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THE RIGHT OF INTEGRITY IN SOFTWARE: AN ECONOMIC ANALYSIS

Yonatan Even†

ABSTRACT

This paper proposes a new framework for analysis of recent judicial trends in IP-related licensing and post-sale restrictions. It suggests that recent decisions have allowed IP holders to use such restrictions in order to expand the scope of their IP rights, and that such expansion has been allowed without examining its effects on innovation and creativity—and, subsequently, on competition in the market. The paper focuses on one instance of such expansion: the recognition of a right of integrity in software in the U.S. v. Microsoft decision. Following a brief presentation of the special characteristics of the software industry and the history of the right of integrity under U.S. law, the paper proceeds to present the main economic justifications for an abstract right of integrity and, building on these justifications, proposes a set of substantive tests that should be applied by courts before a right of integrity is applied to new subject matter. The paper then applies these substantive tests to demonstrate the undesirability—from an economic perspective—of the application of a right of integrity to software.

† Morris Fellow, JSD candidate, Columbia Law School. I wish to thank the following: Harold Edgar, Victor Goldberg, Alice Haemmerli, Robert Pitofsky and Keren Azulay for their support and invaluable comments on earlier drafts of this paper; the participants in the Columbia Law School JSD Colloquium, for challenging my most basic ideas about the intersection between antitrust and IP; Robert A. Ferguson, for making me realize the importance of putting my ideas down on paper; and Yair Moratt, for his editorial help during the initial drafts of this article. Finally, I would like to extend special thanks to my wife and family, whose ongoing support made this project possible.
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INTRODUCTION

None of the evidence received by the Commission suggests that affording copyright to programs would in any way permit program authors to monopolize the market for their products... [In any case] the effect of program copyright on the retail prices of consumer goods and services is so small as to be undetectable.


The law at the intersection between antitrust and intellectual property (IP) is a mess. Faced with the task of balancing one statutory policy that is aimed at promoting innovation and creativity, with another that is aimed at promoting free competition in the market, the courts are at a loss.\(^1\) Lacking a clear theory to support this balancing exercise\(^2\), they have no choice but to sidestep the issue altogether or, alternatively, revert to a series of alleged truisms that lack any clear justification under either IP or antitrust policies. Thus, in many IP-related antitrust decisions, reason stops where market power begins.

One instance where antitrust and IP concerns often clash is in the field of IP licensing, when IP owners use restrictive licensing terms to exert control over the conduct of authorized users of their IP.\(^3\) Clearly, some of these restrictions are anticompetitive. Nevertheless, the social costs associated with reduced competition are not only tolerated by the IP laws, but presumed by them.\(^4\) Therefore, antitrust policy cannot be allowed simply to trump IP law whenever such

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1. Members of the legal academy have proposed a number of solutions, however a definitive methodology is yet to emerge. For an overview of the different approaches, see Michael A. Carrier, Unraveling the Patent-Antitrust Paradox, 150 U. PA. L. REV. 761 (2002).

2. It should be noted that the problem is not only one of theory, but also one of application. As Louis Kaplow noted over two decades ago, "in practice, the untangling of the myriad strands in the patent-antitrust conflict might prove impossibly difficult." Louis Kaplow, The Patent-Antitrust Intersection: A Reappraisal, 97 HARV. L. REV. 1813, 1816 (1984).

3. For the purposes of the present paper, I do not attempt to distinguish between conditional licenses and conditional sales.

4. The assumption underlying IP laws is, of course, that the costs associated with reduced competition (at least in the short term) are offset by the incentives that supracompetitive profits provide for socially-beneficial innovation or creativity: "If the government grants a firm a monopoly precisely in order to evoke greater expenditures by the firm than competition would—this is the economic rationale of the patent laws—the resulting transformation of expected monopoly gains into social costs does not create a net social loss" Richard A. Posner, Antitrust Law 17 (2d ed. 2001).
restrictions are imposed, since this would altogether undermine the rationale underlying IP law. On the other hand, it seems safe to assume that the legislature never intended IP rights to trump all antitrust concerns, as would be the case if IP owners were completely immune from antitrust scrutiny and free to impose any restriction they desire on the buyers/licensees of their IP.\(^5\) The call for a balancing test in these situations therefore seems clear—the very same balancing test that the courts and academics have been trying to find, as yet to no avail.

But is this elusive balancing test really required in all instances where restrictions are imposed? Indeed, a balance may be necessary where the restrictions are essential to the appropriability of the IP in question, as in the case of restrictions against reproduction of copyrighted works. Such restrictions are crucial elements of the incentivizing mechanism embodied in IP rights. However, as this paper demonstrates, many restrictions have very little to do with appropriability, or with incentives to innovate or create. In these situations, a balancing test is arguably superfluous; the restriction serves no policy goals that should be balanced against those of the antitrust laws.

So far, the forgoing distinction has failed to resonate in the courts. Courts apply the balancing test, whatever it may be, whenever they are faced with any restriction that they broadly categorize as a matter of IP—i.e. that can be enforced through a claim for infringement of IP rights—as distinct from a merely contractual covenant that can be enforced only in a claim for breach of contract. However, in making this categorization, courts have paid little or no attention to the economic effects of the restrictions, whether they promote innovation or not.

This paper attempts to demonstrate the negative effect of this lack of economic analysis. Restrictions that serve no innovation-related purpose may nevertheless be miscategorized as a matter of IP. They are then subjected to a misconstrued balancing test, and are subsequently enforced (or upheld, as the case may be) despite being found to have an anticompetitive effect. Thus, miscategorization induces courts to condone conduct that promotes neither innovation

\(^5\) "It is... well settled that the possession of a valid patent or patents does not give the patentee any exemption from the provisions of the Sherman Act beyond the limits of the patent monopoly." U.S. v. Line Material Co., 333 U.S. 287, 308 (1948). \textit{See also} Kaplow, \textit{supra} note 2, at 1817: "At a minimum, it seems clear that a firm having one otherwise insignificant patent may not freely engage in price fixing, mergers, predatory pricing, or anything else it wishes solely on that account."
nor competition. This paper will also demonstrate the kind of analysis courts should apply when facing new types of restrictions. The thrust of the argument will be that unless the proposed analysis demonstrates a clear need for property-like protection of any given restriction in order to further innovation or creativity, the restriction should not be categorized as a matter of IP law, should not be enforced in claims for IP infringement, and should not be examined for anticompetitive effect under a balancing test. Instead, the restriction should be categorized as a matter of contract law, it should be enforced in actions for breach of contract, and its enforcement should be subject to standard antitrust scrutiny.

Unfortunately, this argument goes directly against recent trends in the IP fields. In fact, the rights enjoyed by owners of IP have been gradually expanded in recent years, mainly through judicial action, without any regard to the costs associated with this expansion. In a nutshell, courts have been increasingly willing to categorize licensing restrictions and post-sale restrictions as an exercise of IP rights, thus allowing enforcement of such restrictions through claims for infringement of these rights, rather than through claims for breach of contract.

The examples for this expansive trend are numerous, and they take on different legal shapes and forms. Take, for example, the copyright field. The 1976 Copyright Act grants the copyright holder very limited exclusive rights. The Act defines an infringement of copyright as a violation of "any of the exclusive rights of the copyright owner as provided [in the Act]." The Act further incorporates the first sale doctrine, which denies copyright holders the right to impose restrictions concerning the resale of copyrighted products. The conventional thinking used to be that together, these

6. Clearly, I do not propose that courts should second guess the legislature on the issue of core IP rights, such as the right to copy a patented or copyrighted product; my argument is limited to these situations where the restrictions are aimed at expanding the IP right beyond these core protections.

7. One notable exception to the judicial expansion is the Digital Millennium Copyright Act, Pub. L. No. 105-304, § 103(a), which added Chapter 12 to 17 U.S.C. and substantially enhanced the protection afforded to copyright holders, especially in the context of digital piracy, by introducing prohibitions against the distribution of 'cracking' devices aimed at the removal of anti-piracy technologies.

8. Namely the right to reproduce the work, the right to create derivative works, the right to distribute the work and—in the case of certain types of works—the right to publicly display the work. See 17 U.S.C. § 106 (2005).


10. The copyright holder may set the terms by which she sells the copyrighted product, but not the terms of subsequent sales of the same product, thereby limiting the exclusive right to
statutory provisions stood for the proposition that any restriction concerning the use of a copyrighted product,\textsuperscript{11} as well as any post-sale restriction concerning the resale of such product, had to be enforced as a matter of contract law or not at all; a licensor could never enforce such restrictions through a claim for copyright infringement.\textsuperscript{12}

Today, this proposition no longer holds true—at least not in all cases, and not before all courts. In recent years, courts have allowed enforcement of resale restrictions through claims for copyright infringement, thus allowing copyright holders to use so-called licenses to circumvent the first sale doctrine and reducing the sale/licensing distinction to a labeling formality.\textsuperscript{13} In other cases, courts have allowed enforcement of certain use restrictions through claims for copyright infringement, even though these restrictions had nothing to do with the enumerated exclusive copyrights.\textsuperscript{14} In
summary, courts have allowed copyright holders to enforce restrictions that go well beyond the pale of their enumerated exclusive rights through claims for copyright infringement, thus recognizing such restrictions as an integral part of the exercise of the copyright.\textsuperscript{15} Furthermore, while so far the cases representing this trend have been relatively few—and therefore the scope of this trend is not yet clear—some recent voices from academia have called for an opening of all floodgates, by allowing \textit{all} use restrictions to be imposed as a matter of IP law, rather than contract law.\textsuperscript{16}

To demonstrate the potential danger of this approach, the discussion will focus on a case that needs little introduction: the Court of Appeals for the District of Columbia's decision in \textit{U.S. v. Microsoft}.\textsuperscript{17} The case is widely considered the most important, most controversial and most widely publicized antitrust case decided by any U.S. court in recent years. In its long and detailed decision, the Court affirmed the District Court's main finding—that Microsoft had

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\textsuperscript{15} It should be noted that this trend is not unique to copyright. In the patent field, the Supreme Court has expanded the \textit{Bobbs-Merrill} rationale and declared that the first sale of a patented product exhausts the rights of the patentee regarding both \textit{vending} (as in copyright) and \textit{using} the particular product, thus creating the patent first sale doctrine, commonly referred to as the patent exhaustion doctrine. For example, Bauer v. O'Donnell, 229 U.S. 1 (1913); Motion Picture Patents Co. v. Universal Film Mfg. Co., 243 U.S. 502 (1917). The Federal Circuit has eroded this doctrine to the point where it is all but dead, by declaring it to be merely a default rule that can be avoided through express restrictive provisions. By doing so, the Federal Circuit allowed patent holders to impose \textit{any} post sale restrictions on the use of their patented product, as well as enforce such restrictions through a claim for patent infringement, subject only to a vague "Rule of Reason" test. See \textit{Mallinckrodt, Inc. v. Medipart, Inc.}, 976 F.2d 700, 708 (Fed. Cir. 1992). It should be noted that the extension of the first sale doctrine to restrictions on use was never carried over from the patent field back to the copyright field. This is probably due to the fact that under copyright law, the copyright owner did not have an exclusive right to use the work, whereas a patentee has the right to exclude all others from making, using, offering to sell or selling the patented invention. See \textit{35 U.S.C. § 271(a) (2005)}. Therefore, under traditional copyright doctrine, restrictions on use could not be enforced as a matter of copyright law to begin with; as mentioned in the text accompanying the previous footnote, this perception no longer holds true in all cases.

\textsuperscript{16} See Glen O. Robinson, \textit{Personal Property Servitudes}, 71 U. CHI. L. REV. 1449 (2004). Robinson argues that when the restriction has anticompetitive effects, "forbidding the restriction as a matter of property law is harmless, but it is also unnecessary since antitrust policy provides a completely sufficient grounds for withholding legal enforcement of the restrictions. . . ." \textit{Id.} at 1453. As already mentioned, and as this paper demonstrates, this argument fails because once an IP right had been recognized—the courts inevitably embark on a 'balancing' test under which at least some anticompetitive conduct would be allowed.

\textsuperscript{17} \textit{U.S. v. Microsoft Corp. (Microsoft Appeal)}, 253 F.3d 34 (D.D.C. 2001).
violated section 2 of the Sherman Act by maintaining its monopoly in the market for operating systems (OS) for Intel-based-personal-computers (PC), which Microsoft enjoyed a near perfect monopoly position through its Windows OS (Windows). Most antitrust aspects of the case received much attention in the legal world, as well as in the media in general. The aspect I focus on, however, was almost completely overlooked: the Court’s ruling on the argument that Microsoft’s licensing agreements with Original Equipment Manufacturers (OEM) were sheltered from antitrust scrutiny, because they were nothing more than Microsoft’s legitimate exercise of its copyright in Windows. The Court rejected the broad rule argued for by Microsoft, but instead adopted a narrower rule, under which Microsoft had the right to restrict “substantial alteration” of Windows as part of its copyright. The court then went on to apply a balancing test under which it struck down some of Microsoft’s licensing restrictions while upholding others, despite recognizing their anticompetitive effects.

