RIGHTS OF FIRST ENTRY IN "DERIVATIVE MARKETS": EXPLORING MARKET DEFINITION IN COPYRIGHT

Research Summary

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I. Introduction

The case of Eldred v. Ashcroft focused the public's attention on the question of the duration of a copyright owner's right. An even more compelling problem is raised by the scope of the property right associated with copyright. Statutorily, the copyright owner is granted the exclusive rights of reproduction, distribution, adaptation, public performance, and public display subject to the doctrines of fair use, misuse, and statutory exceptions. The jurisprudential and policy question is how to interpret these five basic rights and their limitations. The interpretation of these rights determines whether users can make coursepacks, sample music, create parodies, reverse engineer software, bowdlerize movies, hyperlink to copyrighted expression, and other activities without the possible threat of an injunction and requirement of license from the copyright owner.

The premise of this article is that scope is as important a concern as duration of the copyright. While duration determines the time period during which a copyright owner can exercise her rights over the protected work, scope issues determine the range of rights that the copyright owner has. Even if the Sonny Bony Act had been found unconstitutional, much of the alleged effects on shrinking the public domain could be replicated by expanding the scope of the copyright owner's rights. In fact, judicial interpretations limiting fair use and expanding copyrightable subject matter and the definition of derivative work have expanded scope at the expense of the public domain in the same manner as extending duration. Furthermore, since the Supreme Court has upheld the Sonny Bony Act and in the process given wide latitude to Congress to lengthen duration, scope has become an even more important focus for those who want to protect access to copyrighted expression.

However, the boundaries of a copyright are far from clear and difficult to discern. While crystal is not necessarily more desirable than mud in defining the boundaries of a property right,

even muddy limitations require some structure so that limits on rights be potentially recognized. My goal in this article is to provide such a structure. At the end, my proposed scope for copyright is not exactly crystal clear, but my analysis provides a clearer path for the appropriate standards that courts, litigants, and policymakers can look to for constructing copyright law.

For real property owners, the scope of the right is determined by the metes and bounds of the parcel as defined by the legal description as well as the terms of the grant. For patent owners, the scope of the right is cabined by the patent claims. Copyright law, however, does not have analogous limits on the scope of the copyright owner's property interest. Consequently, the scope of the copyright owner's right is construed to be limitless, except for boundaries imposed by the limits mentioned above of fair use, misuse, and express statutory exceptions. The failure of policymakers and scholars to confront the problem of copyright scope has let the field be dominated by the copyright maximalist position. While the maximalist position has been challenged, the challenge has been successful because no coherent approach has been developed to address the issue of scope. Consequently, the copyright debate has had a bipolar quality with maximalists saying that the copyright owner has the right to enjoin all uses of a copyrighted work that can convincingly be described as a reproduction, adaptation, distribution, performance, or display while minimalists irreconcilably claiming there must be some limit on the rights of copyright owners.

The approach I propose begins by transforming the question of scope into one of market definition. This transformation is motivated by the fact that many statutory definitions of copyright scope are phrased in terms of markets. For example, the fair use doctrine requires the court to examine the effect on the potential market for the copyrighted work. In addition, the copyright owner's exclusive right to distribute his expression requires a distinction among distributions based on sales and those based on rentals. Furthermore, the derivative work right, that grants to the copyright holder the right to control the various forms of adapting his expression, has been famously read by Professor Paul Goldstein to give the copyright owner the right to enter every conceivable market for his work. The intimate connection between the scope of the copyright owner's rights and the market for the copyright owner's work has been exemplified by the statement of one court, adopted by the Ninth Circuit in the Napster case, that the copyright owner has the exclusive right of first entry into all derivative markets for the work.

Once the scope question is understood to be a question of market definition, the next step is to understand what the term "market" means. On this point, both legal and economic theory helps us. Market definition has been a keystone topic in antitrust law, and analyses of market definition have helped to structure inquiries about market power in antitrust litigation and merger analysis. Market definition, I propose, is also a crucial issue in copyright. I make this point with three caveats.

