Outgrowing Copyright: The Effect of Market Size on Copyright Policy

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Abstract

Does copyright protection offer the best means of stimulating the production of expressive works? Perhaps, at the moment, it does. If so, however, copyright protection will probably become inefficiently over-protective as the market for expressive works grows. With such growth, copyright holders will find it increasingly remunerative to focus on customers willing to pay a premium for particular expressive works. In a larger, more finely segmented market, copyright holders will find that their statutory rights generate larger monopoly rents. Yet copyright holders will suffer no corresponding increase in production or distribution costs; thanks to technological advances, we can expect those costs to continue to decline. The private benefits of copyright protection will rise. So, too, will its social costs. Holding all else equal, therefore, growth in the market for expressive works will make copyright policy inefficient. This paper explains that effect and discusses how policymakers should respond.

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Introduction

Does copyright protection offer the best means of stimulating the production of expressive works? Perhaps, at the moment, it does. If so, however, copyright protection will probably become inefficiently over-protective as the market for expressive works grows. With such growth, copyright holders will find it increasingly remunerative to focus on customers willing to pay a premium for particular expressive works. In a larger, more finely segmented market, copyright holders will find that their statutory rights generate larger monopoly rents. Yet copyright holders will suffer no corresponding increase in production or distribution costs; thanks to technological advances, we can expect those costs to continue to decline. The private benefits of copyright protection will rise. So, too, will its social costs. Holding all else equal, therefore, growth in the

market for expressive works will make copyright policy inefficient.[1] This paper explains that effect and discusses how policymakers should respond.[2]

It costs a great deal to produce the first copy of many expressive works, including such notably valuable ones as movies, books, and software. Copyright law helps to reassure would-be authors that they will recover those fixed, up-front costs.[3] Alternative mechanisms—such as tips, patronage, automated rights management, and contracts—risk providing too little protection against unauthorized copying, leading to market failure. Hence the case for copyright.

As the market in expressive works grows, however, it promises to outgrow copyright law. When consumers join that market, whether by entering the world at birth or by escaping isolation, they offer authors new sources of revenue. Given the low marginal costs of reproducing and distributing expressive works, larger audiences will tend to reward authors with larger profits. Granted, population increases will also bring new authors, eager to compete with extant ones.[4] Those competitors can go only so far, however, before they create copies substantially similar to a protected one and thereby violate copyright law.[5]

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[1] We might say the same of the effect of market growth on patent policy, too. Here, though, I focus on copyright law.

[2] Other legal academics do not appear to have grappled with the question of how copyright (or patent) policy should react to market growth. Economists have, though; see Michele Boldrin & David K. Levine, *IP and Market Size*, June 22, 2005, http://www.dklevine.com/papers/scale22.pdf (unpublished manuscript). Like the present paper, Boldrin's and Levine's argues that the optimal level of patent or copyright protection decreases as the size of the market for patented or copyrighted works increases. They do so for distinctly different reasons that I do, however. Their model, based on one relatively standard in the economic literature, shows that general demand for the labor of "idea workers"—the sort of workers who create inventions and expressions—increases more rapidly than does the market for patents or copyrights. That labor constraint increases the monopoly rents afforded by patents and copyrights, thereby decreasing the need for patent or copyright protection.

[3] Here and elsewhere, I focus on U.S. copyright law. Much of the analysis will, however, apply to copyright policy generally.

[4] I did not mention this factor when, in an earlier paper, I briefly considered the effect of market growth on copyright policy. *See* Tom W. Bell, *Authors' Welfare: Copyright As A Statutory Mechanism For Redistributing Rights*, 69 BROOKLYN L. REV. 229, 267-69 (2003).

[5] *See, e.g.,* Amini Innovation Corp. v. Anthony California, Inc., 439 F.3d 1365, 1368 (Fed. Cir., 2006) ("Copying requires evidence that a defendant literally copied the designs or, alternatively, that a defendant had access to the protected designs before creating the accused designs with an additional showing of 'substantial similarity not only of the general ideas but of the expression of those ideas as well," *quoting*, Shaw v. Lindheim, 919 F.2d 1353, 1356 (9th Cir. 1990)).

Each copyright holder will thus preserve some power to extract monopoly rents.[6] As the market for expressive works expands, moreover, a smaller percentage of the consumer base will suffice to offset the fixed costs of creating expressive works. Copyright holders will find it increasingly easy to find and focus on those consumers most willing to pay for a particular work of authorship. And, yet, the costs of those who create or distribute expressive works will probably increase in step with population. Holding all else equal, therefore, growth in the market for copyrights will at some point cause them to provide more protection than necessary to achieve copyright policy's aims.

At that point, the social costs of copyright will outweigh its benefits. Copyright law will, in other words, no longer qualify as a necessary and proper[7] means of promoting the general welfare[8] and progress in the sciences and useful arts.[9] Sound principles of public policy will then demand that lawmakers reduce the scope of copyright protection.

I. The Standard Economic Model of Copyright

Courts and commentators alike generally regard copyright as a response to market failure.[10] Absent copyright, the argument goes, authors would find it discouragingly difficult to recoup the costs of creating fixed expressive works. "[T]he Progress of Science and useful Arts"[11] would languish, and the public would consequently suffer. To avoid that tragedy, the Copyright Act[12] empowers authors to control the reuse of their fixed expressive works. By selling those special statutory privileges, authors might offset their production costs. Thus does copyright arguably do what the common law allegedly cannot: ensure that the public enjoys an adequate supply of expressive works.[13]

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[6] This holds true even under the view, pioneered by Edward H. Chamberlin, that even monopolists face competition. *See* EDWARD H. CHAMBERLIN, THE THEORY OF MONOPOLISTIC COMPETITION 111-12 (1958) (citing copyrights as a mechanism that may ensure relatively great monopoly profits, and observing, "Although exceptionally high returns may be reduced by the appearance of competing products, the possibilities are often limited. . . . either because effective substitutes cannot be produced or because established consumer preferences are strong.").

[7] U.S. CONST., art. I, § 8, cl. 18.

[8] *Id.* at preamble.

[9] *Id.* at art. I, § 8, cl. 8.

[10] *See* Tom W. Bell, *Escape from Copyright: Market Success vs. Statutory Failure in the Protection of Expressive Works*, 69 U. CIN. L. REV. 741, 758-59 (2001) (collecting citations).

[11] U.S. CONST., art I, § 8, cl. 8.

[12] Copyright Act of 1976, 17 U.S.C. §§ 101-1332 (2006 & Supp. V 2007).

[13] The Copyright Act protects only *fixed* expressive works, granted. *See* 17 U.S.C.A. § 102(a). It doubtless stimulates the protection of unfixed works indirectly, however, as when a jazz musician extemporizes during a performance in order to convince listeners to buy a recorded version of the unfixed work.

