SUBSTITUTION AND SCHUMPETERIAN EFFECTS IN THE LIFE CYCLE OF COPYRIGHTED WORKS

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I. INTRODUCTION

Copyright law tries to manage several trade-offs. In addition to the well known tension between incentive and access that follows from the grant of exclusive rights in creative works, copyright law seeks to reconcile the tension between the encouragement of creative pursuits by granting exclusive rights to authors, and the concern that doing so would limit the ability of follow-on creators "to produce new works by building on the ideas and information contained in the works of others."[1] Several copyright doctrines, rules and exceptions, such as the originality requirement, the idea-expression dichotomy and fair use are said to address this tension. At one extreme, a prohibition on making *identical* copies of a work maintains the incentive to invest in new works while imposing no cost on future creators, as by definition, such a copyist creates a perfect substitute for

[1] CCH Canadian Ltd v. The Law Society of Upper Canada [2004] 1 S.C.R. 339.

the work, which directly competes with the original author, without adding anything creative of her own. But as the law moves along from outlawing not only identical copies to outlawing copying of a 'substantial part' of a work, the cost of suppressing future creativity increases. But also, as it moves away from being an identical copy, the new work, containing its own creative content, becomes more differentiated from the first. Possibly, if the new work then negatively affects the demand for the old one, it is because it becomes superior to it. It affects the profits derived from the first not (only) because it grabs market share and reduces the first work's price, but because it provides something new that consumers value. Its capability to supplant the old work represents a form of Schumpeterian competition, in which superior innovative products displace the older ones because of their superior value. Outlawing the new work in such cases would place a heavy toll on follow-on creativity and on the social welfare resulting from it.

So generally, while *perfect* copies' only effect is to reduce the first works' profitability through substitution and without creating any additional value, we can observe two effects created by *imperfect* copies: works that copy parts of older works but modify them to create something else. Imperfect copies may harm an existing work through a substitution effect and through a Schumpeterian effect. Both negatively impact the first work but for different reasons. While it is probable that in many cases both effects co-exist, this paper suggests that the importance of each effect changes along the life cycle of a creative work. My purpose here is not to draw the proper line between unlawful "imitation" and permissible "improvement",[2] or between "transformative" and "superseding" uses,[3] or whatever other terminology may be used, nor to defend this distinction, which copyright law often does. Instead, the paper seeks to highlight how time may affect the location of this line. In other words, if copyright law treats such effects differently and they change over time, in order to be internally consistent the law has to consider time as well.

Time affects the value of works and the incentives to create them in several ways. First, most works undergo a life cycle. A copyrighted work is born when an idea

[2] Mark A. Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 Tex. L. Rev. 989 (1997).
[3] *E.g.,* Campbell v. Acuff-Rose Music, Inc. 510 U.S. 569, 579 (1994).

is conceived and initially expressed and fixed; it is then brought to the market and matures. Sooner or later its glory days elapse (perhaps with some chances for potential comeback), until it is ultimately forgotten in the archives of cultural relics. At each period, the relative importance of substitution and Schumpeterian effects created by copies may vary. For example, at the early stages of a work's life, its value (or at that stage the potential value) may lie predominantly in the ideas expressed therein. At this stage, other works embodying the same ideas but expressing them in a slightly different manner can function as very close substitutes. The commercial viability of the work at that stage is highly susceptible to competition from other similar (even if not identical) works. As the works matures, however, its commercial success tends to depend less on the intrinsic value of the ideas and their specific expression and more on creative inputs of other co-producers and endogenous factors, such as the word of critics and the work's ability to represent shared identities of groups' members or become a shared cultural focal point for meaningful social interactions. At that stage, the work is much less likely to be susceptible to substitution effects, although its popularity may make it attractive for follow-on creators to build upon, thus increasing its exposure to Schumpeterian effects. At both stages the copyright owner of the first work might invoke her copyright to fend off the competitor, or stake a claim in her profits, but while at the early stage fending off the competitor or recognizing the claim against her may be beneficial because it preserves the incentive to invest, using copyright law to protect against Schumpeterian effects may be less socially undesirable, or at least involve more complicated trade-offs.

Relatedly, time may affect the incentives to create because our culture values novelty and originality[4] and the rewards—whether direct (the price paid for the work), or indirect—(the reputation of the author)—are usually greater for the first than for the followers. Although examples of innovations that came ahead of their time and were not adequately rewarded or cases where followers were able to reap greater benefits than original innovators abound, all things being equal, the expected rewards from being the first are typically greater. Therefore early copying which deprives the first author the

[4] This hasn't always been the case. In earlier times and in different cultures originality of expression has been considered a vice, not a virtue, and adherence to tradition and traditional texts was much highly regarded, *see* _____.

opportunity of being the first on the market may be more detrimental for the incentive to create than the same copying if occurred later.

Third, as Professors Justin Hughes[5] and Joseph Liu[6] have recently suggested, since the present value of any reward diminishes with time the harms for incentive created by copying are smaller at time progresses.

If the relative importance of each of the effects changes over the life cycle of the work, then it may be worthwhile asking whether and how the law should take account of this dynamic. While Huges and Liu explored the impact of time on fair use analysis, this paper builds on their insights and expands them, using the distinction between substitution and Schumpeterian effects to explore its applicability in other copyright areas. I will show how these insights can explain some of the details of the existing mechanical compulsory license for sound recordings, how they can inform the debate on the ability of copyright owners to use contract and technology to change the original allocation of entitlements as set by the copyright act and contract around users' liberties and the public domain, and how they can illuminate the idea-expression dichotomy.

The article proceeds as follows: Part I sets the distinction between substitution and Schumpeterian effects; Part II describes the life cycle of creative works and demonstrates how at different stages the relative magnitudes of each effect vary; Part III demonstrates how the insights of this paper can explain some of the details of the existing mechanical compulsory license for sound recordings, Part IV shows how they can inform the debate on the ability of copyright owners to use contract and technology to change the original statutory allocation of entitlements by contracting and coding around users' liberties and the public domain, and V shows how time may illuminate the rationale for the dichotomies between ideas, facts and their expressions. Part VI offers an improved version of Hughes' and Liu's analysis of time and fair use; Part VII concludes.

[5] Justin Hughes, *Fair Use Across Time,* 50 UCLA L. R. 775 (2003).
[6] Joseph P. Liu, *Copyright and Time: A Proposal,* 101 Mich. L. Rev. 409 (2002).

II. SUBSTITUTION VS. SCHUMPETERIAN EFFECTS

Incentive theory of copyright easily justifies the prohibition on copying: without such prohibition, copiers' ability to distribute copies would cause prices to drop quickly to the marginal cost of production and distribution and authors, unable to recoup the investment they incurred in creating the work would refrain from investing in the first place.[7] By giving the author an exclusive right over the making and initial distribution of copies, the author can determine the number of copies made and set their price above marginal cost, thus generating enough profit *ex post* to cover the initial investment and account for the risk of failure to make render the investment worthwhile *ex ante*. The assumption here is that consumers (or a large enough number of them) view the unauthorized copy as a perfect substitute to the authorized copy, or at least good enough substitute. The existence of unauthorized copies harms the copyright owner in two related ways: first, because he no longer determines the number of copies available, the quantity of available copies increases, their price decreases and so do profits. Second, whatever profit the work does generate, they accrue not only to the owner but also to the copier.[8]

However, from an investment perspective, an author must also consider the possibility of competitive entry by less direct copiers or imitators, or even entry of competing works that have not copied anything.[9] Copyright law provides partial solutions to this concern by providing that two works may not be literally identical and yet, for purposes of copyright infringement, be found to be substantially similar.[10] But this provides only a partial solace for the author, since competitors may create non-infringing works that from consumers' perspective are very close substitutes: they may create with impunity identical works if they do so independently (i.e., without copying),[11]

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[7] See e.g., William M. Landes & Richard A. Posner, *An Economic Analysis of Copyright Law,* 18 J. Legal Stud. 325 (1989), 333

[8] Economic theory of copyright provides a more nuanced story however. First, it identifies that unauthorized copies do not always harm the copyright owner, see e.g. … Moreover, even when unauthorized copying harms the copyright owner it does not necessarily follow that the incentives to create in the first place are equally harmed, see e.g. …

[9] Ariel Katz, Making Sense of Nonsense, at ___.

