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Copyright, Derivative Works, and the Economics of Complements

Glynn S. Lunney, Jr.*

ABSTRACT

From an economic perspective, copyright is irrational. In defining the scope of a copyright owner's exclusive rights, it treats situations that have similar economic consequences differently, as infringement in one case and not in the other, and situations that have radically different economic consequences similarly. This essay explores such area in which copyright exhibits economic irrationality: Copyright's treatment of complements. Where a lower price on a substitute reduces demand for the original, a lower price on a complement increases it. So defined, copyright addresses whether a copyright owner will control three different types of complements: (i) complementary products, such as MP3 players and VCRs, that increase the accessibility of copyright works; (ii) complementary uses of copyrighted works, such as radio airplay; and (iii) complementary reworkings of copyrighted works, such as movies based upon a novel. Although the economic consequences associated with these complements are identical, copyright treats these complements differently. Some are infringing, at least, some of the time; others are not. This essay explores this irrationality and proposes a unifying principle: Where a given use, reuse, or product is a strong complement to a copyrighted work, and would, in the absence of copyright's intervention, be available in a naturally competitive market, the copyright owner should not have the exclusive right to control such a use, reuse, or product.

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In 1852, Harriet Beecher Stowe published her novel, *Uncle Tom's Cabin*. With its anti-slavery message, the book became one of the best-selling novels of the nineteenth century,¹ threw fuel on the debate between slave owners and those who opposed slavery, and may have helped ignite the Civil War. Indeed, President Abraham Lincoln, when he met Stowe at the start of the Civil War, is reputed to have said, "So you're the little woman who wrote the book that made this great war."²

While President Lincoln was referring specifically to the Civil War, Stowe's novel started a copyright war as well. Immediately following the book's publication, a newspaper in Pennsylvania serialized Stowe's novel, translating it into German for its readers. Stowe sued, alleging copyright infringement.³ The Circuit Court for the Eastern District of Pennsylvania ruled against her, however, holding that a translation is not a copy.⁴ At the time, the Copyright Act gave a copyright owner the exclusive right to print, reprint, and vend her book,⁵ but did not provide an exclusive right to translate or adapt a book. As the court wrote, "A translation may, in loose phraseology, be called a transcript or copy of her thoughts or conceptions, but in no correct sense can it be called a copy of her book."⁶

In 1870, following the Civil War, Congress expressly provided authors with an exclusive right to dramatize and translate their

1. Gail K. Smith, *The Sentimental Novel: The Example of Harriet Beecher Stowe*, in *THE CAMBRIDGE COMPANION TO NINETEENTH-CENTURY AMERICAN WOMEN'S WRITING* 221, 221 (Dale M. Bauer & Philip Gould eds., 2001).

2. CHARLES EDWARD STOWE & LYMAN BEECHER STOWE, *HARRIET BEECHER STOWE: THE STORY OF HER LIFE* 203 (1911).

3. *Stowe v. Thomas*, 23 F. Cas. 201 (C.C.E.D. Pa. 1853) (No. 13,514).

4. *Id.* at 208.

5. Act of Feb. 3, 1831, ch. 16, § 1, 4 Stat. 436, 436 (repealed 1909) ("[T]he author or authors of any book or books, map, chart, or musical composition . . . shall have the sole right and liberty of printing, reprinting, publishing, and vending such book or books, map, chart, musical composition, print, cut, or engraving, in whole or in part, for the term of twenty-eight years . . .").

6. *Stowe*, 23 F. Cas. at 208.

copyrighted works as part of its second general revision⁷ of the Copyright Act.⁸ Having recognized the right, Congress carried it forward in both the 1909 Act and the Copyright Act of 1976. In the 1909 Act, Congress tied the translation and adaptation right to the specific nature of the work:

To translate the copyrighted work . . . if it be a literary work; to dramatize it if it be a nondramatic work; to convert it into a novel or other nondramatic work if it be a drama; to arrange or adapt it if it be a musical work; to complete, execute, and finish it if it be a model or design for a work of art.⁹

In the current statute, the Copyright Act of 1976, Congress again retained the dramatization and translation right, yet eschewed the specific delineation of the 1909 Act. Instead, § 106(2) of the 1976 Copyright Act simply stated that a copyright owner has “the exclusive right[] . . . to prepare derivative works based upon the copyrighted work.”¹⁰ It then defined a “derivative work” as “a work based upon one or more preexisting works, such as a translation, musical arrangement, dramatization, fictionalization, motion picture version, sound recording, art reproduction, abridgment, condensation, or any other form in which a work may be recast, transformed, or adapted.”¹¹

The literal reach of the 1976 language is exceedingly broad. As Justice Story noted long ago, “[e]very book in literature, science and art, borrows, and must necessarily borrow, and use much which was well known and used before.”¹² Yet, despite its potential breadth, the derivative work right has not proven to be material very often. Aside from a handful of cases, the reproduction right has largely usurped the role that the derivative work right was supposed to play. Thus, when Judge Learned Hand famously elaborated the levels of abstraction framework for analyzing infringement in *Nichols v. Universal Pictures Corp.*,¹³ the fact that the plaintiff’s work was a play while the defendant’s work was a movie, or, in other words, a

7. Since enacting the initial copyright statute in 1790, Congress has enacted four general revisions. The first in 1831; the second in 1870; the third in 1909; and the most recent in 1976. See Copyright Act of 1976, Pub. L. No. 94-553, 90 Stat. 2541 (codified as amended in scattered sections of 17 U.S.C.); Copyright Act of 1909, ch. 320, 35 Stat. 1075 (repealed 1976); Act of July 8, 1870, ch. 230, 16 Stat. 198 (repealed 1952); Act of Feb. 3, 1831, 4 Stat. 436 (repealed 1909).

8. Act of July 8, 1870, ch. 230, § 86, 16 Stat. 198, 212 (“That any citizen of the United States . . . who shall be the author . . . of any book . . . shall . . . have the sole liberty of printing, reprinting, publishing, completing, copying, executing, finishing, and vending the same; . . . and authors may reserve the right to dramatize or to translate their own works.”).

9. Copyright Act of 1909, ch. 320, § 1(b), 35 Stat. 1075, 1075.

10. 17 U.S.C. § 106(2) (2006).

11. 17 U.S.C. § 101 (definition of a “derivative work”).

12. *Emerson v. Davies*, 8 F. Cas. 615, 619 (C.C.D. Mass. 1845) (No. 4,436).

13. 45 F.2d 119 (2d Cir. 1930).

dramatization rather than a reproduction, of the plaintiff's play played no explicit role in Judge Hand's analysis of the infringement issue. Or more recently, Judge Patterson of the Southern District of New York held that a lexicon created from the *Harry Potter* books was a copy, and not a derivative work.¹⁴ In his copyright treatise, Professor Mel Nimmer takes the position that the derivative work right is "completely superfluous."¹⁵ According to Nimmer, either enough of the plaintiff's original work is copied into the defendant's allegedly infringing work to establish infringement of the reproduction or public performance right, or it is not, and hence, no infringement, has occurred.¹⁶ In the first case, the derivative work right is redundant. In the second, it is irrelevant.

Yet, from an economics perspective, treating the derivative work right as either superfluous or irrelevant overlooks a potentially critically distinction. Had the defendant in *Nichols* used the plaintiff's play as the basis for a competing play set up in a theater next door, the defendant's play would, whether technically an infringement or not, undoubtedly have reduced demand for the plaintiff's play. In economic terms, a play based upon another play would likely compete with or substitute for the original work. Yet, the actual defendants in *Nichols* used the copyrighted play to create a movie. In contrast to a competing play, a movie based on the play, again regardless of whether it is technically an infringement or not, is likely to increase, rather than decrease, demand for the play.¹⁷ In economic terms, a movie based upon *Nichols*' play is a complement, not a substitute.

This distinction is critical. The justification for allowing a copyright owner to control the production of substitutes is reasonably straightforward. Absent a legal right to do so, a would-be competitor could simply copy another's work, thereby avoiding the authorship costs entailed in creating the work, and offer competing copies of the work for less. This competition would directly reduce the money that the original author could expect to earn from sales of her own copies of her work. In contrast, there is no similarly straightforward justification for allowing a copyright owner to control the production of

14. Warner Bros. Entm't Inc. v. RDR Books, Inc., 575 F. Supp. 2d 513, 538-39 (S.D.N.Y. 2008).

15. 2 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 8.09[A] (LexisNexis 2009).

16. *Id.*

17. Whether a movie-version of a play serves as a complement or a substitute is ultimately a factual question that would need to be resolved at trial. Certainly, the fact that many plays remain popular even though movie versions of the same story are readily available at a trivial price suggests that, for many consumers, movies are not a substitute for the experience of seeing a play live.

complements. By definition, the production of complements will not reduce, as competing substitutes do, the profits or rents available to the original author from sales of her own copies or of access to her original work in its original form. Indeed, even in the absence of a legal right to control them, the production of complements will increase the rents the original author will earn.¹⁸

True, extending an author the right to control complementary markets would increase the licensing fees that a copyright owner could earn from her work. Yet, as the Court has stated time and again, the point of copyright is not to enrich copyright owners. Rather, it is "to promote the Progress of Science."¹⁹ The key question then is whether refusing to grant copyright owners the right to control the production of complements would lead to an underproduction of copyrighted works, or otherwise reduce social welfare. Certainly, as a general rule in our economy, the creator of a given product does not have the legal right, *ipso facto*, to control the production of associated complements. The simple fact of creation does not provide an automobile manufacturer the right to control the markets for complements such as gasoline, tires, and after-market stereos. Nor does it give a dress designer the right to control the markets for complements such as shoes, purses, or other accessories. Although both new car and new dress designs share a public good character with original works of authorship, there are (apparently) sufficient incentives for such new designs without any need for control over the associated complements. Given this uniform practice, extending to a copyright owner such control simply from the fact of creation is difficult to justify.

This Article explores the complement-substitute dichotomy and the role that it does and should play in setting sensible limits on copyright's scope. Section I identifies three situations where copyright and complements interact, and examines the legal rules courts and Congress have developed for dealing with complements in copyright. Section II then considers the economics of complements and substitutes in order to develop the relevant considerations that should help resolve the question of whether a copyright owner has, or should have, the legal right to control complements. Given the principles

18. See *infra* text accompanying notes 53-55.

19. See, e.g., *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 429 (1984) ("The monopoly privileges that Congress may authorize are neither unlimited nor primarily designed to provide a special private benefit. Rather, the limited grant is a means by which an important public purpose may be achieved. It is intended to motivate the creative activity of authors and inventors by the provision of a special reward, and to allow the public access to the products of their genius after the limited period of exclusive control has expired.")

articulated in Section II, Section III will then reexamine the cases from Section I and try to suggest how the scope of copyright owner's exclusive rights should be interpreted to promote social welfare when dealing with complements. Finally, Section IV concludes, and suggests in particular a need to leave more room in copyright for complementary reworkings of original works.

