³⁹ 536 F.2d 486 (2d Cir. 1976).

⁴⁰ The banks, made of metal, were popular in the nineteenth century. A child who wants to save his penny puts a coin in Uncle Sam's carpetbag.

⁴¹ *Batlin*, 536 F.2d at 488.

Snyder had a plastic replica of the bank made in Hong Kong and, by registering his copyright in this derivative work, he was able to have the United States Customs Service block similar plastic banks from entering the country.⁴² The problem, of course, is that most versions of a nineteenth-century, public-domain Uncle Sam bank will look very similar to each other. Indeed, the Customs Service eventually blocked a plastic bank from entry into the country that may have been made *completely without reference* to Snyder's copyrighted plastic bank.

When the importer of that second plastic bank sought to enjoin the Customs Service from enforcing Snyder's copyright,⁴³ the court had essentially two choices: First, the court could have conducted a fact-intensive inquiry into infringement—in particular, into the question of whether the maker of the second plastic bank had *copied* to a significant degree any of the features of the first plastic bank that were original to that first bank. Second, the court could deny the first plastic-bank maker (Snyder) any copyright in his plastic replica.

If the court had chosen the first (infringement) option, the holder of the copyright in the initial plastic bank (a derivative work built on a public-domain model) would have been given a potentially powerful “weapon for harassment.”⁴⁴ Since questions of “who copied what” are very fact intensive, they are expensive and time consuming. I doubt the profit margins on second or third plastic banks would be large enough for importers to be willing to incur extensive delay and litigation. The result? The owner of the copyright in the first derivative work could have an effective monopoly on all plastic versions of the once-popular original metal bank. That is, Snyder would have an effective monopoly not only on plastic versions of the bank that copied his particular small changes, but also (possibly) on any plastic version of the public-domain bank.

The court in *Batlin* was sensitive to these above-mentioned concerns⁴⁵ and avoided the factual inquiry into copying. Instead, the court held that Snyder's plastic bank did not show enough originality to merit copyright as a derivative work.⁴⁶

Arguably, the court manipulated the standard of what counts as original enough to obtain a copyright⁴⁷ to secure the public's freedom

⁴² *Id.*

⁴³ *Id.*

⁴⁴ *Id.* at 492.

⁴⁵ *See id.* (“To extend copyrightability to minuscule variations would simply put a weapon for harassment in the hands of mischievous copiers intent on appropriating and monopolizing public domain work.”).

⁴⁶ *Id.*

⁴⁷ *See id.* at 492–93 (Meskill, J., dissenting) (arguing that Snyder's version was more than a trivial variation and thus met the “modest level of originality” necessary to be eligible for a copyright); *see also* Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., 499 U.S. 340 (1991). In *Feist*, the Court explained:

to copy the public-domain bank. Would such an escape hatch have been available if, for example, a commercial entity created an improved version of the above-mentioned hypothetical public-domain version of a Stallman program?⁴⁸ Almost certainly not: *Batlin* has its limits⁴⁹ and probably would not extend to making extensive changes to a program incapable of copyright.

[T]he originality requirement is not particularly stringent. A compiler may settle upon a selection or arrangement that others have used; novelty is not required. Originality requires only that the author make the selection or arrangement independently ([i.e.], without copying that selection or arrangement from another work), and that it display some minimal level of creativity. Presumably, the vast majority of compilations will pass this test, but not all will. There remains a narrow category of works in which the creative spark is utterly lacking or so trivial as to be virtually nonexistent.

Id. at 358–59.

⁴⁸ It is not even clear that such an escape hatch *should* be available. The copyright statute does not on its face apply different standards of originality to different types of work, and it can be dangerous to play with the standards.

In at least one case, a court eager to deprive a derivative-work maker of a copyright twisted the standard of copyrightability out of all recognition. In that case, the Seventh Circuit denied copyright to a hand-painted and individually composed painting that took the trained artist over forty hours of work to complete. See *Gracen v. Bradford Exch.*, 698 F.2d 300, 305 (7th Cir. 1983); see also Telephone Interview with Jorie Gracen, Artist (Aug. 2009) (providing information about the number of hours spent on the work). The court held that the painting was insufficiently original to sustain a copyright. *Id.* Its purpose in doing so largely was to safeguard the interests of the owner of the copyright in the film that the artist used (with the owner's permission) as her source. See *id.* The painting should have been copyrightable under any rational standard yet was held incapable of copyright on the ground that it lacked sufficient originality. The Seventh Circuit has since repudiated this aspect of *Gracen*. See *Schrock v. Learning Curve Int'l, Inc.*, 586 F.3d 513, 521 (7th Cir. 2009). For more examination of pre-*Schrock* developments, see Wendy J. Gordon & Boris Milman, *Derivative Rights and the Rule of Law: Judge Posner and Copyright* (draft on file with author).