[10] Melville B. Nimmer & David Nimmer, Nimmer on Copyright, Release 63 §13.03[A] (2004).

[11]

and they may create functionally equivalent works but differentiated enough to fall beyond the first work's protected scope. If that happens, the price of both works may drop towards marginal cost exactly as in the case of unauthorized copies. Moreover, a prospective author contemplating investment in a new work must anticipate an even worse scenario, the *post* entry introduction of a non-infringing work that is sufficiently superior to her own that will totally displace it, not only share the market with it.[12]

Interestingly, however, copyright law affords no protection against such risks,[13] even though the effect of both types of competition on the reward available to authors may be similar.[14] Consequently, although *de jure* copyright law applies equally to every original work regardless of its merit or commercial value, effectively the law only rewards—and thereby encourages—works that add enough unique value so that they can displace previous ones, and stay long enough on the market until they are ultimately displaced by others, often long before the copyright legally expires.[15] In this sense, by prohibiting competition from identical or "substantially similar" copies, but allowing total destruction by other creative works, copyright law encourages the kind of competition described by Joseph Schumpeter as the "perennial gale of creative destruction",[16] in which new products displace old ones, and which themselves will be later displaced by the next generation of products. In this process the threat to firms comes not from close substitutes but rather from "the new commodity, the new technology, the new source of

[12] Katz, *supra* note 9.
[13] Stephen Breyer, *The Uneasy Case for Copyright - A Study of Copyright in Books, Photocopies, and Computer Programs,* 84 Harv. L. Rev. 281 (1970), at 327 ("copyright law is intended only to protect an author from competing sales of his own works; it was not designed to limit competition from the works of others.").
[14] *Cf.* Frank R. Lichtenberg & Tomas J. Philipson, *The Dual Effects of Intellectual Property Regulations: Within- and Between-Patent Competition in the US Pharmaceuticals Industry,* 45 J. L. & Econ. 643 (2002) (showing that the present discounted value of innovating drug companies' return from competing drugs covered by other patents appears to be at least as large as the reduction from competition by generic firms and may be much larger).
[15] Unique value of course, is not a prerequisite to copyrightability. The law only requires that a work be "original", which means that the work is not copied and, depending on the jurisdiction, that it represents a "modicum of creativity" (*Feist,* US), "skill and judgment" (*CCH,* Canada). In any event, despite differences in nuances, the amount of creativity required in almost all jurisdictions is rather low, *see* Gervais, *Feist Goes Global*… But although all original works are de jure equal, the incentive to create works providing unique value comes from the fact that only those which provide unique value will be rewarded by the market.
[16] Joseph A. Schumpeter, Capitalism, Socialism and Democracy 84 (3rd ed. 1950).

supply, the new type of organization … competition which commands a decisive cost or quality advantage which strikes not at the margins of the profits and the outputs of the existing firms but at their foundations and their very lives."[17] While Schumpeter believed that "creative destruction" is "the essential fact about capitalism"[18] generally (in fact, his analysis barely mentioned intellectual property)[19] markets for copyrighted works usually exhibit this tendency of new products to rapidly displace old ones. With a few exceptions, creative destruction typically happens long before copyright expires and substitutive competition from identical copies becomes legal.[20]

In addition to copyright law's declination to outlaw competing works which were independently created or which are not substantially similar, the law demonstrates more tolerance to non-substitutive competition in many other ways. For instance, the law's extends no protection to facts or ideas, thereby allowing others freely to copy the facts collected by one and the ideas which she had conceived even for the purpose, or with the effect of creating an effective substitute for the first work.[21] Moreover, although the law does protect the specific expression against copying, under the merger doctrine copying the expression will be allowed when there is only one or very few ways to express an idea.[22] Furthermore, not every copying of the specific expression is forbidden. In some cases, in the interest of allowing other works to compete with the first, the law may allow copying of elements which are functional,[23] or non-original,[24] or under the scènes à faire doctrine are held to be mandated by or customary to the genre.[25] Furthermore, even when a new work incorporates by copying a substantial part of a copyrightable element fair use jurisprudence distinguishes between "transformative" and "substitutive" uses. The more "transformative" the new work is the more likely will the use be deemed "fair";

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[17] Schumpeter, *id.*
[18] SCHUMPETER, *id*. at 83.
[19] Mark Blaug, *Why Did Schumpeter Neglect Intellectual Property Rights?,* 2 REV. ECON. RES. COPYRIGHT ISS. 69, 70 (2005).
[20] Hughes, Liu, at ___, *cf.* Lichtenberg & Philipson, *supra* note 14 (same re patents).
[21] Feist.
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[23]
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and likewise, the more "substitutive" the new work is, the less fair will it be deemed to be.[26]

Although the trained copyright lawyer may be accustomed to the fact that the law is more hostile to substitutive competition (that is, competition within the work) than to Schumpeterian competition (that is, competition from other differentiated enough works)—so accustomed that courts often take it as axiomatic that only by allowing others freely to build on others' works will the mandate to "promote the progress of science and the useful arts" [27] be fulfilled[28]—from an economic perspective this is far from being obvious. After all, if both types of competition decrease the expected reward from creating new works, both of them may negatively affect the incentives to create in the first place. Theoretically, one would be concerned about others copying his ideas no less than he would be concerned with appropriating their expression and would consider both contingencies when deciding whether to invest. Therefore one might antitipate the law to equally limit both types of competition, that is, to prohibit for a limited time *any* competing work, regardless of the amount of copying or the nature of the copied elements. Essentially, this question brings forth the question of IP rights length vs. breath; what type of exclusive rights better promotes innovation while decreasing the social cost of intellectual property: broad in scope but short-lived or narrow in scope and long-lived. The economic literature has been undetermined with its answer to this

[26] *See Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 579 (1994) (holding that the central purpose in fair use analysis' investigation as to the purpose and character of the use "is to see ... whether the new work merely "supersede[s] the objects" of the original creation, or instead adds something new, with a further purpose or different character, altering the first with new expression, meaning, or message; it asks, in other words, whether and to what extent the new work is "transformative"" (citation omitted), adding that "the goal of copyright, to promote science and the arts, is generally furthered by the creation of transformative works.").

[27] US Const. Art. I, 8 cl. 8.

[28] *See e.g., Feist Publications, Inc. v. Rural Tel. Service Co.*, 499 U.S. 340, 349-50 ("It may seem unfair that much of the fruit of the compiler's labor may be used by others without compensation. ... [H]owever, this is not "some unforeseen byproduct of a statutory scheme." It is, rather, "the essence of copyright," and a constitutional requirement. The primary objective of copyright is not to reward the labor of authors, but "[t]o promote the Progress of Science and useful Arts." To this end, copyright assures authors the right to their original expression, but encourages others to build freely upon the ideas and information conveyed by a work. This principle, known as the idea/expression or fact/expression dichotomy, applies to all works of authorship. … This result is neither unfair nor unfortunate. It is the means by which copyright advances the progress of science and art." (citation omitted)), *see also Campbell v. Acuff-Rose*, *supra note* 26.

question and it is not my purpose or ambition to answer it here.[29] For my purposes, it is enough to observe that generally copyright law has opted for a model of narrow and long-lived exclusive rights, a model which—within the term of protection—treats both types of competition differently. Therefore I will not make a broad claim that the law's present choice of breadth and length is indeed optimal. Instead, assuming that the current chosen model optimally trades off the costs and benefits associated with copyright, I will only make a more modest claim that the effects of these different types of competition varies at different points over the life-cycle of copyrighted works and therefore, in order to be internally consistent and truthful to its incentive purposes, the law should (as in fact it sometimes does) take time into its consideration.