First, market definition is very different in the context of copyright than in the context of antitrust. I address this point more thoroughly in Section Three of the article. The second caveat is that by advocating the issue of market definition, I am not suggesting that all copyrighted

expression be allocated through a price mechanism. I believe there is great room for shared and other non-commodified uses. However, a vague definition of market has served only to extend the commodification of copyrighted expression over the past century. By clarifying our understanding of markets, the inquiry into market definition will aid to limit copyright scope and stave the expansion of copyright markets. The third caveat is the normative implications of a market analysis. The model I develop in Section Four of the article is based on the assumption of social welfare maximization as a measure of efficiency. Social welfare measures the sum of the net benefits to consumers and producers in the economy. By basing my model on welfare maximization, I am not attempting to limit normative considerations in copyright to questions of efficiency. Instead, the model I develop helps to illustrate the implications of granting to the copyright owner the exclusive right of first entry into any market for his work. The analytical framework aids in understanding some sources of social loss from granting such a right and identifies bases for corrective policies that limit a broad right of first entry granted to copyright owners. In fact, as a elaborate below, the analytical model supports the surprising and counterintuitive result that in some cases fair use should be found even if the use is not transformative.

The structure of this article is as follows. Section Two documents the various ways in which the market concept arises in four areas of copyright law: fair use, derivative work rights, distribution rights, and copyright misuse. Section Three addresses different ways to approach the problem of market definition in copyright. I reject three approaches, the antitrust approach, the consumer expectation approach, and the producer expectation approach, in favor of a fourth approach, the use of the economic theory of product differentiation. This approach analyzes markets in which competition occurs not solely in terms of price but also in terms of variety and quantity of the product. In Section Four, I develop the economic theory of product differentiation and market entry in an analytical manner that can be readily applied to various areas of copyright law. The model of product differentiation identifies the cases in which the copyright owner's right of first entry should be limited and yields the interesting result that in some cases fair use should be allowed even if the use is not transformative. In Section Five, I show how the theory clarifies the four areas of fair use, derivative works rights, distribution rights, and copyright misuse. Section Six concludes and points to future directions of research.

II. The Need for Market Definition in Copyright Law

There are three areas of copyright law for which the market concept is foundational: fair use, derivative works, and first sale. Market definition is also an issue arising under the doctrine of copyright misuse. In this section, I will explain how the notion of a market arises and has been abused.

A. Fair Use. As we all know, under current US copyright law, fair use is a limitation on the copyright holder's rights under Section 106 and is a multi-factor balancing test. The fourth factor is the effect on the potential market for the copyrighted work. While the Supreme Court

has emphasized that this is not the sole factor, many courts have highlighted the market factor as the most important for fair use analysis. Empirical work that I am conducting that will be integrated into this portion of the paper supports this proposition. (My empirical work involves a tabulation of all the fair use cases decided under the 1976 Act with a comparison of the weight given to each of the four factors in the analysis. I may present part of this work in my ALEA presentation if accepted.)

The importance given to the fourth factor has taken an unfortunate turn in the digital environment. One district court has read this factor to mean that the copyright owner has the exclusive right of first entry in any derivative market for the copyrighted work. The Ninth Circuit adopted this analysis in its Napster decision. As a matter of statutory interpretation, this reading reverses the role of 106 rights and 107 limitations. To conclude that the fourth factor implies a right of first entry assumes that 106 rights places a limit on fair use as opposed to the clear statutory construction that fair use is a limitation on 106 rights. I have criticized this subversion of the statutory scheme in another piece. Here, I want to point out that this type of misreading has been facilitated by a failure to systematically define markets under the fourth factor of fair use.

The four major Supreme Court cases on fair use illustrate this problem. In Sony, the majority, in finding fair use, viewed the market as that created by time shifting. The dissent suggests that the copyright owner in many ways could meet that niche. The Court does not carefully define what is the relevant market that is harmed and defines the market largely in terms of the protected use of time shifting. Keep in mind that Sony was a 5-4 decision. While there were several factors that made this case a divisive one, a more careful consideration of market definition and rights over the market, especially in the case of a new technology like the video recorder, may have provided a more solid basis for the decision. Similarly, in Harper & Row, the court viewed the market as one for the unpublished work and had clear evidence of market harm (namely, the cancellation of the contract by Time) to find against fair use. The argument could be made that the Court defined the market too narrowly, limiting it to the market for the particular manuscript itself. A similar approach was adopted in Stewart v. Abend. Finally, in Campbell, the Court adopted a approach similar to that in Sony. The market once again was defined in terms of the parodic use made of Roy Orbison's song.