The benefits of copyright policy come at a price, however. Although it may cost a great deal to make the first copy of a fixed expression, it usually costs very little to make and distribute subsequent copies. Absent copyright protection, those works would constitute public goods.[14] Copyright bars the public from freely enjoying the very goods labeled "public,"[15] however, instead vesting copyright holders with the power to charge whatever the market will bear to escape liability for infringement.[16] Though the monopoly rents that copyright holders thereby win allegedly provide a necessary stimulus to creativity, non-holders suffer the opportunity costs of losing cheap access to fixed expressive works.[17] Most commentators thus understand copyright policy to aim at striking a balance between giving authors sufficient incentives to create expressive works and providing the public with adequate access to the works thereby created.[18]

Figure 1 illustrates that, the standard economic model of copyright policy.[19] In that model, an author incurs large costs upon creating a fixed work but very low marginal costs of production (MC) thereafter. The author's average costs of production (AC) thus drop with each additional copy she—or, more likely, the party to whom she sells her copyrighted work—produces. She faces the usual sort of downward-sloping aggregate demand curve (D), which also marks the average revenue (AR) she can make by selling any given number of copies. How many should copies should she sell? Were social efficiency the test, she would sell the quantity (Qe) corresponding to the point where her marginal cost curve crosses the demand curve, earning the corresponding price (Pe). But that would discourage her (and other would-be authors) from creating fixed expressive works, as it would not allow her to recover her average costs. For her to break even in

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[14] *See* William M. Landes & Richard A. Posner, *An Economic Analysis of Copyright Law*, 18 J. LEGAL STUD. 325, 327 (1989).

[15] That label hardly suffices to establish the proper scope of copyright, of course; I intend no more than irony.

[16] *See* 17 U.S.C § 106 (defining copyright owner's exclusive rights).

[17] Commentators often refer to this a "deadweight loss." *See, e.g.,* William W. Fisher III, *Property and Contract on the Internet*, 3 CHI.-KENT L. REV. 1203, 1236 (1998); Julie E. Cohen, *Copyright and the Perfect Curve*, 53 VAND. L. REV. 1799, 1801 (2000). Because that obscures the cause of the loss, I use the more descriptive label, "non-holders' opportunity costs."

[18] *See, e.g.,* Landes & Posner, *supra* note [[cite]], at 326 (characterizing this as "the central problem of copyright law."). *But see* Bell, *supra* note [[cite]] at 787 (arguing that copyright policy cannot strike a delicate balance between public and private interests); Christopher S. Yoo, *Copyright and Product Differentiation*, 79 N.Y.U. LAW REV. 212 (2004) (arguing the economics of product differentiation suggest that the access-incentives tradeoff is not so intractable as generally believed).

[19] This portrayal of the standard model comes largely from Yoo, *supra* note [[cite]], at 227 fig. 1, which both sums up the traditional view among legal academics of the economics of copyrights and corrects it by setting the proper bounds for measuring profit. The chart here differs from Yoo's, however, in showing average costs to exceed average revenue at low levels of production. That assumption, while not strictly necessary, doubtless describes most copyrighted works more accurately.

the authorship business, she would need to sell at least the quantity (Qs) corresponding to the point where her average cost curve crosses the demand curve, thereby earning a sustaining price (Ps). Happily for her, though, the monopoly privilege afforded by copyright law allows her, at least in theory, to sell even fewer copies, and at a higher price (Pm). Specifically, she will want to sell a quantity (Qm) that corresponds to the point where her marginal revenue (MR) curve crosses her marginal cost curve. At higher quantities than that, her marginal costs would exceed her marginal revenues, giving her marginal losses. If our hypothetical author manages to sell at the monopoly quantity and price that maximizes her benefits, she will earn profits (OP) equal to the amount her revenue exceeds the amount necessary to recoup her average costs. In that event, consumers to whom she sells will enjoy a surplus (CS) representing the different between what they pay and how much they value her work. Non-holders unwilling to pay what she demands, however, will suffer opportunity costs (NO) equal to how much they would have paid for the uses barred by her assertion of copyright.
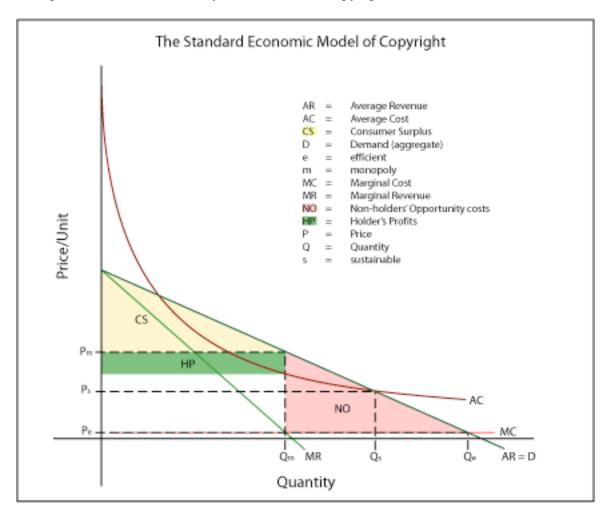

Figure 1

I could doubtless say more about the standard economic model of copyright, adding complications,[20] quibbles,[21] and criticisms.[22] I will, below.[23] For now, though, let us assume that Figure 1 offers a reasonably accurate picture of the economics of copyright. What happens to that picture when more people enter the market for copyrighted works? The next part takes up that question, offering a revised economic model that can explain the effect of market growth on copyright. Specifically, it finds that the bimodal distribution of demand for expressive works generates a sine-shaped aggregate demand curve. As a consequence, and more generally, market growth causes copyright's costs to eventually exceed its benefits.

II. An Economic Model of the Effect of Market Growth on Copyright

When more people enter the market for expressive works, whether due to population growth or relaxed trade barriers, they increase the demand for authors' services. Were nothing else to change, extant authors would enjoy an unmitigated windfall. But with those new consumers typically come new authors, too. What does the resulting increase in the supply and demand of expressive works have on copyright policy?[24] This part offers an economic model indicating that as the market for copyrights grows, the profits from copyrights rise. So do its public costs.

Sub-part A documents the assumptions behind the model offered here. Sub-part B explains the effect of market growth on copyright's incentives by way of a parable. Sub-part C formalizes that explanation in a modified version of the standard economic model of copyright.[25]

A. The Model's Assumptions

For the sake of simplicity, and because it seems plausible, the model assumes that the ratio of authors to consumers holds roughly constant despite fluctuations in the size of the market for expressive works. If only .1% of adults compose music, therefore, any given group of 1,000 babies will include one future composer and 999 future listeners.

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[20] I considered, for instance, adding a variety of average cost curves to illustrate how works with different production costs fare under a given level of copyright protection.

[21] *See, e.g.*, Fisher, *supra* note [[cite]], at 1238-39 (arguing that price discrimination can both increase copyright holders' profits and decrease non-holders opportunity costs).

[22] *See, e.g.*, Yoo, *supra* note [[cite]], at 231-35 (criticizing the standard model as deficient on a number of grounds).

[23] *See infra*, Part II.C.

[24] I thank Prof. David Friedman for bringing this factor to my attention. *See, Comment of David Friedman to Agoraphilia*, http://agoraphilia.blogspot.com/2007/06/when-markets-outgrow-copyrights.html#9009387265935622973 (June 08, 2007 1:06 AM PDT).

[25] *See supra*, Part I (describing the standard model).

Likewise, any market newly opened to trade in expressive works will introduce domestic composers to 999 foreign customers for each foreign competitor.

For present purposes, we need not specify the exact ratio of authors to consumers. That number would prove slippery, at best. We can also concede that the real world may sometimes offer variations on the theme explored here. Winning access to Chinese markets has thus far, for instance, given Hollywood a huge new audience but few new rivals.[26] Nonetheless, it does not seem wildly implausible to assume that, in the long run and in the main, the ratio of authors to consumers holds roughly steady despite variations in the size of the market for expressive works.