Some courts still require heightened amounts of originality to copyright derivative works. Ironically, such courts tend to be more willing to deny copyright to derivative works for the purpose of protecting prior copyright owners (whom one would think would be able to take care of themselves via contract) than for the purpose of protecting the public domain. See, e.g., *Ets-Hokin v. Sky Spirits, Inc.*, 225 F.3d 1068, 1082 (9th Cir. 2000) (indicating that derivative works based on public-domain works were more easily copyrighted than derivative works based on copyrighted works); *Entm't Research Group, Inc. v. Genesis Creative Group, Inc.*, 122 F.3d 1211, 1220–24 (9th Cir. 1997) (discussing the importance of not allowing derivative-work copyrights to arise if they might impair the abilities of the owners of copyrights to exploit the works on which the derivatives were based).

⁴⁹ See *supra* note 48. In *Schrock*, the Seventh Circuit (perhaps in a mere pendulum swing after *Gracen*) construed *Batlin* not to impose higher standards for copyrighting a derivative work. Discussing *Gracen's* use of *Batlin*, the Seventh Circuit wrote:

Read in context, . . . the cited language from *L. Batlin* did not suggest that a heightened standard of originality applies to derivative works. To the contrary, the Second Circuit said only that to be copyrightable a work must “‘contain some substantial, not merely trivial originality.’” The court explained that for derivative works, as for any other work, “[t]he test of originality is concededly one with a low threshold in that all that is needed is that the author contributed something more than a merely trivial variation, something recognizably his own.”

It is quite possible for the adapter of an excellent existing program to make original alterations and additions to the program. Let us assume some commercial entity decided to invest its programmers' time into making such a version of a public-domain work. The programmers add some truly valuable bells and whistles. Extreme elevations of the copyrightability standard are unlikely; so the commercial entity most probably would obtain a copyright in what its derivative work added to the original program.

The commercial firm then could bombard the information-technology world with advertising for the "new" program and with supplemental programs that the company created to interact with the "new" portions of its program. Conceivably, the company's derivative work quickly could swamp the public's use of the public-domain core of the program. And if the commercial entity wanted to restrict access and use of its proprietary program (say, by using copyright law aggressively and by distributing only hard-to-adapt object code), there might be nothing the hypothetical Stallman could do about it. The hypothetical Stallman would be in the role of "sap"—he would have done a lot of work that, in the end, served to hurt his cause.

To avoid such problems, the real-life Stallman invented "copyleft," which he describes as "a method of ensuring that all copies of all versions of a given work come with freedom."⁵⁰ A copyleft license says (in simplified form) the following: I claim my copyright. My computer program is not in the public domain. I consent to you utilizing my program in any way that you wish—you can sell it, adapt it, and use it—so long as you comply with two conditions. First, you must accompany anything you produce with the human-readable source code (as opposed to largely unintelligible object code). Second, you must put a license *just like this one* on what you produce or distribute. If you violate either of these conditions, I will sue you for copyright infringement.⁵¹

Schrock, 586 F.3d at 520–21 (alteration to quoted text in original) (citations omitted) (footnote omitted) (quoting *Batlin*, 536 F.2d at 490).

⁵⁰ Telephone Interview with Richard Stallman, Founder, The GNU Project (Mar. 27, 2010). For a further description of "copyleft," see *infra* note 51 and accompanying text.

⁵¹ Here is some language from the current version of the GNU General Public License:

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

People who copy a copyrighted work in excess of permission are usually infringers, and “protection for a work employing preexisting material in which copyright subsists *does not extend* to any part of the work in which such material has been used unlawfully.”⁵² Copyleft thus prevents the free grantors of programming from having their work privatized by others. Authors who employ copyleft licenses can participate in a common without becoming fools (H. Scott Gordon’s word), simpletons (Hardin’s epithet), or suckers (Ostrom’s term).

As the *CCCE* authors note, the end result is that the members of the GNU collective give each other immense benefits in terms of adaptation, documentation, debugging, and other growths and improvements of the programs.⁵³ The ability to enforce is key.⁵⁴

So sanctions need to play a role in at least some knowledge commons. Later in this Response, I will address some of the difficulties in formulating appropriate sanctions in areas other than copyleft. But first, consider this discussion:

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

- a) The work must carry prominent notices stating that you modified it, and giving a relevant date.
- b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to “keep intact all notices”.
- c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.
- d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so. . . .

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License

Free Software Foundation, *supra* note 10.

⁵² 17 U.S.C. § 103(a) (2006) (emphasis added).

⁵³ See Madison, Frischmann & Strandburg, *supra* note 13, at 703–04.

⁵⁴ See, e.g., Lydia Pallas Loren, *Building a Reliable Semicommons of Creative Works: Enforcement of Creative Commons Licenses and Limited Abandonment of Copyright*, 14 GEO. MASON L. REV. 271, 328 (2007) (“Courts should facilitate the growth of a semicommons of creative works by giving appropriate legal recognition to both the private and public rights that exist in works released pursuant to a Creative Commons license. By doing so, courts will enhance the ultimate goal of copyright: promoting knowledge and learning.”). The Federal Circuit recently enforced a copyleft license in *Jacobsen v. Katzer*, 535 F.3d 1373, 1381–82 (Fed. Cir. 2008).