Lower courts also exemplify varied approaches to market definition under the fourth factor. The most striking example is provided by the Second Circuit in American Geophysical where the court defined the market as the market for licensing of the copyrighted work. Since no license was obtained, the court concluded that the market must be harmed. This circular reasoning illustrates the need for a sophisticated analysis of market definition in copyright law.

B. Derivative Works. The notion of derivative work is not explicitly defined in market terms in the copyright statute, which equates a derivative with a translation, adaptation, or other transformation of the original copyrighted work. Courts, however, looked to market based definitions of derivative works particularly when the derivative work involves the use of a new

technology. For example, in the Midway case, the court considered whether a cartridge that allowed a game to be sped up constituted the creation of a derivative work. The court, in finding a derivative work, considered to what extent the sped up version of the game usurped a market from the copyright owner. Similarly, in the recent disputes involving the creation of bowdlerized versions of movies as an alleged derivative work, commentators have focused on the market effects of allowing such bowdlerized works to be created. Most interestingly, the notion of a "derivative market," as used by courts in a fair use analysis, dovetails in important ways with the notion of a derivative work. In short, market definition is crucial for our understanding of when a derivative work has been created because a derivative work interferes with a potential market for the copyrighted work. A more careful understanding of markets is needed to clarify the meaning of a derivative work.

C. First Sale Doctrine. The first sale doctrine is a limitation on the distribution right of the copyright holder and limits the ability of the copyright holder to control resale or other distribution of a particular copy of a work once it has been sold. The doctrine has received much attention in the digital environment because of challenges posed by digitization to the meaning of "sale," "copy," and "distribution." Implicit in the notion of the doctrine is a meaning of the market for the copyrighted work. Is the market limited solely to sales involving transfer of title? Are rentals or other means of distribution included? Should they be? A deeper understanding of the first sale doctrine, particularly in the digital environment, mandates a more careful consideration of the scope of the market for copyrighted works.

D. Copyright Misuse. An equitable doctrine that serves as a complete defense to copyright infringement, copyright misuse raises separate sets of market definition questions.

One set of questions stem from the relationship between copyright misuse and antitrust counterclaims. Several circuits, the Seventh being the most prominent, will analyze a copyright misuse defense under the same standard as an antitrust claim. In these circuits, copyright misuse is coextensive with antitrust law, and therefore the market definition issues for copyright are exactly the same as those for antitrust.

I am questioning this approach in a separate area of research. For various reasons, I advocate treating copyright misuse as separate from antitrust counterclaims. Consequently, according to my view and those of circuits that do not follow the Seventh, there are market definition issues for copyright which are distinct from those for antitrust.

For example, in the Alcatel case, the court found copyright misuse when the copyright owner attempted to expand through licensing the scope of his intellectual property right to include unpatentable and uncopyrightable subject matter. The court's analysis could be viewed in terms of the scope of the copyright owner's market with the finding of misuse predicated on the copyright owner attempting to leverage rights in one market into rights into another. Within this conceptualization of copyright misuse, my analysis of market definition would aid in determining what is the proper scope of the copyright owner's market.

However, copyright misuse also arises in other types of overreaching, such as imposing direct restraints on competition (as in Lasercomb) or creating bottlenecks through standard setting (as in American Medical Association). In separate research, I argue that copyright misuse (and patent misuse) should be understood as common law restraints on trade. Because of the complexity of the misuse issue, my discussion of market definition here is only partly relevant, and my subsidiary research will examine market definition within a richer theory of misuse.

III. Models for Market Definition in Copyright

In this section I analyze four models for market definition in copyright and discuss how the models can be applied to the specific issues raised in Section II.

A. Antitrust analogy. Antitrust law is a natural source for clarification on the issue of market definition. Unfortunately, market definition in antitrust is very different from market definition in copyright. Antitrust market definition focuses on the ability of the defendant to raise the price in a particular market. The inquiry centers on whether there are available substitutes for the defendant's product or services. Since antitrust law is designed to regulate abuses of market power, this definition is consistent with that goal. Copyright law, on the hand, is designed to provide incentive for the creation of original works of authorship and permit the dissemination of such works to the public. "Promoting progress" involves both creation and dissemination. Antitrust law, by comparison, is concerned only with dissemination of products and services in a competitive marketplace. Therefore, an antitrust based definition may not be wholly appropriate.