It takes time for markets to grow. With the passage of time consumers win access to an increasingly large stock of old expressive works. Thus does every new author have to compete not only against contemporary creators, but also those who have already left their mark on the world. The present model does not take account of that fact. Note, however, that it would not evidently alter the model's conclusions. Granted, old works might to some degree decrease the rewards that copyright can offer new authors. But recall that, as an economic matter, copyright does not aim simply at making authorship profitable.[27] Rather, it at root aims to ensure that consumers have ample access to expressive works. Rewarding authorship serves merely as a means to that end. Growth in the stock of *old* expressive works, because it stands to lower the price of *all* expressive works, arguably helps to ensure that copyright policy can achieve its goals more easily.[28] By declining to take account of that factor, therefore, the present model aims at the higher, and harder, road.

This model assumes that the costs experienced by authors and copyright holders do not change significantly as the market for expressive works grows. Much evidence indicates, in fact, that technological advances have made it increasingly easy for authors to create marketable works.[29] Other evidence suggests that technological advances have

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[26] *See* Keith E. Maskus & Mei Yuan, *Economic Perspectives on US-China Relations in Intellectual Property Rights*, China Balance Sheet, Jan. 2006, http://www.chinabalancesheet.org/Documents/Paper_IPR.PDF (surveying U.S.-China trade and concluding, "China has revealed comparative disadvantages in machinery, electrical equipment, surveying and control instruments, and sound recording tapes and disks. . . . China seems to have a long way to go before it overtakes American export domination in such areas.").

[27] *See*, United States v. Paramount Pictures, Inc., 334 U.S. 131, 158 (1948) ("The copyright law . . . makes reward to the owner a secondary consideration.").

[28] *See,* Michael Abramowicz, *An Industrial Organization Approach to Copyright Law*, 46 WM & MARY L. REV. 33, 109 (2004) (airing an argument that, "Because the number of copyrighted works, and indeed the rate at which copyrighted works are produced . . . copyright generally should become less strict over time," but offering caveats against that conclusion).

[29] The proliferation of cell-phone cameras and high-powered sound-engineering software provide two salient examples. *See also*, Amanda M. Witt, *Burned in the USA: Should the Music Industry Utilize Its American Strategy of Suing Users to Combat Online Piracy in*

made it more expensive to enforce copyrights.[30] Perhaps those countervailing effects wash out; at any rate, and for better or worse, they do not play a factor below.

A typical consumer generally purchases only one copy of an expressive work. Exceptions exist of course. Because the holder of a copy of an expressive work can consume it many times over, however, one copy typically satisfies any given consumer's demand.[31] An economist might thus describe copies of expressive works as goods non-rivalrous in consumption over time and intra-consumer. Within the household, in other words, copies of expressive works function like club goods[32] (if one member of the household can exclude others from consuming the work) or like public goods[33] (if not). Each consumer of such a good will pay up to his or her reservation price for one copy and, finding that a sufficient supply of the work, nothing for any additional copies.[34]

In geometric terms, we can picture consumer demand for any particular expressive work by comparing reservation prices to the number of consumers. By way of example, figure 2 illustrates the demand distribution curve for four different consumers[35] of a hypothetical expressive work. The consumer graphed farthest to the left, puts no value on a copy of the work. The next consumer to the right would pay up to $.50 for a single copy. The next, an even dollar. Farthest to the right, the work's biggest fan would pay up to $1.50 for a one—no more, no less—copy of it.

Europte? 11 COLUM. J. EUR. L. 375, 409-10 (2005) (discussing decreasing production and distribution costs in music industry).

[30] *See*, Abramowicz, *supra* note [[cite]], at 109 ("[c]opying technology has improved over time and is likely to continue to improve as computer technology becomes ever more commonplace in portable devices.").
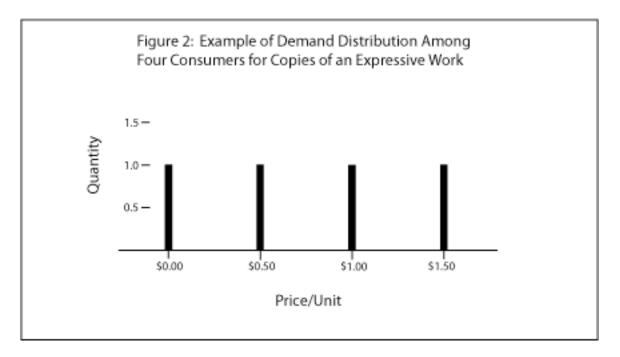
[31] Indeed, sometimes consuming the work but once may suffice to satisfy a consumer's demand for it. *See*, Sanjay Sood & Xavier Drèze, *Brand Extensions of Experiential Goods: Movie Sequel Evaluations*, 33 J. CONSUMER RESEARCH 352, 353 (2006) (reviewing research showing that "individuals become satiated with certain attributes after consumption of an experiential good exceeds a specified level," and thereafter "choose a product with different attributes . . . .") available at http://www.journals.uchicago.edu/JCR/journal/issues/v33n3/330308/330308.web.pdf.

[32] *See* Patrick McNutt, *Public Goods and Club Goods* in ENCYCLOPEDIA OF LAW AND ECONOMICS at 927, 928 (Boudewijn Bouckaert & Gerrit De Geest, eds., 1999), available at http://encyclo.findlaw.com/0750book.pdf.

[33] *See id.* at 929.

[34] Copyright holders have an incentive to try to extend their statutory privileges within the consumer household, such as by implementing automated rights managements schemes that limit reuse of a work, or by claiming licenses that limit fair use, 17 U.S.C. § 107, or the scope of the first sale doctrine, *id.* § 109.

[35] A more general illustration would focus on consumer *types*, grouping together all consumers who would pay the same reservation price for the good, rather than merely on individual consumers. *See, e.g., infra*, Figure 4.

Figure 2: Example of Demand Distribution Among Four Consumers for Copies of an Expressive Work

   This last assumption—that each consumer of an expressive work buys only one copy of it—presents a case somewhat different from that portrayed in the standard supply/demand graph,[36] though not one unknown in economic literature.[37] Economists typically assume that each individual consumer has a downward sloping demand curve, with an elasticity comfortably between zero and infinity.[38] Thus, for instance, someone willing to buy a bag of flour at $2/bag might also willingly pay $4 for two bags, or $1 for half a bag. Expressive works, in contrast to flour, do not easily admit to division.[39] Who buys only half a book? And, as explained above,[40] one copy generally suffices to satisfy one consumer's demand for a particular expressive work.[41]

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[36] *See, e.g.,* BROWNING & BROWNING, *supra* note [[cite]] at 9.

[37] *See*, Wikipedia. *Price Elasticity of Demand*, http://en.wikipedia.org/wiki/Price_elasticity_of_demand ("A good or service can have relatively inelastic demand up to a certain price, above which demand becomes elastic. Even if automobiles, for example, were extremely inexpensive, parking or other related ownership issues would presumably keep most people from owning more than some 'maximum' number of automobiles.") (as of February 25, 2008, at 02:30 GMT) (last visited March 6, 2008).

