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**Innovation and Liability for
Contributory Copyright Infringement**

David McGowan



Innovation and Liability for Contributory Copyright Infringement

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¶1 Innovation is often invoked in copyright policy debates but it is rarely used to refer to the content of core copyright fields such as books, songs, or movies. More often innovation is used to defend holdings such as the rule of *Sony Corp. of America v. Universal City Studios, Inc.*,¹ that a person distributing a device that facilitates copying may not be held liable for contributing to copyright infringement so long as the device is capable of substantial non-infringing uses.²

¶2 Copyright scholars generally praise the *Sony* rule. Jessica Litman believes “the line drawn by the *Sony* case makes more policy sense than any of its competitors.”³ Pamela Samuelson praises the “generativity” of the decision and argues that without it “tape recorders, photocopiers, CD burners, CD ripping software, iPods, and MP3 players, and a host of other technologies that facilitate private or personal use copying might never have become widely available.”⁴ Mark Lemley and Tony Reese say that the doctrine provides “significant protection for innovation in technologies that are related to the use of copyrighted material.”⁵

¶3 But, such praise is hard to defend from a conventional utilitarian perspective. Rather than suggesting that courts examine the actual costs and benefits produced by such technologies, the *Sony* rule biases analysis in favor of copying technologies. Under standard cost-benefit analysis it would matter a great deal if a device was used for infringement 90% of the time, but under *Sony*, the lawful 10%, or even the possibility that there would be a lawful 10%, would be decisive.⁶

* Lyle L. Jones Professor of Competition and Innovation Law, University of San Diego School of Law. My thanks to Julie Cohen, Mark Lemley, Glynn Lunney, and Peter Menell for comments. Remaining mistakes are my fault.

¹ 464 U.S. 417 (1984).

² *Id.* at 441.

³ Jessica Litman, *The Sony Paradox*, 55 CASE W. RES. L. REV. 917, 960 (2005).

⁴ Pamela Samuelson, *The Generativity of Sony v. Universal: The Intellectual Property Legacy of Justice Stevens*, 74 FORDHAM L. REV. 1831, 1850 (2006).

⁵ Mark A. Lemley & Anthony R. Reese, *Reducing Copyright Infringement Without Restricting Innovation*, 56 STAN. L. REV. 1345, 1356 (2004).

⁶ Judge Posner in his *Aimster* opinion, *In re Aimster Copyright Litigation*, 334 F.3d 643, 651 (7th Cir. 2003), and Professors Lichtman and Landes in an insightful article, Douglas Lichtman & William Landes, *Indirect Liability for Copyright Infringement: An Economic Perspective*, 16 HARV. J.L. & TECH. 395, 397 (2003), have attempted to re-focus the rule toward more traditional cost-benefit analysis, focusing both on what technologies are actually used for, rather than what they might in theory be used for, and on whether intermediaries might produce net gains by taking cost-justified measures to limit infringement. Such arguments are virtually irrefutable within traditional utilitarian analysis but they have gained little traction in scholarly circles and are unlikely to gain any more after the Supreme Court pointed the doctrine in a more moralistic, and less analytic, direction in its *Grokster* opinion.

¶4 The innovation argument responds in part to the *Sony* rule's deviation from standard cost-benefit principles. The argument may be read to assert that losses from current infringement are outweighed by future gains from innovation. This reframing of the *Sony* defense seems conceptually plausible though, as Peter Menell recently pointed out in an important article, there is no real evidence to support it and some evidence to suggest it is wrong.⁷ Even at a conceptual level, however, I have long had the sense that defenses of the *Sony* rule are analytically unsound.

¶5 To test this intuition, in this article, I attempt to state clearly the propositions necessary to defend the *Sony* rule as against more traditional cost-benefit analysis and then to advance the most rigorous defense of those propositions I can conceive. To my surprise, I conclude the *Sony* standard may be much more defensible on utilitarian grounds than I had thought.

¶6 The basic argument is that even if the *Sony* rule promotes innovation in reproduction technology at the expense of content creation, then that tradeoff may be socially desirable because gains in such technology increase social welfare more than losses in content reduce it. Within reason this argument implies that such tradeoffs are likely to produce net gains and that we should embrace rather than deny or fight them. I will call this the tradeoff thesis. It rests ultimately on pragmatic arguments not generally advanced for the *Sony* rule, including an explicit double standard whereby losses from foregone content creation are treated as less important than losses from foregone advances in reproduction and distribution technology. Of course, the tradeoff thesis is subject to some powerful responses which I survey and to which I suggest partial responses.