There are also technical reasons for rejecting antitrust's definition for copyright. Copyrighted works often facilitate price discrimination and antitrust market definition often assumes a single price for the product in the marketplace. Although the Department of Justice/Federal Trade Commission Merger Guidelines (which provide a detailed method for market definition that has been applied even outside the merger context) do address the question of price discrimination, the analysis is not very satisfactory and seems to suggest that different prices for the same product or service creates a different market. Furthermore, price discrimination for copyrighted works is often facilitated by product differentiation, an issue wholly overlooked by the Merger Guidelines. It may be fair to say that markets for copyrighted works function not on price competition at all, but rather on quality competition. If quality competition is what defines the market for copyrighted works, then antitrust's emphasis on price based definitions of markets would clearly not be applicable.

In some cases, however, antitrust courts look at the question of markets and market power from the perspective of barriers to entry, especially in the context of oligopolistic markets. Such

cost based definitions of markets might be applicable in the copyright context. At one level, such approaches may blur the question of market definition with that of market power. But perhaps the appropriate tack for market definition is in the negative . In other words, a particular use of a copyrighted work may be found not to be in the copyright holder's market because saying that the copyright owner has the right to control such use gives the copyright owner too much power over a particular market. Such an argument seems to be supporting the finding that a parody is a fair use. The argument is often made that not allowing parodies as fair use gives the copyright owner too much power to control criticism of his work. In market definition terms, the focus is on the creation of barriers to entry or other costs that would impede competition in the market. Such a tack provides one useful approach to market definition in copyright that may in some instances dovetail with the approach of antitrust.

The problem is that such a tack may give too much emphasis on the dissemination goals of copyright and undermine the incentive goals. For example, if, applying my proposed approach in the previous paragraph, Napster were found to be fair use because allowing the copyright owners a right of first entry creates a large barrier to entry in the market for digital downloads, the argument could be made that we are permitting copying and distribution of music on such a scale that the incentives to create the music vanish. The problem is that copyright law does envision some amount of control to be exercised by the copyright holder over the dissemination of the copyrighted work. The problem is how much. A negative definition of markets based on minimizing barriers to entry and promoting competition does not, by itself, address the question of how much is permissible.

B. Foreseeability/Intentionality Approaches. Perhaps one way to address the question of market definition is from the perspective of the copyright owner. The intent of the copyright owner rarely arises in copyright law, but there is some precedent for such an approach. For example, some courts in applying the definition of a useful article in determining whether a work is a pictorial, graphic, or sculptural work look to see whether the author had an aesthetic or utilitarian purpose in creating the work. The famous example of this is the Brandir case, involving copyrights in the wave-like bike rack. By analogy, market definition in copyright could be defined in terms of the business plan of the author. Such an inquiry would be informed by the particular markets that the author planned to enter for the copyrighted work. This approach strictly applied may serve to severely narrow the scope of the copyright owner's rights, but would also allow the court some flexibility and give potential users notice on which markets are covered by the copyright owner and which are not.

As a general standard, this approach has a parallel in the Supreme Court's holding on the scope of patent protection under the doctrine of equivalents in the Festo case. There, the Court limited the scope of equivalents to exclude foreseeable variations on the invention that the inventor either amended or failed to claim during patent prosecution. The difference is that prosecution history provides some guidance on determining what the inventor found to be foreseeable. A foreseeability standard in copyright is more difficult to apply. An inkling of how such a standard would work is provided by the set of cases having to do with licenses and new

technologies. In these cases, courts are asked to determine whether licensing agreements that were written with contemporaneous technologies (such as theatrical distributions) in mind would apply to new technologies (such as homevideo or pay-per-view). Courts typically find that such licenses need to be renegotiated. The Supreme Court addressed a similar issue in the Tasini case which held that an online distribution of a periodical did not constitute a revision. This approach to foreseeability in the market definition for copyright would certainly be a boon to developers and users of new technologies and if actually adopted would most likely have lead to a radically different outcome in Napster and other digital copyright cases.

The foreseeability standard would have applications beyond that of new technologies. If anyone finds a new market niche for a product before the copyright owner and that market niche was unforeseeable, then the copyright owner loses on either fair use grounds or on the grounds that the work is not derivative. Essentially, what this standard creates is a race for new technologies and new uses. Such a race may be desirable if it promotes activity to develop uses of copyrighted works in light of new technologies or new market niches. However, this approach assumes certain conditions for how new markets are created and about the distribution of new technologies. If adopted, copyright owners may delay distribution of a work until all possible market niches have been mapped out. Furthermore, the race to new markets may segment markets in harmful ways between users of old horse shay technologies and users of cutting edge technologies. Such segmentation may create possibilities for inequitable and inefficient price discrimination. (This point has been made by Tony Reese in the case of the market for print books and e-books. If print books become scarcer as e-books expand, the price of print books may rise if the markets for the technological media do not adjust as quickly.) Finally, such a race may create too much product differentiation in the market in a way that is harmful to consumers, especially when the costs of standardization are considered.