[38] *See id.* ("For all normal goods and most inferior goods, a price drop results in an increase in the quantity demanded by consumers.").

[39] Again, of course, exceptions exist. Thus, for instance, a consumer might purchase a ringtone comprising only part of a popular tune. I here focus on the standard case, however.

[40] *See supra*, Part II.A.

[41] It may also, as in a household setting, suffice to satisfy the demands of the several consumers who enjoy shared access to the copy.

Other types of goods share this feature with expressive works. Most individuals—indeed, most households—find that one washing machine satisfies their demand for clothes-cleaning appliances.[42] Televisions present a notably different, and to an economist, more typical, case.[43]

At all events, while it proves a plausible approximation of reality and a helpfully clarifying device, this assumption about the single-copy nature of consumer demand for expressive works does not prove critical to the economic model of copyright offered below.[44] To admit that consumers may occasionally buy multiple copies of an expressive work, such as when buying one copy for home and another for the office,[45] does not materially alter this paper's policy conclusions. Rather, relaxing the single-copy assumption would do little more than widen the base of the demand curve for the multiply-purchased work[46] and unduly complicate demand distribution and supply/demand curve calculations.[47] Given that it would afford only modest gains in accuracy, at best, that game hardly seems worth the candle.

B. The Parable of the Village Authors

Before delving further into economic jargon, it might help to illustrate the effect that market growth has on copyright's incentive by recourse to a colorful story. It would doubtless prove more entertaining, at any rate. In this sub-part, then, I offer "The parable of the Village Authors."

There once existed an isolated village of 1,001 people. Of them, only Amarel had the gift of writing entertaining words.[48] Many villagers valued her tales, so the counsel of elders instituted a copyright law to encourage her authorship. Thanks to that law, Amarel earned a decent living, selling for one dollar apiece one new story a week.

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[42] *See*, U.S. Census Bureau, *Supplemental Measures of Material Well-Being: Basic Needs, Consumer Durables, Energy, and Poverty, 1981 to 2002,* 10 (December 1005) (indicating that in 2005 the average U.S. household had .8 dishwashers). Because the Census Bureau figures track only averages they do not, granted, rule out the possibility that great many household have multiple dishwashers while a great many have none. Common sense should suffice to rule out that possibility, however.

[43] *See id.* (indicating that in 2005 the average U.S. household had 2.1 televisions).

[44] *See infra*, Part II.C.

[45] Purchasing multiple copies for an equal number of users, such as for gifts or classroom use, does not really represent an exception to the one-copy-per-consumer rule. Rather, those sorts of purchases merely represent single-copy consumption by proxy.

[46] Why? Because the aggregate demand for a good results from horizontally summing the various demand curves of individual consumers.

[47] Specifically, to calculate the demand distribution in that case would call for something like Fourier synthesis, adding the amplitudes of all overlapping demands.

[48] Since I assume Amarel does not buy copies of her own works, there exists one author and 1000 consumers in the original village.

In terms of what they thought about Amarel's prose, and thus what they were willing to pay for it, the villagers fell into four evenly sized groups. Half of the villagers preferred music to literature. Of those, half again—the 250 illiterate villagers—would not have purchased Amarel's prose at any price. The remaining music fans—the 250 literate ones—would have paid only $.50/copy for it.

Amarel made her living selling to the 500 villagers who esteemed literature. Even among those villagers, however, opinions about her work varied. Half of them—the 250 who preferred poetry to prose—regarded Amarel's stories as only barely worth the cost. The remainder—the 250 villagers who preferred prose to poetry—liked Amarel's work so much that they would have paid $1.50/copy for it. She had no easy way to single out those fans, however, and so found that she could maximize her profits simply by offering her works at $1/copy.[49]

One day a group of 1001 refugees appeared. Their homes had been wiped out in a flood, so they sought permission to settle in and around the village. The counsel of elders, having pity on the refugees and judging them very much like their own people, agreed. The village thereby grew to include 2002 people—two authors and 2,000 consumers of works of authorship.[50]

The newcomers included Berek, who shared with Amarel a gift for writing. In his old home, he had played a role almost exactly like that Amarel had played in hers. He had enjoyed copyright protection, earned a living selling copies of his works to half of his neighbors, found 250 of his customers complacent, 250 of them ardent, and so forth. Whereas Amarel wrote stories, however, Berek wrote poems.

What happened when Amarel and Berek began to compete for customers in the newly enlarged village? As before, neither found it worthwhile to sell to the half of the population that preferred music to literature. None of the 500 illiterates would buy, of course. The remaining 500 music fans, while capable of reading, made so little distinction between prose and poetry as to regard them as interchangeable. For those consumers, the increased supply of literature simply drove down the market-clearing price for any written work.

Given the bleak prospect of marketing their works to music fans, Amarel and Berek focused their efforts on the 1000 villagers who esteemed literature. Even among those consumers, however, tastes varied. Amarel lost to Berek 250 of her former customers—those who favored poetry to prose.[51] She kept the 250 customers who had

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[49] To simplify the analysis, I here ignore the effect of any resale market in expressive works. Consumers in the real world do not typically care much about the resale value of the copyrighted works they purchase, though consumers of text- and casebooks represent a notable exception to that rule. If it helps, you might imagine that Amarel sells not copies of her stories but rather only performances of them, which of course cannot be resold.

[50] For the sake of simplicity, I assume that Amarel does not buy Berek's writings, nor he hers.

[51] Because budgetary constraints force them to choose between poetry and prose, those consumers effectively place a lower value on Amarel's work, once they have the option of buying Bereks, than they did when she enjoyed a monopoly.

always regarded her stories as a bargain, however. Amarel found among the past refugees 250 new fans, moreover, who happily purchased from her the prose that Berek had denied them. Berek experienced the same turn of fate, trading 250 barely satisfied customers for 250 devoted ones.

The growth of the village thus left unchanged the number of customers served by Amarel and Berek. It allowed them, however, to better serve what customers they had. Amarel could focus on the villagers who favored prose, whereas Barek could focus on those who favored poetry. The authors thereby found that they could raise their prices to $1.50/copy and, given that their costs had not increased, win greater profits. Their customers now had to pay more, granted. But, still, none of them paid more than they thought the entertainment worth.[52]

Who *did* lose? The villagers who, though unwilling or unable to pay $1.50 for the right, would have enjoyed buying copies of Amarel or Berek's works. Though it would have cost next to nothing to make sufficient copies to satisfy those villagers, copyright law stood in the way. Thus were many simple joys foregone.

C. Modeling the Effect of Growth in the Copyright Market

The parable of the village authors offers a simple example of a more general phenomenon. The moral of the story: As the market for expressive works grows, assuming that the proportion of authors to consumers does not change, copyright holders tend to earn larger profits. How can we explain that effect? I'll do so here first with words and then, adapting the standard model of copyright introduced above,[53] graphically.

Assume that would-be authors represent a given percent of any given population and that population growth does not materially affect the costs of producing and distributing expressive works. Although new authors enter the growing market, therefore, the average number of consumers per author remains unchanged. The larger population gives each author—or, more generally, each copyright holder—more consumers to choose from. The constantly low marginal costs of distributing expressive works makes it increasingly easy, moreover, for copyright holders to find those consumers who most want any particular work. Copyright holders can focus on their best customers, providing great satisfaction while earning commensurately great revenues.