Is copyleft impermeable, so that persons who fail to comply with the license terms are prohibited fully from copying anything from the copylefted program? The answer is no: even people who reject the copyleft license terms will be able to copy some things in the copylefted program. Copyright law creates gaps in any ownership boundary. Notably, a copyright owner cannot own the ideas, methods of operation, or facts in his or her creation. Much of the content in a computer program cannot be owned under current copyright law.⁵⁵ Even some content that can be owned is open to fair use.⁵⁶

Are these gaps wise from a policy perspective? My first instinct is that the gaps in copyright also make sense for copyleft; the First Amendment, copyright and patent policy,⁵⁷ some human rights documents,⁵⁸ and at least some versions of a “natural rights” view of copyright entitlements⁵⁹ all mandate a public liberty of access and use for some created content. Yet I must admit that the issues faced in the context of copyleft are somewhat different than the issues faced in standard copyright. To the extent that efforts against privatization are permeable, they have gaps that reintroduce the possibility of someone becoming a sap and of sap aversion undermining cooperation.

I do not mean to indicate that members of constructed commons would *want* such impermeability; to the contrary, for example, the current free-software license embraces fair use.⁶⁰ Instead, I want to point out that permeability adds an additional complication to the question of how to avoid being a sap without unduly sacrificing other goals.

⁵⁵ See, e.g., *Lotus Dev. Corp. v. Borland Int'l, Inc.*, 49 F.3d 807, 816 (1st Cir. 1995), *aff'd by an equally divided Court*, 516 U.S. 233 (1996); *Computer Assocs. Int'l, Inc. v. Altai, Inc.*, 982 F.2d 693, 703 (2d Cir. 1992). I place outside my discussion the potential impact of patent law.

⁵⁶ 17 U.S.C. § 107. The GNU General Public License is explicit in its openness to fair use. Thus, the third version provides: “All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. . . . This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.” Free Software Foundation, *supra* note 10.

⁵⁷ See generally *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141 (1989) (discussing patent policy).

⁵⁸ See, e.g., Universal Declaration of Human Rights, G.A. Res. 217A, art. 27, U.N. GAOR, 3d Sess., 1st plen. mtg., U.N. Doc. A/810 (Dec. 12, 1948) (“Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits.”).

⁵⁹ I have argued that such a public entitlement to access and use of the cultural heritage is embedded in the best reading of John Locke’s theory of property. See Wendy J. Gordon, *A Property Right in Self-Expression: Equality and Individualism in the Natural Law of Intellectual Property*, 102 YALE L.J. 1533, 1540–44 (1993). An analogous common law–based analysis could also provide the public with access and use rights because cultural artifacts change the position of recipients in ways that should entitle them to respond. See, e.g., Wendy J. Gordon, *Render Copyright unto Caesar: On Taking Incentives Seriously*, 71 U. CHI. L. REV. 75, 78 (2004) [hereinafter Gordon, *Render Copyright*].

⁶⁰ See *supra* note 56 and accompanying text. Admittedly, it is unlikely that a profit-making proprietary user could gain shelter from the doctrine.

To study a commons, we need to keep a focus on the boundaries that separate commons from the open fields of the public domain or the fortified castles of private property. Boundaries are permeable, and they inevitably contain gaps of varying sizes and causes. Nonparticipation can result from a fear of falling through the gaps (sap aversion), and this fear motivates people in different ways. Gaps and responses to gaps in part shape how commons are constructed. The CCCE authors' framework would be improved by clarifying their interest in boundaries to account for these dynamics.⁶¹

THE POSITIVE SIDE OF SAP AVERSION

The fear of *becoming* a sap can deter joining or contributing to a commons, but the hatred of *having been treated* like a sap can provide useful energy and motivation for the enforcement of sanctions. So the news about sap aversion is not all bad: "a strong aversion against being the 'sucker' in social dilemma situations"⁶² can be a motivational resource from which cooperation-enhancing punishment can emerge. This is one of the lessons that can be learned from behavioral economics, including from the work of Ernst Fehr.⁶³

There can be many components in the willingness to punish when one is made to feel like a sucker, including an aversion to inequity, a preference for reciprocity, and spite or revenge.⁶⁴ (There also can be reputational benefits and pride in the act of punishing defectors, as Ostrom points out regarding the benefits of monitoring.)⁶⁵ What is important to note is that the same sap aversion preference patterns that can *interfere* with the operation of commons can also be harnessed to *help the commons succeed*. Examination of this phenomenon—and analysis of how to harness sap aversion properly—belongs near the center of future work on constructed commons.

⁶¹ I am indebted here to Gregg Macey.

⁶² Fehr & Gächter, *supra* note 29, at 980.

⁶³ See *id.* at 980, 987 (discussing that people "may be willing to punish free-riding, even if this is costly for them and even if they cannot expect future benefits from their punishment activities"). The article also discusses that such punishment helps elevate levels of cooperation even among selfish subjects. See *id.* *passim*.

⁶⁴ Cf. Ernst Fehr & Urs Fischbacher, *Why Social Preferences Matter—The Impact of Non-Selfish Motives on Competition, Cooperation and Incentives*, 112 *ECON. J.* (CONFERENCE PAPERS) C1, C2–4 (2002) (distinguishing among differing social preferences, such as reciprocity, inequity aversion, pure altruism, and spite or envy).