C. User Based Expectations. The other extreme for market definition is a focus on user expectations. Once again there is an analogy for this in the case law on pictorial, graphic, and sculptural works. A minority view in the Second Circuit is that the line between aesthetic works and useful articles should be drawn based on consumer expectations and perceptions. Perhaps a similar approach could be fashioned for market definition. In defining a market for the copyright work, attention should be paid to the expectations of consumers in being able to access and use the work. The cleanest example of such an approach is provided by the Sony case. The argument has been made that consumer's expectations about using the VCR for time shifting purposes militated in favor of a finding of fair use. Phrased another, expectations about unlicensed taping of broadcast television shows implied that this use was not within the market of the copyright owner.

This approach, since it represents the other extreme from the foreseeability/intentionality approach, suffers from the opposite problems. Under this approach, new technologies will always be in the market of the copyright owner unless the owner has lapsed in enforcing his rights (as may have been the case in Sony). Such an approach also creates a race for new uses and new technologies and one that most likely the copyright owner can win. Most often the race

under the consumer based approach will involve a race to the courthouse by the copyright owner to sue as soon as any new copyright threatening technology is developed. This approach by itself is not satisfactory.

Which is not to say that consumer expectations should be ignored. Such an approach is not a panacea. Instead I propose a different approach rested in part on antitrust analysis and in part on the needs and expectations of the creator and the user. I call this approach to market definition the optimal product differentiation approach.

D. Optimal Product Differentiation. The optimal product differentiation builds on the strengths of the three previous approaches while curing some of the problems. This approach characterizes the market for copyrighted works as a market for differentiated products. To understand the approach, consider the example from the Gracen case about the still from the Wizard of Oz movie. This still is copyrighted and can be consumed in many ways, as a photograph, as part of the film, as described in a book, as portrayed on a mug, etc. Each of these represents a differentiated product based on the underlying copyrighted work. The question for copyright market definition is how many of these markets should be within the market of the copyright owner and how many and what kinds should be given to other firms either on an individual or on a shared basis. The question is one of optimal product differentiation. Phrased directly, how many varieties are socially desirable. The economic analysis of product differentiation provides an economic model by which to structure the answer and with which to answer the policy questions raised by copyright law.

The economic literature on product differentiation is a rich one that can be traced back to the work of Edward Chamberlin on monopolistic competition. For the sake of exegesis, I will focus on the following highlights from the literature:

- the literature assumes that consumers care not only about how much they consume but also about the various attributes of the goods they consume;
- the literature assumes the firms choose not only how much to produce but how much variety to produce. In some models, for analytical convenience, it is assumed that each firm produces a unique variety with the implication that the number of varieties and the number of firms. This is an assumption made for analytical convenience alone. Allowing a single firm to produce more than one variety would not change the qualitative results;
- in a monopolistically competitive situation, each firm will have some local monopoly power if the variety they produce is not a perfect substitute for another firm's variety. Consequently, in the long run, price may not equal the marginal cost of production and there is room for more variety and firms to enter into the marketplace;
- in a monopolistically competitive situation, one firm's decisions will have an impact on other firm's decisions. This situation is very different from what occurs under perfect competition, where each firm acts independently and bases its decision solely on price of the product. Because of this externality in decision making, firms will tend to produce

too many variety of products if products are substitutes for each other and too few if products are complements for each other;

- the equilibrium outcome of the monopolistically competitive market, because of these effects, is not socially optimal. If product varieties are substitutes for each other, then there may be either too much or too little variety relative to the optimal level. If product varieties are complements for each other, then there will be too little variety.

I present a formal analysis of these results in the next section.