The right to restrict alteration of creative works is not unheard of in the copyright field. It is usually referred to as a right of integrity, and is categorized as part of an author’s “moral rights.” However, moral rights—including the right of integrity—were never fully recognized under U.S. law; they have never been applied, in the U.S. or outside of it, to software, and they were certainly never allowed to trump antitrust concerns. Worst of all, they serve no clear pro-

18. In a nutshell, in the part that is relevant to this paper the court found that Microsoft maintained its monopoly by denying to a new competitive threat—middleware—access to all the major distribution channels in the market, thus raising an insurmountable barrier to entry before the new competitor. The court found middleware—such as Netscape’s Navigator and Sun’s Java—to be a competitive threat to Windows because eventually, if middleware was to be properly developed and effectively enter the market, it could be used as a platform on which end-users could run applications regardless of the underlying OS they had installed. Thus, middleware had the prospect of attracting applications developers away from Windows, eroding the 'applications barrier to entry' into the OS market, and eventually allowing new entries into the OS market. See id. at 55, 59-60.

19. OEM is the term used in the computer industry to refer to manufacturers of personal computer systems, such as Hewlett-Packard, Dell, IBM and Gateway.

20. Microsoft Appeal, 253 F.3d at 63. In other words, the court recognized Microsoft’s right to impose restrictions on the use of Windows in its licensing agreement. It should be noted that the court never questioned the labeling of the transaction as a license, instead of a sale. See infra note 45.

21. Alterations that are so substantial as to create a new original work could be characterized as derivative work under § 106(2) of the Copyright Act. However, works are usually deemed to be derivative only when they are separate from the original underlying work; thus, the translation of a book would be considered a derivative work, whereas the reframing of a picture would not. See also the discussion infra note 77, and the cases mentioned there.
innovation or pro-competitive policy when applied to software. Thus, the lack of a reasoned approach to IP licensing has led the D.C. Circuit, in its attempt to balance competition and innovation concerns, to condone conduct that promotes neither.

Parts I and II of the paper lay out the factual and legal background for the Microsoft case; the economic realities of the software industry and the pressures that lead software manufacturers to impose restrictions on the use of their software through restrictive licensing agreements. Part III describes the specific restrictions implemented by Microsoft in its Windows licensing agreements with OEMs, and the District Court’s and Court of Appeals’ analyses of these restrictions. Part IV provides a general overview of the right of integrity, its origins and its status under U.S. law. Part V examines the legal consequences of the introduction of a right of integrity into the realm of computer software. In this part, I suggest that the application of a right of integrity to software cannot be justified by any of the traditional, non-economic justifications for such a right. Part VI proposes an economic analysis of the right of integrity, aimed at determining the economic effects of its application to software. The analysis begins with a presentation of the best former economic analysis of the right of integrity. I will argue that this analysis is inherently incomplete, and suggest additional steps that should be taken to evaluate the implications of the application of the right of integrity to new subject matter. I will then apply the proposed analysis to software. Finally, in Part VII, I will use the proposed economic analysis to revisit and reevaluate the Microsoft decision.

I. THE EVOLUTION OF THE SOFTWARE INDUSTRY

Over the past few decades the software industry has undergone dramatic changes. Packaged software was nearly an unknown commodity less than 30 years ago. Today it is a widely available consumer product; the core of one of the world’s newest, biggest and fastest growing industries. A brief overview of the evolution of the industry is necessary to appreciate the legal and economic realities that led to the Microsoft decision.

22. The term “packaged software” is widely used in the software industry, and usually refers to any software product that is sold as a standalone product, i.e. not in conjunction with any dedicated software. While the term dates back to the 1970’s, when software products were literally packaged, today many of these products are distributed online, either as a sole distribution channel or as an alternative to buying the software in a packaged form (e.g., on a CD). Needless to say, the analysis holds as to any standalone software product, regardless of its method of distribution.
Software, of course, is not a standalone product; it is a product used in conjunction with hardware, i.e., computers. Therefore, it is not surprising that the commercialization of software closely followed that of computers. Furthermore, it is important to bear in mind that the software and hardware industries evolved from what was historically one unified industry, and that the two industries are commingled to this very day. Strategic alliances between software and hardware manufacturers are common; many companies are active in both industries, and in some areas, software and hardware products are partially interchangeable and therefore compete for the same consumers.

When computers were first introduced into the market, there was no separate software industry. The first computers were slow, cumbersome and expensive machines, pre-programmed to perform very few specific tasks. The programs used on these machines were generally custom made by the producer of the machine itself, loaded into the machine before it was shipped to the end-user, usually itself a large corporation, and used only on that specific machine.

General-purpose "consumer" computers, capable of running many different programs that perform different tasks, appeared on the

23. The alliances between Intel—the world's leading microprocessor manufacturer—and Sun Microsystems, and between Intel and Microsoft were discussed in Microsoft Appeal, 253 F.3d at 77.

24. Perhaps because of the smaller capital needed to enter the software market, some major software companies (such as Oracle, SAP AG and Computer Associates) manufacture only software, while major hardware manufacturers (such as IBM, Intel and Dell) offer some software products. In this respect, Microsoft may be the exception to the rule, as it currently attempts to enter some niche hardware markets (most notably the markets for home wireless networking and for video game consoles).

25. This phenomenon is not very common in the home-computer segment of the market, yet very common in the microprocessor-based appliance markets. Manufacturers of such appliances, from washing machines to cellular phones, are constantly being presented with a choice between Field Programmable Devices (FPD), processing devices with differing levels of programmability, the functionality of which is determined by the appliance manufacturer according to the programming it uses, and Application Specific Integrated Circuits (ASIC), which are non-programmable chips designed and manufactured to perform a certain function. FPDs and ASICs are generally interchangeable, but each present different efficiencies: FPDs are "off the shelf" mass produced products; ASICs are usually cheaper to manufacture and perform better (as they are specifically designed for the task at hand), but they are less flexible, cannot be adapted for future developments and require significant investment in design by the manufacturer.

market only in the mid 1970s. The availability of such computers created demand for programs that would meet the different preferences and requirements of an ever-growing number of computer users. This demand, coupled with the realization that computer programming required different skills from those needed for computer design and manufacturing, as well as substantially less capital investment, set the stage for the separation of the two functions and the emergence of an entirely new industry, dedicated solely to the manufacture of computer software.

Arguably the most notable step in the evolution of the software industry—and the one most crucial to our discussion—occurred in 1980, when IBM, then the heavyweight of the computer industry, approached Microsoft, a small software company, and hired its services for developing the OS for IBM’s revolutionary PC project, which was to be launched on the market the following year. The commercial potential of software products was not yet clear at the time; the best-selling software product to that date sold around 600,000 copies worldwide. Nevertheless, in a stroke of prophetic genius, Microsoft negotiated with IBM an agreement whereby Microsoft retained all the rights to the OS it developed for the IBM PC, including the right to sell it independently of IBM in the open market.

The release of the IBM PC in August 1981 changed the landscape of the entire computer industry. The PC was the first IBM computer that was built around off-the-shelf components, most notably Intel’s 8088 microprocessor. The availability of the Intel microprocessor and MS-DOS to other manufacturers led to the introduction of IBM PC compatibles and, within less than a decade, to the standardization of a major part of the computer world around the Intel-Microsoft design. This standardization, coupled with the relatively low price of the IBM PC and its compatibles, led to a huge growth in the number of computers and computer programs sold over the following years, and to the emergence of Microsoft as the

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28. The total number of computers in the U.S. crossed the 1,000,000 mark in 1980; in 1983 it crossed the 10,000,000 mark; in 1986 it crossed the 30,000,000 mark. As for sales figures, in 1980 about 486,000 small computers were sold in the U.S.; by 1990 that number rose to approximately 14,560,000 small computers; in 2004, U.S. sales were estimated at 58,000,000, with worldwide sales of about 177,000,000 units. See Compu-pedia, History of Computers – the 1980’s,
industry giant enjoying considerable monopoly power in the market for operating systems for Intel-based PCs.29

Today the software industry has an immense impact on the U.S. economy. A conservative evaluation shows that the software industry’s sales have risen from close to nothing in the mid 1970s to about $61.7 billion in 1997 and to over $103.7 billion in 2002,30 making it an immensely important industry in economic terms.31 Therefore, judicial and legislative decisions that alter the level of protection awarded to software products, and subsequently alter the level of innovation and competition in the software market, are bound to have a significant effect on the U.S. market as a whole.

II. THE PROTECTION OF SOFTWARE

The economic viability of the software industry depends on legal rules that protect software manufacturers from unauthorized duplication of their products. The need for such protection flows from


29. So-called Intel-based PCs include PCs containing Intel-compatible microprocessors. The Intel-based PCs compose nearly the entire PC market. The only significant PCs not based on Intel-compatible microprocessors are Apple PCs, which hold approximately 2% of the global PC market and 3% of the U.S. PC market. See Eric Bangeman, Dell still king of the market share hill, ARS TECHNICA, Jan. 18, 2005, http://arstechnica.com/news.ars/post/20050118-4535.html?63083. Approximately 95% of all Intel-based PCs are shipped to the end customer with Microsoft’s Windows OS pre-installed. See ZDNet Research, 5% of all PCs in 2004 shipped with Linux, http://www.itfacts.biz/index.php?id=P1299 (last visited Oct. 24, 2005).

30. The dollar amounts represent gross receipts in each respective year for the software publishing industry. See U.S. CENSUS BUREAU, 2002 ECONOMIC CENSUS INDUSTRY REPORT—SOFTWARE PUBLISHING, (2004), available at http://www.census.gov/prod/ec02/ec0251i06.pdf. It should be noted that these figures probably understate the true economic significance of the software industry, for a number of reasons. First, they do not include receipts associated with Internet publishing and the provision of Internet services (Internet access, search engines etc.). The inclusion of these would add another $90bn to the receipts for the year 2002. See U.S. CENSUS BUREAU, 2002 ECONOMIC CENSUS, 1 tbl. 1 (2004), available at http://www.census.gov/econ/census02/advance/TABLE1.HTM. Second, they do not take account of the overwhelming effects of the software industry on the performance of industries that use software as an input.

the extreme disproportionality between the cost of developing software and the cost of duplicating software products; the costs associated with the development of a commercial computer program are immense, whereas the marginal cost of producing copies of the same program is minimal. Any owner of a software CD can usually manufacture numerous true copies of any software using a CD burner; alternatively, such a user can distribute the software over the Internet and make it available to millions of users at once. Free riding on the efforts of the manufacturer is, therefore, extremely easy and often extremely lucrative. If software developers are to recoup their investment, such free riding must be monitored.

Of course, this cost structure is not unique to software products. It is typical of intangible goods that are non-rivalrous and non-excludable by nature, and traditionally cited as the main justification for the creation of IP rights, which transform what would otherwise be a public good into exploitable private property. Therefore, since the first days of the software industry, software developers have sought to extend existing IP rights, and the protection associated with them, to the new technology they create. But even though Congress recognized the need for protection of computer software even before the industry emerged as a separate commercial force, the method for extending such protection was initially far from clear. The main problem seems to have revolved around the traditional IP distinction between functional ideas and creative expression. Computer programs typically represent a functional idea...
that is expressed in written code; they are neither a pure idea, nor a pure form of expression. These hybrid characteristics do not fit comfortably into either patent law or copyright law, and therefore pose an ongoing challenge to traditional IP doctrine.\(^{37}\)

In the patent field, computer programs were not recognized as eligible for patenting until very recently.\(^{38}\) Even after the removal of this obstacle, a programmer seeking to patent a computer program is required to show that the program is novel and non-obvious;\(^{39}\) most computer programs simply cannot overcome these hurdles, since their core ideas are usually neither.\(^{40}\)

Because of the difficulty associated with patenting, the most common protection used for software is that of copyright. In 1980 Congress amended the Copyright Act and expressly acknowledged the applicability of copyright to computer programs, thus removing any previously existing doubts regarding the availability of such protection to software products.\(^{41}\) Since then, the use of copyright for software has become ubiquitous. However, traditional copyright protection is limited in scope. As its name suggests, it is focused first and foremost on the prevention of unauthorized copying of the

U.S.C. § 102(b) (2005), which states: "In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work."

37. Some courts have acknowledged these difficulties. See for example Computer Associates Int'l, Inc. v. Altai, Inc., 982 F.2d 693, 712 (2d Cir. 1992).

38. 35 U.S.C. § 101 (2005); see also Gottschalk v. Benson, 409 U.S. 63 (1972) and Parker v. Flook, 437 U.S. 588 (1978). These rulings were later distinguished by the Supreme Court in Diamond v. Diehr, 450 U.S. 175 (1981), and all but overruled by the Federal Circuit in State St. Bank & Trust Co. v. Signature Fin. Group, Inc., 149 F.3d 1368 (Fed. Cir. 1998). The Supreme Court did not take up the question for further review since State St. However, in response to State St., Congress enacted the First Inventor Defense Act of 1999, 35 U.S.C. § 273 (2005), which rectified some of the consequences of State St. but did not reverse its core holding regarding the general eligibility of computer programs for patenting. See also AT&T Corp. v. Excel Commc'ns, Inc., 172 F.3d 1352 (Fed. Cir. 1999).

