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Peter Brown

Lauren McColleston

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# SHOULD WE KILL THE DINOSAURS OR WILL THEY DIE OF NATURAL CAUSES?

*Peter Brown and Lauren McCollester*<sup>†</sup>

Since the industrial revolution, certain companies were able to attain monopolistic dominance in particular markets or industries because of the ownership of physical property such as steel mills, railroads and telephone lines. Such monopolies have prompted regulatory and judicial scrutiny as well as a desire to oust them from their dominant perches. With the dawn of the information age, an analogous situation has arisen in the technology industry. For example, as of this writing, Microsoft, through the copyright it holds on the Windows platform, is the leading provider of PC operating system software;<sup>1</sup> Intuit, with its Quicken<sup>™</sup> software, dominates the market for personal financial management software;<sup>2</sup> and Macafee leads the market in virus detection software.<sup>3</sup> The ownership of intellectual, as opposed to physical, property, has assisted these entities in achieving their market positions.

As the publicity surrounding the Microsoft and Intel cases<sup>4</sup> indicates, the instinct to eliminate monopoly power in the technology industry through traditional statutory or judicial means - *i.e.*, enforcing antitrust laws more stringently and/or reducing the protections afforded by the intellectual property laws - remains strong.<sup>5</sup> However, due to the

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<sup>†</sup> Peter Brown is a managing partner in the New York office of Brown, Raysman, Millstein, Felder & Steiner LLP. His practice concentrates on matters relating to intellectual property, Internet, Year 2000, new media and computer law. Lauren McCollester is a senior associate in the Information Technology department at Brown, Raysman, Millstein, Felder & Steiner LLP. Her practice focuses on e-commerce agreements, strategic alliances and content licensing, software licensing and hardware development.

<sup>1</sup> See Linda Grant & Ron Chernow, *Playing Monopoly: Rockefeller and Gates*, *FORTUNE*, June 22, 1998, at 164 fig.2.

<sup>2</sup> See Jeffrey Kutler, *Banking Warming to Intuit After an Estrangement*, *THE AMERICAN BANKER*, Feb. 26, 1998, at 1. See also *News Briefs*, REPORT ON HOME BANKING & FINANCIAL SERVICES, Jan. 16 1998, at 1, available in LEXIS, News Library, News Group File.

<sup>3</sup> *The World as a Global Village: McAfee now Leads Anti-Virus Market*, *BUSINESS-WORLD*, Mar. 17, 1999, at 28.

<sup>4</sup> See *United States v. Microsoft*, No. 98-1232, 2000 U.S. Dist. LEXIS 4014, at \*1 (Apr. 3, 2000), *In re Intel Corp.*, FTC Complaint (No. 9288) (visited December 21, 1999) <<http://www.ftc.gov/os/1998/9806/intelfin.cmp.htm>>. See also Stephen Labaton, *U.S. Approves Accord in Case Against Intel*, *N.Y. TIMES*, March 18, 1999 at C1; Stephen Labaton, *Antitrust Case Illuminates Tangled Ties Atop PC Industry; U.S. and Intel at Odds Over that Issue Raises Question of Law's Limit*, *N.Y. TIMES*, February 22, 1999 at C1.

<sup>5</sup> See *e.g.*, Arnold B. Calmann, *Commentary on Antitrust: 1998-1999*, *THE METROPOLITAN CORPORATE COUNSEL*, May 1999, at 18 (Greater N.Y. Metro. Ed.); Andrew J. Glass, *Microsoft: Gates Still Standing Up to Justice*, *ATLANTA JOURNAL AND CONSTITUTION*, Feb. 15,

unique characteristics of the technology industry, the same methods and principles that have been applied in the last century to address monopolistic dominance in industries such as railroad, steel and telecommunications, may not be as relevant, necessary or applicable to the technology industry.

Part I of this paper provides a brief historical overview of the patent, copyright and antitrust laws. Part II proposes three arguments as to why the antitrust laws should not be vigorously applied to the technology industry as compared to historical counterparts. The paper concludes that the unique characteristics of the technology industry, including the speed with which it evolves, and the extent to which it is guided by consumer needs, whims and desires, indicate that no strengthening of antitrust enforcement or diminishing of intellectual property rights is desirable or necessary to eliminate market dominance in the industry. Rather, these unique characteristics have caused and will continue to cause a self-correction or self-regulation that renders such change unnecessary.