⁶⁵ Ostrom notes that "[t]he individual who finds a rule-infractor gains status and prestige for being a good protector of the commons." Ostrom, *supra* note 18, at 96. She also argues that "[e]ven though it is frequently presumed that participants will not spend the time and effort to monitor and sanction each other's performances, substantial evidence has been presented that they do both in these settings." *Id.* at 94.

GOVERNANCE AND SANCTIONS IN CREATIVE DOMAINS

We already know that discipline can be crucial in maintaining a commons.⁶⁶ For example, we know from game theory that some payoff structures can result in self-defeating or otherwise suboptimal behavior.⁶⁷ Experiments by Fehr and others show that some public-goods and gift models may *fail* to sustain a level of cooperation unless the models build in the power to punish noncooperators after their norm breaking is known.⁶⁸ It can be the possibility of punishing, along with reputational benefits, that enables reciprocating people—the people on whose behavior the Humean model of cooperation by convention is built⁶⁹—to harness the efforts of selfish people. Without the ability to punish and reward, a group may generate a seriously suboptimal amount of a public good.⁷⁰

As mentioned, this concern is not obviated by the potential inexhaustibility of cultural products. Although intangible products like inventions and artwork are nonrival, the human and physical resources

⁶⁶ This is a dominant concern of Ostrom, the Nobel laureate on whose work the *CCCE* article creatively builds. See generally *id.* at 88–102, 185–92 (providing an analysis of long-enduring commons and of rule following).

⁶⁷ Bad results are not inevitable. Sometimes coordination results from a naturally benign payoff system. For example, a rowboat will go in circles unless a rower on each side employs effort. See, e.g., DAVID HUME, *A TREATISE OF HUMAN NATURE*, bk. 3, pt. 2, § 2, at 490 (L.A. Selby-Bigge ed., Oxford Univ. Press 2d ed. 1978) (1740) (“Two men, who pull the oars of a boat, do it by an agreement or convention, tho’ they have never given promises to each other.”) (I am indebted to Aaron Garrett for pointing out this example). Furthermore, sometimes a natural system can be restructured to induce cooperative behavior by fairly small but significant design choices. Henry Smith’s research in the practices of medieval landowners illustrates this principle. See Henry E. Smith, *Semicommon Property Rights and Scattering in the Open Fields*, 29 *J. LEGAL STUD.* 131, 147–48 (2000). Smith looked at the ways a particular semicommons (in land used commonly for grazing and privately for grain growing) discouraged strategic behavior. Grazing provided benefits in the form of manure and harms in the form of trampled soil. To prevent individual landowners from strategically driving livestock towards or away from their lands, property was divided into thin strips and scattered throughout the semicommons. Under this system, although all landowners could identify their scattered strips of land during harvest, they or their agents would have difficulty determining which scattered strip was which “at the tempo of milling sheep.” See *id.* at 147. The scattering of the plots made nonstrategic behavior largely self-enforcing.

⁶⁸ See Fehr & Fischbacher, *supra* note 64, at C17–20; see also Fehr & Gächter, *supra* note 29, at 988–90 (documenting experiments where “full cooperation emerges as the dominant behavioral standard” when punishment was an option but where, “in the absence of punishment opportunities[,] full free-riding is the focal action”). For a vivid graphical representation of the potential importance of punishment, see Fehr & Fischbacher, *supra* note 64, at C19 fig. 4.

⁶⁹ See HUME, *supra* note 67, bk. 3, pt. 2, §§ 2–3, at 484–513. (discussing the role of convention).

⁷⁰ See generally Fehr & Gächter, *supra* note 29 (providing experimental evidence to demonstrate an increase in cooperation attributable to the availability and use of punishment). Note that although Fehr and Gächter suggest that “the presence of punishment opportunities eventually leads to pecuniary efficiency gains,” this finding is less robust than their findings on the increase of cooperation. See *id.* at 993.

used in these products are scarce. Therefore, incentives may be necessary to ensure productivity. This insight about incentives largely drives conventional property-right solutions, such as copyright and patent, and plays a role as well in the *CCCE* project.

Yet we know that incentives, particularly in creative domains, do not work in a straightforward manner. It is crucial for persons inspired by the *CCCE* article to place the difficulties of incentives near the centers of their respective case studies.