Distinguishing between Substitutive and Schumpeterian Competition

Copyright owners understandably complain whenever a new work starts competing with their own. They complain whether the new work is a mere substitute and whether it is a Schumpeterian one. But the distinction is important for copyright policy. To illustrate the importance let's define "new work" as a work that borrows something from an old one. Imagine the amount of borrowing as a spectrum, wherein on one end the new work not only borrowed 100% of the old work but added nothing of its own and is an identical copy, and on the other extreme the new work has borrowed nothing from the old.

The extreme cases are easy as a matter of law. In most cases competing by merely reproducing a work without adding anything is clearly unlawful. The reasons are well known: an identical copy creates a perfect substitute and may seriously diminish the incentive to create in the first place. The other extreme is also easy. As we have seen, the law does not provide any remedy against competing works if there is no copying, even if the new one harms the old. The difficult cases, of course, are between the extremes: where the new work does borrow from the old. As we have seen, the law tends to prohibit copying that creates mere substitutes, but is more reluctant to prohibit copying that results in something new, and potentially better.

[29] For a concise review of the relevant economic literature see Stanley M. Besen, Intellectual Property, *in* The New Palgrave Dictionary of Economics and the Law 348 (Peter Newman ed. 1998).

Note that in both substitutive and Schumpeterian competition the incumbent firm (for our purposes the owner of copyright over the existing work) may experience declining sales and profit and may be forced to respond by lowering prices. The effect on the market for the incumbent's work therefore does not indicate which type of competition he is facing. But while in the case of substitutive competition prices charged by both incumbent and entrant must be lower relative to their level pre-entry (resulting from an increase in supply of the same product and assuming the same demand as before),[30] in the case of Schumpeterian competition, because the entrant provides a different, perhaps superior product, she may charge a higher price whereas the incumbent may be forced to respond by lowering his prices. Thus the prices charged by the entrant, rather than the harm to the incumbent, can give us a better clue as to which type of competition the new work creates.

The distinction between substitutive and Schumpeterian competition may be conceptually clear, but in practice both effects can happen simultaneously, as consumers may have varying tastes and preferences. Some consumers may be relatively indifferent as to which work they actually purchase, provided that it is within some genre, whereas others may have strong preferences to either the existing or the new work. Consumers of the first type would regard both works as mere substitutes, consumers of the second type may not regard them as substitutes at all, and consumers of the third type would regard the new work as a Schumpeterian substitute, and when all types of consumers coexist it may be difficult to ascertain the effect of the new work. Nonetheless, as a general proposition, substitutive competition forces the prices of both works to decrease, whereas Schumpeterian competition affects primarily the incumbent's prices, but not the entrant's.

Next, not every new work that borrows from an old one necessarily competes with it, nor does it necessarily harm its market. For example, borrowing from a work for the purpose of criticism would not generally create a substitute from either type. In some

[30] It doesn't mean that the incumbent necessarily lower his prices. Instead, he may decide to keep prices at their pre-entry level and sell only to the subset of consumer who have stronger preference to his product (i.e., consumers who are brand-loyal). This happens often in pharmaceutical markets, when upon expiry of a patent and entry of generic firms, brand name drug companies do not match the prices of generics but instead give up market share and focus on brand loyal consumers, *see*, William M. Landes & Richard A. Posner, The Economic Structure of Intellectual Property Law, (2003), Ch. 11.

cases such criticism may increase the demand for the old one; in some others it may shift the demand away from it; whereas in other cases it will make no difference. In this situation the justification for legitimizing borrowing for criticism may not seem to arise from the interest in allowing Schumpeterian competition—at least not in a narrow sense. Nonetheless I find using the term Schumpeterian competition useful to describe the full range of cases in which a new work, which is not an identical (or substantially similar) copy, has borrowed from an old one. The use of the term Schumpeterian competition in such broader sense seems appropriate to me because existing works often provide the raw materials for new works, and because Schumpeterian effects can be quite unpredictable and may come from entirely unexpected directions; even the successful newcomer may not realize in advance that she would creatively destruct someone or whom that someone would be. For example, firm *A* may borrow from firm *B*'s work not necessarily to compete with *B*, but rather to compete with *C*, only to discover that it actually displaced firm *D*'s product. Therefore, by allowing a fertile ground for others to build on existing works the law supports the prospects of Schumpeterian competition in the market place larger sense, even when it does not result in competition in the market of the borrowed work.

In any event, the focus and purpose of this paper is not to defend the distinction between both forms of competition or to provide the most practical tools to distinguish between the two, but rather to advance the proposition that the even if both effects can coexist at any given time, their relative importance varies across time. As I will demonstrate below, at earlier stages of creative works' life-cycle substitutive effects dominate, whereas Schumpeterian effects dominate competition arising from imperfect copies of mature works. Because I assume that a copyright law is interested in discouraging merely substitutive competition but less so Schumpeterian competition, recognizing that these effects vary over time matters. It will now be useful to discuss the life cycle of creative works and how they are affected by the different types of competition across time.

III. CREATIVE WORKS' LIFE CYCLE

Because this paper investigates in how different types of competition affect creative works across time, it may be useful to distinguish between the legal concept of a copyrighted *work*, and the economic concept of a (copyrighted) *product*, as the two do not fully overlap. Market competition affects products which may sometimes be different from what the law protects as a "work". A copyrighted work is born when an idea is conceived and initially expressed and fixed in one of the forms recognized by the act (literary, artistic, musical, etc,). At this stage we have a "work" protected by the copyright act, but we don't necessarily have a "product". Perhaps more precisely, the product that we have at this stage will evolve: a sketch may become a picture presented in a gallery, a draft may become a published book; a play may become a show, a script a movie, and a musical composition a performed, recorded and released sound recording. What typically transforms the initial copyrighted "work" into a "product" finally put on the market is a process of co-production in which many additional inputs are added to the work, improve and develop it. Some inputs may be added by the same author, and other by co-creators; some are creative while others are less. These may include additional copyrighted elements (e.g., music added to lyrics, to which an orchestral arrangement and sound recording are added), or not-copyrightable inputs such as the opinion of reviewers, editors or peers, instructions given by a director, the charisma of a performer, some business decisions of a producer, as well as a variety of other humdrum inputs.[31] This process of co-production ends with finally placing a "product", which may include more than one "works", on the market.

But the evolutionary process which ultimately determines the commercial success of the copyrighted product doesn't end at this point. After the product is put on the market its value may continue to grow as a result of inputs created by others. Again, some are more creative than other; some may be copyrighted works of themselves, while others are not. Many markets for creative works exhibit "network effects" in which the value of the work depends not only on its intrinsic qualities, but also on the number of

[31] Richard E. Caves, Creative industries: Contracts Between Art and Commerce, (2000), at 4.

other people consuming it. Well documented in the case of information technology and software products,[32] similar effects exist in the case of cultural goods whose value too increases with their consumption by other people. This happens because part of what people derive from cultural goods are relevant social interactions;[33] "we do not want to read books nobody else reads, we do not want to see movies nobody else sees. We want to discuss, rave, slaughter and define ourselves by the things we like."[34] As in the case of information technology, cultural goods may have direct network effects, whereby the value of the work increases with the number of other people consuming it because of the opportunities to interact and exchange views with other people (just as having the same software or hardware platform allows consumers to exchange files with each other), and indirect effects, whereby the increased number of users induces the development of complementary products and services (*e.g.,* compatible software and hardware, support services and literature in the case of information technology; commentary, critique, parody, academic courses, fan clubs, in the case of cultural products). As consumers' decision which of two otherwise similar products to choose depends on how many other people have already chosen them, being the first to come up with a product and having an installed base of consumers as early as possible may be determinative for the products success.[35]