I. COMPLEMENTS, COPYRIGHT, AND CONFUSION

At a general level, it is possible to identify three situations where copyright has either extended or refused to extend a copyright owner legal control over a complement. First, there are products or services that are complementary to copyrighted works, such as the VCR, the Betamax, and other devices that can record and replay copyrighted works. Second, there are uses of a work that are complementary. The classic example here is radio airplay. When a song is played on the radio, its sales increase. Third, there are reworkings of existing works that are complementary, such as a movie based upon a novel. Again, as in the radio airplay example, it is well-established that such a movie increases, rather than decreases, demand for the novel.²⁰

At some level, the economic considerations that these three cases raise are identical. Yet, copyright does not treat them consistently. Some of these situations are permitted, while others are prohibited. Moreover, copyright's rules do not seem to reflect any coherent underlying principles. Even where two cases present identical economic considerations in terms of the nature of the use, the potential for a licensing market, and the economic impact on the copyright owner, copyright law, as Congress wrote it or as courts have interpreted it, will treat the cases differently.

Consider a few examples. First, from the complementary hardware situation, imagine that a hotel installs VCRs in each of its guest rooms and makes copyrighted movies available for rental. Under existing law, the hotel makes some additional money from renting the movies and the hotel guests get to watch the movies, yet there is no copyright infringement. So long as the hotel has purchased and is renting authorized copies of the movie, the hotel is insulated

20. See, e.g., Douglas YBarbo, *Aesthetic Ambition Versus Commercial Appeal: Adapting Novels to Film and the Copyright Law*, 10 ST. THOMAS L. REV. 299, 372 (1998) ("It seems that the force of exposure to movies is so overwhelming that even *bad* movies will dramatically increase the sales of books." (emphasis in original) (citation omitted)).

from copyright infringement by copyright's first sale doctrine.²¹ Imagine a slightly different scenario, however, where the same hotel decides, instead of VCRs in each room, to set up a central computer which stores copyrighted movies and then streams them into the hotel rooms on a guest's request. Economically, the consequences are the same as having VCRs and videotapes available for rental; the hotel makes money from charging for access to the movies, and the guests get to watch the movies. Yet, under copyright law, such a use constitutes copyright infringement. The hotel is publicly performing the copyrighted works at issue and is not insulated from liability by the first-sale doctrine. The hotel must therefore obtain a license in order to make movies available to its guests in this fashion.²²

When the analysis moves from complementary hardware to the second category of complementary uses, there are a number of examples of similar inconsistency. For example, performing a musical work in a place open to the public is generally a public performance requiring permission from the copyright owner, but not always. If the otherwise public performance is made using only a home-style receiving apparatus, or occurs in a restaurant or bar under a certain size, then the use falls outside the copyright owner's control and no license is required.²³

Similarly, when Congress finally added a parallel public performance right for sound recordings in 1995,²⁴ Congress did not extend the right to historically paradigmatic types of public performances. For example, the sound recording copyright owner does

21. See *Columbia Pictures Indus., Inc. v. Prof'l Real Estate Investors, Inc.*, 866 F.2d 278 (9th Cir. 1989).

22. See *On Command Video Corp. v. Columbia Pictures Indus.*, 777 F. Supp. 787 (N.D. Cal. 1991). Perhaps, the fact that the hotel with the VCRs has to buy multiple copies of each tape, in order to ensure a sufficient supply for its guests, where the hotel with the central computer only needs one copy, creates a sufficient distinction to justify requiring a licensing fee in central computer case. See Glynn S. Lunney, Jr., *Reexamining Copyright's Incentives-Access Paradigm*, 49 VAND. L. REV. 483, 634-46 (1996) [hereinafter Lunney, *Paradigm*]. However, it seems unlikely to me that, in this context, the reuse of a single copy through a computer to satisfy multiple hotel guests simultaneously would, in the absence of a separate licensing fee, lead to the underproduction of movies. *Id.* at 641-45 (suggesting that derivative use should require a license in this context only if three conditions are satisfied: (i) does the hotel with the computer have a much higher reservation price for a single copy of the movie because it can show that same copy to multiple guests simultaneously; (ii) is that difference in reservation value unique to the movie or would the hotel have the same increased reservation value for nonwork products, such as the computer itself; and (iii) is the hotel market sufficiently competitive that the hotel with the single computer would not be able to charge a significantly higher price for its hotel rooms in any event).

23. 17 U.S.C. § 110(5) (2006).

24. Digital Performance Right in Sound Recordings Act of 1995, Pub. L. No. 104-39, 109 Stat. 336 (codified as amended in scattered sections of 17 U.S.C.).

not have the right to control a non-subscription broadcast transmissions of her work; the retransmission of such a broadcast, through, for example, a cable provider; or the performance of her work within a business establishment.²⁵ Rather, the right applies only to (1) a limited category of non-subscription and subscription transmissions, such as certain webcasters; and (2) interactive transmissions which enable a member of the public to receive, on request, a transmission of a particular sound recording or a program specially created for the recipient. With respect to the first category, Congress narrowed the digital public performance right for sound recordings further by providing a compulsory license.²⁶ Although politics—and the opposition of musical work copyright owners—undoubtedly played a role in shaping and narrowing the scope of the sound recording public performance right, political expediency alone cannot fully explain the somewhat curious final form of the public performance rights for sound recordings.

Or, consider the use of a copyrighted work to advertise the copyrighted work itself. In *DC Comics Inc. v. Reel Fantasy, Inc.*, the plaintiff sued the owner of a chain of retail bookstores, all of which operated under the name “the Batcave,”²⁷ for, inter alia, copyright infringement when the defendant distributed fliers for the bookstores that used drawings of the plaintiff’s copyrighted Green Arrow and Batman characters. On the copyright claims, the district court granted summary judgment in favor of the defendant, finding the use to be fair. With respect to the fourth fair use factor, which measures the effect that a use has on the market for the original work, the district court stated that “it does not appear that plaintiff was harmed by defendants’ use of the figures. On the contrary, defendants’ use of the figures advertised their sale of plaintiff’s comic books, leading to an increased market for plaintiff’s goods.”²⁸ On appeal, the Second Circuit reversed and found infringement. The court held that because the advertisement copied the visual appearance of the characters—the expression of the work—the use was infringing. For the Second Circuit, the fact that the very point of the copying was to advertise the comic books for sale was immaterial.²⁹

25. 17 U.S.C. § 114(d)(1)(A)-(C) (2006).

26. *Id.* § 114(d)(2), (f); see also *Bonneville Int’l Corp. v. Peters*, 347 F.3d 485 (3d Cir. 2003) (affirming the Copyright Office’s decision to require a compulsory license for simultaneous transmission of a radio station’s broadcast through the Internet).

27. 696 F.2d 24, 25-26 (2d Cir. 1982).

28. *D.C. Comics, Inc. v. Reel Fantasy, Inc.*, 539 F. Supp. 141, 147 (S.D.N.Y. 1982), *rev’d*, 696 F.2d 24 (2d Cir. 1982).

29. *D.C. Comics*, 696 F.2d at 28.

Yet, in § 110(7) of the Copyright Act, Congress has expressly allowed such advertising uses for the public performance of musical works at record stores.³⁰ Again, the economic consequences of these two advertising uses are the same. However, as a result of the Second Circuit's decision, copyright law nonetheless treats them differently.

With respect to the third category of complementary uses, where a later author has reworked an earlier, copyrighted work, two distinct issues can arise. The first issue asks whether a reworking constitutes an infringement—the same question focused on with respect to the first two categories of complementary uses. The second issue is new, however, and focuses on whether the reworking is entitled to its own copyright. On both, the current copyright law has produced muddled answers.

With respect to whether a reworking constitutes an infringing and unfair use, consider the differing outcomes in two cases involving add-ons for video games. In *Lewis Galoob Toys, Inc. v. Nintendo of America, Inc.*, Galoob offered a device, called the Game Genie, that, when used in conjunction with Nintendo's gaming system, allowed the user to vary aspects of the system's game-play.³¹ With the device, a player's character could have more lives, could move faster, or could float over obstacles.³² The device was not a substitute for the original Nintendo gaming system, or the associated software—the game cartridges. Indeed, the device could not be used at all unless the consumer already had both the gaming system and the games. Nevertheless, Nintendo sued, alleging copyright infringement. The Ninth Circuit rejected the claim, and, while acknowledging that use of the Game Genie altered the video game display, held that the altered game-play did not constitute an infringing derivative work.³³ The court also held that, even if the altered game-play was a derivative work, a consumer's use of the Game Genie was a fair and hence non-infringing use of Nintendo's underlying works.³⁴

Only six years later, however, the court reached a different conclusion in *Micro Star v. Formgen, Inc.*³⁵ When Formgen created and sold the Duke Nukem video game, it included, as an aspect of the game, a program that allowed users to create their own levels for the game's hero, Duke Nukem, to traverse and defeat. Over time, users

30. 17 U.S.C. § 110(7) (2006).

31. 964 F.2d 9654 (9th Cir. 1992).

32. *Id.* at 967.

33. *Id.* at 969.

34. *Id.* at 970-72.

35. 154 F.3d 1107 (9th Cir. 1998).

developed a large number of such levels, stored as individual MAP files. Micro Star collected some of the most popular, or best, user-created levels and distributed them on a disc. As in the case of the Game Genie, a consumer already had to have a copy of the Duke Nukem games in order to use these MAP files. Like the Game Genie, the availability of these additional MAP files was a complement, increasing the value of owning a copy of the original. Yet, the court expressly refused to follow *Lewis Galoob Toys*, and held that Micro Star's actions both created infringing derivative works and was not a fair use.³⁶

Similar inconsistencies arise when the issue is whether a reworking is entitled to its own copyright. Doctrinally, a reworking is entitled to its own copyright so long as it satisfies the originality standard for a derivative work. Courts generally phrase the standard similarly, asking whether the derivative work entails "a distinguishable," or "some substantial, not merely trivial" variation.³⁷ They also emphasize a common policy concern behind the standard, focusing on whether the derivative work is different enough to make plain in the event of a subsequent similar work from a third party whether the third party copied from the original or from the derivative work.³⁸ Nevertheless, despite these common starting points, courts sometimes find a derivative work to be original even though it entails very little variation, while in other cases they find a derivative work to be unoriginal even though it entails considerable variation.