39. 35 U.S.C. §§ 102-03 (2005). The applicant would also have to show utility. However, the standard for utility was set so low by the courts, that it will presumably be met by any commercial software. See Juicy Whip, Inc. v. Orange Bang, Inc., 185 F.3d 1364 (Fed. Cir. 1999).

40. These requirements have also been relaxed over the years; however, since most computer programs represent incremental improvements over existing ideas, it would seem that patent protection would be available to a relatively small number of programs.

41. The amendment did not specifically add software to the list of works of authorship that appears in § 102 of the Copyright Act; instead, it merely added a definition of computer program to § 101 of the Act, and further added § 117 of the Act, which allowed the duplication of computer programs in certain circumstances, notwithstanding the provisions of § 106, i.e., the general protection of the Act. The amendment reflects an adoption of the CONTU recommendations. 17 U.S.C. §§ 101, 117 (2005).
program. It is also limited to a set of enumerated exclusive rights, including mainly the right to reproduce the program, to create "derivative works" of the program, and to distribute the program. As such, copyright protection would generally apply only to the expressive elements of any computer program, as they are fixed in a tangible medium, and not the functionality of such program. Therefore, certain conduct, most notably "reverse engineering" of the program, is not traditionally considered to be within the ambit of copyright protection. Thus, as long as there is no actual copying of the underlying code and structure of the program, there is no infringement of any of the enumerated rights of the copyright holder. While reverse engineering clearly requires considerably more effort than the simple copying of programs, there would still be some instances where it would allow competitors to gain a competitive advantage, or to take a free ride, depending on one's point of view, on some of the original developer's programming efforts, as well as on its marketing efforts.

Naturally, software manufacturers seek to extend the limited protection they receive under traditional copyright law. The mechanism of choice to attain such extra protection appears to be the licensing agreement, which today comes standard with virtually any

43. Courts have applied a methodology of abstraction, whereby "a computer program can often be parsed into at least six levels of generally declining abstraction: (i) the main purpose, (ii) the program structure or architecture, (iii) modules, (iv) algorithms and data structures, (v) source code, and (vi) object code". Gates Rubber Co. v. Bando Chem. Indus., Ltd., 9 F.3d 823, 835 (10th Cir. 1993); see also Computer Associates, 982 F.2d at 706-07. These levels of abstraction form a spectrum of protectibility, with the purpose/functionality of a program representing an idea that is never protectible, the code representing protectible expression, and the elements occupying the middle ground—structure, sequence, etc.—receiving limited protection, depending on their nature. See id. at 836.
44. Even if "reverse engineering" gives no technological advantage because it is too difficult, it is clear that it would only be applied to successful software—software that had already proved its marketability—thus reducing the risk associated with the enterprise.
45. As briefly explained in the introduction, licensing is used mainly for the purpose of circumventing the first sale doctrine, which prohibits the imposition of post-sale restrictions on resale of copies of copyrighted works. The scope of, and justification for, the first sale doctrine and the licensing/sale distinction lie beyond the scope of this paper, and deserve separate analysis. For present purposes, the main point is that many software manufacturers claim that their software is never 'sold', but merely licensed, to any end-user. For example, Adobe posted the following notice on its licensing webpage: "Adobe products are not sold; rather, copies of Adobe products ... are licensed all the way through the distribution channel to the end-user." Adobe Sys., Inc., Adobe Product License Agreements, http://www.adobe.com/products/eulas (last visited Jan. 10, 2006). The practice of labeling transactions as licenses instead of sales was rejected by the Supreme Court in the distant past. See Straus v. Victor Talking Mach., 243 U.S. 490 (1917). Today, in the context of software, some courts have taken a different view. See
software product. These licenses use multiple techniques to protect the functionality of the software from being copied or altered: some stipulate that parts of the program are trade secrets of the licensor, some prohibit decompiling the program, some prohibit reverse-engineering of the program, and so forth.

These licensing agreements arguably provide more protection for software products and software manufacturers than the limited rights enumerated in the Copyright Act. Naturally, this extra protection may come at a cost. In this case, the cost is decreased competition in the market for software products, or in a specific segment thereof. The question arises, therefore, whether these restrictive licensing agreements are necessary to promote innovation, or whether they stifle competition without generating any offsetting social value. The answer to this question may vary according to the specific provision under consideration, the structure of the market, and the efficacy of copyright alone to prevent predatory free riding.

In the following sections, I will examine the restrictions used in Microsoft’s licensing agreement with OEMs. First, I will present the District Court’s and the D.C. Circuit’s approach to these restrictions. I will then try to evaluate the analysis from a conceptual perspective and an economic one. Finally, I will suggest some broader

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Softman Products Co. v. Adobe Sys., Inc., 171 F. Supp. 2d 1075 (C.D. Cal. 2001). The Uniform Computer Information Transaction Act (UCITA) also seems to reduce the distinction to a question of labeling, acknowledging licenses as “the dominant contractual framework for commerce in computer information” and broadly defining the term license as any contract that “limits the access or uses authorized or expressly grants fewer than all rights in the information, whether or not the transferee has title to a licensed copy,” a definition which encompasses nearly any transaction in IP products. UCITA § 102(a)(41).

46. These provisions pose numerous legal questions regarding the definition of and the justification for trade secrets, especially regarding the ability of mass-distribution-goods to maintain their “secretive” status through contractual mechanisms. These problems deserve separate analysis.

47. Licensing agreements are typically long, formulaic and legalistic documents that incorporate a large number of restrictions, bundled together in wholesale fashion. For example:

The structure, organization and code of the Software are the valuable trade secrets and confidential information of Adobe Systems Incorporated... you may not modify, adapt or translate the Software. You may not reverse engineer, decompile, disassemble or otherwise attempt to discover the source code of the Software... You may not unbundle the component parts of the Software for use on different computers. You may not unbundle or repackage the software for distribution.

conclusions regarding the correct analysis that should be applied to such restrictions in the future.

III. MICROSOFT'S LICENSES AND THE COURTS' ANALYSIS

Microsoft's main licensees of Windows, its most significant distribution channel of Windows to end-users, are OEMs. Microsoft licenses Windows to all OEMs for installation on the Intel-based PC systems they manufacture. The OEMs install Windows on these systems, and then license (or rather sub-license) Windows to the end-user as part of the complete system.48

The District Court for the District of Columbia has focused its analysis on five restrictions in Microsoft's licensing agreement with the OEMs:49 (i) A restriction prohibiting the removal of any Microsoft-installed icons, folders or "start" menu entries; (ii) A restriction prohibiting the modification of the initial boot sequence; (iii) A restriction prohibiting the installation of any self-launching programs, including any OEM-designed user-interface that would replace the Microsoft-designed Windows Desktop; (iv) A restriction prohibiting the addition of icons to the Windows Desktop that are bigger or more prominent than Microsoft's own icons; and (v) A restriction prohibiting the use of the "Active Desktop" feature to display third-party brands.50

Microsoft argued that the purpose of these restrictions is to prevent the manipulation of Windows by the OEMs before it was delivered to the end-user—in other words, to protect the integrity of Windows. Microsoft then pressed two lines of argument to justify the restrictions. The first was a quality-assurance argument. Microsoft asserted that the licensing restrictions are meant to prevent OEMs from compromising the "quality and consistency" of the Windows configuration delivered to end-users, and that such quality-control measures are necessary because there would be "little incentive to develop a high-quality operating system product if OEMs were free to alter it for the worse before handing it over to consumers."51

49. The Court focused its analysis only on those restrictions that it found relevant to Microsoft's battle against Netscape; the agreement probably included further restrictions. See id. at 58-68, ¶¶ 202-38.
50. Active Desktop is a feature that was introduced by Microsoft as part of Internet Explorer 4.0 software, allowing users to incorporate web pages into the Windows Desktop. Microsoft Findings of Fact, 84 F. Supp. 2d at 61, ¶ 213.
51. Id. at 64-65.
The second argument related to Microsoft's IP rights in the software. Microsoft argued that the Copyright Act "endows the holder of a valid copyright in software with an absolute right to prevent licensees, in this case OEMs, from shipping modified versions of its products without its express permission," and that its licensing restrictions simply restate its right to "preserve the 'integrity' of its copyrighted software against any 'distortion', 'truncation' or 'alteration.'"\(^{52}\)

The District Court rejected Microsoft's quality-assurance argument on factual grounds. The Court found that Microsoft's main purpose in the restrictions was to prevent, or at least deter OEMs from pre-installing Netscape Navigator on their system. The Court found that Microsoft feared that the installation of Netscape Navigator on many PC systems would diminish the barriers-to-entry into the Intel-Compatible-PC operating system market, and would therefore pose a competitive threat to Microsoft's dominant position in that market, and not, as Microsoft argued, a threat to the quality or consistency of the Windows configuration that is delivered to end-users.\(^{53}\) The Court based its rejection of Microsoft's argument on several findings, most notably, Microsoft's requirement in the OEM licensing agreement that the OEMs themselves, and not Microsoft, bear all the costs associated with customer support for Windows-installed systems,\(^{54}\) as well as on the fact that on several occasions Microsoft did permit several OEMs to perform certain alterations to Windows (even though these were essentially identical to the alterations that were prohibited under the licensing agreement), provided that these alterations would not include the installation of Netscape Navigator.\(^{55}\)

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\(^{53}\) The entire analysis of the competitive threat that Netscape Navigator (as well as other "middleware") poses to Microsoft's position in the OS market is beyond the scope of this paper; for a concise summary see Microsoft Findings of Fact, 84 F. Supp. 2d, at 28-30, ¶ 68.

\(^{54}\) Therefore, the court concluded that any alterations that would be detrimental to the quality or consistency of the operating system would result in "consumer wrath [that] will fall first upon the OEM," and therefore "any OEM that tries to force an unwanted, low-quality shell on consumers will do so at its own peril." Microsoft Findings of Fact, 84 F. Supp. 2d at 65, ¶ 225.

\(^{55}\) Id. at 65, ¶ 223. To make the picture complete, it should be noted that several major OEMs such as HP, IBM and Gateway objected to Microsoft's license restrictions and were forced to accept them only for lack of an alternative OS to Windows. These objections were made clear in testimony and in letters that were entered into evidence, where some OEMs made it clear that "If we had a choice of another [OS] supplier, based on your actions in this area, [we] assure you [that you] would not be our supplier of choice." Id. at 62, ¶ 214.
The District Court also rejected Microsoft's second line of argument—the right of integrity argument. The District Court found that Microsoft's alleged right of integrity is not one of the enumerated rights that are explicitly granted to copyright holders under the Copyright Act, and that therefore it is doubtful that such a right exists. The Court went on to conclude that, while some courts have recognized the right of a copyright holder to preserve the integrity of artistic works despite the lack of an enumerated right to that effect, they have done so only in situations that raised no antitrust concerns, thus rendering them inapposite to the case at hand. Finally, the Court ruled that even if Microsoft had any right to protect the integrity of its Windows OS under copyright law, this right would not shield Microsoft from antitrust liability if it were used to promote anticompetitive purposes.

Whatever may be said of the first two arguments raised by the District Court, this last argument seems clearly wrong, as it would suggest that antitrust law completely trumps IP law, rendering any attempt to balance the two policies superfluous. If IP is to serve any purpose at all, IP rights must allow their owners to engage in at least some forms of anticompetitive conduct; that is the whole point of the right to exclude others from certain types of conduct. Thus, for example, it is clear that Microsoft could prevent OEMs from simply making copies of Windows for the purpose of distributing them in the

56. Microsoft Conclusions of Law, 87 F. Supp. 2d at 40. The Court relied for this conclusion on Twentieth Century Music Corp. v. Aiken, 422 U.S. 151, 155 (1975), in which the Supreme Court held that "if an unlicensed use of a copyrighted work does not conflict with an 'exclusive' right conferred by the statute, it is no infringement of the holder's rights." Id. (emphasis added). It should be noted that while the District Court's result was probably correct, its reasoning is hard to justify. Aiken was a case of a restaurateur who played music that was broadcast on the radio to the patrons of his restaurant; it is hard to see how one might analogize such unlicensed use with a use that goes against an express term of an IP license (assuming—as the District Court has—that Microsoft's agreement with the OEMs was, in fact, a license). As was previously noted, at least some courts have found that within the context of a copyright license, the licensor may impose some restrictions that go beyond the enumerated rights conferred by the copyright statute, and that are nevertheless an exercise of the copyright and not merely a contractual issue. See cases cited supra note 14.