¶7 My argument is not that the *Sony* standard is correct from a utilitarian point of view, nor that society would be better off trading losses in content production for gains in the speed and accessibility of reproduction technology. Instead, my claim is that there is a utilitarian perspective from which even the skewed *Sony* standard looks potentially defensible and that the factors that comprise this perspective, therefore, deserve attention. Ultimately, I think, there is no way to show that either the tradeoff thesis or the *Sony* standard is right or wrong. One's view of either rule will rest on intuition and hunch. I do believe, however, that if the tradeoff thesis fails there is no other way to defend the *Sony* rule on utilitarian grounds. Research and debate over the rule therefore should focus on the propositions comprising the tradeoff thesis.

¶8 Part I of this paper discusses these propositions, defines innovation, and distinguishes it from variation. Part II makes the tradeoff thesis explicit and examines some interesting implications of the argument. Part III surveys objections to the tradeoff thesis and some responses to them.

I.

¶9 The *Sony* rule may be defended on utilitarian grounds if and only if three propositions are true. The first is that inventors and distributors of new reproduction technologies will not invent or distribute them (or will do so at a materially reduced rate) if they must bear the full cost of the infringement that their technologies enable. The

⁷ Peter S. Menell, *Indirect Copyright Liability and Technological Innovation* (June 9, 2009), *available at* <http://ssrn.com/abstract=1415804>.

Sony rule entails this proposition because the point of the rule is to relieve inventors and distributors from such liability. If they could bear such liability with no reduction in innovation, then only distributional effects are at stake and the *Sony* rule could not be justified as safeguarding innovation.⁸

¶10 The second proposition is that the *Sony* rule materially lowers the cost of such innovation and thereby induces greater investment than otherwise would occur. Jessica Litman questions this proposition on the ground that rights holders routinely sue promoters of new technologies, which may go broke due to litigation expenses even if they ultimately would prevail under the *Sony* standard.⁹ Peter Menell questions it on several grounds, objecting that many innovators do not know of the doctrine and therefore cannot be influenced by it.¹⁰ These are both very good points and they may mean that the *Sony* rule is not worth caring about either way. I want to set them aside here, however, not because they are wrong, but because assuming the truth of this proposition for the sake of argument helps frame analysis that might improve our understanding of what it means to talk about innovation in this context.

¶11 The third proposition is that social gains from innovation in reproduction technology are greater than social losses from reduced production of expression caused by widespread infringement. This is the core claim of the tradeoff thesis. There are two obvious ways it might be true. First, widespread copying might not reduce production of expression. If that were true, there would be no tradeoff to worry about, just distributional effects. Unfortunately that factual claim is hard to document and runs counter to the logic supporting the first proposition. Revenue that producers might lose from infringement is economically equivalent to costs that innovators might incur from secondary liability. Either force could reduce output. If we presume that expected costs reduce innovation, then by parity of reasoning we must presume that expected revenue losses reduce production of expression.

¶12 This proposition might still be true, of course, even if the *Sony* rule causes incremental reductions in the protection of expression so long as losses in foregone expression are less socially costly than gains in reproduction technology. If society is better off sacrificing the incremental Madonna album to prime the pump for Napster, and assuming the *Sony* standard has that effect, then it would follow that the *Sony* standard at least seems defensible on utilitarian grounds. Indeed, if this premise were true the *Sony* standard or some similar formula embodying this tradeoff would be the dominant utilitarian rule.

¶13 There are a host of cogent objections to this defense, but it has some surprisingly robust responses. To understand them we need to define innovation more concretely and think more clearly about the tradeoff that this defense implies.

⁸ One might try to defend it on other grounds, such as economizing on litigation costs, of course, but that is not my subject here.

⁹ Litman, *supra* note 3, at 957.

¹⁰ The other objections are that capital costs might not be very high in industries most affected by the *Sony* rule, that the rule most logically protects commercialization rather than invention, and that non-infringing uses themselves might be sufficient to attract investment in creation without the need for a rule effectively excusing infringement.

A. *What is Innovation?*

¶14 Intellectual property scholars often refer to innovation as essentially interchangeable with variation. In an influential article, for example, Kai Raustiala and Christopher Sprigman point out that the fashion industry “develops a tremendous variety of clothing and accessory designs at a rapid pace” even though (and arguably because) the law does not protect fashion design. They draw from this the lesson that “fashion firms continue to innovate at a rapid clip, precisely the opposite behavior of that predicted by the standard theory.”¹¹ With respect to some problems, however, this equation may impede analysis more than advance it.