Compare, for example, the differing outcomes in *Eden Toys, Inc. v. Florelee Undergarment Co.*³⁹ and *Gracen v. Bradford Exchange*.⁴⁰ In *Eden Toys*, the plaintiff had created a derivative image of the Paddington Bear and alleged that the defendant had copied it for a series of adult sleep-shirts.⁴¹ The key question was whether the plaintiff's version of the Paddington Bear contained sufficient variation to qualify as original and have a valid copyright in its own right. As the court explained, there were some differences between the plaintiff's and the original bear:

In this case, the Eden/Gibson variations of the Ivor Wood sketch, although too minor to entitle the Eden/Gibson work to claim a different aesthetic appeal, are still original and substantial enough to deserve independent copyright protection. The numerous changes

36. *Id.* at 1112-13.

37. *See, e.g.*, *L. Batlin & Son, Inc. v. Snyder*, 536 F.2d 486, 490 (2d Cir. 1976) (en banc).

38. *See, e.g., id.* at 491-92; *see also Gracen v. Bradford Exch.*, 698 F.2d 300, 304-05 (7th Cir. 1983).

39. 697 F.2d 27 (2d Cir. 1982).

40. 698 F.2d 300.

41. 697 F.2d at 29-31.

made by Gibson—the changed proportions of the hat, the elimination of individualized fingers and toes, the overall smoothing of lines—combine to give the Eden/Gibson drawing a different, cleaner “look” than the Ivor Wood sketch on which it is based.⁴²

Based on these differences, the court held that the later drawing was original and therefore entitled to its own copyright.

In *Gracen*, on the other hand, the Seventh Circuit reached the opposite conclusion, despite acknowledging similar differences in the derivative work.⁴³ In this case, the plaintiff, Gracen, had created a drawing of the character Dorothy from the *Wizard of Oz*, which she alleged that Bradford Exchange had copied for a set of commemorative plates based upon the movie. As the court noted, a comparison of Dorothy as she appeared in the individual movie frames and Gracen’s drawing “reveal[ed] perceptible differences” in the character.⁴⁴ Moreover, to create her drawing, Gracen did not simply take a single movie frame and copy it as closely as possible. Rather, she took the image of Dorothy from one frame and placed it in a background taken from another frame.⁴⁵ Presumably, this difference was sufficient to enable a trier of fact to discern whether the defendant had created its version of Dorothy by copying from the movie or by copying from Gracen. Precisely at this critical juncture, however, where the policy that the court articulated for the derivative originality requirement had to be applied to determine whether the differences at issue were sufficient to qualify as original, the court abandoned the policy and simply asserted, “We do not consider a picture created by superimposing one copyrighted photographic image on another to be ‘original.’”⁴⁶

Yet, why shouldn’t Gracen’s selection of that particular combination of image and background be sufficient to sustain her copyright? Out of all the possible combinations that could arise from selecting an image of Dorothy from one movie frame and a background from another, the chance that a defendant would happen to select the same combination as Gracen due to coincidence, rather than copying, is exceedingly slim. If the purpose of the derivative originality

42. *Id.* at 34.

43. *Gracen*, 698 F.2d at 304-05. And this despite a warning from Gracen’s counsel “that judges can make fools of themselves pronouncing on aesthetic matters.” *Id.* at 304. In a subsequent case, *Schrock v. Learning Curve Int’l, Inc.*, 586 F.3d 516 (7th Cir. 2009), the Seventh Circuit rejected the view that *Gracen* imposed a heightened originality requirement in the derivative work context. *Id.* at 521. All that is required is that “there is sufficient nontrivial expressive variation in the derivative work to make it distinguishable from the underlying work in some meaningful way.” *Id.*

44. *Id.* at 304-05.

45. *Id.* at 305.

46. *Id.*

standard is to enable the trier of fact to be sure that the defendant copied from Gracen's version, rather than original, it would seem that the purpose is satisfied here. After all, Gracen created six drawings of characters, including Dorothy, based upon the *Wizard of Oz*.⁴⁷ The defendants produced their plates of all but Dorothy to demonstrate that they had not copied the other characters.⁴⁸ The defendants refused, however, to produce a copy of their Dorothy plate, "lending some support to the charge that it is a 'piratical copy.'"⁴⁹

Copyright's treatment of complements is thus rather confusing. Sometimes a complementary use or reworking will constitute infringement; sometimes it will not. With the hope of establishing principles that can guide copyright's resolution of these issues, the Article turns now to the economics of complements.

II. THE ECONOMICS OF COMPLEMENTS

This Section begin with a simple question: Why should a copyright owner ever have the power to control the production of complements? In general, in the economy, the notion that the mere fact of creating a product ipso facto grants the creator a right to control complementary markets is rejected. Society does not accord the carmaker the right to control the sale of tires, or the dress designer the sale of shoes. Why then should it give the copyright owner such a right?

Some might argue that allowing a copyright owner to control the production of complements would create potential licensing opportunities for the copyright owner and may increase the copyright owner's revenue associated with any given work. The goal of copyright is not, however, to maximize the revenue of copyright owners.⁵⁰ The goal of copyright is not even to maximize the

47. *Id.* at 301-02.

48. *Id.* at 302.

49. *Id.*

50. As the Court explained in *Twentieth Century Music Corp. v. Aiken*:

The limited scope of the copyright holder's statutory monopoly . . . reflects a balance of competing claims upon the public interest: Creative work is to be encouraged and rewarded, but private motivation must ultimately serve the cause of promoting broad public availability of literature, music, and the other arts. The immediate effect of our copyright law is to secure a fair return for an "author's" creative labor. But the ultimate aim is, by this incentive, to stimulate artistic creativity for the general public good.

422 U.S. 151, 156 (1975) (citations omitted); *see also* *Fogerty v. Fantasy, Inc.*, 510 U.S. 517, 527 (1994) ("[C]opyright law ultimately serves the purpose of enriching the general public through access to creative works . . ."); *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 349-50 (1991) ("The primary objective of copyright is not to reward the labor of authors, but 'to promote

production of original works. Rather, copyright's goal is to provide protection sufficient to ensure the socially optimal production of works of authorship, that is, to encourage the production of additional works of authorship so long as that represents the highest and best use of society's available resources. As a result, it is difficult to justify a legal right to control complements simply by showing that a copyright owner's revenue would be lower absent such a right; nor can such a right be justified by showing that fewer original works would be produced absent such a right. Rather, what needs to be shown is that, absent such a right, copyright owners would earn so little on their work that too few original works would exist, relative to the conjectured social optimum.

Of course, determining copyright's optimal scope, in this sense, presents a difficult—some would say impossible—empirical inquiry. While the author has tried to suggest in a previous article the sort of analysis that would be required to define copyright's optimal scope,⁵¹ courts and commentators often seem to use maximizing copyright owner's revenue or the production of copyrighted works as a proxy for copyright's true purpose. Accepting, for the moment, that maximizing a copyright owner's revenue is a useful proxy for copyright's actual purpose, the question is whether a formal legal right to control a complementary use is necessary to maximize a copyright owner's revenue. The somewhat surprising answer is: not necessarily.

Consider a simple, but traditional, example.⁵² Assume that there is only one entity, United Shoe, which manufactures and distributes shoes in the economy. In the ordinary, legal, and economic sense, United Shoe has a monopoly over the production of shoes, and as a rational, profit-maximizing entity, the company will set the price for its shoes to maximize its profits. As it turns out, the maximizing price for United Shoe is \$50 per pair of shoes. Given a marginal cost of \$5 per shoe, or \$10 per pair, this means that United Shoe earns a monopoly profit of \$40 on each pair of shoes it sells.

Assume that the law or technology changes so that United Shoe retains its monopoly over the production of right shoes, but that

the Progress of Science and useful Arts." (quoting U.S. CONST. art. I, § 8, cl. 8)); *Fox Film Corp. v. Doyal*, 286 U.S. 123, 127 (1932) ("The sole interest of the United States and the primary object in conferring the monopoly lie in the general benefits derived by the public from the labors of authors.").

51. See Lunney, *Paradigm*, *supra* note 22.

52. Although he is no longer with us, I remain indebted to Bill Baxter for this example. See Glynn S. Lunney, Jr., Comment, *Atari v. Nintendo: Does a Closed System Violate the Antitrust Laws?*, 5 HIGH TECH. L.J. 29, 34 (1990) [hereinafter Lunney, *Antitrust*]; see also WARD S. BOWMAN, JR., *PATENT AND ANTITRUST LAW: A LEGAL AND ECONOMIC APPRAISAL* 70-76 (1973); RICHARD A. POSNER, *ANTITRUST LAW: AN ECONOMIC PERSPECTIVE* 173 (1976).

anyone can and may now produce left shoes. The market for left shoes quickly becomes competitive and economic theory predicts that prices for left shoes will fall to their marginal cost, or \$5 per shoe. United Shoe, however, can still earn the same monopoly profit. Even though it retains its monopoly solely with respect to right shoes, and has lost its right or ability to control production in the complementary market for left shoes, it will simply price the matching right shoes at \$45 per shoe. Subtracting its marginal cost of \$5 per right shoe, this will leave United Shoe with the same \$40 per pair monopoly profit that it had when it had a monopoly over both shoes.

Despite the silliness—and perhaps absurdity—of this hypothetical, it nonetheless offers important economic lessons regarding complements. Most importantly, it demonstrates that, even in the absence of any legal or practical right to control the market for the complementary left shoe, United Shoe can earn the same profit simply by controlling the market for right shoes. Thus, even if copyright's purpose was to maximize copyright owner's revenue, recognizing a copyright owner's legal right to control complementary uses may be unnecessary.

As it turns out, whether it is possible to generalize this shoe example to cases involving copyrighted works turns on two assumptions in the shoe hypothetical. First, in the shoe example, the left shoe and the right shoe are fixed-ratio complements, where consumption of the complement is matched one-for-one to consumption of the original. Sales of additional left shoes thus increase sales of the original right shoe on a one-for-one basis. As a result, United Shoe's revenue is the same whether or not United Shoe has the formal legal right to control the sale of left shoes. It is not however necessary for complements to have a one-for-one or other fixed-ratio consumption pattern for this result to hold. Consider the video game industry. Manufacturers of the videogame consoles, such as the Xbox, routinely sell their consoles below cost, and earn all of their profit by charging a price, significantly above marginal cost, for the video games themselves.⁵³ Having market power over both markets, these companies maximize their revenue by foregoing any monopoly mark-up on the hardware and instead recover all of their rents on sales of the video games. In this market, there is no fixed ratio for consumption of hardware and software. Some consumers purchase a large number of games; others just a few. Indeed, it is this very feature that allows Microsoft and other manufacturers of video

53. See, e.g., Ronald J. Mann, *Do Patents Facilitate Financing in the Software Industry*, 83 TEX. L. REV. 961, 969 (2005); see generally Lunney, *Antitrust*, *supra* note 52.

game platforms to use game sales as a type of price discrimination scheme separating high reservation value consumers who typically purchase more games from low reservation value consumers who typically purchase fewer.⁵⁴

Nevertheless, while fixed ratio complements are not necessary, the extent to which the two products are complements is one factor that tends to determine the extent to which market power over one will enable a company to recover the same profit as market power over both. The more strongly two products complement each other, the less need to control both markets in order to maximize revenue. Applying this analysis to copyright law suggests that when a derivative use of a copyrighted work has a strong complementary effect, there is less need to recognize a copyright owner's right to control the derivative use. Even in the absence of such a separate right, the copyright owner can recover, at least, some of the profit they could otherwise earn in the derivative market or for a license simply by charging a higher price for, or selling additional copies of, her original work.