57. Microsoft Conclusions of Law, 87 F. Supp. 2d at 40 n.2. The Court referred to Gilliam and WGN Cont'l. Broad. v. United Video, 693 F.2d 622 (7th Cir. 1982). This line of argument, adopted also by the Court of Appeals (albeit in a qualified version), seems to reverse the issue completely. The question of existence of a right should precede the antitrust analysis; antitrust concerns may affect the scope of the right in a specific situation, but certainly not its very existence.
market, regardless of the fact that this action would clearly enhance competition in the market for Intel-based-PC operating systems.58

The decision of the Court of Appeals on this issue does not fare any better. The Court of Appeals also addressed both prongs of Microsoft’s defense of its licensing agreements to OEMs.59 As for the quality-assurance prong, the Court largely affirmed the District Court’s findings. However, the Court of Appeals diverged on the analysis of Microsoft’s integrity argument. Unlike the District Court, the Court of Appeals did not ponder over the “enumerated rights” analysis at all, thus sidestepping the issue altogether. Instead, the Court first acknowledged the holdings in two earlier cases, Gilliam and WGN, to the effect that they “limit a licensee’s ability to engage in significant and deleterious alterations of a copyrighted work.”60 Next, the Court stated that the relevance of these decisions is limited for two reasons: First, since they apply only to “substantial alterations”; and second, since they were decided within contexts that raised no anticompetitive concerns.61

Nevertheless, the Court of Appeals did decide to apply the Gilliam standard. The Court found that the only licensing restriction aimed at preventing a “substantial alteration” was the one prohibiting the installation by OEMs of a self-launching user interface that would entirely replace the Windows Desktop. The Court then summarized its position as follows: “we agree that a shell that automatically prevents the Windows Desktop from ever being seen by the user is a drastic alteration of Microsoft’s copyrighted work, and outweighs the marginal anticompetitive effect of prohibiting the OEMs from substituting a different interface automatically upon the completion of the initial boot process.”62

58. It is not surprising that one writer described the District Court’s decision on Microsoft’s IP argument in the following way: “The district court... drew meaningless distinctions with analogous cases (i.e., whether antitrust claims are part of a lawsuit has no bearing on the policies supporting a right of integrity) and ignored the fundamental nature of the intellectual property laws, which, by definition, promote welfare through exclusion.... In short, the district court improperly failed to take account of the purposes underlying the intellectual property laws.” Carrier, supra note 1, at 786.

59. On appeal, Microsoft also pressed a broader claim, arguing that any licensing restriction is per-se legal, because “if intellectual property rights have been lawfully acquired... [then] their subsequent exercise cannot give rise to antitrust liability.” The Court summarily dismissed this argument as one that “borders upon the frivolous.” Microsoft Appeal, 253 F.3d at 63.

60. Id. A comprehensive overview of Gilliam is presented infra Part IV.B.

61. As explained earlier, this distinction is hardly satisfactory. See supra note 57 and accompanying text.

62. Microsoft Appeal, 253 F.3d at 63 (emphasis added).
Ultimately, the Court of Appeals allowed Microsoft to continue with a conduct that it found to be anticompetitive, albeit marginally so. Apparently, it did so because it felt obligated to balance the anticompetitive effect of the conduct with some vague notion regarding Microsoft’s IP rights in Windows. This notion remained vague because the Court sidestepped every major IP question it had to resolve in order to reach a reasoned conclusion—questions such as whether Gilliam extended copyright protection beyond the statutory scope, if so, whether the expansion was justified as a matter of IP doctrine or public policy; and if so, whether the Gilliam rationale, predicated on the unique facts of that case, was applicable to a Microsoft-type situation. Having sidestepped these questions, the Court’s finding of an IP right of integrity forced it to apply a balancing test that can only be characterized as vague and unreasoned. The Court never explained (1) why the installation of a different user interface is a substantial alteration of Microsoft’s copyrighted work, (2) why only substantial alterations deserve protection, whereas insubstantial alterations would be allowed, (3) why the right of integrity would be protected only in situations where its anticompetitive effects are “marginal,” and (4) why it considers the effects in the specific case to be marginal or what criteria should be applied to determine the marginality of anticompetitive effects. Some of these neglected issues will be taken up in the next sections.

IV. THE RIGHT OF INTEGRITY – LEGAL ANALYSIS

A. Moral Rights

The right of integrity in copyrighted works was first recognized in France, as part of a distinct body of rights: Le Droit Moral, or Moral Rights. Some form of moral rights has been recognized by French courts for over 150 years, and the concept evolved over the

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63. See infra Part IV.B.
64. Arguably, Microsoft’s copyright is in the underlying code for Windows, and not in the appearance of the Windows user interface. However, from the record, it does not appear that any evidence were presented regarding the extent of changes made to the Windows source code in any of the processes prohibited by the restrictive licenses.
65. The French use of the singular form is predicated on the concept of a unified, indivisible body of right(s). See NIMMER, supra note 14 at § 8D.01 n.4.
years to include the right of attribution (or “paternity”), the right of integrity, the right of withdrawal, the right of divulgation and more. Following in the footsteps of the French courts, similar rights have been recognized in most Continental jurisdictions.

As developed by the French courts, traditional moral rights attach to copyrightable works. They are, however, different and distinct from copyright. While copyright is intended to protect the economic rights of the copyright owner, be it the author or any of her assignees, moral rights were developed in order to protect some form of residual interest the original author or artist maintains in her creative work even after she has assigned all other rights in the work, including copyright, to others. Under French law, this residual interest flows from the unique connection between the author and her creative work, which is a personal, rather than an economic, connection. The underlying assumption is that creative works reflect their authors’ personalities, and that these are therefore entitled to protection above and beyond that of copyrights; protection against any injury to the author’s “personality” interest. As such, in most Continental jurisdictions moral rights have certain unique characteristics that set them apart from copyright: Moral rights are usually inalienable, i.e. they remain with the author even after copyright has been transferred to another (or never belonged to the author, such as in the case of “works for hire”); they are perpetual; and they are imprescriptible.

The Continental development of moral rights did not spawn an analogous legal development in common law jurisdictions. At least initially, common law courts in general, and U.S. courts in particular, rejected the notion that authors hold any rights in their work other than copyright, and were outright hostile to the notion that an author may have any residual interest in her work once sold off to another.

67. I use the terms “author” and “artist” freely to describe any creator of creative copyrightable works.
68. See Roeder, supra note 66 at 557: “When an artist creates . . . he does more than bring into the world a unique object having only exploitive possibilities; he projects into the world part of his personality and subjects it to the ravages of public use. There are possibilities of injury to the creator other than merely economic ones; these the copyright statute does not protect.” See also Merryman, supra note 66 at 1025.
69. See Nimmer, supra note 14, at 8D-6.
70. For example, Crimi v. Rutgers Presbyterian Church in City of New York, 89 N.Y.S.2d 813, 819 (Sup. Ct. 1949): “The claim of this plaintiff that an artist retains rights in his work after it has been unconditionally sold, where such rights are related to the protection of his artistic reputation, is not supported by the decisions of our courts.”
Some attempts have been made to change the common law approach to the issue. Most notably, in 1928 moral rights were incorporated into Article 6bis of the Berne Convention for the Protection of Literary and Artistic Works (The Convention). The Convention calls upon member states to adopt legislation that would protect authors' rights of attribution and integrity. The success of this initiative has, however, been questionable. The U.S. refused accession to the Convention for over 60 years following the adoption of Article 6bis. To a large extent, this was specifically because Article 6bis dictates the introduction of moral rights into member-states' jurisdictions. Although the attitudes of some courts and state legislatures towards moral rights shifted somewhat during those 60 years, no express federal statutory provision was adopted that would introduce moral rights into U.S. federal law. When the Senate finally voted for adherence to the Convention in 1988, it did so only after Congress had enacted the Berne Convention Implementation Act of 1988 (BCIA), which explicitly denies any change in the U.S. domestic legal situation concerning moral rights.

Therefore, both before and after the adoption of the BCIA, the status of moral rights under U.S. law was questionable at best. With


> Independently of the author's economic rights, and even after the transfer of the said rights, the author shall have the right to claim authorship of the work and to object to any distortion, mutilation or other modification of, or other derogatory action in relation to, the said work, which would be prejudicial to his honor or reputation.

72. So far, ten states have adopted some form of moral rights statute, most notably California and New York. All the state statutes are limited to the protection of works of visual art, and therefore do not apply to software. Furthermore, even as applied to works of visual arts, these statutes raise considerable constitutional concerns in light of the express pre-emption clause regarding moral rights in works of visual art included in section 605 of the Visual Artists Rights Act of 1990 (VARA), 17 U.S.C. § 301(f) (2005).

the exception of limited moral rights recognized under the Visual Artists Rights Act of 1990, the general existence of such rights, their jurisdictrional origin and their scope were all unclear.\textsuperscript{74} Some commentators concluded that such rights simply do not exist under U.S. law.\textsuperscript{75} Several commentators found some form of integrity right in § 106(2) of the Copyright Act, which recognizes the extension of copyright to derivative works.\textsuperscript{76} That section had been heavily relied upon by the Ad Hoc Committee and, arguably, by Congress, as a source of a right that is equivalent to the right of integrity for purposes of adherence to the Convention. However, this reading of § 106(2) has been repeatedly rejected by most courts.\textsuperscript{77} Finally, since 1976, most courts and commentators—as well as the Court of Appeals in \textit{Microsoft}—have found \textit{Gilliam} and its progeny to be the source of moral rights under U.S. law. A brief discussion of that decision is therefore in order.

\textbf{B. The Gilliam Doctrine}

\textit{Gilliam} involved a motion for a preliminary injunction brought by the members of Monty Python, seeking to enjoin ABC from broadcasting an edited and abridged version of their show “Monty

\begin{footnotes}
\textsuperscript{74} Regardless of the BCIA declaration, in 1990 Congress took corrective steps and adopted the Visual Artists Rights Act of 1990. The Act amended the Copyright Act to recognize limited and alienable attribution and integrity rights in authors of works of visual art—paintings, drawings, sculptures and still photographic images—that exist in up to 200 copies. The Act does not apply to works made for hire or to works that are represented in numerous copies, such as software or audiovisual works.

\textsuperscript{75} See Merryman, supra note 66.

\textsuperscript{76} See, e.g., Nimmer, supra note 14, at 8D-13.

\textsuperscript{77} Most courts found that § 106(2) pertains to the creation of separate works that are themselves subject to copyright. \textit{See}, e.g., \textit{Lee v. A.R.T. Co.}, 125 F.3d 580, 583 (7th Cir. 1997). In \textit{Lee}, discussing the reframing of a copyrighted postcard, Judge Easterbrook noted that if one were to adopt the suggested construction of § 106(2) as encompassing any changes made to the copyrighted object, that would mean that “the United States has established through the back door an extraordinarily broad version of authors’ moral rights, under which artists may block any modification of their works of which they disapprove. No European version of \textit{droit moral} goes this far. Until recently it was accepted wisdom that the United States did not enforce any claim of moral rights; even bowdlerization of a work was permitted unless the modifications produced a new work so different that it infringed the exclusive right under § 106(2).” \textit{Id.} (emphasis added). For a contrasting approach see \textit{Mirage Editions, Inc. v. Albuquerque A.R.T. Co.}, 856 F.2d 1341 (9th Cir. 1988). The Ninth Circuit’s approach in \textit{Mirage} remained unique in the landscape of American jurisprudence, and was subsequently questioned even in decisions of the Ninth Circuit itself. \textit{See} Cort v. St. Paul Fire and Marine Ins. Cos., 311 F.3d 979 (9th Cir. 2002). It is worth noting that the argument that the prohibited alterations to Windows would amount to a derivative work was never discussed by either the District Court or the Court of Appeals, and was apparently never raised by Microsoft.
\end{footnotes}
Python's Flying Circus." The editing was done in order to make time for commercial breaks and to remove materials that ABC found to be offensive or obscene. Ultimately, 24 minutes were edited out of the 90-minute show; the court found that "the truncated version at times omitted the climax of the skits to which appellants' rare brand of humor was leading and at other times deleted essential elements in the schematic development of a story line."

Monty Python had written the original script for the show. It then licensed the BBC to record the show, to broadcast it in the U.K., and to license it for broadcasting elsewhere. The license specifically allowed the BBC to alter the scripts before recording the show, on condition of consultation with the writers prior to the implementation of any changes, the license agreement was silent regarding post-recording alterations, but stated that Monty Python retained all rights in the script.

The BBC recorded the shows, and consequently licensed ABC to broadcast them in the U.S. However, under the BBC-ABC license agreement, ABC was specifically permitted by the BBC to edit the recorded show "for insertion of commercials, applicable censorship or governmental . . . rules and regulations, and National Association of Broadcasters and time segment requirements." This provision made the question of Monty Python's property-like right of integrity acute for the outcome of the case: ABC had no contractual obligation to refrain from editing the show, the BBC could not prevent the broadcast of the mutilated version of the show, and Monty Python had no privity with ABC.