Another important attribute of creative works is that the demand for them is highly uncertain and unpredictable. This is what Caves calls the "*nobody knows"* property of creative works.[36] Their quality is often hard to discern before consumption, and sometimes even after, therefore consumers' choices will depend in part on what other

[32] See e.g., Ariel Katz, *A Network Effects Perspective on Software Piracy,* 55 U. Toronto L. J. 155 (2005); Mark A. Lemley & David McGowan, *Legal Implications of Network Economic Effects,* 86 Cal. L. R. 479 (1998).
[33] Cass R. Sunstein & Edna Ullmann-Margalit, *Solidarity Goods,* 9 J. POL. PHIL. 129, 138 (2001).
[34] Martin Kretschmer et al., *Increasing Returns and Social Contagion in Cultural Industries,* 10 Brit. J. Mgmt. 61 (1999), at S63.
[35] Network effects do not always unambiguously increase the value of the product. Some network may experience congestion as the number of users increases beyond a certain point, *see* _____; other products may loose value beyond a certain level of use as part of their appeal is in their uniqueness, *see*_____.
[36] Caves *supra* note 31, at 3 n3 (borrowing the term from William Goldman's much quoted observation about the film industry in which "nobody knows anything.", *see* William Goldman, Adventures in the Screen Trade: A Personal View of Hollywood and Screenwriting, 39 (1983).

people think, and how many of them think so[37] and on the reputation of the author and the publisher for having provided works of certain quality in the past. "The main reason that we read the *Wall Street Journal* today is that we've found it useful in the past".[38]

Sooner or later, however, the glory days of even the most successful works elapse, and with the exception of few works that become "classics", most works would be ultimately forgotten in the archives of cultural relics. This may happen way before the work formally falls into the public domain, as a result of the process of "creative destruction" described above.

This description of a life cycle suggests that at different points across it creative works would be vulnerable to different types of competitive threats. As the work transforms into a product and as its value changes so do the competitive dynamics evolve. To identify these different threats, let's identify a few relevant time points. Let T_1 be the moment when an idea is initially conceived, expressed and fixed to constitute a copyrightable "work"; T_2 when the work-turned-product is released; T_3 when the product matures and reaches the peak of its commercial success; T_4 when it becomes obsolete but still under copyright; and T_5 when the copyright expires the work falls into the public domain. While literal copying might expose the work to substitutive effects at every period,[39] non-literal copying might have different effects at different stages, at some points it may threaten the work by plain substitution, whereas in others it may threaten the work by "creative destruction".

T_1 – The Prototype

At T_1 a work, comprised of an idea, initially conceived, expressed and fixed in material form, competes against many other works in the market for publishing; it competes for an opportunity to enter a stage of transformation from "work" or a prototype of a product into a complete "product". Two features make this market highly competitive. At T_1 the work's value seems to lie predominantly in its intrinsic qualities

[37] Kretschmer et al. *supra* note 34.
[38] ,Carl Shapiro & Hal R. Varian, Information Rules: A Strategic Guide to the Network Economy, (1999), 5.
[39] Unless such forms of sharing-copying-piracy actually increase the demand, as mentioned above, *supra* note 8.

and often in the ideas contains therein. But mere ideas aren't protected and the intrinsic quality of the work is often hard to discern at this stage, either because most people don't possess the necessary expertise, or because ultimately, the quality would depend on what other people think about the work. Therefore, at T_1 the work has to compete vigorously against many other works in the genre: not only works that may express similar ideas but also works expressing different ideas but serving a similar function. An example that illustrates the high substitutability of works at T_1 with which readers of this paper may be familiar is the typical and banal statement sent by law review editors rejecting the submission, apologizing that they must reject many fine articles from the hundreds or thousands submitted. For the editors, the differences among many of the submitted manuscripts are minute. As a result of this highly competitive nature of the market at T_1, non-literal copying of the work can be as devastating as flagrant literal copying. In the eyes of publishers who consider which work to publish, there isn't much difference between the authentic work, a literal copy of it, or a non-literal copy thereof. As prototypes of products yet to be developed, they all function as pretty close substitutes. Whatever differences exist among them that may seem as a quality advantage must be discounted due to the *nobody knows* attribute—the uncertainty and unpredictability of future demand. From an *ex ante* perspective at this stage, it may not even be clear whether a work which claims to build upon and improve a previous one really does that. This means that substitutive effects dominate T_1, and that the social cost associated with allowing the author to of preventing improvements and Schumpeterian competition at this stage is relatively small.

The name and reputation of the author, of course, may create a big difference in allowing the works of some authors to stand out among works that may otherwise be considered as close substitutes. This may imply that at T_1 an attribution right or trademark-like rules may suffice. However, these alternatives may more effective in protecting known authors than unknown ones. Copyright therefore may help entry by non-famous authors.

T_2 – From Prototype to Product

At T_2 the competitive dynamics change. Additional elements and creative inputs transform the work into a product with higher potential value. The value of the product now stems not only from the ideas the work conveys but also from the combination of the work's intrinsic value and the value added by co-producers. These increase the uniqueness of the work and decrease its substitutability relative to other works against which it had competed at T_1. Yet the actual quality of the work is still unknown and similar works within the same genre may still substitute it quite easily.

To demonstrate the difference between T_1 and T_2 consider a pop song. At T_1 the work is the musical composition: lyrics and music. At T_2 the musical composition has turned into an arranged, performed, and recorded song. While at T_1 copying the musical composition would create an identical product, at T_2 in order to get an identical product one has to duplicate not only the musical composition but also the sound recording, or copy every element thereof, including the arrangement and the performers' voices. By contrast, a sound recording using the same musical composition but performed by another performer (even using the same arrangement), would yield only similar, but not the same, product. But still, at T_2 it is difficult to determine *ex ante* which of the two sound recordings is more valuable,[40] so despite the differences both works remain relatively close substitutes.

T_3 – From Product to Platform

At T_3 the competitive dynamics change even further. Network effects of various kinds have turned one product into a winner, to the exclusion of similar products with which it previously competed at T_2. At T_3 the "product" is not the same product as in T_2. It derives its value not only from the intrinsic qualities of the "work" and the additional inputs that other co-creators contributed, but also from the additional inputs added by external participants and from its ability to serve as a platform for other products and interactions to build on.

[40] Again, ignoring the effect of the author's or performer's existing reputation.

Of course, this characterization of what the product is at T_3 applies only to a minority of works, the winners. For the losers, there isn't much difference between T_2 and T_3, except for the fact that at T_2 there was at least potential value which no longer exists in T_3.[41]

The difference between what the product is at T_2 and what it is at T_3 affects the relative strengths of the competitive forces to which the product will be vulnerable. While the winner may always remain vulnerable to Schumpeterian competition, the threat of substitutive competition may come almost entirely from unauthorized identical copies; from flagrant "piracy", but not from non-literal copying.[42] Returning to the previous example, even a very close cover version of a song isn't likely to be viewed by consumers as a close substitutes and isn't likely to undermine its market. If it does, the probable reason is creative destruction. The new version adds something new—additional value—which the first song lacked.

We can see, therefore, that across time, as the work evolves from a prototype to product and from product to platform, the relative strengths of the two competitive forces in play—substitutive competition and Schumpeterian competition—vary. Substitution effects dominate T_1. They remain significant at T_2 but become dominated by Schumpeterian effects at T_3. Because incentive theory of copyright seeks to maintain the incentives for creative activity more by limiting substitutive destruction but less by limiting creative destruction, it may make sense to vary the scope of copyright protection accordingly.