Not all derivative works, however, will have such strong complementary effects. Some derivative uses may have only weak complementary effects, increasing demand for the original only slightly. Some derivative uses may not increase the demand for the original at all. In such cases, a separate legal right to control the derivative use may increase the copyright owner's profits associated with her work.

For example, recall the facts from *Stowe*.⁵⁵ If some individuals in any given group of consumers strongly prefer to read *Uncle Tom's Cabin* in English and others prefer to read it in German, Thomas's serialization of *Uncle Tom's Cabin* in German will not likely reduce demand for Stowe's original English-language version. Thus, Thomas's version is not a substitute for the original. At the same time, however, the availability of Thomas's version may not increase demand for Stowe's original, either. There may be some limited network effect, as a broader readership will lead to more people with whom to discuss and thereby enjoy the work. However, if consumers are split into primarily English- and primarily German-speaking camps, it is not clear that a broader German-speaking readership will create this sort of network effect for the English-speakers. Thus, Thomas's version is not much of a complement either. Except for those consumers equally comfortable with either version, the German and English versions of *Uncle Tom's Cabin* occupy separate and

54. See Lunney, *Antitrust*, *supra* note 52.

55. *Stowe v. Thomas*, 23 F. Cas. 201 (C.C.E.D. Pa. 1853) (No. 13,514).

unrelated markets. Because the German language version is not a strong complement, Stowe would not be able to earn additional profits from the distribution of Thomas's German version simply by increasing the price for, or selling more of, her English-language copies.

In terms of maximizing the copyright owner's incentives, the first issue is thus the extent to which the use at issue is a complement. Where the derivative use at issue is not a strong complement, giving the copyright owner a legal right to control that use would likely increase the copyright owner's profits. If, on the other hand, the use at issue is a strong complement, then a legal right to control the use may or may not increase her revenue. Instead, it will depend on whether a second assumption found in the shoe hypothetical is satisfied, specifically whether the market for the complementary good is competitive.

In our United Shoe example, United Shoe earned the same profit when it controlled the sale of right shoes as it did when it controlled the sale of both shoes, given that the market for left shoes was competitive. This is the second key assumption. If this assumption changes, and instead another company, General Shoe, was given a monopoly on the production of left shoes, United Shoe would no longer earn the same profit. At best, it would agree to somehow split the available monopoly profit with General Shoe. At worst, both United Shoe and General Shoe would attempt to charge their own optimal monopolistic price, given their expectation as to how the other would price their shoe. In such a case, consumers would end up with a double monopoly mark-up, with a total price for a pair of shoes well in excess of \$50. Such a double monopoly mark-up would not only increase the deadweight loss and otherwise substantially reduce consumer welfare, but also decrease the profits earned by the two companies.⁵⁶

Thus, in extending the shoe hypothetical to copyright, one must also consider whether the market for the derivative use will, in the absence of copyright's intervention, be naturally competitive or monopolistic. In copyright, some of the derivative uses might well be natural monopolies. For example, radio broadcast stations could be

56. For a discussion of the double monopoly mark-up problem generally, see BOWMAN, *supra* note 52, at 72. For an article extending the argument, somewhat implausibly in my view, to the video game context, see Douglas Lichtman, *Property Rights in Emerging Platform Technologies*, 29 J. Legal Stud. 615 (2000). The reason the extension strikes me as implausible is that we are likely to have competition and not monopoly if anyone can and may manufacture software compatible with any given video game platform. See Michael J. Meurer, *Copyright Law and Price Discrimination*, 22 Cardozo L. Rev. 55, 126 n. 293 (2001).

classified as natural monopolies, because (1) they are characterized by high fixed and low marginal costs to operate, (2) there is limited spectrum available for their broadcasts, and (3) a network effect may arise to the extent that a listener's enjoyment of any given broadcast increases with that broadcast's total number of listeners.⁵⁷ Likewise, a plausible argument could be made that movie versions of a novel have a natural monopoly character for similar reasons.⁵⁸

As the United Shoe example suggests, where the derivative use at issue is complementary but has such a natural monopoly character, the copyright owner will not earn as much from the derivative use absent a legal right to control the use. If the goal is to maximize the copyright owner's revenue, either directly or as a proxy for copyright's true purpose, recognizing a separate legal right to control the use would make sense in such a case.

This analysis thus suggests two paradigm cases. In the first, the derivative use at issue is strongly complementary and the associated market for the derivative use is otherwise competitive. Here, even if the goal is to maximize the copyright owner's revenue, a separate legal right to control the derivative use is probably unnecessary. In such a case, the copyright owner can earn the same revenue as she could with formal legal control over the derivative use simply by charging more for, or selling more copies of, her original work in its original form. In the second, the derivative use at issue is either not complementary or the associated market is naturally monopolistic. In this case, a separate legal right to control such derivative uses will likely increase the copyright owner's revenue.

In the real world, many derivative uses will fall somewhere in between these two paradigm cases. A derivative use may be somewhat complementary and its associated market may entail some degree of market power. Nevertheless, to the extent that the derivative use at issue falls closer to one end or the other, a closer analysis will reveal the extent to which recognizing a formal legal

57. The Court used the limited spectrum available for radio broadcasting as a justification for upholding the Federal Communications Commission's regulation of radio broadcasting against a First Amendment challenge. *See Red Lion Broad. Co. v. FCC*, 395 U.S. 367, 400-01 (1969).

In view of the scarcity of broadcast frequencies, the Government's role in allocating those frequencies, and the legitimate claims of those unable without governmental assistance to gain access to those frequencies for expression of their views, we hold the regulations and ruling at issue here are both authorized by statute and constitutional.

Id. (citation omitted).

58. Admittedly, the making of multiple movies contemporaneous with, or based upon, some actual event, such as the Long Island Lolita case or the gunfight at the O.K. Corral, undercuts this argument.

right to control that derivative use will increase the copyright owner's revenue, holding all else constant.⁵⁹ As the derivative use becomes less complementary and more naturally monopolistic, a separate legal right to control the use becomes more likely to increase the copyright owner's revenue. As the derivative use becomes more complementary and more naturally competitive, a separate legal right to control the use becomes less likely to increase the copyright owner's revenue.

Courts addressing these issues, however, have generally rejected any attempt to draw such distinctions. Some courts have suggested that the distinction between complements and substitutes is simply irrelevant.⁶⁰ For these courts, the key question is whether a defendant has copied protected expression from a copyrighted work.⁶¹ Whether the defendant used the copied expression to create a substitute or a complement is immaterial.

Judge Hand's analysis in *Nichols* implicitly adopts such an approach. Because he adopted the position implicitly, Judge Hand made no attempt to justify it, but other courts have sought to justify such an approach expressly. For example, in *Rogers v. Koons*, the plaintiff held the copyright in a black-and-white photograph of "a smiling husband and wife holding a litter of charming puppies."⁶² When the defendant created a three-dimensional sculpture of the image, the plaintiff sued for copyright infringement. In asserting that his use was fair, the defendant argued, effectively, that the statue was a complement, not a substitute. However, the Second Circuit rejected the proposed distinction. Although the fourth fair use factor expressly directs a court to consider the effect of the defendant's use on the

59. In addition to the questions of whether the use is complementary and naturally competitive, the value of a separate right to control the derivative use will depend upon the size and value of the derivative use market.

60. See, e.g., *Rogers v. Koons*, 960 F.2d 301, 307-08 (2d Cir. 1992); *D.C. Comics Inc. v. Reel Fantasy, Inc.*, 696 F.2d 24, 28 (2d Cir. 1982). But see *Ty, Inc. v. Publ'ns Int'l Ltd.*, 292 F.3d 512, 517 (7th Cir. 2002).

Generalizing from this example in economic terminology that has become orthodox in fair-use case law, we may say that copying that is complementary to the copyrighted work (in the sense that nails are complements of hammers) is fair use, but copying that is a substitute for the copyrighted work (in the sense that nails are substitutes for pegs or screws), or for derivative works from the copyrighted work is not fair use.

Id. (internal citation omitted).

61. See, e.g., *Micro Star v. FormGen Inc.*, 154 F.3d 1107, 1113 (9th Cir. 1998) (rejecting fair use defense because "Micro Star's use of FormGen's protected expression was made purely for financial gain")

62. 960 F.2d 301, 303. For other cases finding Koons' work to be copyright infringement, see *United Feature Syndicate, Inc. v. Koons*, 817 F. Supp. 370, 375-76 (S.D.N.Y. 1993); *Campbell v. Koons*, No. 91 Civ. 6055 (RO), 1993 WL 97381, 1993 U.S. Dist. LEXIS 3957 (S.D.N.Y. Apr. 1, 1993). For a more recent decision finding his "appropriation" or "neo-Pop" art to be a fair use, see *Blanch v. Koons*, 467 F.3d 244 (2d Cir. 2006).

value of the copyrighted work, the court held that the fact that the defendant's use increases demand for the copyrighted work was not material.⁶³ To support this conclusion, the Second Circuit pointed out that a movie can infringe a novel even though movies typically increase demand for their associated novels.⁶⁴

Given the express language of the fourth fair use factor, this reasoning is decidedly curious. Section 107 of the Copyright Act expressly directs a court to consider "the effect of the use upon the potential market for or value of the copyrighted work."⁶⁵ This language seems to suggest directly that the question of whether the use at issue is a substitute, which reduces the market for and the value of the copyrighted work, or a complement, which increases the market, is relevant to the fair use determination. The Second Circuit's reasoning does not account for this distinction at all. Yet, the Second Circuit cannot take the credit (or blame) for ignoring the distinction, as the court took the novel-movie example, and its associated reasoning, from one of the leading copyright treatises, Professor Nimmer's. As Professor Nimmer himself explained:

In determining the effect of the defendant's use upon the potential market for or value of the plaintiff's work, a comparison must be made not merely of the media in which the two works may appear, but rather in terms of the function of each such work regardless of media. The irrelevance of media in making this determination is apparent in the following example. Suppose A is the copyright owner of a published novel. B produces a motion picture copied from and substantially similar to A's novel. The motion picture may well not adversely affect the sale of A's novel. In fact, it almost certainly will have the opposite effect. It is nevertheless clear that B may not invoke the defense of fair use. B's motion picture has not prejudiced the sale of A's work in the book medium, but it has certainly prejudiced the sale of A's work in the motion picture medium. If the defendant's work adversely affects the value of any of the rights in the copyrighted work (in this case the adaptation right), the use is not fair, even if the rights thus affected have not as yet been exercised by the plaintiff.⁶⁶

Yet, for the purposes of this analysis, Professor Nimmer's analysis is entirely inadequate. First, it is necessary to understand why a copyright owner should have the right to control the production of complements at all, and, in that regard, Professor Nimmer's tale provides no help. Professor Nimmer simply posits that once Congress has expressly recognized a copyright owner's control over a specific

63. *Rogers*, 960 F.2d at 311-12.