The Second Circuit found two causes of action that justified the grant of a preliminary injunction. First, the Court found that the silence of Monty Python's license to the BBC concerning post-recording alterations meant that such alterations were not allowed under that license; and since "a grantor [the BBC] may not convey greater rights than it owns," any alterations made by ABC, as sub-licensee, amounted to infringement of Monty Python's copyright in

78. For the sake of clarity I will refer to Monty Python and its members collectively simply as Monty Python.
80. Id. at 25.
81. Id. at 17.
82. Id. at 18.
83. Clearly, Monty Python could sue the BBC for breach of contract; however this would not necessarily prevent further broadcasting of the mutilated version of the show by ABC.
84. Gilliam, 538 F.2d at 21.
The Court based its conclusion on an analogy between license provisions that restrict use of the work in other media, or that limit the period of the license, and license provisions that restrict alteration of the work. In reaching its conclusion the Court made no reference to moral rights in general or to the right of integrity in particular. The entire analysis was supposedly made under the auspices of copyright law.

Second, the court addressed an argument that relied directly on Monty Python’s moral rights. Monty Python argued that ABC was not allowed to attribute to Monty Python a “mutilated” version of its creation. Strangely enough, for what has since been deemed the cornerstone decision for moral rights in the U.S., the Court began its analysis of this argument by stating that U.S. law “does not recognize moral rights or provide a cause of action for their violation, since the law seeks to vindicate the economic, rather than the personal, rights of authors.” However, the Court then went on to find that the facts of the case stated a cause of action under §43(a) of the Lanham Act, because ABC’s broadcast of the edited show falsely represented the edited show as originating from Monty Python. This reasoning suggests that the Court recognized a right analogous to a right of attribution, rather than an integrity right. However, the Court muddied the waters as follows: “We therefore agree with Judge Lasker’s conclusion that the edited version broadcast by ABC

85. As previously mentioned, this assertion is incorrect as a matter of general copyright law. Under copyright law, a breach of a licensing term is also an infringement of the copyright only if the breach infringes one of the statutory enumerated rights or—in some courts—if the restriction can be read as a condition precedent to the entire licensing agreement. See supra note 14 and accompanying text. It should be noted that the possibility that the edited version of the show amounted to derivative work was not discussed—and apparently not raised—in Gilliam.

86. The analogy used by the Court can hardly justify the Court’s ultimate conclusion. This does not mean that the conclusion itself is wrong; as explained below, it just serves to show the lack of doctrinal analysis of moral rights. The Court took note of the fact that the two restrictions are simply not analogous as a matter of traditional copyright law: One kind of licensing restriction, the media/time restrictions, pertains to exclusive rights that are expressly enumerated in the Copyright Act and clearly serves the economic exploitation of the work; the other restriction, the alteration restriction, is not recognized by the Copyright Act, and serves primarily “to ensure that the copyright proprietor retains a veto power over revisions desired for the ... work.” Gilliam, 538 F.2d at 24.

87. It is not completely clear from the decision whether the focus of the argument is on Monty Python’s attribution right, integrity right, or both.

88. Gilliam, 538 F.2d at 24.

89. The section, which is usually considered to be part of trademark and unfair competition law, prohibits any use in commerce of words or marks whose use amounts to “false designation of origin, false or misleading description of fact, or false or misleading representation of fact” and is likely to cause consumer confusion.
impaired the integrity of appellants’ work and represented to the public as the product of appellants what was actually a mere caricature of their talents.”

At first glance, it would seem that both Gilliam prongs have similar effects; both introduced some form of moral rights into U.S. law, whether through the expansion of copyright law or of unfair competition doctrines. But in fact, the rights created by each prong are very different in scope and character.

The first prong of Gilliam recognized a right of integrity under copyright. This kind of integrity right is very different from the Continental droit moral, for two reasons. First, the right is arguably alienable; while the Gilliam case was brought by the authors of the original script, nothing in Gilliam suggests that Monty Python could not contract away its right to mutilate the work, or that such a contract would not be enforceable. A more difficult question is whether Monty Python could license this right to the BBC, who could then withhold it from or grant it to its sub-licensees, as it deemed fit; however, the Court’s reference to the “copyright proprietor[‘s] . . . veto power over revisions” suggests that the answer to this question is also positive.

Second, the right is arguably not perpetual; copyright has a definitive expiration date, and the Gilliam right of integrity under the first prong would expire with it.

In contrast, the second prong of Gilliam goes much further toward a Continental model of moral rights. The emphasis of the Court—and of § 43(a)—is on the misrepresentation of Monty Python’s talents by the showing of a mutilated version of its work. The right to prevent such misrepresentation is certainly inalienable; the misrepresentation concerns Monty Python directly, and not any of its licensees or assignees, such as the BBC. The right is also perpetual: even after the work enters the public domain, its mutilation will still misrepresent Monty Python’s talents.

In light of this analysis, it seems clear that from a doctrinal legal perspective, regardless of policy considerations, Gilliam’s first prong represents a very small step away from traditional common law

90. Gilliam, 538 F.2d at 25 (emphasis added).
91. Still another question regards the proprietorship in the right in the case of works-for-hire; as a general rule, under common law all the rights in the work would lie with the employer/beneficiary of the work, and not with the actual author. See 17 U.S.C. § 201(b) (2005). Again, the question was never raised in Gilliam.
93. Month Python could probably assign the right to sue for such a misrepresentation, but not the actual right not to be misrepresented.
approaches; all it does is offer a slightly broader interpretation of the exclusive rights under copyright. It is therefore not surprising that Gilliam’s first prong was followed in some subsequent decisions—most notably WGN. Furthermore, as already mentioned, some commentators refer to this part of the decision as the doctrinal basis for the right of integrity under U.S. copyright law.\footnote{4} In contrast, Gilliam’s second prong enjoyed very little success in subsequent decisions.\footnote{5} One of the few cases in which a full-blown moral right was invoked under Gilliam’s second prong was the Microsoft case itself. Microsoft argued for a § 43(a) right of integrity in a motion for summary judgment before the District Court, asserting its right to prevent the sale of mutilated versions of Windows under its name. In an unpublished decision that is not dissimilar to its final ruling on the merits, the District Court rejected the argument while questioning the soundness of Gilliam and the applicability of moral rights to software;\footnote{6} apparently, Microsoft did not appeal that decision.\footnote{7}

\footnote{4} See Nimmer, Supra note 14, § 8D.04[A][1]. Other commentators see the decision as a frail basis for the introduction of moral rights into U.S. law: “one school of thought holds that by stitching together the paternity cases, the visual art statutes, Gilliam, and other scraps and fragments, we can fashion a loincloth, or at least a G-string, that will cover our moral rights nakedness.” Brown, supra note 73, at 204. Yet other commentators warned against the introduction of moral rights as a mere extension of copyright, and suggested that such rights should only be introduced through sui generis legislation. See Pierre N. Leval, Toward a Fair Use Standard, 103 HARV. L. REV. 1105, 1128-29 (1990).

\footnote{5} At least when it comes to a positive right of attribution. See also infra note 97. Nevertheless, the theory underlying Gilliam had some success in cases where authors asked for the removal of attribution. See, e.g., King v. Innovation Books, 976 F.2d 824 (2d Cir. 1992).


\footnote{7} Five years later, in 2003, the Supreme Court had finally taken up the question, and in a unanimous decision declined to recognize moral rights of attribution under § 43(a) of the Lanham Act: “In sum, reading the phrase “origin of goods” in the Lanham Act in accordance with the Act’s common-law foundations (which were not designed to protect originality or creativity), and in light of the copyright and patent laws (which were), we conclude that the phrase refers to the producer of the tangible goods that are offered for sale, and not to the author of any idea, concept, or communication embodied in those goods. . . . To hold otherwise would be akin to finding that § 43(a) created a species of perpetual patent and copyright, which Congress may not do.” Dastar Corp. v. Twentieth Century Fox Film Corp., 539 U.S. 23, 37 (2003) (emphasis added). This decision clearly settles Microsoft’s § 43(a) argument against changes made to the boot sequence of Windows, because it was predicated on the fact that these changes removed all mention of Microsoft from the desktop. However, it should be noted that the Court did not directly address the question presented in Gilliam, i.e. whether attribution to an author that is misleading may give rise to a claim under § 43(a).
V. RIGHT OF INTEGRITY IN SOFTWARE: A CONCEPTUAL AND PRAGMATIC ANALYSIS

A. Generally

In the preceding parts, I have distinguished between two distinct concepts of moral rights. The first is the extreme Continental concept of perpetual, inalienable rights that lie with the original author of any creative work (for the sake of simplicity, I will refer to these rights as Continental moral rights). The second is the more modest concept of an alienable right of integrity that functions as an extension of copyright (I will refer to this right as a Gilliam right, invoking Gilliam's first prong). As I have previously explained, while most courts have found Continental moral rights inapposite to traditional principles of U.S. law, some courts have been willing to recognize a limited Gilliam right in certain situations. However, none of the pre.Microsoft decisions have recognized a Gilliam right in software. This raises two questions: First, can moral rights be applied to software? Second, should moral rights be applied to software? The first question is both conceptual and pragmatic, and will be discussed in this part. The discussion will begin with Continental moral rights, and follow with an examination of Gilliam rights. The second question is one of public policy, and will be discussed in the next part.

B. Continental Moral Rights and Software

1. The Conceptual Perspective: The Problem of Personality

As previously explained, Continental moral rights were initially developed in response to the recognition of a personality interest of authors in their creations. This idea is based on the assumption that the protected works reflect their authors' personalities in some way. However, this notion seems counterintuitive when applied to software, for at least two conceptual reasons.

First, software is usually developed by groups of individuals working together. Even though copyright law is generally well adapted to dealing with joint authorship, it was never designed to handle the beehive-like realities of the modern software industry, where joint authorship may extend to tens, hundreds, or even thousands of programmers, each working on specific routines or subroutines in the final creation. This problem is further exacerbated by the ever-growing trend towards outsourcing of the development of
certain parts within a program. The sheer number of potential “authors” raises some pragmatic problems that will be discussed later; for now, it is important to note that it raises critical conceptual problems in the context of continental moral rights, simply because it is very unclear just how much of each programmer’s personality is reflected in the final software product, if at all.

Second, software products are first and foremost functional works of authorship. As was explained earlier, software manufacturers were forced to seek the protection of copyright law for lack of a better, sui generis, form of protection. While software arguably meets the creativity requirements of copyright law, in many—if not most—cases it would seem counterintuitive to say that it reflects the personality of the programmers. What exactly do we know about the personality of the creator of BASIC, MS-DOS, Real Player, iTunes, Mozilla Firefox and the like? Arguably, nothing, or at least nothing more than we know about engineers that design cars or washing machines. In fact, when we think about works that reflect their creators’ personality, intuition seems to point first and foremost to artistic, rather than functional, works. Works of art are generally considered highly individual, enough so to convey something that is intimate to their creator. It is arguably exactly this notion that drove French Courts to recognize moral rights of artists, but not those of artisans.

2. The Pragmatic Perspective: The Problem of Software Evolution

Another major problem that Continental moral rights would raise if applied to software has to do with the constant evolution of software. Software manufacturers usually do not develop their

98. See, e.g., Hearing on S. 1301 and S. 1971 Before the S. Subcomm. on Patents, Copyright and Trademarks of the S. Comm. on the Judiciary, 100th Cong. 273-74 (1988) (Statement of Kenneth W. Dam, V.P. of IBM Corp.): “It is relevant to the moral rights ‘issue’ that a significant number of the computer programs we market are acquired in whole or in part from others. We acquire rights in programs from other companies, and we acquire rights from individuals. ... IBM would have to foot the bill, directly or indirectly, if there were claims for any moral rights violations by any of the persons from whom we acquire rights ... [a]nd if Berne adherence had anything to do with making these claims significant, we would be ... concerned.” Dam went on to argue that IBM is in fact not concerned, because—according to Dam—the Convention did not require the introduction of Continental moral rights into U.S. law.

99. The discussion assumes proprietary software development; the problems are even more daunting in the case of open-source code, where the development of the software is an ongoing process involving numerous developers, each adding and removing functionalities at will.

100. It should be noted that both objections refer mainly to mainstream commercial software; they do not necessarily apply to software with distinct artistic or expressive features.
products from scratch. Instead, after a specific program is launched, the manufacturer usually releases several new and improved versions of the same program before developing a completely new program. In this way, for instance, Microsoft developed and updated its MS-DOS software; from 1981 to 2000 Microsoft released increasingly more complex (and arguably better) versions of its initial MS-DOS system. Naturally, many new features were added to the system over the years—from new commands to completely new graphic-user-interfaces. However, the underlying program was, at least in part, the same old MS-DOS that Microsoft had developed for the IBM PC.101

This kind of evolutionary development process is unparalleled in any other field of copyrightable subject matter.102 It is completely dependent upon the freedom of the software manufacturer to constantly change the programs it markets. This freedom would be undermined if Continental moral rights were to be applied to software; the need for constant changes would directly clash with each programmer’s integrity right in the routines she had authored. The number of programmers involved with every program would therefore also create a pragmatic problem that would impede the efficient development process of new and better versions of existing software.103

101. While the user-interface of Microsoft’s OS changed dramatically over the years, all of Microsoft’s operating systems up to (and including) Windows 98 were actually built around an MS-DOS Kernel. Windows 95 was the first OS that relieved users from the need to actually install MS-DOS on their computer before installing Windows, but only Windows 2000 finally abandoned the MS-DOS technology for Microsoft’s NT technology. See Mary Bellis, The Unusual History of the Microsoft Windows, http://inventors.about.com/library/weekly/aa080499b.htm (last visited Jan. 11, 2006).