¶15 Here is a common-sense definition of innovation: An innovation is a change in the status quo that (i) allows one to do something one could not do before or (ii) allows one to do something already possible while using fewer resources than were required before. Although I think this definition has some intuitive appeal it has some obvious problems.¹² It is easy to find examples that the criteria handle poorly. The hydrogen car is intuitively an innovation but it does not obviously fit either aspect of the definition. People drove before it was invented and it does not necessarily use fewer resources than gasoline cars, it just uses different resources.

¶16 One could try to salvage my criteria, but the salvage efforts confirm that the criteria work poorly. I will take them in reverse order. One might argue that the hydrogen car satisfies the second criteria by abstracting from gasoline power in particular to energy in general. Rather than just being different, the hydrogen car might be more efficient at the proper level of classification. But what if the hydrogen car actually consumes more energy per mile under present production conditions than the gasoline car? Under my second criterion it would seem to follow that it still was not an innovation, which runs counter to the common sense that made the definition appealing in the first place. Worse yet, the hydrogen car might be relatively inefficient only because facilities for producing hydrogen are not well developed at present. But that implies something is an innovation when complementary conditions of production have adapted to it but not before. I doubt that is what most people have in mind when they use the term.¹³

¶17 As to my first criterion, one might argue that the hydrogen car introduced a new capability because before it was invented it was not possible to drive a *hydrogen* car. But that approach seems to prove too much. By parity of reasoning one would say it is an innovation to sell orange cars if all previous cars were blue, because it was not previously possible to drive an orange car. One might as well say *Oliver Twiss* was an innovation

¹¹ Kal Raustiala & Christopher Sprigman, *The Piracy Paradox: Innovation and Intellectual Property in Fashion Design*, 92 VA. L. REV. 1687, 1689 (2006).

¹² There is enough truth in these criteria, though, to make a couple of points. First, there is no ethical valence to innovation so defined (whatever one’s ethical tastes). It is perfectly sensible to refer to innovative torture techniques or methods of disguising Ponzi schemes. Second, and of special interest to utilitarians, it follows that there is no logical relationship between innovation and *net* increases in welfare. Innovation is not intrinsically good; its appeal is based in experience.

¹³ This argument ignores environmental concerns, of course. One could argue that even if under present conditions the hydrogen car consumes more energy per mile than a gasoline car, the hydrogen car is still an innovation because it shifts exhaust emissions from the tailpipe to a larger and perhaps cleaner facility. This move does not solve the problem, though. It still implies the hydrogen car would not be an innovation if there were no reduction in emissions per mile at present, which still seems wrong.

over *Oliver Twist* even if the stories were the same because no one could read the double-s version before. Or, to borrow from the fashion world, one might as well say that a suit with a 3" lapel is an innovation over a suit with a 2.75" lapel. You could say that, but what would be the point?

¶18 The impulse behind this *reductio* is that the variations I specify are immaterial. Orange is not material to driving and to the reader of novels Twiss is not a materially different name than Twist. But materiality has to be judged in relation to some purpose. Suppose the orange in question reflected the sun in a special and new way. Then we might say the color as such was an innovation in colors even if not in cars. And the width of one's lapels might well be material to those who have a taste for staying current in fashion. Small changes might drive behavior (and therefore sales) in status competition.

¶19 This example suggests the common-sense point that innovation in one field may simply add variety in another, complementary field, even if the complement is necessary to spur the innovation. In terms of my two criteria, the point is that the "something" in question cannot be taken for granted. Innovation is relative to some field of endeavor and, by extension, some purpose or purposes. Whether something counts as innovation for purposes of legal analysis, therefore, depends in part on the purposes of the law.

¶20 A related point, which may be derived from the environmental aspects of the hydrogen car example, is that innovation usually depends on complements to deliver increased utility to consumers. It may be that it makes no sense to introduce a hydrogen car until advances in power plant cleaning technology produce net reductions in emissions per mile, so that shifting emissions from car to plant improves air quality. And it may be that reductions are cost-effective only at a certain level of demand, which the hydrogen car may help create. This point makes an already elusive concept even more elusive.

B. Innovation and Variation Compared

¶21 Of course, sometimes a different shade of orange is just a different shade of orange. It is an easily achieved variation on a well-known color. If that were the case it would not seem useful to refer to the new shade as an innovation in either colors or cars. It would be better to refer to it as a variation of the color orange, just as Twiss is a variation on Twist.