In other words, population growth and constant search costs combine to allow copyright holders to price discriminate more effectively. That allows copyright holders to earn higher revenues. Since marginal costs remain low and flat, that extra revenue

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[52] To complicate matters a bit, you might well assume that even fans of prose will be willing to pay less for it once poetry appears as an alternative, albeit disfavored, form of entertainment. That would not materially affect the outcome of the parable, however, so I've opted for a simpler story.

[53] *See supra,* Part I.

equates to extra profit, some of which finds its way into authors' pockets.[54] Any given level of copyright protection will in that event provide more of a stimulus to authorship than lower levels of protection. As markets grow, therefore, the policy justification for copyright protection decreases.

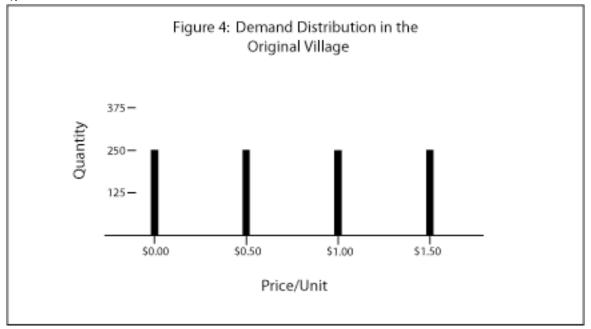   In order to illustrate the general effect that growth in the market for expressive works has on copyright policy, it proves helpful to first recur to the parable offered above. Figure 3 shows how matters stood at the beginning of that story, when Amarel alone served the demand for literature in her small village.[55]

Figure 3: An Economic Model of the Original Village

AR = Average Revenue
AC = Average Cost
CS = Consumer Surplus
D   = Demand (aggregate)
MC = Marginal Cost
MR = Marginal Revenue
NO = Non-owners' Opportunity costs
OP = Owner's Profits

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[54] In some cases, authors retain the copyrights in the works they create. In others, holders buy those rights. In either event, authors benefit from increases in copyright profits.
[55] We might in the alternative use two demand curves to illustrate the aggregate demand Amarel faces. I've here opted for a simpler approach, however, reserving the use of multiple demand curves for figure 5, below—a steep one for Amarel's fans and a less sloped one for all other consumers.
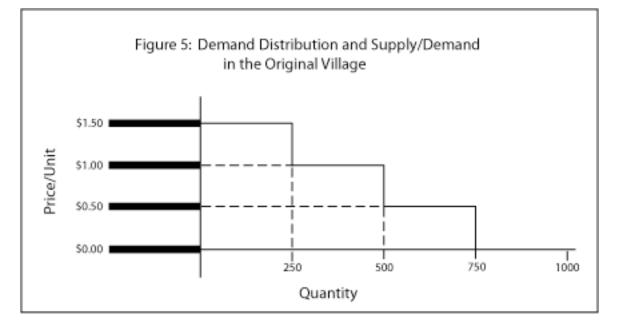
Most of that figure's features should look familiar, as they come directly from figure 1. But per the assumption that each consumer demands, at most, only one copy of a given expressive work—i.e., one of Amarel's stories per week—figure 3 shows only constructive curves for demand, aggregate revenue, and marginal revenue. Those lines over-generalize, smoothing over the parable's rough-hewn classifications. As described in the parable, consumer demand in original village traces a series of descending steps. In effect, the village has only four types of consumers, the demand distributed as in figure 4.

Figure 4: Demand Distribution in the Original Village

How does the distribution of reservation prices among the population of the original village relate to aggregate demand for Amarel's work? Figure 5 illustrates. In geometric terms, figure 5 results from a series of operations, here described step-by-step: Start with a demand distribution graph comparing to the reservation price for one copy of a particular expressive work the number of consumers willing to buy the copy at that price. Rotate that graph 90 degrees clockwise. Let its vertical "price/unit" axis serve that same function in a supply/demand graph, one drawn to the right of the rotated demand distribution graph. Moving downward from the top of the "price/unit" axis, find the line indicating the highest reserve price charted on the demand distribution graph. Extend from that line's base another line, just as many units long,[56] running to the right from the price/unit axis and into the supply/demand graph. That newly drawn line indicates the demand of the consumer (or consumer group) willing to pay the most for the work in question. Now move down to the next line in the demand distribution graph. Draw a horizontal line just as many units long, and at the same price/unit, in the supply/demand chart. *Do not put the left end of that new line on the price/unit axis, however.* Because
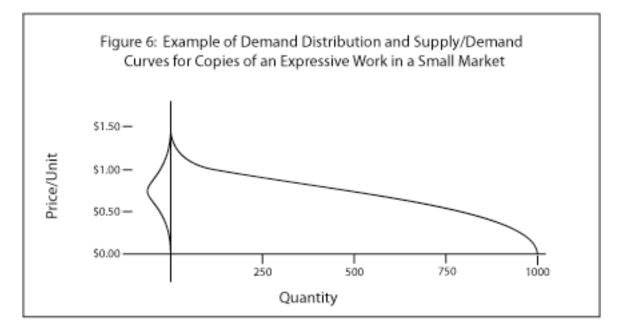
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[56] The supply/demand graph's x axis may benefit from scale compression, as the method described here often generates demand curves with long, low tails. See, e.g., figure 10, which resorts to truncating the right end of the demand curve.

we here aim to trace aggregate demand, we must add each individual demand curve horizontally. This new bit of the aggregate demand curve must therefore extend rightward *from a point on the demand axis of the supply/demand graph equal to the right end of the next highest demand curve.* Repeat that process until all the data on the demand distribution graph has a corresponding entry on the supply/demand graph.

Figure 5: Demand Distribution and Supply/Demand in the Original Village

Thus drawn, the aggregate demand curve descends stepwise, in discrete segments. Figure 5 shows that effect clearly, as it charts only four consumer demand curves. It effectively replicates the demand curve in figure 3. A more refined chart, tracing the demand distribution and corresponding supply/demand curves of thousands of consumers, at hundreds of prices, would doubtless show a smoother curve. Figure 6 offers an example, one based on the assumption that demand for an expressive work follows a curve of normal distribution.[57]

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[57] While that assumption may hold true in small markets or those not restrained by copyright's barriers to entry, I argue below that in larger markets for expressive works demand more likely follows a bimodal distribution. *See infra*, text accompanying notes [[cite]].