## I. HISTORICAL OVERVIEW

Many years ago, the Founding Fathers recognized the importance of fostering creativity and invention, and in the Constitution empowered Congress to grant patents and copyrights.<sup>6</sup> In 1890, as the industrial revolution was nearing completion, Congress, partially prompted by concerns regarding the potential economic consequences of industry domination by a few private entities, enacted the Sherman Antitrust Act<sup>7</sup>. Shortly thereafter, in 1914, Congress enacted both the Clayton Act,<sup>8</sup> which enumerated certain illegal anti-competitive activities, and the FTC Act,<sup>9</sup> which empowered the Federal Trade Commission to "prevent . . . persons, partnerships or corporations . . . from using unfair methods of competition in or affecting commerce and unfair or deceptive acts or practices in or affecting commerce."<sup>10</sup> Like patent and copyright laws, Congress intended the Sherman, Clayton and FTC Acts to foster competition and economic growth and to prohibit the abuse of monopoly power

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1998, at 18A; Joe Sims and Jeffrey Levee, *An Antitrust Harmonic Convergence*, INTELLECTUAL PROP. MAG., Jan. 1998.

<sup>6</sup> U.S. CONST. Art.I, § 8, cl. 8. As the Ninth Circuit stated, "[P]atent law seeks to protect inventions, while inducing their introduction into the market for public benefit." *Image Technical Services, Inc. v. Eastman Kodak Co.*, 125 F.3d 1195, 1214 (9th Cir. 1997) (citing *SCM Corp. v. Xerox Corp.*, 645 F.2d 1195, 1203 (2d Cir. 1981)).

<sup>7</sup> 15 U.S.C. §§ 1-7 (1890).

<sup>8</sup> 15 U.S.C. §§ 12-27 (1914).

<sup>9</sup> 15 U.S.C. §§ 41-58 (1914).

<sup>10</sup> 15 U.S.C. § 45(a)(2) (1999).

in particular industries and markets.<sup>11</sup> Although they all have the same goal, the focus of the Acts differ from the focus of copyright and patent laws. The Sherman, Clayton and FTC Acts encourage competition, while the copyright and patent laws reward innovation.<sup>12</sup>

Throughout the 20<sup>th</sup> century, law enforcement officials have used the antitrust laws to regulate monopoly power and market dominance in varying degrees depending upon, among other factors, the then-current political and economic climate.<sup>13</sup> Similarly, in certain instances the protections afforded by the copyright and patent statutes have been ex-

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<sup>11</sup> See *Image Technical Services, Inc.*, 125 F.3d at 1214 (“[a]ntitrust law seeks to promote and protect a competitive marketplace for the benefit of the public” (citing *Standard Oil Co. v. United States*, 221 U.S. 1, 58 (1911) and *SCM Corp.*, 645 F.2d at 1203.)).

<sup>12</sup> See, e.g., *Atari Games Corp. v. Nintendo of America, Inc.*, 897 F.2d 1572, 1576 (Fed. Cir. 1990) (antitrust and patent laws are “complementary, as both are aimed at encouraging innovation, industry and competition” (citing *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 876-77 (Fed. Cir. 1985))); and Ronald S. Katz et. al., *Intellectual Property v. Antitrust: A False Dilemma*, A.L.I.-A.B.A. COURSE OF STUDY: ANTITRUST/INTELLECTUAL PROPERTY CLAIMS IN HIGH TECHNOLOGY MARKETS: LITIGATING AND ADVISING 1, 3 (April 1999). But see *Image Technical Services, Inc.*, 125 F.3d at 1215 (acknowledging the “obvious tension” between antitrust and intellectual property laws); Mark Lemley, *The Economic Irrationality of the Patent Misuse Doctrine* 78 CAL. L. REV. 1599, 1600 (1990) (recognizing “an inherent conflict between the goals of the patent laws and the antitrust laws,” but noting, *id.* at 1600 n.7, that many commentators “oversimplify[] the relationship” between patent law and antitrust law).