¶22 Putting things this way raises an obvious question: what distinguishes variation from innovation? Common usage and common sense would suggest that an innovation represents a greater degree of difference from the status quo than does a variation. Thus, a third criterion: (iii) Innovation represents a significant departure from the status quo; significance may take the form either of new capabilities as in criterion (i) or new efficiencies as in criterion (ii), but may take other forms as well.

¶23 This third criterion is so open-ended that it threatens to push the definition into vacuity. It is tempting to try to make it more complete by adding a substantive gloss corresponding to the widely held intuition that innovation is good. Rather than saying innovation is a significant departure from the status quo we might want to say innovation is present where there is a significant improvement in the status quo. But this suggestion raises the problem that opinions may vary on what counts as improvement.

¶24 For example, suppose we could agree that rap music is a significant departure from what came before it. I personally do not like it and do not think it improved

anything. As a hedonic utilitarian, of course, I must admit there is a sense in which I am just wrong about that, for there is huge demand for rap music and many people enjoy it very much. Even so, my subjective dissent raises a general problem with defining innovation in terms of improvement.

¶25

To avoid the problem it seems we must restrict the concept of innovation to cases in which there is a high degree of consensus on how to measure and define results. Thus, a fourth criterion: (iv) Innovation represents a significant improvement in the status quo; significance may take the form either of new capabilities as in criterion (i) or new efficiencies as in criterion (ii) but may take other forms as well; improvement exists only if there is a high degree of consensus on (a) what is good (i.e., accuracy or speed) and (b) a means for measuring it. This definition would seem to make it coherent to speak of innovation in timekeeping, temperature measuring, and processor speeds, but not of innovation in art or literature. Anything that happened in those fields would be variation. This approach connects innovation to the pragmatic conception of truth and knowledge of reality articulated by C.S. Peirce: “The opinion which is fated to be ultimately agreed to by all who investigate, is what we mean by the truth, and the object represented in this opinion is the real.”¹⁴ Opinions are “fated” to converge in this sense if and when there is a sufficient consensus on standards that guide opinion reliably enough to consider deviant opinions “wrong.”¹⁵ Such a consensus will always be subject to revision, of course, but at any given point in time it will be the only basis accessible to us for grounding truth claims and statements of fact.

C. Innovation Redefined as a Shift in a Production Function

¶26

Authors and musicians might object to this definition, but it finds some support in Joseph Schumpeter’s conception of innovation.¹⁶ Schumpeter began with the concept of a market in perfect equilibrium and asked what would disturb that equilibrium. He divided disturbances into external factors, among which he included invention,¹⁷ and internal factors, among which he included “changes in the methods of supplying commodities.”¹⁸ By this he meant the introduction of new commodities, technological

¹⁴ 1 CHARLES SANDERS PEIRCE, *How to Make Our Ideas Clear*, in THE ESSENTIAL PEIRCE 124, 139 (1992).

¹⁵ And in keeping with Peirce’s pragmatism, of course, standards are judged by and accepted or rejected because of the results they produce.

¹⁶ JOSEPH A. SCHUMPETER, BUSINESS CYCLES 87-88 (1939). On Schumpeter’s definition, and his distinction between innovation and invention, see Vernon W. Ruttan, *Schumpeter and Usher on Innovation, Invention, and Technological Change*, 73 Q.J. ECON. 596 (1959).

¹⁷ SCHUMPETER, *supra* note 16, at 84. Schumpeter’s distinction between innovation and invention helps us to think about our hydrogen car example. He felt invention denoted scientific novelty, while innovation did not. Inventions might not spur innovations, therefore, and innovations could occur without inventions, though many if not most innovations could be traced to inventions. Because Schumpeter was concerned with disruptions, it made sense to set aside discoveries that might be disruptive if refined or combined with refinements in complements but which as yet disrupt little or nothing. The distinction did not imply that inventions, such as our hydrogen car, had no value or would not become disruptive at some point. It implied only that disruptions were caused by the introduction of new things, not by things not yet ready to be introduced.