Figure 6: Example of Demand Distribution and Supply/Demand
Curves for Copies of an Expressive Work in a Small Market

Notably, and as discussed more fully below, this method of converting demand distributions to supply/demand curves suggests that the aggregate demand for expressive works follows a complex curve.[58] Economists generally assume more simple demand curves—straight or concave ones.[59] That assumption can prove useful, even if at the cost of accuracy. In the real world, however, and as economists have recognized,[60] demand curves sometimes follow more winding paths.[61]
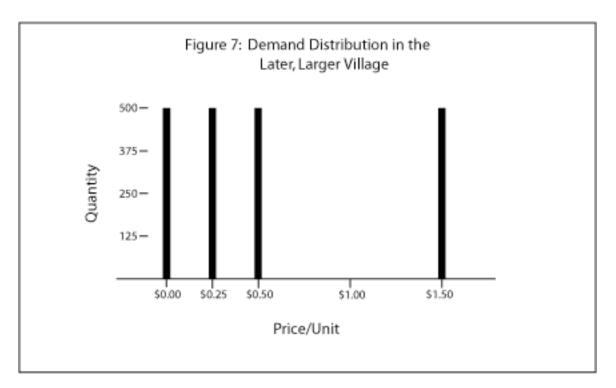
The later, larger village, presents Amarel with both new customers and new competition. She now enjoys a monopoly only with regard to consumers who strongly demand prose. The remainder either strongly prefer Berek's poetry or regard all literary arts as relatively unappealing. Amarel thus faces a bifurcated consumer demand curve, one that includes the high and inelastic demand of a few of her biggest fans and the low, elastic demand of everyone else. Berek faces the same sort of demand curve, of course, though his reflects the market for poetry rather than for prose. Figure 7 shows the distribution of demand each author faces in the later, larger village. Figure 8 shows the corresponding supply/demand curve and related economic features.

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[58] In this relatively simple example, the curve appears s-shaped. Below, I argue that in a very large market, the supply/demand curve for copies of expressive works follows a w-shape. *See infra*, text accompanying notes [[cite]].

[59] *See, e.g.,* EDGAR K. BROWNING & JACQUELENE M. BROWING, MICROECONOMIC THEORY AND APLLICATIONS 9, Figure 1-1 (1983).

[60] *See,* R.D. G. ALLEN MATHEMATICAL ANALYSIS FOR ECONOMIST*s* 113 (1964) (offering an example in which, "The demand curve cuts both axes and is first convex and then concave to the price axis. The shape of such a . . . demand curve can vary, of course, over a wider range for different [consumers] and different goods.).

[61] Economists do not appear to have considered, however, the sort of w-shaped demand curve that I discuss below. *See infra*, text accompanying notes [[cite]].

Figure 7: Demand Distribution in the Later, Larger Village

Quantity

500 —
375 —
250 —
125 —

$0.00 $0.25 $0.50 $1.00 $1.50

Price/Unit

Figure 8: An Economic Model of the Later, Larger Village

Price/Unit

fans

non-fans who formerly paid $1; now prefer other supplier

non-fans who formerly would have paid $1.50 to other supplier, but now would pay only $.50 to this one

non-fans who formerly would have paid $.50 for literature, but who now would split that between old and new supplier

non-fans not interested in buying at any price

$1.50
$1.00   OP₂
$0.50   NO₂   AC

                                                                                    MC
                                                                              AR = D
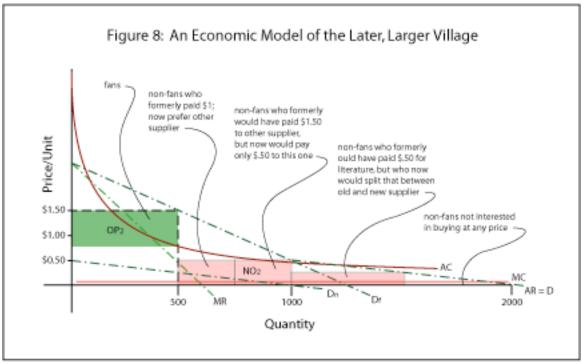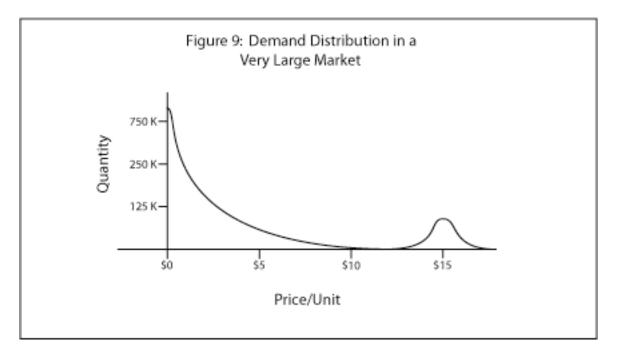   500   MR   1000   Dn   Df   2000

Quantity

Figure 8 exhibits three demand curves: That of a given author's fans (Df), that of the remaining consumers, or "non-fans" (Dn), and the constructive aggregate demand curve (D) that, per the usual practice, represents the horizontal summation of those

constituent demand curves.[62] Several other aspects of figure 8 bear noting. First, adjusting for scale, authors in the later, larger village earn about double the profits from their copyrights than they did in their earlier, smaller markets. Second, non-holders' opportunity costs roughly double, too. Third, consumer surplus disappears, thanks to the increased discriminatory power exercised by authors in the larger market. All three factors suggest that the most efficient copyright policy for the later, larger village would offer less copyright protection than the most efficient copyright policy for the earlier, smaller one.

To generalize from that example, we should expect that as the supply and demand of expressive works grows, copyright protection will make it easier for authors to engage in a form of price discrimination, offering their works at a price that only their biggest fans will pay. At the same time, any given author will find it increasingly difficult to make a profit selling to consumers only mildly interested in that author's works. A great many *other* authors will vie for those same consumers, after all, and some of those authors will find in said consumers the sorts of fans willing to pay a premium for the works that most satisfy *their* idiosyncratic tastes.

In large markets, in other words, we should expect demand for expressive works to often follow a bimodal distribution. Most consumers would regard any particular expressive work as a commodity, replaceable by any of a great many substitute works. So, for instance, fans of country and western music might regard all classical music with equal indifference, saying, "It all sounds like cartoon music, to me." Most expressive works would thus attract a great deal of low-level demand. At the other extreme, many expressive works—the goods ones, at least—would attract devoted fans. That sort of consumers would fill out the other end of the scale, providing a spike of demand at a relatively high reservation price. In between would lie a desert of demand, where almost-fans opt for competing works and non-fans hold out for commodity pricing. Figure 9 illustrates.

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[62] DAVID D. FRIEDMAN, PRICE THEORY 136 (1986).

Figure 9: Demand Distribution in a Very Large Market

Large markets might see other demand distributions, of course. Some works, for instance, might trigger tri-modal distributions, with spikes at the extreme marking fans and also, deep within the region of negative demand, ardent non-fans.[63] Other works might prove so popular and inimitable as to exhibit only a single, broad, positive demand distribution.[64] Or the same work might display a variety of different demand distributions among different demographic groups.[65] The technique described here[66] for linking demand distribution to supply/demand curves might serve to reveal many varied and interesting things about the market for expressive works. For now, though, it suffices to observe that theory and the available empirical evidence[67] suggests that, in large markets, demand for an expressive work will often follow a bimodal distribution.

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[63] Economists do not typically graph negative demand, though they sometimes recognize its existence. *See, e.g.*, ALLEN, *supra* note [[cite]] at 113 (describing a demand curve that extends into the negative range). Common sense tells us that, past some limit, an over-supply of tangible goods can become a nuisance. Personal reflection should suffice to convince most people that same holds true of an over-supply of expressions. The First Amendment somewhat limits the legal remedies to that problem, however. U.S. CONST., Amend. 1.

[64] For an example of such a demand distribution, and its corresponding supply/demand curve, see *supra*, figure 6.

[65] So, for instance, a given pop song might stimulate broad appeal among youths and profound dislike among older adults.

[66] *See supra*, text accompanying notes [[cite]].