64. *Id.* at 312.

65. 17 U.S.C. § 107(4) (2006).

66. 4 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 13.05[B][1] (LexisNexis 2009) (citations omitted). However, later in the same section, Nimmer takes a somewhat inconsistent position. *Id.* ("[I]f . . . the defendant's work, although containing substantially similar material, performs a different function than that of the plaintiff's, the defense of fair use may be invoked." (citing *Blanch*, 467 F.3d at 252 n.4)).

complement, such as making a film from a novel, the fact that it is a complement rather than a substitute is no longer material. That's fine as far as it goes, but his analysis explains nothing about whether or why Congress should grant copyright owners such control in the first place. Second, and more importantly, extending Nimmer's analysis to the facts in *Rogers v. Koons* represents a classic non sequitur. The fact that Congress has recognized a copyright owner's control over some complements does not mean that the Congress has recognized such control over all complements or has forbidden courts from considering the complement-substitute distinction as part of a fair use analysis in specific cases. After all, even if one can plausibly assert that Congress has expressly spoken on whether copyright owners have the right to control the making of a movie from their copyrighted novel, the notion that Congress has been similarly clear on whether a sculptor can use a photograph as inspiration is mere fancy.⁶⁷

Still, even courts that recognize that the substitute-complement distinction is important have trouble reconciling incorporating such a distinction with the broad literal reach of the derivative work right. For example, in *Ty, Inc. v. Publications International, Inc.*, Judge Posner tried to write the substitute-complement distinction into copyright law:

[C]opying that is complementary to the copyrighted work (in the sense that nails are complements of hammers) is fair use, but copying that is a substitute for the copyrighted work (in the sense that nails are substitutes for pegs or screws), or for derivative works from the copyrighted work, is not fair use.⁶⁸

Although he found defendant's particular use—using photographs of the plaintiff's copyrighted Beanie Babies to create a collector's guide—to be fair and non-infringing, his opinion recognized the tension between finding a complementary reworking fair because it increases, rather than decreases, the value of the plaintiff's copyrighted works, and the broad definition Congress gave derivative works in § 101 of the 1976 Copyright Act.⁶⁹

In the end, however, the Copyright Act's express statutory language does not foreclose consideration of the complement-substitute distinction in resolving infringement issues. True,

67. For a similar non sequitur, *Micro Star v. FormGen Inc.*, 154 F.3d 1107, 1112 (9th Cir. 1998) ("A copyright owner holds the right to create sequels, and the stories told in the N/I MAP files are surely sequels, telling new (though somewhat repetitive) tales of Duke's fabulous adventures." (internal citation omitted)).

68. 292 F.3d 512, 517 (7th Cir. 2002) (internal citation omitted).

69. *Id.* at 518, 520-22 ("Were control of derivative works not part of a copyright owner's bundle of rights, it would be clear that [defendant's] books fell on the complement side of the divide and so were sheltered by the fair-use defense.").

Congress expressly included in the 1976 Copyright Act a broad definition of derivative works and has long defined some complements, such as a film version of a novel, as infringing. Yet, it is equally true that Congress has specifically directed courts to consider, as part of the fair use analysis, the effect of the use at issue on the value of the copyrighted work. Where a use is complementary and hence increases the value of the copyrighted work, this would seem to weigh in favor of fair use. It is not possible to resolve the inevitable tension between these two provisions by enforcing one provision and ignoring the other, as if Congress really meant only some of the statutory language.⁷⁰ Rather, as a matter of statutory construction, it would seem that there must be room for both, distinguishing somehow those complementary uses that are fair from those that are infringing.

If the goal, however, is to maximize a copyright owner's revenue, then an alternative argument for ignoring the complement-substitution distinction is simply to leave the decision whether to license a particular derivative use to the copyright owner. If there is money to be made from licensing a given derivative use, the copyright owner will presumably recognize that fact and license the use. If the derivative use is likely to prove complementary and increases sales of the owner's original, the copyright owner will presumably recognize that as well and will adjust the licensing fee accordingly. Therefore, the copyright owner should have a broad right to control derivative uses irrespective of the substitute-complement distinction, or so the argument would go.

Or, one could simply argue that copyright is property. As property, shouldn't the copyright owner have the same rights and power to control use of her property as the owner of other forms of personal or real property?

Courts have made both of these arguments as well. For example, in the *DC Comics* case, discussed above,⁷¹ the Second Circuit offered the following explanation for finding the advertising use to be an infringement:

70. As the Court has stated:

We are not at liberty to construe any statute so as to deny effect to any part of its language. It is a cardinal rule of statutory construction that significance and effect shall, if possible, be accorded to every word. As early as in Bacon's Abridgment, sect. 2, it was said that "a statute ought, upon the whole, to be so construed that, if it can be prevented, no clause, sentence, or word shall be superfluous, void, or insignificant." This rule has been repeated innumerable times.

Market Co. v. Hoffman, 101 U.S. 112, 115-16 (1879); see also United States v. Nordic Vill. Inc., 503 U.S. 30, 35-37 (1992); FEC v. Nat'l Conservative Political Action Comm., 470 U.S. 480, 486 (1985).

71. See *supra* text accompanying notes 27-29.

Since one of the benefits of ownership of copyrighted material is the right to license its use for a fee, even a speculated increase in DC's comic book sales as a consequence of RFI's infringement would not call the fair use defense into play as a matter of law. The owner of the copyright is in the best position to balance the prospect of increased sales against revenue from a license.⁷²

The first sentence is an entirely unpersuasive variation on the Nimmer argument. The question before the court is whether "one of the benefits of [copyright] ownership" is to control the use at issue. Surely answering that question requires more than merely assuming the desired answer in a subordinate clause. The court then uses a circular argument to rebut the inference of fair use that would seem to flow directly from the fourth fair use factor. The circular argument goes like this: even if the use increases the potential market for and value of the copyrighted work (by advertising and hence increasing their associated sales), the use is nonetheless unfair because if it is unfair, then the copyright owner may charge a licensing fee for the use, the revenue of which he would lose if the use were fair.

Putting to one side these plainly inadequate arguments, the second sentence presents a more substantive argument for finding infringement. It suggests that even if the use at issue increases the copyright owner's revenue, it is still best to recognize a legal right to control the use, as the copyright owner will recognize that fact and allow the use to continue. It also implicitly argues that for copyrighted works, just as for private goods more generally, someone must balance the costs and benefits of various uses and determine which uses are to be made. The copyright owner, the court argues, is in "the best position" to perform that balancing, and hence should have the right to control the use.

However, both of these arguments are fundamentally flawed. The first argument, that the copyright owner is best positioned to make the decision that will maximize her revenues, has two flaws. First, maximizing incentives for copyright owners is, in fact, not the goal of copyright; it is at best just a proxy for copyright's real purpose.⁷³ Given that the fact of creation does not ipso facto create a corresponding legal right to control associated derivative markets generally in the economy,⁷⁴ there is no prima facie reason to believe

72. DC Comics Inc. v. Reel Fantasy, Inc., 696 F.2d 24, 28 (2d Cir. 1982).

73. See *supra* note 51.

74. As one court explained:

While courts have recognized that one has a right to one's own harvest, this proposition has not been construed to preclude others from profiting from demands for collateral services generated by the success of one's business venture. General Motors' cars, for example, enjoy significant popularity and seat cover manufacturers profit from that popularity by making covers to fit General Motors' seats. The same

that there will be too few copyrighted works, relative to the social optimum, in the absence of the additional incentives that such a right might provide to copyright owners. To the contrary, by giving copyright owners rights of control beyond those accorded the creators of other types of creative products, there is every reason to believe that the associated additional incentives are likely to lead to an overproduction of original works, rather than avoid an underproduction.⁷⁵

Second, broader control over derivative and complementary uses may mean more money, and hence incentives for the original copyright owner, but such control means correspondingly less for the creator of the derivative work or complementary product.⁷⁶ It took effort to create the *Harry Potter* lexicon, and that type of effort requires an incentive of its own to ensure that such derivative works are created. So, the question becomes: which type of work should copyright encourage at the margin? Does society want more of the original works or does it want more of these complementary products? Granting the original author broader control over derivative uses and complementary products answers that question in favor of more original works, but it is not clear that that answer in every case better advances social welfare or “the progress of Science.”

The problem with the property analogy is that most of the property dealt with in everyday life is so-called “private goods,” or goods that are subject to rivalrous consumption. In a situation of rivalrous consumption, one use physically precludes other uses. For example, if I eat an apple, it’s gone, and you cannot eat it as well. In contrast, works of authorship are not generally subject to rivalrous consumption, and are thus public, and not private, goods. I can watch a television program or movie, or read a book, at the same time you do. I can take clips from a movie or song, and create a mash-up, and

relationship exists between hot dog producers and the bakers of hot dog rolls. But in neither instance, I believe, could it be successfully contended that an actionable misappropriation occurs.

National Football League v. Governor of Delaware, 435 F. Supp. 1372, 1378 (D. Del. 1977).

75. As explained elsewhere in detail, to the extent that the legal rights that copyright provides enables a copyright owner to capture a larger share of the surplus associated with a creative investment than an individual can recover by investing her creativity in some endeavor not protected by copyright, copyright will lead to too much creative investment in producing original works of authorship and too little creativity invested elsewhere in the economy. See Lunney, *Antitrust*, *supra* note 52. For a parallel argument with respect to copyright-enabled price discrimination, see Glynn S. Lunney, Jr., *Copyright’s Price Discrimination Panacea*, 21 HARV. J.L. & TECH. 387, 394-445 (2008).

76. See Mark A. Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989 (1997); Suzanne Scotchmer, *Standing on the Shoulders of Giants: Cumulative Research and the Patent Law*, 5 J. ECON. PERSP. 29 (1991).

you can do the same. In the case of public goods, my use does not physically preclude your use.