¹⁸ *Id.* at 73.

change in the production of existing commodities, the opening of new markets or sources of supply, “in short, any ‘doing things differently’ in the realm of economic life”¹⁹

¶127 So stated, innovation might refer to any difference, including an increase in the variety of products; after all “Twiss” does things differently than “Twist.” But Schumpeter refined this definition in terms of the production function. Innovation is “the setting up of a new production function” (as opposed to changes in existing functions) or the introduction of a new combination of factors of production.²⁰ The basic notion was one of a shift in a curve rather than movement along an existing curve. This notion of innovation embodies the concept of significance (the shift rather than mere movement) and, as a practical matter, the notion of improvement—no shift would matter absent demand, which can be taken as a proxy for consumer approval of whatever change the innovation produces.²¹

¶128 Schumpeter distinguished innovation from product variations produced using existing methods. He felt most demand was generated by producers persuading consumers that they want something but allowed that some “leaders of fashion, specialists in creating new forms and habits of private life” influence demand.²² He treated such changes as analytically unimportant, however. They are “no more than different choices between existing commodities and, if unsupported by a change in real income, which they do not in themselves entail, create a situation to which industry can and will passively adapt itself.”²³ Schumpeter’s reference to fashion provides a useful contrast to what he had in mind. It is perfectly cogent to refer, as Raustiala and Sprigman do, to “a season’s innovation” in fashion.²⁴ But that conception is very far removed from the sort of thing Schumpeter had in mind and, I suggest, in some cases it is analytically useful to distinguish the two concepts.²⁵

¶129 Schumpeter’s definition of innovation seems less unsatisfactory than the more informal definition we started with. It also helps explain why he associated innovation with disruption of the status quo and why it might be considered the most important element in the contribution economic activity makes to overall social welfare. It also provides a basis for thinking the tradeoff thesis might be correct: We might be better off with Napster than with the incremental Madonna album we might lose because of Napster.

¹⁹ *Id.* at 84. For a similar emphasis, see Thomas O. Barnett, Assistant Attorney Gen. Antitrust Div. Dep’t of Justice, Presentation at the George Mason University Law Review’s 11th Annual Symposium on Antitrust: Maximizing Welfare Through Technological Innovation (Oct. 31, 2007), available at <http://www.usdoj.gov/atr/public/speeches/227291.pdf>.

²⁰ SCHUMPETER, *supra* note 16, at 87.

²¹ This definition may have the somewhat counterintuitive implication that the hydrogen car is not an innovation, because at present it is more a prototype of little or no practical significance than a product. The hydrogen car would be an invention, however.

²² SCHUMPETER, *supra* note 16, at 74.

²³ *Id.*

²⁴ Raustiala & Sprigman, *supra* note 11, at 1730.

²⁵ For the most part the discussion here implies nothing for Raustiala and Sprigman’s analysis, except to the slight extent it may tend to support them. It does provide a caution, however, in scaling their analysis to IP generally. *Cf. Id.* at 1744, 1762-63 (“[I]t is unlikely that a statutory change to American IP law would produce more innovation in the fashion industry, and innovation is the sine qua non for IP protection in the United States.”).

II. THE TRADEOFF THESIS

¶30 In this part I will to elaborate a bit on the basic logic for this position, which elaborates on the first proposition stated above, and then discuss two interesting aspects of the tradeoff thesis. These aspects turn out to imply an interesting difference between pragmatic and strictly economic analysis.

A. *Content and Complements*

¶31 From a static point of view it is easy to specify how the cost of content affects the development of technology that reproduces, alters, and distributes content: The cheaper content is, the more producers of complementary technologies can charge for their products. The more such producers can charge, the more robust innovation in complements will be.²⁶ An innovator wondering whether to sink costs into bringing a technology to market therefore will be more likely to do so if the complementary content is free than if it is costly.

¶32 This is a very ordinary point regarding the relationship of inputs bound together tightly enough, so it is better to analyze each as part of a system than on its own. Every participant in such a system wants every other aspect of that system to be cheap and plentiful. Chip manufacturers dream of commodity operating systems. People who sell computers and bandwidth make money when consumers can copy songs for free.

¶33 Even in a static world this point will not hold for every field, of course. Some innovations will depend on copyright to cover their costs. The development of technologies necessary to produce computer-generated graphics and animated films would be an example here. One would not expect investment in such technologies if the investors expected the movies to lose money. But for now let's suppose this general complements model holds across enough types of expression to make it a plausible basis for copyright policy. It would seem to follow that technology that makes infringement easier is likely to increase the rate of development for more such technology. If it is also correct that such development counts as innovation in a Schumpeterian sense, and that content does not, then it would seem to follow that the tradeoff thesis is true. QED.