Designing appropriate sanctions is likely to be more difficult for creative contexts than for natural resource contexts. Many of the successful commons studied by Ostrom were able to utilize objective measurements of resource use and contribution and had simple methods of monitoring compliance. For example, a farmer is entitled to a *specified number* of hours of opening the gate to allow water from the common canal to irrigate his field; he is obligated to spend a *specified number* of hours maintaining and repairing the canal earthworks, and other farmers may be present at both occasions to make monitoring easy, unobtrusive, and natural.⁷¹

By contrast, contributions to a cultural commons may not be amenable to objective measurement; only subjective judgment can decide, for example, whether scholarship is worthy of tenure, whether a Listserve member is excessively requesting others' expertise for matters the member easily could research himself or herself, or whether a co-author is contributing substance or mere verbiage. Subjectivity raises its own special issues of measurement and reliability. In addition, as the *CCCE* authors point out, beneficial spillovers into new populations cause additional problems of measurement.⁷²

Moreover, in creative domains where work often brings its own intrinsic satisfaction, typical carrots and sticks may not work as intended. Additionally, much creative work is done alone; monitoring may create privacy problems and resentment that interferes with success. Even a minimal bureaucracy can interfere with the success of a commons if the commons members hate bureaucracies (as many artists are reputed to do).⁷³ For such reasons, special attention needs to be devoted to pairing sanctions with appropriate circumstances in the cultural domain.

⁷¹ See generally Ostrom, *supra* note 18, at 204–05 (using examples to discuss the monitoring of rules and their enforcement).

⁷² Cf. Madison, Frischmann & Strandburg, *supra* note 13, at 706–07 (discussing the “spillovers” enabled by commons).

⁷³ See generally Gordon, *Render Copyright*, *supra* note 59, at 92 (examining persons whose “creative fuel would be dampened by requiring them to seek advance permissions”). Permissions (presumably not required inside a common) are not the only form of bureaucracy that can dampen creative enthusiasm.

In addition, both positive and negative sanctions can backfire when creative endeavors are concerned. For example, the threat of low-effort contributors being punished can be counterproductive for persons who have a choice of how much effort to invest⁷⁴ (and how creative that effort will be). Similarly, although rewards typically are thought to encourage effort, sometimes rewards can diminish intrinsic motivation and, in the process, might degrade the creativity of⁷⁵ or the effort invested in⁷⁶ resulting works. So sanctions in the case of knowledge commons—where so much depends on the members' willingness to embrace contribution with joy and playfulness⁷⁷—need special care in their formation. We can see an example of underemphasizing the difficulty of sanction questions by looking at the *CCCE* authors' own case study of the university.

⁷⁴ See Fehr & Fischbacher, *supra* note 64, at C22–23 (noting that “it is . . . possible that explicit incentives may cause a hostile atmosphere of threat and distrust, which reduces any reciprocity-based extra effort” and recounting an experiment that documents “explicit incentives” having negative effects); see also Ernst Fehr & Armin Falk, *Psychological Foundations of Incentives*, 46 EUR. ECON. REV. 687, 703 (2002) (“If the principal informs the agent [*ex ante*] that he is committed to punish the agent in case of shirking, the principal introduces hostility into the relationship with the agent. This explicit threat of punishment conveys the message that the principal treats the agent as a potential cheater, which is likely to be considered as an offense by those who are willing to cooperate voluntarily.” (emphasis omitted)); *id.* at 703–04 (discussing that punishments that are available only *ex post* may have a different effect than punishments threatened *ex ante*); Daphna Lewinsohn-Zamir, *Identifying Intense Preferences*, 94 CORNELL L. REV. 1391, 1443 n.253 (2009) (“[W]hen a technique for identifying intense preferences conspicuously treats individuals as probable liars, it signals that dishonesty is the norm and truthfulness is for suckers.”).

⁷⁵ See TERESA M. AMABILE, CREATIVITY IN CONTEXT: UPDATE TO *The Social Psychology of Creativity* 149–60 (1996) (documenting experiments showing that children who received awards for their drawings produced lower-quality drawings than children who did not receive awards for their drawings). For a well-written popular account of the dangers of explicit rewards, see generally ALFIE KOHN, PUNISHED BY REWARDS: THE TROUBLE WITH GOLD STARS, INCENTIVE PLANS, A'S, PRAISE, AND OTHER BRIBES (1993).

⁷⁶ Many of the tasks involved in knowledge creation generate their own rewards in forms such as satisfaction or enjoyment, known as “intrinsic motivation.” A fairly extensive social psychology literature claims “that the introduction of monetary rewards decreases task-specific intrinsic motivation under identifiable conditions.” See Fehr & Falk, *supra* note 74, at 714. Fehr and Armin Falk investigate the literature and argue that “economists have . . . ample reason to take the *possibility* of crowding out of intrinsic motivation seriously,” but they raise some criticisms and avenues for investigation. See *id.* at 716–20.

In addition, it is possible that being rewarded for “normal” or “good” behavior may inculcate a belief that normal cooperation is supererogatory and thus discourage us from engaging voluntarily in that behavior. See, e.g., Wendy J. Gordon, *Of Harms and Benefits: Torts, Restitution, and Intellectual Property*, 21 J. LEGAL STUD. 449, 457 (1992) (asserting that payment for harm avoidance could encourage moral people to infer that they have no moral obligation to do right unless paid).

⁷⁷ See David Lange, *At Play in the Fields of the Word: Copyright and the Construction of Authorship in the Post-literate Millennium*, LAW & CONTEMP. PROBS., Spring 1992, at 139, 151 (celebrating “authorship in the form of creative play”). See generally HYDE, *supra* note 6 (promoting the importance of reciprocity and gratitude in gift giving).