With respect to private goods, having a designated owner to decide between the available uses makes sense. If only one use or another can be made of a good, someone has to choose which use will be made, and we might as well call the person who makes that choice the good's owner. More generally, for private goods, designating an owner tends to (1) ensure that the good is put to its highest value use, (2) minimize externalities, and (3) reduce transaction costs associated with using the good.⁷⁷

However, for a public good such as a copyrighted work, these same considerations all point in the opposite direction. They all cut against designating an owner for public goods. Once a public good is created, recognizing private ownership makes it less likely that the good will be put to all of its highest-value uses, while at the same time increasing externalities and transaction costs.

These considerations are taken up in turn. First, recognizing private ownership of a public good makes it less likely that the good will be put to its highest valued uses. The key difference between a public and private good is that public goods are not subject to rivalrous consumption. With a private good, making one use, such as eating an apple, forecloses another, such as making an apple pie. That is simply not true for public goods. One person can read a book aloud, another can make a film from it, and yet another can translate it. With public goods, such as a copyrighted work, all uses are possible. Imposing a private property regime and requiring licenses for derivative uses gives the owner the right to say no. Instead of ensuring that all uses being possible, a private property regime ensures that only permitted uses are possible. As a result, once an original work is created, a private property regime can only limit our ability to put an original work to all of its valuable uses.

Second, recognizing private ownership of a public good increases externalities. A private property regime requires licenses, and licenses cost time and money to negotiate. Where these transaction costs for a given derivative use exceed the gains in trade associated with the use at issue, the parties will not even bother to enter into negotiation to license the use. Unable to obtain a license, the use, which in the absence of a private property regime could occur freely, will not occur at all. For works of authorship, a private

77. See, e.g., Harold Demsetz, *Toward a Theory of Property Rights*, 57 AM. ECON. REV. 347 (1967).

property regime will thus increase externalities and hinder expression.

Third, recognizing private ownership of a public good increases, rather than decreases, transaction costs. Even if the licensing market works and the original copyright owner licenses all valuable uses and ensures in the license a remunerative return for the derivative author, by requiring a license, negotiations are forced for uses that could otherwise occur without a license. For example, if the courts had determined that the uses at issue in *Micro Star* or *Rogers v. Koons* were fair and noninfringing, then those uses could occur without a license. By finding them unfair and hence within the scope of the copyright owner's exclusive control, the courts effectively required licenses for such uses. As a result, even assuming that a license could be obtained, requiring licenses simply imposes a transaction cost—the time and expense both parties will incur to negotiate a license—that would not otherwise exist. For works of authorship, a private property regime thus increases transaction costs. Unless it can clearly be shown that the additional licensing revenue was necessary to ensure the creation and publication of an original work in the first place, the usual justifications for recognizing property rights simply do not apply and indeed cut against the recognition of such rights.

Moreover, even if there is some plausible claim that the additional licensing revenue will lead to more or better original works, it is necessary to balance that potential gain against the losses that imposing a private property regime on a public good will entail. The question thus becomes: how effectively will a licensing market for derivative uses work? But there is a catch-22 here. Licensing markets must work reasonably well, or else the increased transaction costs, externalities, and refusals to license valuable uses will outweigh any potential benefit from the additional licensing revenues. Yet, they must not work perfectly. If they worked perfectly, then the Coase theorem would come into play,⁷⁸ and there would be no reason to grant control over the derivative uses at all. With a perfect market, if the makers of two complementary products could earn more joint revenue by reallocating some of the existing revenue stream from one complementary product to another, then they would negotiate the reallocation themselves.

78. The Coase Theorem, as it has come to be known, states that, in the absence of transaction costs and other potential market imperfections, the parties will bargain to ensure an efficient outcome regardless of the initial assignment of legal rights. R. H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960).

Consider, for example, the iPod. The value of an iPod to consumers comes not from the iPod alone and not from the music alone but from the combination of the iPod and music. Consumers will pay more for this combination if iPods improve. They will also pay more for the combination if the supply of music available for the iPod improves. Maximizing the revenue that can be earned from the iPod plus music thus requires balancing the incentives given to Apple for improving iPods, the incentives given to songwriters and performing artists for making more and better music, and the incentives for making the music available to iPod owners. With iTunes in place to make music available, the focus turns to the first two incentives. If the law were to allocate all of the joint revenue to Apple, it would provide too little incentive for making more and better music, resulting in an inefficient market. On the other hand, if the law were to allocate all of the joint revenue to musicians and songwriters, this too would be inefficient as it would provide too little incentive for making iPods.

One way to solve this is to try and write copyright law to ensure the precisely correct allocation of incentives. No matter how well intentioned, Congress is unlikely to achieve that level of accuracy. Fortunately, as Professor Coase recognized, the law does not need to get it precisely right because, whatever allocation the law initially establishes, the parties are free to renegotiate. If the law's initial allocation provides too much incentive for improving iPods and too little for making music, or vice versa, Professor Coase predicts, at least in the absence of transaction costs and other market imperfections, that the parties will renegotiate in order to get the incentives for each complement to a level that maximizes the revenue available from the combined sales of iPods and their associated music.

Taken to its logical conclusion, Professor Coase's analysis suggests that there is simply no reason, if markets are perfect, to provide musical work copyright owners with the legal right to control the sales of iPods or any other complement. If the failure to grant such control legally leaves copyright owners with too few incentives, and leads to an undersupply of original works, then the derivative and complementary users should renegotiate the allocation of revenue between them in order to ensure an optimal supply of original works. Even in the real world, where markets are not perfect, some such reallocations should occur along various margins, at least where the potential gains in trade available exceed the expected transaction costs.

The primary concern, however, is not that the licensing markets for derivative and complementary uses will work too well, but

that these licensing markets, particularly with respect to creative reworkings of an original work, will not work well enough. Three reasons account for this. First, such licensing markets suffer from Arrow's information paradox.⁷⁹ Arrow's information paradox works as follows: if I have a great idea for a derivative use of your original work, how do I go about getting a license, and should the law require it? You will not agree to let me make my use, or set a price for a license, until I tell you what the use is, but if I tell you what the use is, you can simply take my idea and use it yourself. Recall the facts in the *Harry Potter* lexicon case. If Steven Vander Ark wants to create a lexicon, an encyclopedia based upon J.K. Rowling's popular book series, and a license is required, how does he negotiate for one? If he goes and asks permission, nothing would stop Rowling, or her publisher, from saying, "That's a great idea; one that we have been planning to do for a long time." Even if Rowling and her publisher are lying, and are simply "stealing" Ark's idea for such a derivative use, under the district court's vision of copyright law, they would be perfectly entitled to do so.⁸⁰ This licensing paradox would confront, and potentially confound, not merely Mr. Vander Ark, but also an other potential creators, such as an individual who planned to write a summary of the *Twin Peaks* television show,⁸¹ or to create a multiple choice trivia quiz based upon the *Seinfeld* program, called the *Seinfeld Aptitude Test* (or *SAT*).⁸²

This paradox is not only potentially unfair, in that it leaves the original copyrighted owner free to take others' creative ideas, but, more importantly, it is also potentially inefficient, as it will discourage those who come up with such creative ideas from ever coming forward. Mr. Vander Ark, the author of the *Twin Peak* guide, and the creator of the *SAT* all pursued their ideas, only to be found to be copyright infringers. Given their treatment at the hands of copyright law, people who come up with similarly creative ideas for derivative users in the future will be less likely to pursue those ideas. As a result,

79. See Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources for Invention*, in *THE RATE AND DIRECTION OF INVENTIVE ACTIVITY: ECONOMIC AND SOCIAL FACTORS* 609, 614-16 (Nat'l Bureau of Econ. Research ed., 1962).

80. Cf. Lemley, *supra* note 77, at 1074-76 (suggesting that courts should give the derivative work creator his own copyright in order to set up blocking copyrights and force the original copyright owner to negotiate with the derivative work creator in order to exploit the derivative market, rather than simply "steal" the idea for the derivative work).

81. *Twin Peak Prods., Inc. v. Publ'ns Int'l, Ltd.*, 996 F.2d 1366 (2d Cir. 1993) (holding that such a book summarizing the confusing plot of the *Twin Peaks* television show was an unfair and infringing use).

82. *Castle Rock Entm't, Inc. v. Carol Publ'g Group, Inc.*, 150 F.3d 132 (2d Cir. 1998) (holding that such a multiple choice trivia book constituted an unfair and infringing use).

society will be worse off. In many cases, society will lose creative reworkings altogether, as the derivative author will not pursue them and the original copyright owner will not think of them. Even where the original copyright owner had the same idea and planned to pursue it,⁸³ society is usually better off with both versions, rather than just an authorized version,⁸⁴ even if that competition means less revenue for the original copyright owner. The only clear exception to this general rule that should be recognized is where the derivative use at issue is a natural monopoly. If the derivative use at issue has a natural monopoly character, such that only one such use will be available, then society is arguably better off with the authorized version, rather than with the unauthorized version. This is particularly true if the derivative use at issue represents a recognized and well-established market, such as a film version of a novel, where recognizing the original copyright owner's control over the derivative use is not likely to foreclose, through Arrow's information paradox, the derivative use from ever occurring.

The second difficulty with requiring permission for creative derivative uses is that the original author and the would-be derivative author often have differing creative visions.⁸⁵ Given the legal right to do so, if the original author objects to the creative vision embodied in the derivative use, he will block it. Putting to one side the so-called moral rights justification for such a right,⁸⁶ the sole relevant question under U.S. law is whether extending copyright owners the right to control the meaning of their works, by blocking inconsistent re-interpretations, would "promote the progress of Science." Copyright law, as it presently stands, has already answered this question with

83. This is the story, for example, that J.K. Rowling offered on the stand in the *Harry Potter* case. See *Warner Bros. Entm't, Inc. v. RDR Books*, 575 F. Supp. 2d 513, 519 (S.D.N.Y. 2008) ("Rowling has stated on a number of occasions since 1998 that, in addition to the two companion books, she plans to publish a 'Harry Potter encyclopedia' after the completion of the series and again donate the proceeds to charity."). Yet, a quick check of Amazon.com reveals that this supposedly planned authorized encyclopedia remains unavailable. This case represents an example where society would have been better off with the unauthorized bird in hand than the authorized bird supposedly in the bush.

84. With both versions, consumers are free to choose between, for example, Vander Ark's lexicon and the authorized lexicon. This gives each author the incentive to make the work better than the competition, increasing its value for consumers.

85. See *Blanch v. Koons*, 467 F.3d 244, 252-53 (2d Cir. 2006) (recognizing that a use was transformative and thus fair when derivative author was attempting to convey sharply different artistic message).