[67] *See, e.g.,* Greg Sandoval, *Study: Free beats fee for Radiohead's 'In Rainbows,'* CNET NEWS.COM (Nov. 7, 2007), http://www.news.com/8301-10784_3-9811013-7.html (discussing bi-modal distribution of prices voluntarily paid by consumers of Radiohead's In Rainbows album) (last visited March 6, 2008); Matthew Haughey, *How Ads Really*

What sort of supply/demand curve results from a bimodal demand distribution? Figure 10 illustrates. It shows that, in large markets, aggregate demand for a given expressive work will typically follow something like a one-half of a bell-shaped,[68] or we might say a "w-shaped," curve.[69] The curve will start out relatively steep at its upper left-hand end, tracing the demand of a few ardent fans. The curve will then quickly flatten as it enters the price range that most fans or the work will pay for it. Next, the curve will drop sharply, entering the region where competing works prove increasingly attractive to the discerning consumers of similar expressions.[70] Finally, at its lower, right-hand end, the demand curve will flatten out, reflecting the relative disinterest of the many consumers who carelessly regard the work in question as functionally indistinguishable from grossly similar ones.

Work: Superfans and Noobs, Fortuitous (May 30, 2007), http://fortuito.us/2007/05/how_ads_really_work_superfans_1 (revealing bimodal distribution of web users' browsing habits) (last visited March 6, 2008).

[68] I say "something like" because the traditional bell curve has a flat top, whereas the curve here portrayed has a pointed one. In that regard, however, we might say that the present curve more closely resembles a bell than the conventional one, given that a real-world bell typically includes a crown at its top, for suspending the instrument.

[69] You can trace the rough outline of such a curve in figure 5 if you keep in mind that the actual demand curve (as opposed to the constructive one) begins flat before dropping into a two-part slope. *See supra* notes [[cite]] and [[cite]].

[70] *See*, CHAMBERLIN, *supra* note [[cite]], at 59 ("Each copyrighted production is monopolized by the holder of the copyright; yet it is also subject to the competition which is present over a wider field.").
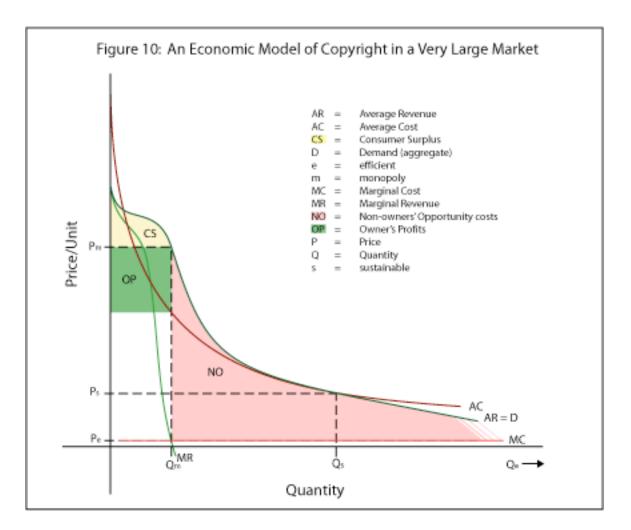
Figure 10: An Economic Model of Copyright in a Very Large Market

AR	=	Average Revenue
AC	=	Average Cost
CS	=	Consumer Surplus
D	=	Demand (aggregate)
e	=	efficient
m	=	monopoly
MC	=	Marginal Cost
MR	=	Marginal Revenue
NO	=	Non-owners' Opportunity costs
OP	=	Owner's Profits
P	=	Price
Q	=	Quantity
s	=	sustainable

Figure 10 reveals several interesting features about the economics of copyright in very large markets. In contrast to the standard model,[71] figure 10 shows that a copyright holder can maximize profits by selling relatively few copies at a relatively high price. The typical copyright holder makes the most money, in other words, from focusing on a work's biggest fans. The very structure of the market allows—indeed, encourages—that sort of price discrimination. Selling more copies would result in disproportionately lower average revenues and recovery of fixed costs. Compared to the standard model, furthermore, figure 10 indicates that in a very large market copyright holders' monopoly profits tend to grow at the expense of consumer surplus. Lastly, compared to the standard model, figure 10 shows non-holders to suffer relatively large opportunity costs. In a large market, in other words, copyright prevents comparatively many people from accessing protected works at less than the going rate. All told, those effects suggest that as the market for expressive works grows, the net benefits of copyright protection decrease.

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[71] *See supra*, figure 1.

III. Objections and Answers

A. Will New Entrants Reduce Monopoly Profits?

As discussed above,[72] the analysis here assumes that the ratio of authors to consumers holds roughly constant as the size of the market for expressive works grows. The standard economic model of copyright does not seem to demand anything different; it does not evidently consider the possibility that the monopoly profits afforded by copyright will attract new authors who, eager to share in those spoils, will dissipate them. Hence Professor Christopher S. Yoo's criticism of the standard model: It shows only a short-run equilibrium, whereas in the long run the prospect of monopoly gains would invite new authors to enter the market and "divide the available surplus into increasingly smaller fragments until no profits remain."[73]

I grant that Prof. Yoo criticism holds true for many applications of the standard model. In many markets, at least, any given copyrighted work faces considerable competitive pressure from substitute works. In the sort of very large market modeled above, however, I doubt that Yoo's analysis applies with much force. Why so? Because copyright holders in such a market will tend to sell their works to a few high-demand fans. A very large market can provide enough such fans, after all, to make that sort of specialization remunerative. And, crucially, dividing the market up into such narrow slices can protect a copyright holder from competition. At some limit, copyright law's ban on substantially similar copies kicks in, creating a very real barrier to competition.[74] The structure of competition in very large markets for expressive works thus appears to fall outside of Yoo's critique.[75]

B. Do the Facts Fit the Theory?

Markets in expressive works have grown extensive in recent decades, thanks both to population growth and lowering trade barriers. Have the economics of copyright changed as the above analysis would have predicted? Hard evidence on that count, pro or con, proves elusive. Analysts have observed, however, that as the market for expressive works has grown, it has grown increasingly fractured. Whereas U.S. consumers once shared only three television channels and a few, general interest magazines and newspapers, for instance, they can now choose between hundreds of specialized cable

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[72] *See supra*, Part I.

[73] Yoo, *supra* note [[cite]] at 239.

[74] *See*, CHAMBERLIN, *supra* note [[cite]] at 111-12 (noting the limits of competition against intangible statutory rights such as copyrights).

[75] Interestingly, Yoo seems to counsel the opposite conclusion, arguing that as the size of a market for copyrighted works grows, its competitiveness likewise increases. Yoo, *supra* note [[cite]], at 266. He does not evidently consider markets so large as to support the sort of specialization described here, though.

channels and thousands of periodicals tailored to very narrow interests.[76] Analysts have also noted that the internet has, by making expressive works cheap and easy to access for more and more consumers, made even works located far out on the "long tail"[77] of popularity money-makers.[78] Thus, for instance, did Nine Inch Nails recently offer its fans the chance to pre-order an ultra-deluxe limited edition of the band's most recent album, *Ghosts I-IV*.[79] Even at $300 apiece, the 2500 copies available sold out within hours.[80] The success of that marketing strategy conforms to what the model offered here would have predicted.