T_4 – Sic transit gloria mundi

[Basic argument to be expanded: At T_4 the work has become obsolete yet still subject to copyright. Obsolescence for our purposes doesn't mean that it has no value, only that it has passed the peak of its commercial success. It may still be valuable for others to use in other works, yet it may probably have many substitutes. It may also

[41] This is of course oversimplification. An insignificant number of works, while not becoming superstars, may still create enough interest in smaller markets or market niches and generate, albeit on much smaller scale, the same type of network effects.
[42] Recent empirical work on the effects of file sharing suggests that even identical copies of sound recordings are not always perfect substitutes. [expand].

perform a "comeback". However, unlike the case at T_1 or T_2 the availability of many substitutes doesn't justify strong protection, mainly for the reasons made by Liu and Hughes: from an incentive perspective, the present value of income loss for old works is smaller compared to the same loss for newer works].

The economics of attention

Information goods are often "experience goods", goods whose quality is difficult to discern before consumption. This makes it more difficult for consumers to decide which among many new works to choose. Moreover, "information overload" exacerbates the problem; each new work published increases the cost of choice.[43] Each work faces a challenge of how to stand out above the rest. These have several implications for our analysis of time. One of the services that publishers provide, and for which authors compete at T_1, is quality certification by the publisher. A consumer that has found useful or enjoyable the works published by a specific publisher will be more likely to choose additional works published by the same publisher. Because typically the publisher is more reputable than the author, the publisher has more to loose from failing to deliver the promised quality. The consumer knows that buying a work published by that publisher is less risky. Moreover, because there are less publishers and even less reputable publishers than authors or works, the number of works competing at T_2 is smaller compared to at T_2. This helps such works to stand out from the rest, and enables to consumer to choose more easily, but it also reduces the number of competing substitutes. The work chosen by the publisher is now less substitutable by a similar work which has not. The economics of attention also means that at T_3 the successful works clearly stand out from their previous competitors and would be much less substitutable by them.

A few cautionary notes: New works can affect the market for existing works in more complex ways. They may reduce the demand for the existing work because they are substitutive, or they may decrease the demand for them through the process of creative destruction. But in some cases the may enhance the demand for the existing work (consider a film based on a book that leads to increased interest in the book, or a

[43] See Frank A. Pasquale, III, *The Law and Economics of Information Overload Externalities,* Seton Hall Public Law Research Paper No. 888410 (7 A.D.)

commentary that increases the demand for the original), while in other cases they may create a new market without affecting the market for the existing work (e.g., people who watch only the film but would never read the book). The fact that a new work does not affect, or even enhances, the demand for the old does not directly imply that copyright in the first work should not extend to cover the new. Arguably, extending copyright to such work increases the incentive to create the work in the first place. In fact, copyright over derivative works assumes just that. Moreover, identifying that a new work harms an old one through creative destruction instead of mere substitution also does not imply that the creator of the new one should not have acquired a license. "Too much" Schumpeterian competition can also affect the incentives to create the work in the first place, although restricting this type of competition involves a trade-off that does not exist in the case of substitutive competition. But my purpose isn't drawing the exact scope of copyright. My purpose is only to demonstrate that determining where the line should be drawn should consider time as a relevant factor. For this purpose I will make the simplifying assumption that copyright law seeks to encourage Schumpeterian competition, or at least is willing to tolerate it more than it tolerates merely substitutive competition.

Let us turn now to examine how these insights may bear upon several copyright rules and doctrines.

IV. THE MECHANICAL COMPULSORY LICENSE

The compulsory license regime under Section 115 of the US Copyright Act nicely reflects the differences in how others' use of a musical work affect the work over time. It is therefore a rare example of a case in which copyright law is explicitly sensitive to time within the copyright term. Section 115 allows "any person", under certain conditions, to make and distribute sound recordings ("phonorecords") of a nondramatic musical work when sound recordings of the musical work have been previously distributed to the public in the United States under the authority of the copyright owner, if that person notifies the copyright owner and pays a specified royalty. While the compulsory license applies to the musical composition, it does not authorize the licensee to duplicate and distribute the

sound recording that contains the musical work.[44] In other words, the licensee must assemble "his own musicians, singers, recording engineers and equipment, etc. for the purpose of recording anew the musical work that is the subject of the compulsory license."[45]

Interestingly, Section 115 distinguishes between different time points that change the scope of copyright holders' rights. The event that triggers the compulsory license is the distribution of sound recordings authorized by the copyright owner. That is, the compulsory license is available only when $T > T_2$—after the completion of transition from work to product released to the market. As long as the work remains between T_1 and T_2, the copyright owners retain full exclusive rights. It is noteworthy that under the 1909 Copyright Act, the comparable compulsory license was triggered much earlier, sometime between T_1 and T_2, upon the making or licensing of the first recording, even if no authorized records have been distributed to the public.[46] Congress considered the availability of the compulsory license at this period "unfair and unnecessarily burdensome to copyright owners".[47] Moreover, the compulsory license is available only if the licensee's primary purpose is making sound recordings for distribution to the public for private use, as distinguished from sound recordings intended primarily for use by commercial users such as broadcasters, jukebox operators and background music services.[48]

Historically, the compulsory license was born in 1909 out of Congress' intention to grant to musical work copyright owners the right to control the "mechanical reproduction" of their works and overturn the Supreme Court's opinion in *White Smith v. Apollo Music*[49] which ruled that player piano rolls were not "copies" but rather were component parts of machines. At the same time, however, Congress sought to address the concern that one piano roll company, the Aeolian Company, would dominate the

[44] Other than those sound recordings made under the license. *See* Melville B. Nimmer & David Nimmer, Nimmer on Copyright, Release 68 §8.04[A] (2005).
[45] *Id*.
[46] *Id*, at §8.04[C].
[47] H.R. Rep. No. 83, 90th Cong., 1st Sess. 67 (1967).
[48] *Id*, at §8.04[D].
[49] 209 U.S. 1 (1908).

market for piano rolls.[50] Nevertheless, Congress' recognition (even if implicit) of the difference in the competitive forces musical works face across time may explain the specific details of the *current* regime, which Congress redesigned in 1976. Extending a compulsory license to duplicates of the authorized sound recording would create a perfect substitute for these sound recordings and would directly harm the copyright owners because the prospect of perfect competition would restrict producers' willingness to pay royalties higher than those set statutorily or even to pay any royalties. It therefore makes sense to prohibit duplicates of the sound recordings. Similarly, prior to T_2 ($T < T_2$), a sound recording made under a compulsory license also has a potential to function as a close substitute to the one authorized by the copyright owner, so similarly it makes sense not to allow a compulsory license at this stage either. However, a cover version of a song already distributed ($T > T_2$) isn't likely to be a perfect substitute to the one already on the market, especially as T approaches T_3.

The distinction between sound recordings made primarily for distribution to the public for private use and sound recordings made primarily for commercial use also reflects similar logic. The demand for sound recordings by private users (many of which are by definition music fans) is probably less elastic than the demand by commercial users who use individual songs as relatively more fungible inputs necessary to compose attractive play lists or background music. Therefore consumers from each group would respond differently to cover versions made under a compulsory license. Commercial users might be more willing to substitute a cover version for the authentic if offered a lower price and if the cover version perfectly or closely imitates the original (perhaps jukebox operators and background music services more than broadcasters). By contrast, it is highly unlikely that music fans would be willing to make such substitution. In fact, as T approaches T_3 music fans would probably reject very close imitations, but appreciate cover versions that add their unique interpretation of the songs.

The compulsory license thus preserves full exclusive rights when the work is most vulnerable to substitution, such as at T_1 or when used primarily for commercial purposes,

[50] Lydia P. Loren, *Untangling the Web of Music Copyrights,* 53 CASE W. RES. L. REV. 673 (2003), at 680-81.

but allows others more easily to build upon the work after T_2 when the threat of substitutive competition wanes.