<sup>13</sup> Although the antitrust provisions were enacted during a Republican administration, they have, for the most part, been vigorously enforced by both parties. See Milton Handler, *Anticipating Antitrust's Centennial*, 75 CAL. L. REV. 787, 787 (1987). For example, the economic crisis dubbed the “Panic of 1907” was partially blamed on Theodore Roosevelt’s administration’s increased enforcement of the antitrust laws. See James R. Devine, *The Legacy of Albert Spalding, the Holdouts of Ty Cobb, Joe DiMaggio, and Sandy Koufax/Don Drysdale, and the 1994-95 Strike: Baseball's Labor Disputes Are as Linear as the Game*, 31 AKRON L. REV. 1, 7 n.24 (1997). In the early 1980s, however, a number of large antitrust cases, including ones against IBM and the petroleum industry, were dismissed. See William E. Kovacic, *The Big, The Bad and The Merged*, THE WASHINGTON POST, Dec. 6, 1998, at C1; Andrew F. Popper, *The Antitrust System: An Impediment to the Development of Negotiation Models*, 32 AM. U.L. REV. 283, 309, 311 (1983). This lax, hands-off approach of the Reagan Administration, see Popper, *supra*, at 310-11; Ian Ayres and John Braithwaite, *Partial-Industry Regulation: A Monopsony Standard for Consumer Protection*, 80 CAL. L. REV. 13, 43 (1992), carried into the Bush Administration’s antitrust enforcement policies. See Eleanor M. Fox, *Toward World Antitrust and Market Access*, 91 AM. J. INT’L L. 1, 11 n.54 (1997). Today, under the Clinton Administration, there has been a significant shift back to actively enforcing the antitrust laws. See, e.g., Arnold B. Calmann, *Commentary on Antitrust: 1998-1999*, THE METROPOLITAN CORPORATE COUNSEL, May 1999, at 18. One need look no farther than to the large number of antitrust investigations and litigations commenced over the past few years. See *infra* note 16 and accompanying text.

panded<sup>14</sup> and refined.<sup>15</sup> Now, however, as the United States transitions into the information age and technology comes to dominate our economy, antitrust enforcement, and particularly its interface with copyright and patent protections, is at the forefront of public debate.<sup>16</sup> The dawn

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<sup>14</sup> See, e.g., Sonny Bono Copyright Term Extension Act, 17 U.S.C. § 302 (1998) (extending the term of protection for works by joint authors, anonymous works, pseudonymous works and works for hire by twenty years); Lawrence Lessig, *The Problem with Patents*, THE INDUSTRY STANDARD, May 3, 1999, p. 20 (criticizing recent tendency of Patent Office to grant "bad" patents, "Patent No. 5, 715, 314, for example, gives the holder a monopoly network-based sales systems - we call that e-commerce" and noting that such a tendency is particularly problematic in cyberspace).

<sup>15</sup> For example, patent and copyright protection is limited by the doctrine of misuse. The patent misuse doctrine, which has been generally recognized and accepted in the United States for well over fifty years, provides a defense to an infringement claim. Based on the equitable principal of "unclean hands," a patent holder cannot seek to enforce her patent against others if the patent holder herself has abused her rights associated with the patent. See, e.g., *Morton Salt Co. v. G.S. Suppiger Co.*, 314 U.S. 488, 492 (1942); Evan Ackiron, *The Human Genome Initiative and the Impact of Genetic Testing and Screening Technologies: Note and Comment: Patents for Critical Pharmaceuticals: The AZT Case*, 17 AM. J.L. AND MED. 145, 160 (1991); David H. Marks, *A Review of Recent Decisions of the United States Court of Appeals for the Federal Circuit: Patent Licensing and Antitrust in the United States and the European Community*, 35 AM. U. L. REV. 963, 969 (1996). Because this doctrine is based on equity, it is not necessary to establish an antitrust violation to show misuse. See, e.g., Karen E. Georgenson, *Reverse Engineering of Copyrighted Software: Fair Use or Misuse?*, 5 ALB. L.J. SCI. & TECH. 291, 316 (1996); Mark A. Lemley, Symposium: *Beyond Preparation: The Law and Policy of Intellectual Property Licensing*, 87 CAL. L. REV. 111, 152 (1999). During the last decade, the rationale behind the patent misuse doctrine has been expanded to copyrights. Although not yet universally accepted, the copyright misuse doctrine parallels the patent misuse doctrine and provides a defense to a claim of copyright infringement where the copyright holder has engaged in certain types of misconduct concerning licensing or enforcement of the copyright. See, e.g., *Lasercomb America, Inc. v. Job Reynolds*, 911 F.2d 970, 976 (4<sup>th</sup> Cir. 1990); Georgenson, *supra*, at 312-13; Lemley, *supra*, at 151-52, 157. Furthermore, in the 1970s, the Justice Department asserted the "Nine No-No's" for patent law which substantially mirrored the practices which constituted patent misuse and were considered per se antitrust violations. See Jere M. Webb and Lawrence A. Locke, *Recent Development: Intellectual Property Misuse: Developments in the Misuse Doctrine*, 4 HARV. J. LAW & TECH. 257, 260-61 (1991). The Nine No-No's included: (1) tying; (2) mandatory patent grantback provisions; (3) non-price sale restrictions; (4) exclusive dealing; (5) exclusive licensing; (6) mandatory package licensing; (7) collecting royalties unrelated to sales of the patented items; (8) process patent sales restrictions; and (9) resale price maintenance. See, e.g., Marks, *supra*, at 968 n.23 (citing Remarks by Bruce Wilson before the Michigan State Bar Association in Trade Reg. Rep. (CCH) ¶50,146 (Sept. 21, 1972)). These per se violations were rejected on behalf of the Reagan Administration less than a decade later. See, e.g., Marks, *supra*, at 968 (citing Remarks of Abbot B. Lipsky, Jr., *Current Antitrust Division Views on Patent Licensing Practices*, before the America Bar Association Antitrust Section's National Institute on Critical Issues in International Antitrust and Unfair Competition Law, Nov. 5, 1981, reprinted in 50 ANTITRUST L.J. 515 (1982)), in favor of a "rule of reason" analysis. See also Webb and Locke, *supra*, at 261.