102. A somewhat analogous process might be that of encyclopedias and similar multi-authored text books that are constantly updated. Nevertheless, these would generally pose drastically smaller pragmatic problems, because the overall ‘functionality’ of the book does not depend on any single sub-part thereof.

103. See Dam, supra note 98, at 282, stating that IBM supports adherence to the Convention, provided there is no subsequent enactment of moral rights provisions. See also, Hearing on S. 1198 and S. 1253 Before the S. Subcomm. on Patents, Copyright and Trademarks of the S. Comm. on the Judiciary, 101st Cong. 60-64 (1989) (Statement of J. E. Brown). A similar conclusion was reached by most jurisdictions that recognize moral rights and that have a developed domestic software industry: Japanese Law was amended to provide that the right of integrity shall not apply to modifications in software if they are intended to improve the software’s functionality; French law was amended to provide that programmers do not enjoy the right of integrity or the right of withdrawal; similar provisions were adopted in the U.K. See J. E. Brown, The Protection of High Technology Intellectual Property: An International Perspective, 7 No. 12 COMPUTER LAWYER 17, n.26 (1990); Hoffman, Gross & Nawashiro Moral Rights and Computer Software: An International Overview 5 COMPUTER LAWYER 9, 9-13 (1988).


C. Gilliam Rights and Software

As the preceding sections demonstrate, Continental moral rights are inapposite to the way the software industry works. By comparison, the application of Gilliam rights to software would seem to pose less of a problem, at least from a pragmatic point of view.

The pragmatic problems discussed above originate, first and foremost, from the inalienability of Continental moral rights. Once this characteristic of the right of integrity is removed, so that the integrity right is aligned with copyright ownership, the implications of the right change dramatically. With Gilliam rights, the fact that many programmers work together no longer poses pragmatic difficulties. These individual programmers will either have no copyright in the program to begin with, or they will assign all their rights to the software manufacturer. Under Gilliam, the assignment of copyright would mean the assignment of the integrity right; no residual rights would exist beyond copyright, and all the rights associated with the copyright would lie in their entirety with the software manufacturer. The assignment of the copyright would therefore solve the problem of evolutionary development, because software manufacturers would hold all the rights to their programs, and would be free to alter them, even to the point of mutilation of the original program, as they would deem fit.

This analysis seems straightforward enough. However, it does not address the conceptual problems discussed before, and therefore misses what is perhaps the most crucial question regarding Gilliam rights: what exactly is the purpose of these rights? In other words, it is clear that in the software context, the Gilliam right of integrity solves many problems that plague the Continental right of integrity, but what is it exactly that these rights achieve?

One thing is certain, Gilliam rights do not serve the purpose that French courts sought to achieve when they conceived the concept of moral rights, i.e. the protection of the personality interest authors have in their creations. Gilliam rights offer extended protection to the rights of copyright holders, whether or not they are the authors of the copyrighted work. As the Microsoft decision made abundantly clear, in the software context this protection would generally be extended to a corporation without any personality to protect.

104. See 17 U.S.C. § 201(b) (2005). In case of a work for hire, “the employer or other person for whom the work was prepared is considered the author . . . and, unless the parties have expressly agreed otherwise in a written instrument signed by them, owns all of the rights comprised in the copyright.”
Strangely enough, the purpose of the right was never questioned in *Gilliam* and its progeny, and was also largely ignored by commentators. Of course, in *Gilliam* the Court was not directly faced with the question of justification for the right it had created, because on the facts of that case the author—Monty Python—was also the proprietor of at least some of the copyrights. Furthermore, the *Gilliam* Court clearly did protect the very real personality concerns of Monty Python's members. However, once the D.C. Circuit extended *Gilliam*’s reasoning to the software industry, where authorship and copyright are almost inherently separate and no clear personality-type interest exists, the question crystallized. In the next part, I will inquire as to the existence of a satisfactory answer to this question.

**VI. RIGHT OF INTEGRITY IN SOFTWARE: AN ECONOMIC ANALYSIS**

**A. Why an Economic Analysis?**

Moral rights clearly do not address the same problems (the same market failures) that are central to other IP rights. Moral rights have nothing to do with the marginal cost of copying creative or innovative work; they have nothing to do with the non-rivalrous nature of such works.

Continental moral rights aim to protect the personal, non-economic rights of authors. Due to the non-economic nature of these rights, courts that have applied them usually did not examine the resulting economic effect of their application. Instead, such courts could simply assume that moral rights promote some non-economic social value, and therefore their effect on innovation, creativity or overall social welfare is irrelevant.\(^{105}\)

This approach can no longer be justified under *Gilliam*. Once we construe moral rights to be an integral part of copyright, they must be analyzed and justified on the same terms that apply to copyright in general. As discussed briefly in Part II of this paper, copyright law has one clear purpose: to promote social welfare by incentivizing creativity. Under U.S. law, this purpose is not only the fruit of court-made common law, but also a constitutional principle that delineates the outer boundaries of federal copyright protection;\(^{106}\) any right

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105. As explained below in more depth, this does not mean that moral rights cannot be justified in terms of efficiency—only that this exercise was never undertaken by the courts.

106. U.S. Const. art. 1, § 8, cl. 8 grants Congress the power “To promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries.” The Supreme Court has interpreted this language
granted under copyright law that is systematically welfare-reducing is arguably unconstitutional. If we assume that any IP right has a social cost, at least in some situations, then before we recognize a new right, such as a Gilliam integrity right under copyright, we must be able to show, by way of economic analysis, that in general this right does indeed promote creativity, thus offsetting these costs and ultimately increasing social welfare.

B. Previous Economic Analysis of the Right of Integrity

1. The Hansmann & Santilli Approach

Before turning to the analysis of the Gilliam right of integrity in the software context, it is worth examining the scant economic writing that exists about the subject of moral rights. The best attempt at an economic analysis of moral rights seems to be that proposed by Henry Hansmann and Marina Santilli (Hansmann & Santilli). While this analysis focuses on Continental moral rights in works of visual arts, its methodology and conclusions provide a valuable starting point for an assessment of the welfare implications of the right of integrity and for an examination of the subject matter to which it should apply; therefore, a brief overview of the Hansmann & Santilli analysis is in order.

Hansmann & Santilli begin their analysis by characterizing the right of integrity as one that creates servitudes in chattels: the right of the original author to exercise some form of control over her work even after that work has been sold and resold to others.

Generally, the law prohibits servitudes in chattels on efficiency grounds. Usually, the seller of the good has no strong interest in the

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107. Naturally, Congress is free to grant rights to authors even if these rights do not promote social welfare in some specific instances. See Mitchell Bros. Film Group v. Cinema Adult Theater, 604 F.2d 852, 860 (5th Cir. 1979) (noting that “[t]he all-inclusive nature of the 1909 Act reflects the policy judgment that encouraging the production of wheat also requires the protection of a good deal of chaff”). However, the grant of a right that is systematically welfare-reducing is arguably outside the ambit of Congressional powers. See Graham v. John Deere Co., 383 U.S. 1, 6 (1966) (in the context of patents).

subsequent use of the good that would require protection, whereas servitudes impede the use and transferability of goods and create legal uncertainty as to the rights to use the goods. Exceptions to the general rule against servitudes are therefore recognized where these rationales do not exist or are not as forceful, i.e. when (i) the original seller does have an important interest in subsequent use, because unrestricted use of the goods will have an adverse effect on her; (ii) legal uncertainty is minimal, because subsequent purchasers can easily be notified of the restrictions as to use; and (iii) the servitude does not impose an unreasonable burden on subsequent uses of the goods, because subsequent purchasers can obtain release where appropriate. Naturally, the first of these factors is the most crucial in any economic analysis; once a truly important interest of the original seller is identified, it is up to the legal system to come up with mechanisms that would minimize the costs of protecting this interest, i.e. cost-effective notice and release mechanisms. Therefore, the discussion will focus on the first factor.

Next, Hansmann & Santilli proceed to argue that integrity rights can have an important economic role in protecting the artist's reputation. Hansmann & Santilli suggest three ways through which the protection of the artist's reputation may enhance social welfare. First, from the point of view of the artist, excessive changes to the artist's work may damage the artist's reputation and consequently reduce the price she may charge for her other works. The right of integrity therefore protects the future income of the artist. Second, from the point of view of other owners of the artist's work, a

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109. As mentioned before, some recent writing has questioned the viability of these assertions. See Robinson, supra note 16. A full-blown answer to Robinson's arguments goes well beyond the scope of this paper; however, it should be noted that Robinson seems to overlook the fact that IP rights—unlike any other property rights—are subject to clear constitutional limitations. Therefore, it is not enough to show that their extension does not harm efficiency—as Robinson claims—but rather one needs to prove that such extension actually fosters innovation or creativity in ways that mere contracts would not. As the analysis in this section demonstrates, no such showing can be made in the case of a right of integrity in software.


111. This is also the factor that is more applicable across the board: Notice and release mechanisms are inherently industry-specific.

112. This rationale was probably recognized also by the Court in *Gilliam*, hence the emphasis on protecting the way Monty Python's talents are presented to the American public; a similar argument was advanced by Jane C. Ginsburg in her testimony before the subcommittee on Courts, Intellectual Property, and the Administration of Justice regarding the Visual Artists Rights Act of 1990. See *The Visual Artists Rights Act of 1989: Hearing on H.R. 2690 Before the H. Subcomm. on Courts, Intellectual Property, and the Admin. of Justice of the H. Comm. on the Judiciary, 101st Cong. 80 (1989)* (statement of Prof. Jane C. Ginsburg) [hereinafter Ginsburg].
reputation-damaging alteration of one of the artist's works may lower the market value of the artist's entire body of works, including the value of works that are already owned by others. Such an alteration therefore imposes costs on other owners of the artist's work. The right of integrity can protect against the imposition of such costs. Third, from the point of view of the general public, works of art often represent important elements in the community's culture; the loss of such works would arguably deplete social welfare.

In the next part of their analysis, Hansmann & Santilli offer a characterization of the type of works to which integrity rights should attach. In light of their reputation-related discussion, Hansmann & Santilli suggest that a right of integrity should be recognized only in situations where: (i) the artist's reputation has a bearing on the value attached to his works, i.e. the same work would be sold for a higher price if it could be attributed to the specific artist than if it could not; and (ii) the artist's reputation is based on the entire body of works she has created.

As an example of the first prong, Hansmann & Santilli offer a comparison between the drawing of a painting and the invention of the radio. Whereas the painting's price would largely depend on the painter's identity, "it is not important for the radio that Marconi invented it." As an example of the second prong, Hansmann & Santilli describe a situation where one's reputation derives from a field other than the field of the creative work that is being altered. If a famous politician were to sell a few of her paintings, the alteration of only one of these paintings would probably not damage the politician's reputation as a politician, nor would it influence the value of her other paintings since that is derived from her celebrity-status and not from her artistic talents.

2. Some Criticism of the Hansmann & Santilli Approach

Hansmann & Santilli's analysis seems straightforward enough when it comes to the interests that may be protected through the right of integrity. On the other hand, their conclusion as to the tests that should determine the subject matter to which the right of integrity should attach is unsatisfactory. For example, consider Hansmann & Santilli's conclusion that Marconi is not important for radio; this conclusion is really nothing more than a restatement of the fact that when it comes to radios, no reputation-related interest lies with the inventor. However, this fact alone does not mean that there is no reputation-related interest in radios at all. Thus, while Hansmann & Santilli's assertion that the Marconi name has no bearing on the price
of a radio is undoubtedly true, the same cannot be said about the fact that a specific radio was manufactured by Sony. In fact, one can easily make the argument that Sony easily meets both tests suggested by Hansmann & Santilli; its reputation clearly affects the price of its products, and its reputation is affected by or based upon, its entire line of products.

Consider another example: that of automobile manufacturers. It seems safe to say that at least some automobile manufacturers easily meet the two Hansmann & Santilli tests. For instance, we could safely assume that any Audi automobile would sell for a higher price than a comparable automobile made by a less prestigious manufacturer; therefore, the price of an Audi automobile clearly depends on Audi's reputation. On the other hand, following a "60 minutes" televised report that aired in November 1986 and in which CBS claimed that one specific Audi model, the automatic-shift Audi 5000, had a tendency to accelerate out of control, killing innocent bystanders and damaging property in the process, sales of the entire Audi range sharply declined. Therefore, Audi's entire reputation is affected by the reputation associated with each of the models it produces.