IV. Monopolistic Competition, Copyright, and the Right of First Entry

IV. A. The Mathematical Argument

The structure of my mathematical argument is as follows. I will first lay out the general structure of the model. From this general structure I will derive the optimum outcome. I will then look at predictions of actual behavior within the model under the assumption that the copyright owner has the right of first entry. What this right means is that entry will occur only through licensing by the copyright owner. While the optimum outcome is predicated on the assumption of free entry, the equilibrium outcome is predicated on entry only by permission of the copyright owner. I will then compare the equilibrium outcome with the optimum outcome in order to identify discrepancies and ways of adjusting the equilibrium to move closer to the optimum outcome.

The structure of the model is as follows. There is a representative consumer whose utility function is given by:

(U) $$W(\sum_{i=1}^{n} u_i(q_i)) + y$$, where

i represents the different types of uses

q_i represents quantity of type i

n represents the total number of types

y represents the total expenditure on all other goods

W(.) captures the degree of complementarity/substitutability among types of uses

u(.) captures the utility from a given quantity of type i

Output is produced by a typical firm who has a cost function of the following form:

(C) $m \cdot q_i + F / n$, where

m represents the marginal cost of producing type i

F represents the fixed cost of producing the copyrighted work

The economy must produce and consume under the following aggregate resource constraint:

(B) $y + \sum_{i=1}^{n} (m \cdot q_i) + F = T$, where

T represents the total resources available to society

For ease of exposition, I will consider the symmetric case and assume $q_i = q \; \forall \; i$ and $u_i = u \; \forall \; i$.

The optimum allocation of variety and quantity can be determined by maximizing (U) subject to the cost functions (C) and the resource constraint (B). The choice variables are n and q, and the first order conditions are:

(O1) n: $W'u(q) = m\,q$

q: $W'u' = m$

(O2)

The equilibrium allocation of variety and quantity will depend upon the behavioral predictions of the model under the operating assumption that the copyright owner has the right of first entry. The typical firm's problem: maximize individual profits by choice of q where

(P) $\prod = qW'u'(q) - mq - F / n$

The typical firm's first order condition for choice of q:

(E1) $$W'u' + qnW''u'u' + qW'u'' = m$$

Entry will occur until all competitive rents are captured by the copyright owner through licensing. The equilibrium choice of n will be given by the zero profit condition:

(E2) $$qW'u' = mq + F / n$$

The equilibrium result is different from the optimum result, implying that a market in which the copyright owner has the right of first entry will not be efficient. A market structured with the copyright owner have the right of first entry will result in market failure.

We can compare the optimum number of firms with the equilibrium number of firms. Since the number of firms measures the number of varieties, that is the number of uses, of the copyrighted work, the discrepancy between the optimum number of firms and the equilibrium number of firms allows us to determine if the right of first entry results in too few uses or too many uses. If there are too few uses, then we need to define the market for the copyright owner narrowly to permit entry of unlicensed uses. If there are too many uses, then we need to define the market for the copyright owner broadly to restrict unlicensed uses.

There are two effects that create the equilibrium number of firms to differ from the optimum number of firms: the cost of creation effect and the erosion of profit effect.

The cost of creation effect will tend to result in too few firms in equilibrium. This effect arises from each new entrant (or licensee) having to bear a portion of the fixed costs of production. Because of this cost, fewer firms would choose to enter the market for the copyrighted work than in the optimum.

The erosion of profit effect captures the change in the profit of one firm when a new firm enters. This effect recognizes that in some situations a new licensed use will affect the profits of existing uses. If the uses are complements, the effect on profits will be positive, and there will be too few firms in equilibrium because the positive externality will not be internalized. If the uses are substitutes, the effect on profits will be negative, and there will be too many firms in equilibrium because the negative externality will not be internalized.

Analytically, these effects can be put together as follows. If the uses are complements, then there will be too few firms in equilibrium and the copyright owner's market should be defined narrowly to permit more unlicensed uses. If the uses are substitutes, there will be either too few or too many firms depending upon the relative sizes of the cost of creation effect and the erosion of profit effect.

Before I address the policy implications of the model, I need to address an important issue raised by my assumptions about licensing. Since new uses create either positive or negative externalities and new uses are controlled through licensing, the natural question is why the copyright owner does not internalize these externalities through licensing terms. In other words, why does not the copyright owner obtain the optimal result through licensing practices? There are two responses to this question.