THE UNIVERSITY AS A CASE STUDY

Although the *CCCE* article admits the importance of studying governance and sanctions, this Response has suggested that the *CCCE* article leaves that particular task underanalyzed. To illustrate the importance of putting more emphasis on the issue, the following discussion considers the *CCCE* authors' case study on the university.⁷⁸ In my view, that case study too casually takes an optimistic approach to the question of sanctions.⁷⁹

The public at large can use fruitfully the information a university yields. But there are some university resources (such as the services of reference librarians) that cannot be shared so widely. How are these resources to be allocated? Nonmonetary rewards are also highly complex. Everyday experience amply proves that university-commons members indeed value reward in the form of credit. Yet we also know that there are norms that pull in the other direction—such as the desire to be *seen* as impartially and unselfishly engaged in the pursuit of truth—that complicate the mechanism. The classic discussion is probably Merton's suggestion that the desires for both credit and a reputation for disinterested scientific dedication create so strong a conflict that a kind of neurosis can arise.⁸⁰

⁷⁸ Note that universities are formally firms, albeit usually nonprofit firms. Perhaps the *CCCE* authors put the university in the category of "constructed commons" rather than "firms" because of the significant degree of faculty governance and the ways in which universities cross firm boundaries to depend on each others' resources (e.g., for peer review of journal articles and for tenure). The ambiguous position of universities (between firms and commons) suggests both the need for further definition in the *CCCE* article and the potential relevance to the commons project of extant literature on intrafirm production and governance.

⁷⁹ See Madison, Frischmann & Strandburg, *University as Commons*, *supra* note 8, at 397: For full-time faculty appointees, the standard and classic commons governance mechanisms are tenure, which in theory fully enables open and independent research and scholarship without fear of employer retribution, and the related obligation to conduct research and to publish scholarship. The latter is the primary resource contribution mechanism in university commons. It serves as a formal antecedent of tenure and promotion policies, since virtually every university discipline makes tenure and promotion dependent on scholarly distinction. The sanction for lack of publication before tenure is typically loss of appointment and loss of access to the university commons. (There is ordinarily no corresponding concept of excessive appropriation of resources from the university.) The obligation to publish also serves as an informal, norm-based sorting mechanism, which both directly and indirectly structures governance institutions. More prolific and more influential publication is positively associated with higher status in the discipline and in university commons: chairs, deanships and other senior administrative appointments, and related positions that command additional resources and authority within the university. Publication is also a critical determinant of access to resources for ongoing research.

⁸⁰ See MERTON, *supra* note 7, at 286.

In a recent talk, philosopher Alex Oliver intriguingly pointed out how confused or rough definitions of plagiarism tend to be. See Alex Oliver, Faculty of Philosophy, Address at University of London Philosophy and Intellectual Property Conference: What's Wrong

Given such complications, how does the university allocate rewards and punishments to keep the knowledge-generation commons alive?

The university has several devices for safeguarding the appropriate distribution of credit, as the *CCCE* article notes,⁸¹ but some of these devices are decaying. For example, in many disciplines, the referee system for peer-journal publication tries to operate in a double-blind manner: the scholar submitting the paper does not know the identity of the referee, and the referee does not know the identity of the author. Today, with the Social Science Research Network and other means of digital distribution of draft papers, referees increasingly often *do* know the author of an individual piece of writing. This lack of anonymity means that friendship and enmity—and prejudicial assumptions about groups⁸²—can play larger roles in the crucial arena of awarding prestigious journal placements.

with Plagiarism? (May 30, 2009). The Mertonian neurosis may explain *why* people so often offer definitions for “plagiarism” that they could easily refine but which they nevertheless offer in rough form. That is, if everyone in the scholarly world feels anxiety about the issue of giving and receiving credit, and if anxiety impedes clarity of thought, mangled definitions are arguably a result.

Merton argued that the struggle among scientists for credit was understudied—and that even the existence of multiple independent inventions was understated, denied, or ignored—precisely because of such anxiety. As he explains, “Freud himself reports, with characteristic self-awareness, that he even dreamt about priority and the due allocation of credit for accomplishment.” MERTON, *supra* note 7, at 386. A similar anxiety may be weakening definitional efforts to pin down the meaning of “plagiarism.”

There are many reasons to be anxious about plagiarism. I think many academics are a bit afraid of unconscious copying in everything they write. And when an academic *is* plagiarized or undercited by a colleague, it is hard for the victim of misattribution to know what to do that will not make him look ungracious. As for Merton, he thinks the struggle for credit puts scientists at war with their most cherished values. That is, the scientists *want* to believe that they put science first—that the progress of science is everything and ego is nothing. But of course the ego is always something. So scientists pretend not to struggle over credit even while doing it.

⁸¹ See Madison, Frischmann & Strandburg, *supra* note 13, at 701.

⁸² A case study on universities should examine empirical data on bias. For example, although the *CCCE* authors note the importance to university awards of producing “influential” articles, Madison, Frischmann & Strandburg, *University as Commons*, *supra* note 8, at 397, influence can be the result of factors other than quality. See, e.g., Christine Wennerås & Agnes Wold, *Nepotism and Sexism in Peer-Review*, 387 NATURE 341, 343 (1997) (arguing for a development of peer-review systems with resistance against “the effects of prejudice and comradeship”).