These examples clearly show the inadequacy of the Hansmann & Santilli tests. These tests do little more than inquire whether the reputation connected with some commercial good lies with whomever the law determines to be the good's author. However, they do not explain why the reputation of authors should be awarded the extra protection afforded by the right of integrity, whereas the reputation of

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113. In fact, outside the United States, Audi sells its cars as part of the Volkswagen 'Konzern,' which consists of Audi, Volkswagen, Skoda and Seat (as well as high-end brands Bentley, Bugatti and Lamborghini). All brand names manufacture and sell some cars that are based on the same basic design; however, each brand targets a different segment of the market, and therefore prices its products differently. Thus, in Europe one can choose an Audi or, for about 60% of the price, a Skoda that is made of the same basic components and that in many cases is manufactured in the very same plant. For a brief description of the pros and cons of the platform-sharing model used by the Volkswagen Konzern see Scott Miller, VW Sows Confusion with Common Pattern for Models, WALL ST. JOURNAL, Oct. 25, 1999, at A25.

114. Audi's sales in the U.S. peaked in 1985 with the delivery of just over 74,000 cars. Following the 1986 CBS broadcast and the ensuing litigation, Audi sales plummeted to well under 20,000 cars a year between 1991 and 1995, and never reached anything like its 1985 sales figures until 2000 (the figures are based on information obtained from Audi of America; a summary of these figures can be found at http://www.humanspeakers.com/audi/sales.htm). This drop in sales occurred despite numerous reports that cleared Audi of all allegations concerning the so-called 'sudden acceleration'. See, e.g., PETER W. HUBER, GALILEO'S REVENGE 54-74 (1991).
non-authors should not be awarded similar protection. Why should radios or cars not be sold subject to a right of integrity? To this question, which is paramount to our examination of the software context, Hansmann & Santilli offer no answer.

C. Some Further Thoughts on the Applicability of the Right of Integrity

While the Hansmann & Santilli tests offer no substantive distinction that would justify granting integrity rights to Picasso while denying them to Sony, both intuition and longstanding legal traditions suggest that such distinctions do, in fact, exist. In the following passages I will suggest three additional tests that emphasize three such distinctions. None of the tests is conclusive. However, in conjunction with Hansmann & Santilli’s tests, they provide better guidance as to the desirability of the application of the right of integrity to new subject matter, such as software.

1. The Secondary Market Test

As was pointed out by Hansmann & Santilli, servitudes on chattels can only be justified (in welfare terms) when the original seller has an important interest in the consequent use of the goods by subsequent purchasers. Even then, servitudes can only be justified if the interest of the seller cannot be protected by other means at a lower cost.

This is where the secondary market test comes into play. It is predicated on the assumption that when the seller sells the goods directly to the end-user, and no re-sales to third parties are expected, i.e. no secondary market exists, the use of servitudes is superfluous. Instead, the parties can define their relationship more efficiently through contract. The use of contract would allow the parties to negotiate the optimal level of integrity protection, and to price that protection accordingly. A contract would also give clear notice to the buyer as to her rights. Therefore, the secondary market test would

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115. Reputation of manufacturers is protected under trademark and unfair competition law; however, this protection is focused on the consumer, rather than the manufacturer, and is therefore narrower than that of a right of integrity.

116. It is important to note that the test does not require a direct sale to the end-user. Contractual relationships would work in limited vertical chains of distribution; if protection is important enough to the seller, it could either vertically integrate the distribution chain, or direct its downstream distributors to contract for protection with the end-users. Creative lawyering can ensure enforcement of such protection, either through the use of third-party beneficiary clauses or through specific obligations of enforcement, as part of the distribution agreement.
suggest that where no secondary market exists, the right of integrity should not apply.\textsuperscript{117}

However, there are two reasons why the secondary market test alone does not offer a comprehensive solution to the problem posed by the Hansmann & Santilli tests. First, while the test draws a clear distinction between paintings and radios (the first are expected to be traded more or less perpetually, while the latter are expected to come to rest with the first end-users to whom they are sold), it does not offer any guidance as to why mass-produced goods that do have a secondary market, such as cars, should not give rise to a right of integrity just as paintings do. Of course, the very proposition that automobile manufacturers should enjoy a right of integrity in their products is counterintuitive and stands in contrast with a long line of cases where courts were generally hostile to attempts by automobile manufacturers to exercise control over their products after their initial sale.\textsuperscript{118} In order to justify these intuitions and long-standing legal traditions, further substantive distinctions must be shown to exist between the two cases.

Second, one might argue that in cases where no secondary market exists, the cost of servitudes is minimal.\textsuperscript{119} Thus, the question in these situations (or so the argument would go) boils down to how, absent specific contractual provisions on protection of integrity, an efficient default legal rule ought to be constructed. This is essentially an empirical question: If we were to find that in a specific industry, such as the radio industry, \textit{all} original sellers would like to impose a right of integrity on end-users, and \textit{all} end-users would not object, then, even without a secondary market, a legal rule recognizing such a right would be more cost-effective than contracting for such a right.

\textsuperscript{117} Another way of analyzing the effects of the lack of a secondary market would be through its effect on the interests recognized by Hansmann & Santilli: The lack of a secondary market would mean that reputation damage to the original seller would have no adverse effect on current owners of goods made by the same original seller, since they would not be looking to sell them in the future.

\textsuperscript{118} See Pick Mfg. Co. v. General Motors Corp., 299 U.S. 3 (1936) (Court found agreement requiring franchisees to use only original spare parts to amount to a tying arrangement, but decided there was no clear error in the lower court’s finding that GM had a legitimate business purpose for such arrangement). See also U.S. v. Mercedes-Benz of North America, Inc., 517 F.Supp. 1369 (D.C. Cal. 1981) and Metrix Warehouse, Inc. v. Daimler-Benz Aktiengesellschaft, 828 F.2d 1033 (4th Cir. 1987) (Courts found agreements requiring the use of original spare parts to be an illegal tying arrangement).

\textsuperscript{119} The cost of notice would be minimal, due to the proximity between the original seller and the end buyer.
down intricate distribution chains. Again, to answer this argument, further distinctions must be drawn.

2. The Volume-of-Sales Test

Volume-of-sales has long been recognized as a relevant factor in the context of moral rights. The Visual Artists' Rights Act of 1990, for instance, applies moral rights to visual works that were reproduced in no more than 200 copies. Nevertheless, the economic basis for this distinction has not been thoroughly discussed.

The volume-of-sales test is linked directly to Hansmann & Santilli's second test, which requires that the original seller's reputation be based on its entire body of work. The volume-of-sales test is relevant to this issue because it affects the way changes to a single good reflect on the original seller's reputation. If we go back to an example used before, each of the works sold by a painter is usually so unique, and the overall number of works produced over the painter's life is so small compared to commercial manufacture, that changes to one or two of the works might have an adverse effect on the way the art world appreciates the painter's entire body of work. In comparison, if only one or two Audi 5000s would have accelerated out of control after their having been altered by a local mechanic, the reasonable conclusion of the general public would have been that Audi was not at fault; after all, thousands of other cars of the same make and model would have been cruising along safely. In other words, the volume-of-sales factor is crucial because where it is

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120. The requirement of no more than 200 copies was introduced into the Visual Artists Rights Act as part of a political bargain that was meant to relieve the fear of major Hollywood studios that the Act would grant moral rights in movies to directors and screenwriters—the very same moral rights invoked by Monty Python in *Gilliam*. See The Visual Artists Rights Act of 1989; Hearing on H.R. 2690 Before the S. Subcomm. on Courts, Intellectual Property, and the Admin. of Justice of the H. Comm. on the Judiciary, 101st Cong. 25 (1989) (Reply of Hon. Edward J. Markey, Member, H. Comm. on the Judiciary, to question by Hon. Howard L. Berman, Member, H. Comm. on the Judiciary). It should be noted that currently, American movie studios require that each screenwriter explicitly waive any moral rights they may have in a script or screenplay, except a contractual right of attribution, which is subject to the credit-attribution procedures agreed upon between the studios and the Writers Guild of America. See Stephen F. Breimer, The Screenwriter's Legal Guide 112, 160 (1995) (noting that the studio's "basic philosophy is they pay for it, they can do whatever they want with it").

121. In the real case, the claim was that the malfunction was due to a failure by Audi itself, and not due to any alterations made to the cars. Nevertheless, if the malfunction would occur in a large number of cars due to an alteration made by a major Audi distributor, Audi's reputation would probably still be harmed, even if it never sponsored or condoned the alteration.
significantly large, only a *systematic* alteration to the products would affect the original seller's reputation.\footnote{122}

The volume-of-sales test solves the problem posed by non-artistic goods that have a secondary market. It clearly shows that when it comes to assessing the need for a right of integrity, the case of mass-produced goods such as cars (mass-produced products with a secondary market) is analogous to that of radios (mass produced products without a secondary market), and differs from that of paintings (unique products with a secondary market). Systematic alterations to cars, of a scope that would affect the reputation of the automobile manufacturer, cannot be made by end-users; they usually cannot even be made by a single workshop, they can only be made by an entity high enough in the distribution chain to have access to an extremely large number of cars. Such an entity would typically have a direct contractual relationship with the automobile manufacturer, allowing the automobile manufacturer to negotiate any integrity protection it finds beneficial—for the appropriate price and subject to regular antitrust scrutiny.

The conclusions drawn from the volume-of-sales test do not necessarily mean that original sellers of mass-produced products can never have an interest in maintaining the integrity of their products down the distribution chain, even in the hands of end-users. In fact, over the years, many manufacturers of mass-produced products have tried doing just that, and have offered differing justifications for doing so.\footnote{123} However, these conclusions suggest that no such legitimate

\footnote{122. It should be noted that the test refers to situations where the mass-produced articles are identical, i.e. there is no "original", as opposed to "reproduction." Thus, a car would generally be considered a mass-produced good, whereas Picasso's original Guernica would not, regardless of the number of posters, postcards and reproductions of the painting were made over time. The assumption is that where such distinction does exist, the public is aware of the difference between the original and the reproduction; even a systematic alteration to a huge number of Guernica reproductions would not be likely to affect Picasso's reputation. For a non-economic discussion of the reasons for recognizing a right of integrity in an original (or limited edition) copy even when thousands of reproductions were made. See Ginsburg, supra note 112, at 86.}

\footnote{123. Automobile manufacturers, for example, have tried numerous times to control the derivative markets for spare-parts used in their automobiles by franchisees and by end-users, with varying degrees of success. One can propose a number of purposes that drive these attempts: First, they may reflect an attempt by the manufacturers to price discriminate between consumers on the basis of usage (i.e. charge a higher overall price from high-intensity users than from low-intensity users), a purpose that may or may not be welfare-enhancing. For example, Benjamin Klein & John Shepard Wiley, *Price Discrimination as an Antitrust Justification for Intellectual Property Refusals to Deal* 70 ANTITRUST L.J. 599 (2003).}
interest exists as a general rule. Because the alterations made by end-users usually have no impact on the original seller’s reputation, the imposition of restraints on the use made by end-users seems, as a general rule, not to promote any welfare-enhancing interest of the original seller. Therefore, the default rule in the case of such mass-produced products should not allow the imposition of such restraints, unless the manufacturer can show some unique justification for them.

Finally, the volume-of-sales test answers—at least partially—the argument concerning the cost of contracting for integrity protection. If we take the example of a contract between an automobile manufacturer and its main distributors, clearly the cost-saving argument loses much of its force: the parties to such contracts are sophisticated players and therefore the distribution contracts would typically be elaborate, finely negotiated long-term contracts; any integrity protection would have to be tuned to reflect the role that the specific manufacturer assigns to each specific distributor. Thus, any default integrity rule that a legislature might devise would be rewritten by the parties in any case, and the introduction of such a rule would therefore serve no cost-reducing function.  

3. The Functional / Artistic Test

The third test is perhaps the most vague of the three: the judgment as to whether something is functional or artistic is difficult in some cases to the point of arbitrariness. Nevertheless, the distinction is clear in most situations, and may tilt the balance in cases

Second, automobile manufacturers may be able to extract rents through the exercise of market-power in the derivative market whenever such extraction of rents would not result in a decrease in demand for their automobiles, due to some informational inefficiency in the automobile market; a similar theory was accepted by the Supreme Court in Kodak v. Image Technical Services, 504 U.S. 451 (1992), over the objection of (among others) the Motor Vehicle Manufacturers Association of the United States, Inc., in an amicus brief it filed with the Court. Third, automobile manufacturers may be trying to protect their reputation for quality, or reduce the costs they incur under warranty provisions, a purpose that is arguably welfare-enhancing, as long as the manufacturers can show that their own spare parts are of superior quality and that the usage of inferior parts would reflect on the manufacturers reputation. See, e.g., Mozart v. Mercedes Benz, 833 F.2d 1342. Whatever the reason for the manufacturers’ interest in the derivative market for spare parts, it cannot be assumed to be welfare-enhancing, and therefore cannot justify a default right of integrity.

124. It should be noted that Microsoft did expressly contract with the OEMs for the integrity of Windows. Therefore, its arguments may have been directed at an integrity right that must be expressly invoked in a license agreement. If this is a correct inference, then the analysis of the costs of contracting seem irrelevant to Microsoft’s position, which assumes the need for contracting anyway.
where the previous two tests, combined with the original Hansmann & Santilli tests, fail to produce a clear answer.