¶34 There is no way to measure precisely how far such a tradeoff is desirable, of course, but on this account there would seem to be no grounds for objecting to the tradeoff as such.²⁷ Instead of quibbling about whether “peer to peer” copying reduces sound recording sales—we have every reason to think it does²⁸—we should acknowledge the fact, shrug our shoulders indifferently, and move on.

²⁶ In this part, I will treat software programs that produce and distribute content as complements rather than content, even though both software and the expression it works on are copyrightable subject matter.

²⁷ Glynn Lunney has made a similar point regarding the distribution of sound recordings. He argues that even if widespread copying over p2p networks reduces the production of new recordings a bit, that reduction may well be more than offset by gains in utility to copiers. See Glynn S. Lunney, Jr., *Fair Use and Market Failure: Sony Revisited*, 82 B.U. L. REV. 975, 976 (2002); Glynn S. Lunney, Jr., *The Death of Copyright: Digital Technology, Private Copying, and the Digital Millennium Copyright Act*, 87 VA. L. REV. 813, 820, 909-10 (2001). The argument in the text adopts the same basic logic with respect to complements. It accepts a criticism of Professor Lunney's argument I previously advanced—that it might seriously erode the production of expression—and argues that this result might well be acceptable if it produced corresponding shifts in production for complements.

²⁸ See Stan J. Liebowitz, *File-Sharing: Creative Destruction or Just Plain Destruction?* 49 J.L. & ECON. 1 (2006); Stan J. Liebowitz, *Testing File-Sharing's Impact by Examining Record Sales in Cities* (Apr.

B. Double Standards and the (Somewhat Surprising) Social Construction of Innovation

¶35 Having stated the tradeoff thesis with what I hope is tolerable clarity, I want to discuss two interesting aspects of it. The first is that the thesis embodies a double standard entailed by my definition of innovation: Losses in content count less than losses in reproduction technology because I have (i) presumed that innovation is vital to welfare, and (ii) stipulated that there is no such thing as innovation with respect to the content of books, records, and music; there is just variation. These moves entail that losses in content are weighted less heavily than losses in complements that reproduce or distribute content.

¶36 This double standard needs to be justified because it may contradict some widely accepted intuitions regarding utilitarianism, in which analysts do not weight gains and losses for people but either ask how people weight such things themselves or profess agnosticism toward such weighting. Two justifications come to mind. The first is that people may in fact simply not value content as much as complements and, therefore, experience the loss of the incremental work as less painful than the loss of technology such as Napster. If this factual statement were true, then the double standard would not be a double standard at all; it would simply be a straightforward application of basic utilitarian principles.²⁹

¶37 Unfortunately, of course, we have no real data on this comparative point and it is hard to see how we could get it. By hypothesis the factual claim would require people to assess the magnitude of the loss of something they know nothing about—the foregone copyrighted work or reproduction technology. That is not a likely prescription for rigor.

¶38 The second justification is analytical and anecdotal, in that it appeals to intuitions that may or may not be shared. It could be massaged into a form consistent with hedonic utilitarianism's agnostic stance toward what people perceive as gains and losses, but I think it is more honest to analyze it in a way that takes the double-standard criticism head on. The analytical defense rests on social consensus regarding standards for measuring progress. It holds that there is consensus on what counts as progress in reproduction technologies: faster, cheaper, and clearer is better. It holds also that there is no such consensus with respect to content. Rap is just different from funk and soul, as speed metal is different from rockabilly, which is different from blues. If this is correct, it follows that there is no cogent way to say that an incremental work represents progress, and thus no way to say the loss of an incremental work represents progress foregone.

¶39 This analytical justification is pragmatic in the sense that it shifts the focus on innovation away from things such as technologies and sound recordings and toward the way people apprehend such things. This justification entails the conclusion that innovation is as socially constructed as anything else we might care about and is not strictly objective, though the high degree of consensus required to deem something an innovation will make the concept feel objective to most people.³⁰

2006), available at <http://ssrn.com/abstract=829245>.

²⁹ A related defense of the thesis would hold that within a fairly broad range people adapt more easily to limitations on content than they would to changes in complements. The topic of adaptive preference is sufficiently complicated in this context, however, that I want only to note here that it is relevant and then ignore it.

³⁰ That high degree of consensus might also be a reasonably good proxy for measuring gains and losses even using conventionally agnostic utilitarian principles, but there is no way to know that.