The first response rests on comparing the objective function of the copyright owner with the objective function of the social welfare maximizer. The implicit assumption of my model is that the copyright owner seeks to maximize all the rents that can be earned in a monopolistic model and capture these rents through licensing fees so that the inframarginal licensee earns zero profits. The social welfare maximizer, on the other hand, seeks to maximize the consumer surplus of the representative consumer. Through more sophisticated licensing arrangements that permit price discrimination, these two maximization problems could yield the same efficient outcome (with the copyright owner through licensing capturing all the consumer surplus and rents in the market). However, the licensing assumption was made to simplify the analysis and to focus on the problem of the right of first entry. Furthermore, the result that a perfectly price discriminating monopolist is efficient is not a new result. Perfect price discrimination would be a heroic assumption for my model.

The second response rests on the transaction costs of licensing. The externalities associated with entry could be internalized through more definite licensing terms. The erosion of profits here arise from output decisions of individual licensees. In other words, the output decisions of a licensee of t-shirts affects the profits of other licensees. Theoretically, these effects could be internalized through licensing terms that controlled the output decisions of licensees. But the costs of monitoring and enforcing such terms would be large. While I need to analyze other forms of licensing, I feel comfortable with the assumption that the externalities created by profit erosion cannot be internalized through licensing terms. Furthermore, this assumption seems consistent with actual licensing terms that do not, except in rare instances, impose quantity restrictions on licensees and measure royalties in terms of the profits or sales of licensees.

IV.B. Policy implications

The prediction of market failure in the monopolistically competitive model suggests room for government intervention. The difficulty is determining what the shape of this intervention should be. When this model is applied to the copyright context, as described above with the example based upon the Gracen case, the model provides some guidance in formulating policies for how to define the scope of the copyright owner's market. The model would focus our attention on the following:

First, we need to determine the optimal tradeoff between variety and quantity. This

optimal tradeoff will depend upon the social context for the copyrighted work. In some cases, we might be willing to accept higher quantity in order to obtain lower variety. This might be the case with functional works like software or factual works like news, where standardization might be desirable. In other situations, we might be willing to accept lower quantity in order to obtain greater variety. This might be the case with entertainment work or the bible in the Worldwide Church of God case.

Once we have determined the desirable mix of variety and quantity, we need to consider whether the varieties (or uses of the copyrighted work) are complements or substitutes. If complements, then there is likely to be too little variety in a monopolistically competitive situation. If we want to have greater variety, then we should define the copyright owner's market narrowly and interpret relevant doctrines such as fair use, derivative work, or first sale to allow the unlicensed use.

If the uses are substitutes, the analysis becomes more complicated because there may be either too little or too much variety relative to the optimal amount. The source of the divergence from optimal variety can be broken down into two factors: the fixed cost effect results in too little variety and the externality effect results in too much variety. The question is which of these effects are stronger in a particular context. The first effect is measured by the costs of creating the copyrighted work. The second effect is measured by the erosion of the market for new use on profits earned in markets for current uses. If the costs of creation that need to be recouped are greater than the loss in profits, then the fixed cost effect dominates and there is too little variety. The response is to define the copyright owner's market narrowly and have permissive fair use, a narrow definition of derivative work, or broad application of the first sale doctrine, as the case may be. If the costs of creation are less than the erosion in profits, there is too much variety and the market definition should be broad to limit entry.

The basic points can be summarized in the following table:

	Costs of creation are less than erosion of profits	Costs of creation are greater than erosion of profits
Uses are complements	Licensing leads to too few firms (too little variety)	Licensing leads to too few firms (too little variety)
Uses are substitutes	Licensing leads to too many firms (too much variety)	Licensing leads to too few firms (too little variety)

While the approach advocated here is based on an economic analysis of markets for copyrighted works, the approach is contextual because it rests on judgements about the trade-off between variety and quantity as well as determinations of whether uses are complements or substitutes. Hence, my proposal is consistent with the standard-like approach to many copyright

doctrines while providing an analytical structure.

Finally, the optimal product differentiation approach captures many of the benefits of the three other approaches considered. Like the antitrust approach, the optimal product differentiation approach rests on a particular vision of competition in the marketplace for copyrighted works. While traditional antitrust analysis takes the perfectly competitive, price competition model as its baseline, my proposal rests on the more realistic product differentiation, quality competition model. Like the foreseeability/expectation approach, the optimal product differentiation approach takes into consideration costs of creation and erosion of products and potentially other factors that would be relevant to the interests of the creator of the copyrighted work. Finally, like the user expectation approach, the optimal product differentiation approach rests on the demand and needs of users, particularly in its recognition of the tradeoff between variety and quantity.