One persistent argument in favor of double-blind reviewing involves the possibility that papers with female-sounding first names are reviewed less favorably than other papers. One recent study found that after the introduction of double-blind reviewing, a journal significantly increased its acceptance of papers authored by persons with female-sounding first names. See Amber E. Budden et al., *Double-Blind Review Favours Increased Representation of Female Authors*, 23 TRENDS ECOLOGY & EVOLUTION 4, 6 (2008). This study was subject to criticism, Thomas J. Webb et al., *Does Double-Blind Review Benefit Female Authors?*, 23 TRENDS ECOLOGY & EVOLUTION 351, 351–52 (2008), and the criticism later was subject to rebuttal, Amber E. Budden et al., *Response to Webb et al.: Double-Blind Review: Accept With Minor Revisions*, 23 TRENDS ECOLOGY & EVOLUTION 353, 353–54 (2008). For a review of the contro-

One potential source of bias is personal fondness. People who like commons tend to be people who expect reciprocity from others. As David Hume pointed out,⁸³ and as Fehr's experiments demonstrate, it is the expectation that others will respect our "stuff" that often motivates us to respect their "stuff."⁸⁴ This expectation, along with other factors, may give rise to a fondness for others that could erode many of the disciplining functions within the knowledge commons of the university. For example, in reviewing the work of others, tact may obscure communication.

The university as a commons has interesting devices to combat the fondness factor; most notably, the university as a whole can overturn a department's recommendation of tenure. It is thought that the university committee does not know and love the individual candidate the way the department does and thus can be more objective.

Yet I suspect that university oversight works better to detect false positives than false negatives, and false negatives pose real dangers—fondness is only occasionally dominant. It still could happen that a department could deny tenure to someone because of the person's race, gender,⁸⁵ political opinions, lifestyle, or some other feature that

versy, see Leif Engqvist & Joachim G. Frommen, *Double-Blind Peer Review and Gender Publication Bias*, 76 ANIMAL BEHAVIOUR (F. ARTICLE) E1, E1–2 (2008) (arguing it is "premature to conclude" that double-blind reviewing aids females but "not refut[ing] the fact that review behaviour can be affected by the gender of the author").

Some classic early experiments show lower evaluations given to some articles when supposedly authored by females as compared to how the same articles were evaluated with male names attached. See, e.g., Marla Beth Isaacs, *Sex Role Stereotyping and the Evaluation of the Performance of Women: Changing Trends*, 6 PSYCHOL. WOMEN Q. 187, 187 (1981); Michele A. Paludi & William D. Bauer, *Goldberg Revisited: What's in an Author's Name*, 9 SEX ROLES 387, 387 (1983). Does such bias persist either for women or for other groups? A case study investigating the knowledge commons as mediated by reputational rewards should devote significant attention to such issues.

⁸³ See HUME, *supra* note 67 ("I observe, that it will be for my interest to leave another in the possession of his goods, provided he will act in the same manner with regard to me." (emphasis omitted)).

⁸⁴ Fehr and Urs Fischbacher sketch an experiment where *A* and *B* are each given ten pounds. Both must decide either to keep the money or to transfer it to the other. If the money is transferred, the recipient receives thirty pounds. The decisions to transfer must be made simultaneously. If people were solely motivated by monetary self-interest, we would expect that both *A* and *B* would keep the ten pounds. However, experimental evidence shows that even in one-shot play, many subjects chose to transfer the ten pounds even though they had no assurance of receiving anything from the other party. Additionally, "[i]f both subjects are reciprocators and if *A* believes that *B* will cooperate ([i.e.] transfer the money), *A* prefers to cooperate." See Fehr & Fischbacher, *supra* note 64, at C13–14 (discussing experiments similar to ones described in Robyn M. Dawes & Richard H. Thaler, *Anomalies: Cooperation*, J. ECON. PERSP., Summer 1988, at 187, 188–90).

⁸⁵ See *supra* note 82. Some research suggests that attaching a female name to an article can lower a reviewer's evaluation of the article, but these results are controversial. For some of the early studies raising this observation, see, for example, Paludi & Bauer, *supra* note 82, at 390. Michele Paludi and William Bauer asked "360 college students (180 male, 180 female) . . . to evaluate an article . . . in the field of politics, the psychology of women,

lacks any sensible connection to knowledge creation. And we all know that universities have both physical and digital walls. When someone is tossed out of the tenure track by arbitrary criteria, the whole knowledge commons suffers, but the excluded person suffers the most. Case studies like the *CCCE* article on universities must investigate these issues empirically and closely. It is the false negative that most clearly implicates the sap factor; the more that young scholars fear that their contributions to the field will go unappreciated or that they will be exiled from the field that makes use of their knowledge, the less likely they are to choose to participate in this particular constructed commons.