86. A full discussion of the flaws in any such approach is beyond the scope of this essay, but the short answer, at least for this author, is that there is no more, and no less, reason why an author should, on moral grounds, have the right to control re-workings of his original work, once copies are sold, than a farmer should have the right to control whether her apples, once they are sold, are made into pie.

respect to the one use many authors will find most objectionable: parody. Indeed, courts consistently find parody to be a fair, and hence non-infringing, use, precisely because the original copyright owner would object to it and might refuse, if given the option, to permit it.⁸⁷ This approach to parody seems to contradict any notion that an original author should have the legal right to control potentially objectionable re-use of his work simply because of his hurt feelings.

The same reasons that justify broader fair use for parody would seem to justify broader fair use for a far wider range of derivative uses than simply parody. Parody creates value by offering a sharply contrasting interpretation of a given work, but so do a broad range of reinterpreted uses. A copyright owner is unlikely to license a parody of their work, but copyright owners are equally unlikely to license a broad range of derivative uses with an inconsistent, conflicting, or merely different artistic vision.

The third difficulty with requiring permission for creative derivative uses is that the interposition of a legal formality—obtaining permission—may frustrate the creative process. The concern here is not that the original copyright owner would simply take the idea, or even that the original copyright owner would likely refuse permission if asked, but that simply knowing that permission is required, a later author may decide to pursue some other avenue for her creativity altogether. The creative process can be delicate—a combination of passion, spontaneity, and insight. If an author cannot pursue an insight when it strikes, but must wait for legal permission that, even assuming it can be obtained, will likely be a long time coming, the delay may, for many authors, kill the passion and spontaneity necessary to bring the insight to fruition.⁸⁸

87. See, e.g., *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569 (1994) (reversing Sixth Circuit's finding of unfair and infringing use where reworking of *Pretty Woman* could be perceived as having a parodic character); see also Wendy J. Gordon, *Fair Use as Market Failure: A Structural and Economic Analysis of the Betamax Case and Its Predecessors*, 82 COLUM. L. REV. 1600, 1632-35 (1982); Richard A. Posner, *When Is Parody Fair Use?*, 21 J. LEGAL STUD. 67, 71-75 (1992). To establish that a use is fair, a parodist need not show that the reinterpretations is so objectionable that a copyright owner would have refused permission, however. See *Leibovitz v. Paramount Pictures Corp.*, 137 F.3d 109, 115 n.3 (2d Cir. 1998).

While we agree that the fair use defense can play a valuable role in allowing commentary with criticizing messages to see the light of day, the fair use doctrine is broad enough to protect even those commentaries that are not so damaging that the original author would refuse to license them for a fee.

Id.

88. See Wendy J. Gordon, *Render Copyright Unto Caesar: Taking Incentives Seriously*, 71 U. CHI. L. REV. 75, 81-87 (2004) (noting, as well, that asking for and receiving permission for a given re-use may itself “suppress or distort the borrower’s creative impulse”). Also, the implicit assumption in the text is that derivative work authors know and follow the law. A derivative author may, of course, pursue his or her artistic insight in any event, either from ignorance,

Sampling and rap music illustrate well the dangers that interposing a licensing requirement can present for the artistic process. When rap music first developed, sampling was common.⁸⁹ Courts, however, decided that such sampling was an infringing use and barred such sampling absent permission from the original copyright owner.⁹⁰ In reaching that conclusion, courts pretended that a licensing market was practicable, and to be fair, a limited licensing market for such uses has developed. But these rulings fundamentally changed the nature of rap music. Sampling, once ubiquitous, became rare.⁹¹ Sitting in a studio, laying down a track, if someone decides they need to add something, they may nevertheless end up not simply adding a sampled piece of another song, even if they use the sample for a radically different purpose, nor are they likely to wait the months required for a legal permission to use the sampled bit. Instead, the only choice in almost all cases is to forego using the sample and to add something else instead.⁹² Some may believe that rap music is better for this change; some may believe it worse. In either case, no one can deny that the law fundamentally changed its nature. Through copyright law, a particular avenue of artistic expression was foreclosed entirely.⁹³ And for what? For supposed licensing revenues that never in fact materialized.

Rogers v. Koons provides another example.⁹⁴ As previously discussed, Koons was inspired to create a three-dimensional sculpture

misunderstanding, or defiance of copyright law. Even though this is almost certainly true, presumably, we should design copyright law assuming that it will be obeyed, and not rely on a failure to follow the law to ensure that it achieves its constitutional objective.

89. See, e.g., Eric Shimanoff, *The Odd Couple: Postmodern Culture and Copyright Law*, 11 MEDIA L. & POL'Y 12, 24-29 (2002).

90. See *Grand Upright Music Ltd. v. Warner Bros. Records, Inc.*, 780 F. Supp. 182, 185 (S.D.N.Y. 1991) (granting preliminary injunction in sampling copyright infringement case and referring the case "to the United States Attorney for the Southern District of New York for consideration of prosecution of these defendants under 17 U.S.C. § 506(a) and 18 U.S.C. § 2319"); see also *Jarvis v. A&M Records*, 827 F. Supp. 282, 292 (D.N.J. 1993) (denying defendants' summary judgment motion on copyright infringement claim based upon sampling).

91. See, e.g., SIVA VAIDHYANATHAN, COPYRIGHTS AND COPYWRONGS: THE RISE OF INTELLECTUAL PROPERTY AND HOW IT THREATENS CREATIVITY 143-44 (2001); Candace G. Hines, Note, *Black Musical Traditions and Copyright Law: Historical Tensions*, 10 MICH. J. RACE & L. 463, 489-91 (2005).

92. See Hines, *supra* note 91, at 490 ("In response, many rappers began to create their own sounds in order to obviate the vague legal standards created by the courts." (citation omitted)).

93. *Id.* at 491 ("The current costs affiliated with the use of digital sampling have destroyed the creative sampling styles of rap groups such as Public Enemy, who distinguished themselves as a rap group via their clever use of hundreds of indecipherable samples in their songs." (citation omitted)).

94. 960 F.2d 301 (2d Cir. 1992).

of a postcard of a couple holding puppies. The creator of the original postcard sued, and the court found infringement.⁹⁵ In the future, in cases of this sort, assuming artists know and follow the law, this decision creates two possibilities: first, an artist such as Koons, struck by inspiration, will seek and obtain permission, and return to creating the sculpture months or years later once permission is obtained; or, second, an artist such as Koons, although struck by inspiration, will not pursue creation of the sculpture because of the potential licensing hurdles that he would face. Given the threat that delay poses to the spontaneity and passion essential to the creative process, the second possibility is far more likely in many cases. If that is right, then, simply by requiring permission, society loses on both sides of the coin. The follow-on creator never pursues his work, and society will not benefit from the Koons sculpture. The original author will receive neither licensing revenues directly from Koons's use nor the additional revenues he might otherwise have received indirectly from Koons's work to the extent it popularized, and thereby increased demand for, the original postcard.

This analysis thus suggests that copyright should leave more room in fair use for derivative uses that are complementary. So long as the market for the derivative use is competitive, refusing to grant the original copyright owner control over the use may not reduce the original copyright owner's revenue very much. And even if some revenue reduction occurs, there is little reason to believe that that reduction will lead to a suboptimal level of production or distribution of original works. Indeed, given that legal control does not extend to complements when creativity is invested elsewhere in the economy, there is no *prima facie* reason to believe that refusing to extend such control in the copyright sector will lead to too little investment in original works. Moreover, any slight risk of underproduction that may arise must be balanced against the risks that the resulting licensing market will fail. And that risk is very real. Because they are subject to Arrow's information paradox, often involve conflicts between the artistic visions of the original and derivative authors, and can interfere with the sometimes-delicate nature of the artistic process, licensing markets for derivative uses are unlikely to work very well. As a result, requiring a license means that there will be far fewer derivative works. As a general rule, the risks of license failure far outweigh the risk of underproduction that would arise from leaving derivative uses that are complementary and that occur in naturally competitive markets outside of the copyright owner's control. Only in

95. *Id.* at 312-13.

those cases where the derivative use at issue is either not complementary, such as translations, or where the resulting market is naturally monopolistic, such as feature film adaptations, are the risks of underproduction likely to outweigh the risks of market failure. Therefore, only in these cases should copyright law grant the original copyright owner exclusive control over derivative uses, and, even then, only when it is reasonably certain that the licensing market will work well enough.

Having developed the principles that should guide copyright's scope with respect to derivative uses, in the next section, the Article now returns to the three types of potentially complementary uses identified in Section I to reexamine copyright's treatment of complementary uses.

III. REEXAMINING COPYRIGHT'S TREATMENT OF COMPLEMENTS

Perhaps somewhat surprisingly, copyright already seems to follow the guidelines suggested above with respect to complementary hardware and complementary uses. However, copyright needs to leave considerably more room for derivative reworkings of original works.

In the hardware area, at least in theory, the *Sony* safe harbor exempts a manufacturer from contributory liability for any infringements that may occur through the use of its product so long as the product is "capable of substantial noninfringing use."⁹⁶ In *Sony* itself, Sony was selling the Betamax, which consumers used, inter alia, to record, without authorization, copyrighted television programs off the air. Two copyright owners, Disney and Universal, sued and alleged that Sony, as the manufacturer of the Betamax, was liable for the copyright infringements of Betamax owners.⁹⁷ The Court rejected the argument. Although it acknowledged that some uses of the Betamax may have been copyright infringement, the Court held that Sony itself was not liable for such infringing uses.⁹⁸ Because the Betamax could also be used for substantial noninfringing uses, such as authorized recordings and time-shifting, Sony was not liable even if some infringing uses did occur.⁹⁹

Implicitly, this standard compares the product's potential use as a complement and as a source of substitutes. At the same time, it

96. *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 442 (1984).

97. *Id.* at 419-20.

98. *Id.* at 456.

99. *Id.* at 443-56.

puts a heavy hand on the scale against contributory infringement because a hardware manufacturer cannot practicably obtain consent from every copyright owner to sell its product. Moreover, denying copyright owners the legal right to control the sale of such complements does not mean that copyright owners lose revenue, even compared to an alternative world in which one more Justice had sided with Justice Blackmun's dissent and copyright owners could have demanded a licensing fee or levy on VCR/Betamax sales.¹⁰⁰ The simple truth is that, although Disney and Universal lost the *Sony* case, the creation of the home videotaping market represented a revenue windfall for audiovisual copyright owners, even without a formal legal right to control the sales of home videotaping equipment. Such equipment was available in a reasonably competitive market. As a result, all of the rents available from the joint value that the VCR/Betamax and audiovisual works created together went to the copyright owners anyway.