<sup>16</sup> The FTC's investigation of Intel (settled on March 17, 1999) and the Department of Justice's pursuit of Microsoft have been an integral part of the news headlines. See, e.g., *Merger: Intel and Level One Merger Receives Clearance from Federal Antitrust Agencies*, EDGE: WORK-GROUP COMPUTING REPORT, May 3, 1999, available in LEXIS, News Library, News Group File (concerning Intel); Lisa Wirthman, *Microsoft a Monopoly? Legal Focus is on 'Intent'*, INVESTOR'S BUS. DAILY, July 28, 1998, at A8 (concerning Microsoft). In addition, the numerous mergers announced in the recent past have fueled questions regarding the poten-

of the information age and the rapid rise and fall of certain technology companies has provoked discussion regarding how, if at all, industrial age antitrust laws can and should be applied to the technology industry. The same circumstances have also prompted debate regarding whether the sanctioned "monopoly" afforded to technology by the copyright and patent laws is too broad and tends to stunt competition.<sup>17</sup>

## II. DIFFERENTIATING THE TECHNOLOGY INDUSTRY

The purposes and interests served by the antitrust laws and the copyright and patent laws, as written and as applied by courts, remain valuable and applicable in this rapidly-evolving information age. However, as this paper asserts, the unique characteristics of the technology industry indicate that the antitrust laws should not be strengthened<sup>18</sup> and the protections of the copyright and patent laws should not be diminished in relation to their application to the technology industry for three reasons. First, the long-recognized purpose of the copyright and patent laws, fostering creativity and invention, is essential to the continued intellectual and economic expansion in the information age. The copyright and patent laws provide significant incentives which have fueled the entrepreneurial spirit upon which the technology industry has developed and therefore should not be diminished. Second, history indicates that, in general, an entity which dominates a technology-related market through a "legal" monopoly conferred by the ownership of intellectual property

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tial results and problems of having a few firms dominate particular sectors. For example, at the time of this writing, AT&T, the corporate behemoth dismantled from its dominance of the telephone industry appears poised and ready to step into dominating the cable industry with recent acquisitions of TCI and now MediaOne. See Michael M. Weinstein, *The Nation: AT&T's Merger Deals; Hold On. Maybe We'll Connect You.*, N.Y. TIMES, May 16, 1999, §4, at 4; see also Patrick Thibodeau, *Microsoft to Depose AOL's Case on Friday*, INFOWORLD DAILY NEWS, May 17, 1999 (America OnLine's merger with Netscape Communications); Laura M. Holson, *U.S. West Seen in a Merger that is Valued at \$37 Billion*, N.Y. TIMES, May 17, 1999, at A18 (describing the telecommunication company Global Crossing, Ltd.'s merger with regional phone company U.S. West, Inc.); FED. TRADE COMMISSION, *Merger of Zeneca and Astra, Two Significant Suppliers of Pharmaceuticals, Cleared with Conditions*, Mar. 25, 1999 (regarding the merger of pharmaceutical suppliers Zeneca Group PLC and Astra AB); *Oil Will Be Number One Again*, THE ECONOMIST, Nov. 28, 1998, at 64 (concerning the merger of Exxon and Mobil).