What disciplines these false negatives? It is my guess that antidiscrimination suits⁸⁶ and the like are hardly sufficient. Irrational aversions are everywhere, and if the university knowledge commons is to work well, a detailed study of how to control these aversions is required.

Politics plays a role, too. In a world where our prospects for jobs, grants, prestige, “bully pulpits,” and first-class research-library resources all depend on how others think of us—and where today’s newbie is tomorrow’s star—kindness may become ever more the norm along with deference to the currently powerful. It is commonly argued that citations ordinarily go to the famous author rather than to all other equally entitled authors.⁸⁷ A case study should examine such

or education” that were denoted, respectively, masculine, feminine, or neutral. *Id.* at 388. Paludi and Bauer found that

[t]he masculine, neutral, and feminine articles were rated more favorably when supposedly written by a male rather than by the other two authors. Each of the three articles was rated least favorably when it was supposedly written by a female author. Finally, men rating the male author gave the highest evaluation of all. In addition, men assigned the feminine article the least favorable rating when it was supposedly written by a female.

Id. at 389. Interestingly, the study also showed that “the author with the sexually ambiguous name was preferred over the female, but not over the male, author.” *Id.* An experiment by Marla Beth Isaacs showed that women who had not achieved status sometimes were devalued in relation to men, but women who had achieved status were not devalued. See Isaacs, *supra* note 82, at 193–94. Isaacs finds this encouraging, but argues that if

the work of women is devalued by men (usually the people in the position of judging the works of women in masculine areas), then it becomes all the more difficult for women to prove their competence since their work may not be judged fairly. Even work that is equivalent to the work of a man will be judged inferior until it receives special distinction. That distinction, however, is difficult to achieve when the work is originally judged in a biased manner. Thus, women in certain fields may not be able to expect unbiased evaluations until they prove themselves by some obvious sign of success.

Id. at 194.

⁸⁶ The *CCCE* authors mention discrimination suits but do not examine their efficacy. See Madison, Frischmann & Strandburg, *University as Commons*, *supra* note 8, at 398.

⁸⁷ See Robert K. Merton, *The Matthew Effect in Science*, 159 *SCIENCE* 56, 56–63 (1968) (discussing co-author citation).

arguments in depth along with the possibility of the converse (i.e., hypercritical evaluations of colleagues' and forerunners' work). In academia, where the players are also judges with wide discretion, the study of reward allocation needs special sensitivity to such sociological considerations.

If I am right that scholars use kindness in judging each other, my guess is that this observation is a good thing rather than a bad thing. A perception that one is appreciated may be the best encouragement for more work. Nevertheless, it is clear that such a phenomenon needs investigation—as do the potential loss of the double-blind system in refereeing and the error cost of false negatives in the tenure process. It would also be interesting to interrogate the university's use of a drastic sanction (tenure denial) as compared with the “graduated sanctions” recommended by Ostrom.⁸⁸ Such inquiries need more investigation than they were given in the *CCCE* authors' analysis of universities.

CONCLUSION

The *CCCE* authors rightly point to the importance of narrative and history in trying to understand a given commons.⁸⁹ Part of the western narrative is John Locke's writing on property and government. In trying to argue against the divine right of kings, Locke wrote that instead of giving the earth to a particular royal line, “God . . . has given the earth to the children of men, given it to mankind in common.”⁹⁰ Defending that starting point in the “common” was important for Locke's argument that government should serve the people. The word “commons” thus has a special resonance in political theory, embedding itself in connotations of equality and inclusiveness.

By contrast, a “constructed commons” might not treat all people the same and might not include everyone. This point is implicit in the notions of governance and sanctions, which ordinarily imply rewards, punishments, and boundaries. Part of this Response's concern is with the need to be sure that constructed commons do not improperly exclude or reject members of outsider groups. Most fundamentally, this Response argues that studies of constructed commons must place emphasis on how and when to mete out rewards and punishments, who to include or exclude from boundaries, and how to struc-

⁸⁸ See Ostrom, *supra* note 18, at 94–99 (discussing graduated sanctions). Of course, the university also uses sanctions that are less drastic than the denial of tenure, but the role of the “up or out” system has great salience.

⁸⁹ See Madison, Frischmann & Strandburg, *supra* note 13, at 698–99.

⁹⁰ JOHN LOCKE, *The Second Treatise of Government* 16 (Thomas P. Peardon ed., The Liberal Arts Press 1952) (1690) (quotation omitted).

ture the gaps in boundary lines given the subtle and difficult questions that must be resolved in order to manage cultural incentives well.

It is important to remember that the commons has many variations. It might be tempting to distinguish between the regulated commons that are the focus of the *CCCE* article and the commons we know as the public domain on the ground that the latter is unregulated. But even the public domain has rules governing what content enters the public domain and how people can use it. It can be crucial how that domain functions,⁹¹ both within itself and along its boundaries, with cultural products that are “owned” either privately or by a constructed-common group. Our mixed-property regimes must take the importance of the public domain into account.

⁹¹ Jessica Litman has led us to be more conscious of how the public domain is essential for the creation of new work. See Jessica Litman, *The Public Domain*, 39 *EMORY L.J.* 965, 968–69 (1990).