With respect to complementary uses, such as public performances, it is important to remember that, when Congress first added the public performance right to the copyright statute in 1870,¹⁰¹ public performances were not complementary to record sales. At the time, there were no record sales. Rather, the unauthorized performance of a musical work at one location competed directly with authorized performances of the work at a different location. With the birth of both radio and records in the twentieth century, at least some public performances became complements. Yet, given the natural monopoly character of radio broadcasting, it is plausible to justify extending copyright's public performance right to radio broadcasts. However, many small bars, stores, and restaurants that play music in a place open to the public have little, if any, monopoly power. Public performances in such locations are likely strongly complementary, and they occur in a competitive market. Thus, the § 110(5) exemption is not an unprincipled, ad hoc response to lobbying by this interest group, or at least not solely that. Rather, it is, at least arguably, consistent with the principles derived from analyzing the economics of complements.

100. *Id.* at 457-500 (Blackmun, J., dissenting) (arguing that Sony should have been liable for copyright infringement as a result of the individual owners use of their Betamaxes to create unauthorized copies of copyrighted television programs).

101. Act of July 8, 1870, ch. 230, § 101, 16 Stat. 198, 214 (“*And be it further enacted, That any person publicly performing or representing any dramatic composition for which a copyright has been obtained, without the consent of the proprietor thereof, . . . shall be liable for damages therefor . . .*” (emphasis in original)).

When one considers the question of whether webcasting or interactive Internet musical services should or should not constitute a public performance, the same approach should control. First, are these services complements or substitutes for record sales? Second, do these services have a natural monopoly character like radio broadcasting? The second question is easier to answer than the first, given that webcasting does not share the spectrum limitations and extremely high fixed, low marginal cost character of radio broadcasting. The first question is more difficult, however. A long history has demonstrated the positive relationship between radio airplay and record sales.¹⁰² Although some evidence suggests a similar relationship between Internet music and record sales, there is not a comparable historical track record.¹⁰³ Moreover, particularly where the Internet service at issue plays a particular work in response to the listener's specific requests, and is thus "interactive,"¹⁰⁴ it becomes more plausible that the service substitutes for, rather than complements, record purchases. While political considerations undoubtedly played a central role in shaping the Copyright Act's public performance provisions, again, the provisions plausibly coincide with the principles derived from our analysis of the economics of complements.

102. *Digital Performance Rights: Testimony of the National Association of Broadcasters on H.R. 1506 Before the Subcomm. on Courts and Intellectual Property of the H. Comm. on the Judiciary*, 104th Cong. (1995) (statement of Edward O. Fritts, President & CEO, National Association of Broadcasters), available at 1995 WL 371107.

103. For evidence that Internet radio may also boost record sales, see ARBITRON/EDISON MEDIA RESEARCH, *INTERNET 9: THE MEDIA AND ENTERTAINMENT WORLD OF ONLINE CONSUMERS* (2002), available at <http://www.arbitron.com/downloads/I9summary.pdf>; see also Allison Kidd, Recent Development, *Mending the Tear in the Internet Radio Community: A Call for a Legislative Band-Aid*, 4 N.C. J.L. & TECH. 339, 365-66 (2003).

104. In *Arista Records, LLC v. Launch Media, Inc.*, 578 F.3d 148 (2d Cir. 2009), the Second Circuit considered the question of whether a music service that tailored a music stream to each of its consumers based upon their individually expressed preferences constituted an interactive transmission. The plaintiffs argued that it did because the user's preferences influenced the music the user heard. *Id.* at 151. The court, however, rejected that argument and emphasized that the line between an interactive and noninteractive service must reflect Congress's concern that an interactive service would allow a user to pick the songs she wanted to hear and thus vitiate any need to purchase those songs. *Id.* at 157, 161. Finding that the defendant's Launchcast did not provide that level of interactivity, the Second Circuit held as a matter of law that Launchcast was not interactive. *Id.* at 162.

Based on a review of how LAUNCHcast functions, it is clear that LAUNCHcast does not provide a specially created program within the meaning of § 114(j)(7) because the webcasting service does not provide sufficient control to users such that playlists are so predictable that users will choose to listen to the webcast in lieu of purchasing music, thereby—in the aggregate—diminishing record sales.

Id. (citation omitted).

While copyright's treatment of the first two categories of complements seems at least consistent with economic principles, copyright's treatment of derivative reworkings is less consistent. With respect to whether a derivative author should receive a copyright of her own, the key and potentially competing concerns from an economic perspective are ensuring sufficient incentive to create the derivative work without creating undue monopoly in the derivative work market. To the extent that derivative works require the same sort of incentive structure as original works, we should apply a similar originality standard for granting protection at the front end, while the need to avoid monopoly suggests the need for a narrow copyright on the back end. Despite its misstep in *Gracen*, the Seventh Circuit later recognized precisely this mix of concerns in *Schrock v. Learning Curve Int'l, Inc.*¹⁰⁵ In *Schrock*, Learning Curve had hired Schrock to take publicity and merchandising photographs of its copyrighted Thomas the Tank Engine toy trains.¹⁰⁶ When their relationship ended, Learning Curve continued to use Schrock's photographs and Schrock sued for copyright infringement.¹⁰⁷ The district court, following *Gracen*, held that Schrock did not hold a valid copyright in his photographs.¹⁰⁸ The Seventh Circuit reversed.¹⁰⁹ Schrock's photographs, as a matter of law, satisfied copyright's originality standard.¹¹⁰ At the same time, however, the court emphasized that Schrock's was thin.¹¹¹ Thus, if the Learning Curve felt that Schrock had somehow captured the true essence of Thomas the Tank Engine, it could negotiate a suitable license. If not, it could simply hire another photographer to take a new set of photographs. By granting only a thin copyright, the *Schrock* court strikes a sensible balance between the incentive interests of Schrock, the derivative author, and the need to leave room in the derivative market at issue.

In contrast, the economics of complements suggest that copyright is far too restrictive with respect to derivative reworkings that are complementary. As *Rogers v. Koons* well illustrates, any possibility that allowing a derivative use would decrease the copyright

105. 586 F.3d 513, 521 (7th Cir. 2009) (holding that the originality standard for derivative works is not demanding than for other works, while noting that "the copyright in a derivative work is thin, extending only to the incremental original expression contributed by the author of the derivative work").

106. *Id.* at 515.

107. *Id.*

108. *Id.*

109. *Id.* at 516.

110. *Id.* at 522.

111. *Id.* ("Accordingly, the photos qualify for the limited derivative-work copyright provided by § 103(b).").

owner's revenue from licensing a similar use, even if the copyright owner had and has no plans to enter the market, will suffice for some courts to enjoin the use at issue.¹¹² The knee-jerk imposition of a regime of private rights is, however, inherently inappropriate for a public good such as a work of authorship. While copyright should grant an original copyright owner control over some types of derivative reworkings, it should generally limit that control to reworkings that are either not complementary, such as translations, or have a natural monopoly character, such as film adaptations. Moreover, given the constraints inherent in creating a faithful film adaptation or translation, there is less risk of licensing failure for these specific types of reworkings than for those reworkings that change the message or meaning of the underlying work.

Aside from these special cases where exclusive control is plausibly justified, a derivative reworking that is complementary and that does not exhibit such high fixed costs as to lead naturally to monopoly should generally be beyond the original copyright's owner control. Even if the reworking copies original and expressive material, as long as the use is complementary and occurs in a competitive market, the original copyright owner is appropriately compensated for the use by increased sales and revenues from her own work. Allowing her to control such derivative reworkings might increase her revenue, given the resulting ability to extract a licensing fee, but such additional revenue comes at too high a price for society. Any tendency that this additional revenue may have to ensure that original works of authorship are not underproduced, relative to the social ideal, is simply outweighed by the cultural and economic loss from the innumerable reworkings that a licensing requirement would effectively foreclose.

IV. COPYRIGHT, COMPLEMENTS, AND DERIVATIVE WORKS

Without falling back on the notion that Congress has foreclosed consideration of the complement-substitute distinction or on false analogies to private goods, two fundamental questions thus arise. First, is the substitute-complement distinction ever material to a determination of copyright infringement? And second, if it is material, are there nevertheless some uses that, although complementary in the

112. 960 F.2d 301, 303 (2d Cir. 1992); see also Sara K. Stadler, *Invention, Creation, & Public Policy Symposium: The Copyright Act & The Public Interest: Relevant Markets for Copyrighted Works*, 34 IOWA J. CORP. L. 1059, 1068 (2009) ("What if the plaintiff has no plans to occupy the derivative market at issue? No matter. Courts grant copyright owners the right to exploit derivative markets even if they never have shown any interest in doing so.").

economic sense, should nonetheless constitute infringement? If the answer to both of these questions is yes, then a third question arises: how should copyright law distinguish those complementary uses that are fair from those that are infringing?

Measured against copyright's purposes, this Article posits that the answer to the first two questions is indeed yes. With respect to the third, copyright should presumptively leave most complementary uses beyond the copyright owner's right to control. They should constitute an unfair and hence infringing use only if, on balance, a right of control would lead to more or better original works to such an extent that the additional output would outweigh the inevitable costs and reduced production of derivative works that imposing a private property regime on a public good would create. In undertaking this balance, the extent of the additional revenue that a licensing requirement will generate will depend, *ceteris paribus*, on the extent to which (1) the use at issue is complementary, and (2) the associated market is naturally competitive or monopolistic.

These factors suggest, on the one hand, that a complementary use, such as the dramatization of a novel, should be within the copyright owner's exclusive control. The market for a movie version of a novel has had, at least historically, a natural monopoly character. Specifically, because of the high cost of creating a professional-quality movie from a novel, society is likely to get only one movie version of any given novel at a given time. As a result, allowing unauthorized movies will not only reduce the revenue from an authorized version but will also often foreclose the creation of the authorized version altogether. And, while some efforts to turn novels into movies fall through as a result of creative differences between the author and the director/producer, the licensing market seems to work reasonably well in this area. A similar argument can be made for extending a copyright owner the right to translate her works, though here the key issue is that a translation is not much of a complement at all, but simply a separate market.

Still, translation and film adaptation should not be taken as the norm and used to justify, by analogy, extending the copyright owner's control over derivative reworkings generally. As long as the derivative reworking at issue is complementary, in that it increases demand for the underlying original, and occurs in a naturally competitive market, extending such control would frustrate, rather than serve, copyright's ultimate purpose. Requiring licenses for derivative reworkings, such as Koons' statue, would not lead to more revenue for the original copyright owner. It would lead to less. Most likely, were a license required, the derivative reworking would simply

not occur. The original copyright owner would not, therefore, receive any licensing revenue from such uses. Furthermore, the copyright owner would also lose the increased revenue from her original that derivative reworking, as a complement, would, by definition, create. As a result, the "progress of Science" would be better served by placing derivative reworkings that are both complementary and that occur in competitive markets beyond the original copyright owner's control. Such uses should be presumptively fair and non-infringing.