<sup>17</sup> See, e.g., Lawrence Lessig, *The Problem with Patents*, THE INDUSTRY STANDARD, May 3, 1999, at 20 (discussing the inherent dangers of overly broad patent protection, a/k/a government-granted monopolies, in cyberspace); Mark L. Gordon, *Copying to Compete: The Tension between Copyright Protection and Antitrust Policy in Recent Non-Literal Computer Program Copyright Infringement Cases*, 15 J. MARSHALL J. COMPUTER & INFO. L. 171 (1996) (discussing the recent trend in computer software copyright infringement cases to narrow the scope of copyright protection for non-literal elements to avoid creating a monopoly).

<sup>18</sup> We do not posit that the antitrust laws should be applied any less stringently to technology companies who may engage in abusive monopolistic practices. See *Image Technical Services, Inc. v. Eastman Kodak Co.*, 125 F.3d 1195, 1215 (9<sup>th</sup> Cir. 1997) ("neither patent nor copyright holders are immune from antitrust liability").

or otherwise will not maintain such monopoly power forever regardless of the invocation or application of the antitrust laws. The natural and constant evolution of the technological paradigm and changing customer demands will cause market dominance to fade naturally. Third, the consuming public seeks and embraces standards, especially upon the initial deployment of a technology with certain novel capabilities - standards which emerge and take hold only through the market dominance of a single entity.

#### A. THE IMPORTANCE OF FOSTERING CREATIVITY AND INNOVATION

Copyright and patent protections have co-existed with the antitrust laws for over a century and each protects a unique and valuable right.<sup>19</sup> By preventing a monopolist in a particular market or industry from abusing its position of dominance, the antitrust laws foster competition in a way that ideally lowers prices, improves products and services, and results in more efficient business and development practices.<sup>20</sup>

The objectives of the intellectual property laws are distinct, yet harmonious. As the United States Supreme Court stated: "[t]he economic philosophy behind the clause empowering Congress to grant patents and copyrights is the conviction that encouragement of individual effort by personal gain is the best way to advance public welfare through the talent of authors and inventors in 'Science and useful arts.'"<sup>21</sup> It has long been recognized that copyright and patent protections generally serve two goals. First, the copyright and patent laws encourage invention and creativity by providing to those who invent or create a means of recovering the costs invested in the invention of the work, and perhaps even a means of profiting from it.<sup>22</sup> Second, the copyright and patent protections provide an environment in which third parties can access, view, and appreci-

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<sup>19</sup> See *infra* note 12 and accompanying text. Noting the tension between patent and antitrust law, the Ninth Circuit stated "[o]ne body of law creates and protects monopoly power while the other seeks to proscribe it." *United States v. Westinghouse Electric Corp.*, 648 F.2d 642, 646 (9<sup>th</sup> Cir. 1981) (citations omitted). See also *Image Technical Services, Inc.*, 125 F.3d at 1215 (citing *Data General Corp. v. Grumman Systems Support Corp.*, 36 F.3d 1147, 1187 (1<sup>st</sup> Cir. 1994)).

<sup>20</sup> The United States Supreme Court described the Sherman Act as intending: to be a comprehensive charter of economic liberty aimed at preserving free and unfettered competition as the rule of trade. [The Sherman Act] rests on the premise that the unrestrained interaction of competitive forces will yield the best allocation of our economic resources, the lowest prices, the highest quality and greatest material progress, while at the same time providing an environment conducive to the preservation of our democratic political and social institutions. . . .  
*Northern Pacific Ry. Co. v. United States*, 356 U.S. 1, 4 (1958).

<sup>21</sup> *Mazer v. Stein*, 347 U.S. 201, 219 (1954).