V. LICENSES, DRM, REVERSE ENGINEERING, PREEMPTION, AND COPYRIGHT MISUSE

The distinction between how time affects the types of competition affecting copyrighted works may also shed light on the controversy about copyright holders' use of licensing terms and digital rights management technologies (DRM) to supersede the initial allocation of entitlements under the copyright act. It is unsettled yet to what extent can copyright owners prevent their customers or licensees from criticizing the work, reverse engineer it, or otherwise build upon or modify it, or prevent the copying of non-copyrightable matter. While these attempts have been sometimes attacked on grounds of preemption, antitrust or copyright misuse, with occasional sympathy of courts to such claims,[51] generally courts do uphold such restriction, finding such contractual terms and their technological equivalents valid, enforceable and not preempted by the federal copyright law.[52]

Critics of such restrictive practices raise the concern that they upset the delicate balance created by the copyright act. For example, if copyright law considers fair use essential if copyright law is to serve the public interest, or allows reverse engineering under such circumstances, copyright owners should not be allowed to replace the law of the land with their own contract-made (and / or technology-backed) law.[53] The typical response is that contract claims are qualitatively different from copyright claims and therefore the concern simply misconceives the issue. As Judge Easterbrook explained: "[a] copyright is a right against the world. Contracts, by contrast, generally affect only their parties; strangers may do as they please, so contracts do not create 'exclusive

[51] See, [cite cases]
[52] See e.g., Bowers v. Baystate Techs., Inc. 320 F.3d 1317, 1325-26 ("[P]rivate parties are free to contractually forego the limited ability to reverse engineer a software product under the exemptions of the Copyright Act" and "a state can permit parties to contract away a fair use defense or to agree not to engage in uses of copyrighted material that are permitted by the copyright law, if the contract is freely negotiated." *id* at 1337).
[53] *See generally.* Margaret J. Radin, *Regime Change in Intellectual Property: Superseding the Law of the State with the "Law" of the Firm,* 1 U. Ottawa L. & Tech. J. 173 (2004).

rights'".[54] Therefore "licenses are enforceable unless their terms are objectionable on grounds applicable to contracts in general (for example, if they violate a rule of positive law, or if they are unconscionable)."[55] I do not intend to resolve this debate here. My purpose is only to illuminate how factoring in time can affect the legitimacy of such contractual/licensing/technological restriction. I suggest that earlier in time, at T_1, there may be more legitimate reasons to uphold such restrictions which are consistent with copyright underlying policies, but which may wane further down the road.

In describing the typical life cycle of copyrighted works, we noted how a T_1 prototype "work" transforms into a T_2 "product" and later to a T_3 "platform". We also noted that the transition from T_1 to T_2 usually involves contribution by various co-producers, and that at T_1 the work often may be easily substituted by other works. This implies that at T_1 the author is vulnerable to opportunistic behavior of co-producers. The information the author conveyed to co-producers cannot be unlearned and the co-producers may now renege on their contractual obligations by threatening to substitute the work with a non-infringing one or simply start competing with it.

Suppose a software company hires a group of experts to run a beta version of its program, examine it, identify bugs and possible security holes and suggest improvements. The experts may find it attractive, after learning not only the benefits of the software but also its flaws, to create and market their own competing and possibly improved software. Alternatively, they may simply threaten to do so in order to re-bargain their negotiated terms. Anticipating this possibility, the software company may seek to prevent the experts from distributing the improved version of the software without its consent. Copyright law may allow the company to get an injunction against the expert if they breach and distribute copies containing its source code, but would not help if the experts write a new, non-infringing code, perhaps by reverse engineering the software. To address these concerns, the company may seek to prevent the experts from reverse-engineering its product or even from writing any competing code without its consent. The software company is also concerned that if the security holes are disclosed, writers of

[54] ProCD, Inc. v. Zeidenberg, 86 F.3d 1447, 1454 (7th Cir.1996).
[55] *Id*, at 1449.

malicious code may take advantage of them before they are fixed, so it may require the experts not to disclose the flaws that they find. So far, such contractual restrictions do not seem to be highly objectionable, despite the fact that the contract may derogate from some of the rights to which the experts would ordinarily entitled to under copyright law. For example, copyright law does not prevent others from writing competing but non-infringing code; with some restrictions, the law does not prohibit the experts from creating improvements or reverse engineer the software, and fair use and the Constitution certainly allow the experts to publicly criticize flaws that they discover. But unless we believe that the set of entitlements as contained in the copyright act are, and always are, socially optimal, it is difficult to think why we wouldn't regard this set of entitlements as a default template, around which parties can contract to create the most efficient results. The distinction between the *in rem* and *in personam* effects of copyright versus contract may be useful to alleviate the concern that the contractual restrictions would stifle innovation, democratic discourse, etc. While it is true that the *in personam* characterization of contracts in this context ignores the externalities created by such contracts on third parties (i.e., the public), in the sense that the restrictions impose a negative externality on consumers who would have bought the improved product[56] (or generally would have been interested in the information generated by the experts), the externality created at T_1 is relatively small. As long as only the group of experts is bound by the contract restrictions, whereas others remain free to create competing and improved program and say whatever they wish about the software, the concern that such negative externality would be serious seems remote. Therefore at T_1 such restrictions cannot be highly objectionable.

At T_3 however, a similar set of restrictions, if contained in an End User License Agreement (EULA), would justifiably look more problematic, as it would seem to create much greater social cost. Assuming that the software has already secured significant market share,[57] the concern that the restrictions may hamper the process of creative destruction seems more plausible. At least, whatever legitimate concerns the restrictions

[56] *See* Mark A. Lemley, *Beyond preemption: The Law and Policy of Intellectual Property Licensing*, 87 Cal. L. R. 111 (1999), at 170.
[57] Works that gain greater market share are the ones that typically attract others to build upon.

are designed to address, they must be weighed against this concern. Moreover, the distinction between copyright and contract is less useful at T_3 as a much greater number of people is bound by the restrictions, and in fact breaks down completely if the restrictions are encoded into the software and circumventing them becomes illegal, as they practically bind even those who are not privy to the contract.[58] The minor negative externality created by the restrictions at T_1 may become a major social cost at T_3. Even if the restrictions may serve some beneficial outcomes at T_3,[59] their potential so stifle creativity and discourse may justify greater suspicion.

Consider another example. It is commonplace in academia to distribute copies of their work-in-progress bearing a plea "Draft, please don't cite without permission". Ignoring for the sake of argument that legally the plea is only a request, not a binding commitment on readers,[60] I believe that even the most avid defenders of the public domain would honor such a request and would believe that others should honor it too. I also believe that even the most avid supporters of expansionist copyright would denounce a similar request if affixed to a published article or book. The difference seems to lie in the purpose served by such request: the request supports creativity in the case of a work-in-progress (T_1) but hinders it after the work is published ($T \geq T_2$). Recall that review by others is an important aspect in the transformation from a work to product, but also that the value of a work often depends on what other people say about it. Therefore, at T_1 a negative review can be devastating to the work's future success. Authors understandably seek to get comments from others (even negative ones) so that they can improve their work, but wouldn't necessarily want the comments to become public prematurely, i.e.,

[58] Lemley *supra* note 56, at 148.
[59] In *ProCD* for example, Judge Easterbrook highlighted how the prohibition on the copying of facts allowed the producer of the database to price discriminate between high-value and low-value users and thereby to sell more copies at lower prices. Recently, in Davidson & Assoc. v. Jung, 422 F.3d 630 (8th Cir. 2005), the court upheld terms prohibiting reverse engineering. The prohibition there helped copyright owners in computer game software and online gaming service software to make sure that people who used pirated copies of the software would not be able to access the online gaming service. This may be a valid justification. Note however that in both cases the purportedly beneficial purpose of the restriction served only as a background reasoning, whereas the contracts were upheld simply on the basis of the distinction between contract and copyright.
[60] To overcome this difficulty, we can imagine a electronic depository of working paper such as SSRN offering authors a feature of a "clickwrap" license that allows readers to read or download the paper only if they agreed to such no-citing term.

before they have determined that they have completed the work. They optimize this trade-off by disseminating their drafts widely while including a no-citation condition. If the condition cannot be honored, authors would rather disclose work-in-progress only to a small circle of peers whom they can trust. The expected result would be less pre-publishing scrutiny and possible lower quality of published works, as well as delay in the dissemination of new ideas. Scholars benefit greatly from early exposure to cutting-edge ideas, even if they are still not fully developed or articulated. Therefore in this case fostering creativity justifies a T_1 limitation on one of readers' most fundamental and least controversial liberties: the right to cite and comment others' work.[61] By contrast, by publishing the work the author can no longer improve it. This is not to say that she cannot improve the information conveyed by the work by writing additional works that build upon it, but so can other authors. Therefore, no-citation condition at this stage cannot serve the interest of improving the work, but can only suppress the creation of additional works. An optimal rule, therefore, could treat others' right to cite as a default rule at T_1, but as an inalienable right from T_2 onward.