¶40 The second interesting characteristic of the tradeoff thesis is that, at least so far as I know, the double standard necessary to make it work seems to be neither acknowledged nor defended in the legal or economic literature. And, though I believe it is appealing as an intuitive matter, it seems to provoke objections from economists. The economists' problem is that weighting gains in reproduction technology differently from losses in content implies that it is impossible to objectively model the welfare effects of the *Sony* rule or any alternative to it. One might construct a model in which gains in reproduction technology count as a 1 per increment, and losses in content counted as a 0.7 per increment, but such weighting would be transparently subjective and thus unscientific.

¶41 This point seems quite right to me. It seems obvious that it should worry economists, because modeling is a large part of what they do. But I am not as sure that it should worry lawyers. It is true that explicitly discounting losses makes a degree of subjectivity transparent, but it is only slightly less subjective for economists to ignore plausible differences in the relative value of content and reproduction technology just so they can employ the tools they are trained to employ. In other words, that all economists agree to treat gains and losses equally in order to build models does mean that such agreement is less subjective than individual weighting. It does not mean that the choice is objective, however. It simply reflects the preferences of economists generally, which are subjective in relation to perspectives of other disciplines.

III. SOME OBJECTIONS TO THE TRADEOFF THESIS AND SOME RESPONSES

¶42 The logic behind the tradeoff thesis is sound, I think, but it is easy to think of a host of objections to it. I survey some of the main objections here and offer responses to them.

¶43 An obvious first objection is that it is irrational to say that distribution technologies are themselves more important than the content they distribute. What good is it to promote the more efficient delivery of bad content? What about the related notion, recently stated with great force by Professor Merges, that robust copyright sustains a “creative professional class” that enhances social welfare by producing high quality expression—higher than would be produced if protections were weaker?³¹ Is it not “the real purpose of IP law” to “ensure[] a steady supply of high-quality creative works to consumers”?³² I find this view compelling, and it is painful to acknowledge that there are powerful responses to these rhetorical questions. As an initial matter, technologies that reproduce, alter, and distribute content may do other things, too, such as enabling interactive expression and distribution of user-generated content rather than just distribution of content produced by large firms. Many of the technologies that enable p2p copying also enable blogs, social networking sites, and the distribution of content produced in business models that do not rely on copyright.

¶44 On top of that, there seems to be no necessary relation between the expense of works, and thus the need for cost recovery, and the enjoyment of works.³³ Indeed, it is

³¹ Robert P. Merges, *The Concept of Property in the Digital Era*, 45 HOUS. L. REV. 1239, 1250, 1266-67 (2009).

³² *Id.* at 1250.

³³ See Lunney, *Sony Revisited*, *supra* note 27, at 1020. And as a practical matter both content and its complements are so tightly bound together that one necessarily has to consider the utility generated by the

arguable, and Glynn Lunney has argued the point forcefully, that a regime of strong copyright induces excessive investment in producing copyrighted works, sometimes in the form of expensive bells and whistles that add little to the utility cheaper works would generate.³⁴

¶45 One might offer the related objection that we should not sacrifice incremental expression to foster innovation in complements because expression is uniquely valuable and should not be subordinated to other ends. Conventional copyright expression, after all, counts as speech, the freedom of which is enshrined in a preferred position in the First Amendment. Indeed, an alarming amount of commentary insists that the First Amendment should constrain copyright policy.³⁵ Most of this commentary is about individual autonomy, however, not utility. It would read pretty much the same if one could be certain that no one ever heard or read most works and forgot most of what they did hear or read.³⁶

¶46 Lastly, the prominence of reality programming may provide anecdotal evidence that both producers and consumers are able to adjust expectations about content to a world of cheaper and more diverse sources of distribution; presumably demand will shift if the balance between content and its complements tilts so far that it begins to produce net losses. This point is probably correct, but it is important not to push the notion of adaptive preferences too far. It may well be the case that people have a rough baseline of happiness and will revert to it within an extremely wide range of material conditions. But that concept has no valence between content and technology. People may adapt to conditions either way. What drives the tradeoff thesis is ultimately consensus on standards of measurement, not differential adaptability.

¶47 Then there is the argument that strong copyright protection is needed to secure returns necessary to support innovation in technologies that create expression, such as software tools that produce computer-generated images in movies, electric pianos and guitars, and the like. This argument makes an important point, but such innovations represent general technical advances. They are not tied to particular works and their costs therefore can be spread over a large number of works. It is not clear that strong rights in each work or strong secondary liability rules are needed to cover innovation costs in such cases. It is not clear that strong rights or rules are *not* needed, of course. There is simply no way to know.