V. Implications

This section of the paper will be an elaborate discussion of the case law in light of the economic model. In this precis, I present some of the major highlights.

1. The optimal product differentiation approach has important applications to fair use. The market should have been narrow in Sony under my approach because the use at issue (timeshifting of a program) is a substitute for contemporaneous viewing. Consequently, the market definition rests on a comparison of cost of creation and erosion of profits. Since the cost of creating the broadcast programs are large relative to the erosion of profits, the argument would be that market definition should be narrow and the fourth factor should weigh in favor of fair use. A similar analysis would apply to Diamond Rio in support of the finding in favor of fair use. But the analysis would work against the holding of MyMP3.com because the costs of creating the musical works would arguably be greater than the erosion of profits. Under my approach, Napster would have been correctly decided because the erosion of profits were arguably greater than the costs of creation.

2. American Geophysical was wrongly decided with respect to the fourth factor according to my approach. The photocopies were arguably substitutes for the journal articles and the costs of creating the journal were arguably greater than the erosion of profits. Consequently, a narrow market definition would have been called for.

3. Parody cases create an interesting problem in determining whether the alleged parody is a substitute or a complement to the work. Perhaps my approach provides a basis for the analysis in the Cat in the Hat case where the court found a work not to be parody because it was not a criticism of the work itself. In the Cat in the Hat case, the works were arguably substitutes, requiring a comparison of the costs of creation and the erosion of

profits. Arguably the costs of creation were greater than the erosion of profits leading to the conclusion that the market should have been narrowly defined. In a case like Two Live Crew, on the other hand, the works may have been complements since the meaning of the rap song rested in part on the meaning of the original. Consequently, the Court was correct in finding that the fourth factor weighed in favor of fair use.

4. Note that my discussions in examples one through three above center solely on the fourth factor. Under my approach the other fair use factors would be considered in determining the optimal level of variety and quantity. It is possible that for some cases, such as those involving factual works, we may want more quantity and less variety. The other factors may come into consideration in comparing the costs of creation and the erosion of profits.

5. My approach also has application to derivative works. In cases like Gracen, the various representations of the still from the Wizard of Oz are arguably complements. According to my approach, the scope of the market should be narrow and therefore these works should not be deemed as infringing the derivative work right. In cases like Midway, Galoob, and Microstar, the speeded up versions of the games are arguable substitutes and the scope of the market will depend upon the a comparison of the costs of creation and the erosion of profits. My prediction would be that the costs of creation were greater than the erosion of profits in each case, militating against a finding of the violation of the derivative work right. Finally, the tile art cases pose an interesting challenge in determining whether the alleged infringing work is a complement or substitute to the copyrighted work. If a complement, then there is no violation. If a substitute, then the question rests once again on a comparison of costs of creation and erosion of profits. Based on my knowledge of the facts of the Albuquerque Arts cases, my prediction once again would be that the costs of creation were greater than the erosion of profits implying that there would be no violation of the derivative work right.

6. The previous example illustrates the difficulties in distinguishing between complements and substitutes. This is a contextual determination and is one that is also encountered in the antitrust literature, where the seminal work of Baxter & Kessler provides some guidance.

7. Finally, in the first sale context, my approach would suggest that in the non-digital environment copyright owner's rights would extend to sale and rental markets separately. A rental is arguably a substitute for a sale and therefore market definition rests on a comparison between the costs of creation and the erosion of profits. Since extensive rentals perhaps erodes the sales from profits, it is likely that the erosion of profits are greater than the costs of creation implying that the copyright owner's market is broad.

8. The situation may be different in the digital environment. Even though rentals and sales are still substitutes, the erosion may be lower than in the non-digital environment especially if the copyright owner distributes the work extensively through licensing rather

than out right sales. Consequently, the costs of creation would be greater than erosion of profits in the digital environment implying that the copyright owner's market is narrow or that the first sale doctrine is broader. But of course the argument could be made that copying is easier in the digital environment, and therefore, the copyright owner faces more extensive erosion of profits from competing uses than in the non-digital environment. The comparison of costs of creation and erosion of profits would rest on how the copyright owner actually distributed the works generally. But given the prevalence of shrink wrap and click wrap licenses, the erosion of profits may be relatively small, militating in favor of broad first sale doctrine.

9. Finally, the work here would have implications for copyright misuse (as well as patent misuse). A fuller treatment of misuse will be the subject of future research.