VI. THE IDEA-EXPRESSION DICHOTOMY

It is well established that copyright cannot subsist in ideas,[62] only in the specific expressions of ideas. While no one can copy the expression without permission, the ideas contained therein are free to all. Of course, not only the exact words chosen in the "expression" are protected; copyright's scope is broader than that. As Judge Learned Hand long ago in *Nichols v. Universal Pictures Corp.*[63] copyright "cannot be limited literally to the text, else a plagiarist would escape by immaterial variations."[64] If it were, "[t]he economic motivation of creation that underlies copyright would be almost completely vitiated if anyone could, with impunity, take an author's work by the device of

[61] The Berne Convention even provides at Article 10(1) that "it shall be permissible to make quotations …" thereby, according to Jane Ginsburg, creating an exception to copyright "that *must* rather than *may* appear in national laws" of the member countries, Jane C. Ginsburg, Contracts and Copyright Norms: What Role for Berne and TRIPs?, presented at La Pietra, June 2007.
[62] 17 U.S.C. §102(b).
[63] Nichols v. Universal Pictures Co., 45 F.2d 119 (2d Cir. 1930), *cert. denied,* 282 U.S. 962 (1931).
[64] *Id*, at 121.

making a few changes in wording, or even by closely paraphrasing the entire work."[65] The assumption is that copying with immaterial variations results in a work that functions as a very close substitute to the original, thus undermining the incentive to create. On the other hand, extending copyright to cover "ideas" would do disservice to the very purpose of copyright law, as it would stifle other creators' ability to create their own work, and participate in the process of creative destruction. The idea-expression dichotomy therefore seems to reflect and serve the distinction between substitutive and Schumpeterian competition. It prevents competition that comes from perfect or near-perfect copies, but preserves the ability of built-upon works to creatively destroy existing ones.

The idea-expression dichotomy serves that beneficial purpose if its merit is assessed at T_3 (or later). Realizing that at T_3 substitution effects come primarily from perfect or near-perfect copies, but much less so from imperfect ones, it makes sense to protect only the specific expression of ideas but not the ideas themselves. Yet earlier, at T_1 or even T_2, it is less clear that the idea-expression dichotomy serves copyright's incentive purposes as good as it does at T_3. At T_1 a work that copies another work's ideas but modifies their expression enough to fall on the safe side of the dichotomy may still function as very close substitute. At this stage both works are relatively fungible prototypes and the copy may undermine the first work's market without necessarily adding much of value.

Consider the following example. During his first year as an economics assistant professor at Berkeley George Akerlof wrote the paper "The Market for Lemons".[66] By June of 1967 the paper was ready and Akerlof sent it to *The American Economic Review* for publication. Shortly he received a rejection letter in which the editor explained that the *Review* did not publish papers on subjects of such triviality.[67] After a few other rejections on similar and other grounds, the paper was finally accepted and published by

[65] ,Nimmer & Nimmer *supra* note 10, at §1.10[B][2].
[66] George A. Akerlof, *The Market for Lemons - Quality Uncertainty and Market Mechanism,* 84 Quarterly Journal of Economics 488 (1970).
[67] George Akerlof, *Writing the "The Market for 'Lemons'": A Personal and Interpretive Essay* (2003) at http://nobelprize.org/nobel_prizes/economics/articles/akerlof/.

the *Quarterly Journal of Economics* in 1970.[68] In 2001 Akerlof shared a Nobel Prize in Economics.[69] In its decision to award the prize, the Royal Swedish Academy of Sciences explained that Akerlof's paper "is probably the single most important contribution to the literature on economics of information. This paper has all the typical features of a truly seminal piece. It introduces a simple but profound and universal idea, offers numerous interesting implications and points to broad applications."[70] This is, of course, a T_3 *ex post* perspective. *Ex ante*, at T_1, even experts in the fields thought that the paper was trivial, just one among many other trivial papers, another demonstration of the *nobody know* property of creative work.

While it may be true that the motivation of most academics to write and publish does not depend on copyright, many of them are driven by the prospect of winning promotion, recognition and prizes, which often depends on the whether they publish original contributions and on how widely cited those publication become. Being the first paper to come up with a new idea is important because it increases the chance that other scholars would cite this paper, and a cited paper is more authoritative than a similar but less cited one, and therefore is likely to be cited even further. So suppose that prior to its acceptance, someone else, who had read the manuscript and recognized its ingenuity, decided to write her own version of Akerlof's theory, but to express it somewhat differently. Suppose that *she* had submitted it to the *Quarterly Journal of Economics*, just before Akerlof did, so that instead of accepting his paper, the editors had decided to accept hers. If that happened Akerlof's prospects to publish his original contribution (and win a Nobel Prize) would have been frustrated, and so would the academic incentive structure.[71] This hypothetical suggests that from an incentive perspective objecting to such copying of ideas at T_1 might make sense. Later down the road, however, protecting ideas might be more harmful for creativity than allowing their copying. Post-publication Akerlof's contribution has received the recognition it deserves (or at least had to

[68] Id.
[69] Akerlof shared the Prize with economists Michael Spence and Joseph Stiglitz.
[70] Royal Swedish Academy of Sciences, Markets with Asymmetric Information 2, Oct. 10, 2001 *available at* http://nobelprize.org/nobel_prizes/economics/laureates/2001/ecoadv.pdf.
[71] This is true even if in her version she addressed some of the weaknesses in the original paper. Although the result is a "better" paper, substitution effects still dominate, as most of the value lies in the original contribution of the first paper, not in the improvement.

opportunity to), and allowing others freely to build upon those ideas is desirable for all of the well known reasons.[72]

Copyright law however does not make this distinction between the debilitating effect that copying the ideas would have on incentives at T_1 and the beneficial effect of copying the same ideas at T_3. In an academic setting this may not be that problematic. Assuming that the plagiarist from the previous example had submitted her paper without attribution to the manuscript she had read, she must have breached the strong norms against plagiarism in academia and consequently face the risk of both formal and informal sanction. Therefore, copyright's uniform treatment of ideas across time may not be a serious problem in academia, as the incentives at T_1 are preserved by the extra-legal norm. However, when such extra-legal norms do not exist, the uniform treatment of ideas across time may be more troublesome.