The functional/artistic test suggests two answers to the arguments concerning the need for protection of the creator’s interests, as well as those concerning the cost of contracting for integrity protection. First, it emphasizes the greater chance for a conflict between the original seller and subsequent buyers in the case of works of art. This fact is critical because an integrity right plays an important role only when the original seller and the buyer may have conflicting views on the good sold.

In the case of a painting or a television show, for example, a subsequent buyer of the work may feel that the work could be improved in some way through some form of alteration. After all, beauty is in the eye of the beholder, and artistic value is in many senses subjective. Thus, some buyer may decide that James Rosenquist’s F-111 would be better if the words “U.S. AIR FORCE” were removed from it. Some buyer of a Henri Cartier-Bresson black-and-white print might think that it could be improved by adding colors to it. Apparently, ABC thought that Monty Python’s Flying Circus would be more appealing without the punch lines. In these situations, the reputation interests of the original seller, namely, the artist, conflict with the interests of the buyer. As Hansmann & Santilli demonstrated, it is these cases that call for protection of the artist’s interests through the application of a right of integrity.

125. The functional/artistic test also works in the realm of the third justification suggested by Hansmann & Santilli: Where a good is functional, it arguably has no public significance.

126. Of course, most artistic works are a far cry from those produced by Rosenquist, Cartier-Bressons or even Monty Python. A complete analysis of the desirability of attaching moral rights to trivial works of art is beyond the scope of this paper. Nevertheless, at least two reasons why the rights should not attach only to works of great artistic value are immediately apparent. First, courts are ill equipped to distinguish between trivial works of art and great works of art. “It would be a dangerous undertaking for persons trained only to the law to constitute themselves final judges of the worth of pictorial illustrations, outside of the narrowest and most obvious limits.” Bleistein v. Donaldson Lithographing Co., 188 U.S. 239, 251 (1903). Second, many times the distinction does not become clear until a considerable period of time has passed since the creation of the work. For instance, it is well known that Van Gogh’s greatness was not recognized during his lifetime; Rembrandt’s masterpiece ‘Night Watch’ was cut to fit the size of the room for which it was commissioned, and payment for the painting was withheld due to Rembrandt’s unconventional depiction of an action scene. “[S]ome works of genius would be sure to miss appreciation. Their very novelty would make them repulsive until the public had learned the new language in which their author spoke.” Id. It seems that it is the artist who should enjoy the benefit of the doubt during such period of time when the artistic value of her work is not yet clear. Similar reasons were the basis for rejection of a proposal to grant broad protection to the integrity of works of “recognized stature” when it came before
On the other hand, in the case of a car, or a computer, or a washing machine, the value of the goods is usually much more objective; the good has a function, which it does or does not perform. The value perceptions of the original seller, namely, the manufacturer, and of the end-user, are better aligned; they both want the car, the computer or the washing machine to work, and, as a general rule, they want them to work in pretty much the same way. Therefore, the original seller would usually have no residual interest in the good that would require protection from the end-user.\textsuperscript{127}

Second, the functional/artistic distinction emphasizes the difference in scope between the maintenance and repair work that needs to be performed on functional goods, as opposed to artistic goods. As a general rule, functional goods require maintenance and repair to maintain their original functionality. The scope of maintenance and repair procedures on functional goods is, as a general rule, extremely broad: the owner of a car is required to change filters, tires, brake pads etc. on a regular basis, and she may need to replace the entire engine or body panels in the case of a serious malfunction or an accident. The owner of a computer may be required to replace major parts such as a CPU or a hard drive. An integrity right would put immense legal pressures on these procedures; the fine line between service and alteration would turn the most mundane servicing jobs into legal battlefields. The parties would have to contract out of these restrictions, at least to some extent, in nearly every case.

In stark contrast, any maintenance procedure that is required on works of art is usually minimal. Traditional works of art usually require minimal and infrequent restoration, modern works of art, that incorporate more perishable goods, may require more maintenance work, but still nowhere near the extent or frequency of mass-produced products.\textsuperscript{128} Furthermore, because of the small number of works involved, restorations of artistic works can usually be made with the consent and guidance of the artist (or the body that is entrusted with

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\textsuperscript{127} This section refers to end-users because the creator would usually have direct contractual relationships with the distributors, and therefore the "cost of contracting" argument is hardly applicable. Nevertheless, in most cases the argument works just as well with distributors: a distributor's interests are usually also aligned with that of a manufacturer, especially in cases such as Microsoft where the product serves as an input in the distributor's own product.

\textsuperscript{128} Exceptions do exist where works are made from off-the-shelf products that require just as much maintenance within the work of art as they would outside of it.
whatever moral rights remain in the works), so there would be no need to contract out of the right of integrity. Therefore, the application of a right of integrity to works of art would not result in undue costs.

**D. Application of the Analysis – The Case of Software**

Under the preceding analysis, it is clear that a right of integrity should not, as a general rule, be applied to software. It is true that some software manufacturers meet the Hansmann & Santilli tests. Arguably, Microsoft’s reputation is strong enough to have a bearing on the software products that it sells; Microsoft’s reputation is probably affected by the entire line of products that it sells. However, all the additional distinctions offered in the preceding section suggest that any integrity right in software would not foster creativity or be welfare-enhancing.

Software is not traded in any secondary market; its distribution is done either directly to the end-user (in the case of on-line sales) or through a short vertical distribution chain (such as the use of OEMs by Microsoft). Packaged software is a mass-produced product, with a huge volume of sales. Software is functional, rather than artistic. The “servicing” rationale of the functional/artistic test seems particularly crucial in this instance, because software does not require mere service, but actual adaptation to other software that is installed on the computer and to new hardware that is installed.

Two questions, however, must still be answered. The first question is whether the fact that software is supposedly “licensed,” rather than sold, affects the analysis in any way. The second question is whether the application of a Gilliam integrity right, rather than a Continental integrity right, would affect the analysis. I believe that the answer to both these questions is no.

As for the first question, and as mentioned earlier in this paper, courts in the copyright field have eroded the licensing/sale doctrine to

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129. For some examples of the challenges facing curators and conservators and their cooperation with artists when handling such issues see F. Couture, Réexposer ou produire l’œuvre l’originale ? / To Re-exhibit or To Produce the Original Work ?, 71 ESPACE 6 (2005).

130. Programs interact with each other, and thus “alter” each other, on a regular basis. On any computer station at Columbia Law School, for instance, Microsoft Word has icons for the creation of Adobe Acrobat PDF files and for looking up references on Westlaw and Lexis-Nexis; Many computer users have Google or Yahoo toolbars installed on their web browser; Symantec’s Norton Antivirus and a host of other programs change the Windows boot sequence and registry so that they may be launched automatically. Arguably, any of these changes might infringe a strictly-applied right of integrity.
a mere labeling exercise. Whether this trend is justified is a question beyond the scope of this paper. Nevertheless, for present purposes, even if we do assume that Microsoft licenses Windows rather than sells it, the distinction makes no economic difference. Regardless of the type of transaction used, packaged software products leave the hands of their manufacturers and end up in the possession of the distributors and subsequently the users. The only detrimental economic effect an alteration of the software may have on its manufacturer is the reputation-related damage recognized by Hansmann & Santilli. As was clearly demonstrated by the other tests, this interest requires no property-type protection. Furthermore, such protection would be utterly detrimental if imposed as a default rule.\footnote{Contracting out may be especially complex in the software context, because software manufacturers cannot foresee the kinds of new software that will interact with their own in the future.}

As for the second question, again it would seem that nothing in Gilliam changes any of the rationales recognized by Hansmann & Santilli or any of the tests devised in this paper. Gilliam has allegedly recognized an integrity right that does not necessarily lie with the author, but rather with the copyright proprietor—in this case, with the software manufacturer. While Hansmann & Santilli assumed that the right would lie only in authors, their analysis did not suggest any substantive justification for that rule other than it being the historic rule of Continental moral rights. On the contrary, under their analysis, the rights could lie just as easily with software manufacturers or even car manufacturers. This flaw in the Hansmann & Santilli analysis is rectified through the introduction of the additional tests. These do not assume the scope or nature of the right of integrity; instead, they are used to determine the welfare implications of a right of integrity in any given case, and from that to determine the right’s applicability. Therefore, these tests question the application of what is essentially an abstract integrity right, which is neither a Continental nor a Gilliam one. The conclusion of the analysis is therefore unaffected by the type of integrity right that is under examination.

VII. MICROSOFT REVISITED

The Microsoft Court accepted Microsoft’s right of integrity argument without any analysis of its consequences; it simply referred to Gilliam and (mis)applied it. In doing so, the Court not only overlooked basic IP questions, but also a number of problems that are unique to Microsoft’s product and method of distribution, and that go
beyond the scope of this paper. Among other things, the Court overlooked the problems its decision creates in the case of operating systems such as Windows, because operating systems—even more so than other types of software—are specifically intended to serve as platforms to be adapted or altered by the user in order to meet her unique needs. The Court also ignored the fact that once an integrity right is recognized, it will apply down through the entire chain of distribution unless a specific license to alter the program would be granted, because, as the Gilliam court made clear, “a grantor [the OEM] may not convey greater rights than it owns.” Naturally, no such license is included in the Windows end-user license agreement. Thus, if the rule created by the Court were to be followed to its ultimate conclusion, end-users of Windows would not be allowed to install alternative “shells” on Windows, a result that even Microsoft never contemplated.

All these flaws in the Court’s decision are predicated on the Court’s basic error: the automatic application of Gilliam to a situation that poses entirely different policy questions. The absolute lack of any economic analysis of the right of integrity issue (its economic justification, its viability in situations that raise anticompetitive concerns, and its balancing with any anticompetitive effects it may have) is not explained in the decision. This lack of analysis seems particularly peculiar when compared with the painstakingly long analysis of the other issues that were argued before the Court. Whatever the reason for this, if the rule declared by the court were to be followed, it would exact an unnecessary welfare toll without providing any real social benefit.

As for the consequences of the court’s decision on the specific case before it, the recognition of a right of integrity has completely skewed the Court’s antitrust analysis of Microsoft’s licensing restrictions. This is not to say that Microsoft should be forever barred from contracting for integrity protection with the OEMs; the foregoing analysis suggests that a right of integrity would not be welfare enhancing in the software context because, among other things, contracting would be the more cost-effective way of optimally protecting the integrity of software. However, a contract for integrity protection is just that, and its antitrust analysis should be identical to that of any other contractual provision. If the restrictive provisions have an anticompetitive effect, as the Court found they do, they ought to have been upheld only if Microsoft could show that they are

132. Gilliam, 538 F.2d at 21.
nevertheless justified because they serve a legitimate business purpose that counterbalances their anticompetitive effects.

What kind of justifications could Microsoft point to? For this we need to go back to Hansmann & Santilli’s analysis of the economic justification for the right of integrity. As demonstrated by that analysis, Microsoft would have had to show that the alterations made to Windows would have had an adverse effect on Microsoft’s reputation. To prove this, Microsoft would not only have had to show that the alterations would have undermined the “quality and consistency” of Windows, as it attempted to do, but also that the deterioration in the quality and consistency of Windows would have an adverse effect on Microsoft, rather than on the OEMs that were making the alterations. In fact, the Court found that Microsoft had failed to prove any loss of quality to Windows, as well as any adverse effect such loss would have had on Microsoft’s reputation. The Court’s conclusion from this finding should therefore have been just the opposite from its actual decision: Microsoft should never have been allowed to prevent OEMs from altering Windows in a way that would have been beneficial to them.

CONCLUSION

We are witnessing a judicial trend towards expansion of IP protection to post-sale and licensing restrictions, coupled with some calls from academia to freely allow such restrictions. Unfortunately, this trend has not been based on rigorous economic analysis of the costs associated with the expansion of IP rights, costs that may be especially high when the restrictions raise anticompetitive concerns. Without a strong analytic background, courts struggle to develop doctrine on the basis of intuitions. These attempts may occasionally succeed, as they have at least to a limited extent in Gilliam, a case whose result is at least arguably correct. Nevertheless, as the Gilliam case demonstrates, even successful applications cannot offer a sound doctrinal backbone when they are loosely based on haphazard analogies. Without sound reasoning, subsequent decisions will tend to misapply the rule. When this happens in an area of great economic importance, as was the case in Microsoft, such misapplication can exact a severe toll on social welfare.

This paper points out the risks associated with expanding IP protection to post-sale and licensing restrictions, and calls for a more reasoned approach in future analysis of such restrictions. It offers an example of the kind of analysis that must be applied before courts...
allow a restriction to be recognized as an IP matter, rather than a contractual issue. More specifically, it suggests a new methodology for determining the applicability of a right-of-integrity type restriction to new subject matter. In doing that, this paper attempts to take the first steps on the road towards a comprehensive analysis of IP-related restrictions and their legal and economic consequences.