Nonetheless, it appears that many authors have begun pursuing nearly the opposite strategy. Rather than enforcing their copyrights vociferously and targeting only their biggest fans, such authors instead rely on the combination of cheap distribution (typically via the internet) and relatively low revenues per copy (often on a voluntary basis) to recoup their creative costs.[81] Does that contradict what the model of the economics of copyright in very large markets would predict? Not at all. Close scrutiny of figure 10 reveals that, at very large quantities, the average cost and aggregate revenue curves converge. Under slightly different facts, those curves might cross at a point farther to the left, never cross, or run exactly in synch for long stretches. Figure 10 thus shows why authors in a very large market for expressive works might find it worthwhile to forego monopoly returns, instead marketing their works widely and cheaply. That strategy might at least allow them to recoup their fixed costs. With luck, and given low cost works, it might even allow them profits.

The fact that some authors in a very large market decline to focus on a few, high-paying fans thus does not contradict the model offered here. To the contrary, it supports the model's policy conclusions. To the extent that a very large market in expressive works can stimulate authorship *even among those who do not rely on their copyright*s, it indicates that copyright policy may have begun slipping into obsolescence.

IV.   Ramifications for Copyright Policy

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[76] Nicholas Negroponte, an early observer of this phenomenon, argued that it would ultimately result in the "Daily Me." *See*, Wikipedia, *Daily M*e, http://en.wikipedia.org/wiki/Daily_Me (describing Negroponte's theory) (as of February 5, 2008, at 02:42 GMT) (last visited March 6, 2008).

[77] *See* Chris Anderson, *The Long Tail,* WIRED, October 2004, *available at* http://www.wired.com/wired/archive/12.10/tail.html (last visited March 6, 2008).

[78] In the model offered above, the "long tail" points up, at the far left-hand side of the graph. We might thus call it a "tall head."

[79] Wikipedia, *Ghosts I-IV*, http://en.wikipedia.org/wiki/Ghosts_I-IV (as of March 6, 2008, at 21:09 GMT) (last visited March 6, 2008).

[80] *Id.*

[81] *See,* Kylie J. Veale, *Internet Gift Economies: Voluntary Payment Schemes as Tangible Reciprocity*, FIRST MONDAY, Nov. 28, 2003, http://firstmonday.org/issues/issue8_12/veale/index.html (last visited March 6, 2008).

The model developed here indicates that as markets for expressive works grow, copyright holders' monopoly profits increase relative both to consumers' surplus and to non-holders' opportunity costs. How should copyright policy respond? Given the near-universal view that copyright policy aims to strike a balance between giving authors sufficient incentives to create expressive works and providing the public with adequate access to the works thereby created,[82] it suggests that copyright balance should respond to growth in the market for expressive works by:

• Weakening the privileges afforded to copyright holders;
• Augmenting public access to copyrighted works; or
• Some combination of both responses.

Notably, however, it only suggests as much. It might turn out, after all, that copyright policy has long provided authors with too few incentives to create expressive works or the public with too many opportunities to encroach on copyright holders' prerogatives. In that event, growth in the market for expressive works might finally put copyright policy back into proper trim. What the model offered here suggests for what policymakers should do about copyright, in other words, depends on what they *have* done about it.

It certainly seems safe to say that we presently suffer no gross poverty of authorship. Even among households that the U.S. Census Bureau defines officially as "poor," 97% have color televisions, 78% have a VCR or DVD player, and 62% have cable or satellite TV reception.[83] Those appliances presumably get put to good use, leaving even the worst off among us very wealthy in expressive works. But I leave to others the question of whether or not copyright policy did, does, or will walk the fine line between private and public interests.[84] For present purposes it suffices to say that those who call for strengthening copyrights should bear the burden of proof. Markets for expressive works have expanded in recent years, and look very likely to continue doing so. Should lawmakers respond by likewise expanding the copyright privilege? Only for indisputably convincing reasons.

Conclusion

This paper has explained why the rewards for creating an expressive work grow in step with growth in the market for expressive works. It has backed up that claim with an illustrative story, more than a little economic argumentation, and several descriptive graphs. Ultimately, though, a moment's reflection may prove just as persuasive.

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[82] *See supra*, Part I.

[83] Robert E. Rector, *How Poor Are America's Poor? Examining the "Plague" of Poverty in America*, Heritage Foundation Backgrounder, August 24, 2007, http://www.heritage.org/Research/Welfare/bg2064.cfm (last visited March 6, 2008).

[84] I'm happy to pass on the question, as I regard it as unanswerable. *See* Bell, *supra* note [[cite]] at 787 (arguing against the possibility of policymakers striking such a balance).

As Adam Smith observed over 200 years ago, producers can increase their profits by specialization.[85] Smith famously made the point by describing the manufacture of nails.[86] The same principle holds true of those who produce expressive works, too, though. Granted, the gains that Smith described arose from the lower production costs afforded by economies of scale.[87] Market growth, in contrast, blesses copyright holders not only with similar savings[88] but also, and more significantly for present purposes, the benefits of serving idiosyncratic consumer demands. As regards this latter factor, we might say that Smith's observation about producers applies as well to consumers: Growth in the market for expressive works allows some to maximize the gains of trade by specializing in what they *consume*.[89] Copyright law, because it allows a copyright holder to bar competition from substantially similar works, allows copyright holders to reap that consumer surplus.

Authors, and copyright holders after them, thus stand to *gain* the most by focusing on what their customers *want* the most. In relatively small markets, over-specialization might not allow authors to recoup their fixed costs. As markets for expressive works grow, however, and as the costs of creating and distributing expressive works holds steady, specialization begins to make financial sense. In very large such markets, economic theory suggests that copyright holders can reap monopoly profits by marketing to consumers most willing to pay for the work of authorship marketed. Market growth makes that sort of price discrimination cheap, easy, and lucrative.

Authors and copyright holders might well celebrate that result. It is not so evident that the public should applaud it too, though. Unless lawmakers have grossly underestimated the amount of copyright protection needed to stimulate an adequate production of expressive works, market growth stands to knock copyright policy off balance. In that event, the social costs of copyright protection would outweigh its benefits.

Perhaps a lightly populated, large, and semi-agricultural nation, hampered by slow and costly communications, required copyright law to encourage an adequate production of expressive works. Those who wrote and ratified the U.S. Constitution evidently thought so.[90] But however well that justification for copyright once worked, it works decreasingly well as markets for copyrighted works grow. If, as seems likely, that growth continues, we will end up living in a world where copyright has become utterly

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[85] ADAM SMITH, AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS 3-12 (Edwin Cannan ed., 1937) (discussing the effects of the division of labor).

[86] *Id.* at 7-8.

[87] Specifically, Smith credits three reasons why the division of labor promotes efficient production: it increases each laborer's skill; it saves time otherwise spent "passing from one species of work to another"; and it encourages industrialization. *Id.* at 7.

[88] Because, as described above, the average costs of producing copies of expressive works decline with every additional copy made and distributed. *See supra,* Part I.

[89] The parallel also recurs in Smith's observation that markets must grow to a certain size before producers can reap the benefits of the division of labor. SMITH, *supra* note [[cite]], at 17-18.

[90] *See* U.S. CONST. Art I, § 8, cl. 8.

superfluous—one where technology, common law rights, and simple generosity stimulate authorship more efficiently than copyright does. Indeed, we may already live in that world.