Consider the example of television formats. A writer generates a concept for a new TV series, or a "format" which may include "storylines, character descriptions, talent selection, setting, music, game rules, script treatments, production guidelines, etc. [which become] a blueprint for production."[73] She proposes the show to several interested broadcasters and enters into a contract with one broadcaster, but then another interested broadcaster who did not win the bid takes the idea and creates a similar show.[74] Copyright infringement claims generally fail as courts often find that the similarity lies only in unprotected ideas or in scènes à faire, but not in the expression of those ideas.[75] Moreover, on ground of preemption, US courts often reject claims of conversion, misappropriation and quasi-contract under state law, leaving contract theories as the only viable cause of action against this form of plagiarism.[76] Yet relying on contract may not

[72] Unacknowledged copying may still cause harm at T_3 but as Landes and Posner note, at this stage the principal victims are those who credited the plagiarist and bestowed upon her benefits that she does not deserve, or people who directly competed with her for those benefits, *see* Landes & Posner *supra* note 30, at 62. The harm caused by plagiarism also depends on the genre. Readers of popular books are less interested in identifying the exact original contribution of the author than readers of professional literature, *id.*
[73] Jay Rubin, *Television Formats: Caught in the Abyss of the Idea/Expression Dichotomy,* 16 Fordham Intell. Prop. Media & Ent. L. J. 663 (2006), n1.
[74] *Id*, at 664-65 (documenting several recent examples of this scenario).
[75] *Id*, at 670.
[76] *Id*, at 668.

be satisfactory because it is inherently difficult to draft an appropriate contract. The producer may be reluctant to agree on anything prior to hearing the ideas but would have fewer reasons to agree not to copy them once he learned them, but without sufficient guarantees against misappropriation of her ideas, the author would be reluctant to disclose them.

In both examples, there may be marked differences in how plagiarism affects competition and the incentives to create as we move across time from T_1 to T_3. At T_1 the value of the work lies predominantly in the ideas it conveys. Therefore, a paper that plagiarizes the ideas can function as a very close substitute. If the two compete over who would get published, the publisher has no clear reason to prefer the one over the other. Because the payoffs for the one who gets published first may much greater than for the second, plagiarism at T_1 can be devastating for the original author. The original author may find that no publisher is interested in his work anymore, or even if he does make it to T_2 that the prospect of being cited and make it to T_3 has been preempted by the plagiarist's earlier publication. The same is true for the TV format. At T_1 the broadcaster can be quite indifferent between the two similar formats. Even if both shows make it simultaneously to T_2 viewers may not necessarily have good reason to prefer the original over the copycat, and both may have equal opportunity to make it to T_3. If making it to T_3 is the reward for investment in T_1 and T_2 the absence of tools to prevent others from preemptively making it to T_3 can adversely impact the incentive to create in the first place.

In contrast, once a TV format is aired, the lack of copyright protection to the format seems less problematic from an incentive perspective. Viewers would probably prefer watching the original and wouldn't easily switch to another show which copies the format, unless the new show uses the similar ideas in some preferable way. Protecting the ideas at this stage has a weaker incentive-based justification, and may deter, or at least raise the cost of subsequent creativity. An indication that no protection of ideas is less problematic at T_3 is that a thriving international licensing market for TV formats has

emerged.[77] Although copyright law does not protect the format, the law prevents other broadcasters from broadcasting the successful show in its entirety, and may provide protection to some elements of the show, which may also be trademarked. These, as well as the short life-shelf of TV formats[78] and the advantage of behind-the-scenes expertise,[79] may suffice to make licensing the format more attractive than reverse engineering it for those who wish to take advantage of the success of the format without adding much of their own. This may suffice in protecting the successful show against merely substitutive competition. But at the same time, leaving the ideas free for other producers to borrow and build upon allows them to compete by offering something else that the first one lacked. If they are successful, it is because the process of creative destruction worked once again.

The preceding discussion suggests that protection of ideas at T_1 may be desirable from an incentive perspective, even if undoubtedly should be rejected at T_3. This proposition may raise several objections. The first is conceptual. After all, unlike fair use, the idea/expression dichotomy does not lend itself as easily to the same degree of flexibility. Although "[n]obody has ever been able to fix the boundary [between ideas and expressions] and nobody ever can"[80] conceptually the boundary clearly exist and if the copyright law categorically considers ideas non-copyrightable subject matter it is difficult to see time can change that, even if it is desirable to do so. But of course, the Act may be reformed, and the insights suggested in this paper may influence courts' approach towards state-based "law of ideas" and the question of whether such state law is preempted by the federal copyright act.

Another type of objection may involve arguments about cost of error. Assuming that the idea-expression dichotomy serves well the purpose of copyright at T_3 but less so at T_1 the question is whether we can tailor a rule that will allow appropriate protection at

[77] Gautam Malkani, *Television - Haven't We Seen That Programme Somewhere Before? Got Any Good Ideas? If So, Beware the Copycats, as Protection of TV Formats is Weak and You'll Need a Detailed 'Bible' to Stop the Rip-offs*, Financial Times, Sept. 21, 2004, at 8. (noting that the TV format licensing business is worth hundreds of millions of British pounds in licensing revenues).
[78] Id.
[79] Id.
[80] Nichols, supra note 63, at

T_1 and deny it at T_3 or whether trying to craft such a rule would inevitably lead to T_3 copyright owners successfully fending off legitimate competitors by disguising themselves as T_1 victims, and T_1 copiers successfully passing themselves off as innocent T_3 borrowers of ideas. Another contingency that should be considered is that allowing T_1 claims for idea protection would increase the number of nuisance plaintiffs harassing successful copyright owners claiming that their ideas were stolen. Even now many big content creators refuse to accept non-solicited ideas for fear of litigation,[81] and it can be expected that this inefficiency (after all, some of the non-solicited ideas may be quite good) would grow if suing becomes easier.[82] If we cannot avoid or minimize these costs, then perhaps we are better off with the current rule, which assures that ideas remain in the public domain, even if occasionally the result is some disincentives at T_1. We saw that at least in academia the extra-legal norms against plagiarism address the problem,[83] so it may be useful to know the extent of the problem in other areas such as TV formats before upsetting the idea-expression dichotomy can be considered desirable.[84] In fact, as Christopher Fay, the managing director of the German-based Format Recognition and Protection Association noted: "TV lives from borrowing from what has gone before … The worst thing would be for a judge to make the wrong decision, such as granting a monopoly on chat shows."[85]

However, the concerns about nuisance and opportunistic litigation, justified as they are, may be addressed by reforming the available remedies for a prevailing plaintiff. What often motivates such lawsuits is the ability to get an injunction against the production or distribution of the work. Often such lawsuits are brought once all or most of the investment in the work has already been sunk causing any delay that postpones the

[81] *See e.g.*, Preston v. Century Fox Canada ____ (describing the policy of Star Wars producer George Lucas not to accept any unsolicited ideas).
[82] This concern may be addressed at the remedy stage. What often motivates such lawsuits is the ability to get an injunction against the production or distribution of the work and the use of the threat of injunction to hold up the producer and get a settlement worse much more than the ex ante worth of the appropriated ideas (or expression). The Supreme Court's recent decision in eBay v. MercExchange ___, which departs from the previous automatic issuance of injunctions in patent (and copyright) cases may help preventing this type of opportunistic litigation.
[83] Arguably, such norms seem to be a better solution that copyright within academia. The vision of academics suing each other for copyright infringement is quite disturbing.
[84]
[85] Malkani, Gautam *supra* note 77.

influx of revenue to be extremely costly to the producer.[86] The threat of injunction thus allows the plaintiff to hold up the producer and may motivate the producer to settle by paying the plaintiff in excess of the *ex ante* worth of the misappropriated ideas. The availability of statutory damages for copyright infringement may have a similar effect. Therefore, the harsh consequences following a finding of liability, which may effectively give the plaintiff much more than the value of her contribution, thus justify a reluctance to extend protection to ideas. However, had the remedy been base on a liability rule, namely, compensating the plaintiff for the damage she had suffered (which normally would be equal to the payment that would have been agreed on had a license been obtained *ex ante*), the potential for hold up would have diminished, and so would diminish the motivation for nuisance litigation.[87] In other words, calibrating the remedies may allow extending legal protection to ideas misappropriated at T_1, while avoiding some of the problems arising under current doctrine.

VII. FAIR USE

[to be completed]

VIII. CONCLUSION

[to be completed]

[86] ,Caves *supra* note 31, at 8.
[87] The US Supreme Court's recent decision in eBay v. MercExchange ___, which departs from the previous automatic issuance of injunctions in patent (and copyright) cases, may signal a step in this direction.