¶48 A related argument is the relative error costs of sacrificing content to complements. Judge Easterbrook stated the basic argument several years ago: No one forces authors to claim rights, and if rights were unnecessary, one would expect competition to induce waiver or levels of enforcement so low as to not deter many uses. Unneeded rights would therefore do little or no harm. In contrast, if rights are necessary

bundle. At least many movies are more enjoyable when they can be pulled off a shelf and watched on a large high-resolution TV than when one has to go out at a time dictated by others to grab seats on a first-come, first-served basis.

³⁴ Glynn S. Lunney, Jr., *Reexamining Copyright's Incentives-Access Paradigm*, 49 VAND. L. REV. 483, 487-92 (1996).

³⁵ See sources collected in David McGowan, *Why the First Amendment Cannot Dictate Copyright Policy*, 65 U. PITT. L. REV. 281, 281 n.1 (2004) (collecting sources).

³⁶ Innovation in complements to expression likely increases the ability of people to tinker with expression, which represents a gain to tinkerers and net gains for works whose authors are happy to allow such tinkering. Netting is required for works whose authors wish to preserve a distinct meaning.

but are too weak or are not granted, authors could not bargain with all prospective users to create the necessary rights. The transaction costs would be too high. The expected costs of too-weak rights, therefore, are systematically higher than the costs of too-strong rights.³⁷

¶49 I think this argument is very powerful and has not been adequately rebutted by scholars who favor policies the argument would condemn. The argument certainly casts a shadow of doubt over the tradeoff thesis. I do not think it is conclusive, however, because in this context it would treat content as presumptively of equal social value with its complements. The tradeoff thesis challenges that assumption. If the challenge is correct, the error cost argument may not hold. The error cost argument therefore highlights the importance of the double standard discussed above but it does not rebut the tradeoff thesis, which would fall of its own accord if that double standard were wrong.

¶50 A final objection is more jurisprudential than economic or pragmatic. In a nutshell the objection is that there is something wrong with interpreting a statute intended to promote the production of expression in a way that sacrifices expression for progress in technology that, apart from software, is largely outside the statutory scope. But a lenient secondary liability rule might promote certain types of expression—user-generated mashups, and the like—even while undercutting incremental expression with greater overhead. A purposive interpretation of the Copyright Act would not necessarily condemn such a result.

¶51 Were we to shift from instrumental thinking to formalism, the argument would not work either. The tradeoffs we have been considering are most often evaluated under doctrines of secondary liability not found in the Copyright Act. Judges have created them for instrumental reasons and may define their contours for such reasons. Indeed, a thorough formalistic approach implies rejection of such liability altogether, and this would tend to facilitate the sacrifice of content for complements.

IV. CONCLUSION

¶52 Over the years I have been impressed by how ready law professors are to hypothesize business models that allow firms to recover their costs without copyright law, by how ready law professors are to believe that technologies such as p2p software actually increases sales of sound recordings, and in general how the academy would like to have the cake of robust expression and eat innovation in complements, too. This has always seemed to me like wishful thinking, and I have tended to resist the implied call for weaker copyrights in part because I distrust wishful thinking.

¶53 But confronting the tradeoff problem candidly does not entail support of a strong rule of contributory infringement. It is wishful thinking to pretend that the regime does not create losses in expression but it may be equally wishful to pretend that those losses are as important as foregone innovation. As the social benefits of dynamic efficiencies may swamp losses from static increases in price relative to marginal cost, so gains from innovation in complements may swamp losses in expression.

³⁷ Frank H. Easterbrook, *Cyberspace Versus Property Law?*, 4 TEX. REV. L. & POL. 103, 112 (1994) (“If you start from property rights, you can negotiate for free distribution; if you start from an absence of property rights, it is very hard to get to the best solution when a charge is optimal.”).

¶54 Ultimately, I think, the tradeoff thesis is a plausible story about how the *Sony* rule can be reconciled with utilitarian analysis notwithstanding the seeming non-utilitarian bias of the rule. It is only a story, however, and it might be wrong. The only conclusions one can draw from this analysis is that *Sony*'s facial deviation from utilitarianism does not prove that the rule produces suboptimal results from a utilitarian point of view, while the tradeoff thesis does not prove the opposite.

¶55 I do believe, however, that the tradeoff thesis is the only one that could salvage the utilitarian case for *Sony*, so that if the tradeoff thesis is wrong, a utilitarian should reject the *Sony* rule. It follows that future debate over the rule should proceed in terms of the premises of the tradeoff thesis, and in particular in terms of the double standard needed to make the thesis work.