<sup>22</sup> *Image Technical Services, Inc.*, 125 F.3d at 1215 ("[f]ederal copyright law secure[s] a fair return for an author's creative labor in the short run" (quoting *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151, 156 (1975))).

ate the works of others; learn or gain inspiration from such works; or perhaps expand upon them, but in which the creator or inventor is still provided with certain protections.<sup>23</sup> Intellectual properties such as art, literary works, mechanical devices, computer components, or other "creations" are intended to be used, viewed or read by the public. As such, intellectual properties provide a significant public benefit, manifested, for example, in the inspiration a book or painting may provide. Generally, however, intellectual property cannot be protected by the traditional physical boundaries such as locks, fences, or walls that protect other properties. The copyright and patent laws provide these "intellectual properties" with a legal protection or boundary and thereby protect the hard work, research and monetary efforts invested by the inventors and creators of such properties. These protections in turn encourage continued invention and creation as those who invest the efforts know that they shall be afforded protections sufficient perhaps to enable them to benefit from their efforts.

These two goals - encouraging invention and creativity while simultaneously providing protection to the inventors and creators - are essential to the technology industry, the rapid expansion and growth of which has been driven significantly by an entrepreneurial, innovative and creative spirit. Absent the protections the patent and copyright laws afford to technological innovation and creativity, that entrepreneurial spirit may be dampened. Without the security of knowing that the copyright and patent laws will protect particular manifestations of ideas, creators and inventors might be less inspired to devote efforts to such creation and innovation or might be reluctant or unwilling to make the fruits of their creative efforts available to others.

In many instances, the copyright and patent protections provided to the technologies created and invented by entrepreneurs has enabled their companies and technologies to rise quickly to positions of dominance in particular markets.<sup>24</sup> Some argue that to prevent this dominance, the

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<sup>23</sup> See *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480 (1974) (Patent laws promote progress of science and useful arts by offering a right of exclusion for a limited period of time as an incentive to inventors to risk the often enormous costs in terms of time, research and development. The productive effort thereby fostered will have a positive effect on society through the introduction of new products and processes of manufacture into the economy, and the emanations by way of increased employment and better lives for our citizens); *Twentieth Century Music Corp.*, 422 U.S. at 156 (the copyright laws are intended to "stimulate artistic creativity for the general public good" by providing authors with a "fair return for an author's creative labor").

<sup>24</sup> The emergence of Priceline.com is a prime example. The unusual grant to Priceline.com of a business process patent catapulted the company to its position as one of the most successful e-commerce businesses in existence. See James Heckman, *Marketers Can Say Minel: High Court Decisions Extends Patent Protection*, MARKETING NEWS, Feb. 15, 1999, at 1; Mike Butcher, *Here's \$400. Get Me a Ticket!*, NEW MEDIA AGE, Feb. 18, 1999, at 20; Diane Brady, *Jay S. Walker*, BUSINESS WEEK, Sept. 27, 1999, at EB30; Sabra Chartrand, *Par-*



copyright and patent protections should be modified or diminished in the technology sector, perhaps through a more stringent application of the antitrust laws.<sup>25</sup> Indeed, the antitrust laws, as written and as applied, serve the valid purpose of prohibiting abuses of monopoly power, and an entity which abuses its market dominance should be punished under the antitrust laws. However, the antitrust laws should not be utilized to diminish the intellectual property rights acquired by an inventor or creator in the technology industry simply because that entity dominates a particular market through the "legal monopoly" afforded by copyright and patent protections. Such a rule would discourage innovation and creativity because, as discussed above, often the market dominance provided via the copyright and patent laws is the only mechanism through which an inventor or creator gain recognition, can recover the expenses and profit from his or her creative efforts. A dominant entity in the technology sector that is not abusing its market position should not be treated differently or punished simply because it devoted time, effort and money to be the "first to market" with a particular product or service.

Moreover, it is important to remember that, while copyright or patent law protects the rights of the author or inventor in a general sense, only the actions of millions of consumers acting in unison create technology standards which give a single company or a small group of companies market dominance. This dominant technology standard is neither illegal nor necessarily detrimental to the market.<sup>26</sup> As a result, no change in the breadth of the intellectual property laws or the application of the antitrust laws is warranted in the technology sector. Permitting antitrust law to pierce the veil of protection afforded by copyright and patent laws is likely to stifle the very innovation and creativity that such protection is intended to encourage - a protection that is arguably essential to the continued growth of the technology industry.

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*ents: An Internet Entrepreneur Finds a Way for Newsstand Dealers to Profit from Subscription Sales*, THE N.Y. TIMES, July 26, 1999, at C8. The company went public successfully in April, 1999, but has suffered a slight setback from the introduction of Microsoft Expedia's reverse auction of hotel rooms. That Priceline's stock faltered with the news that the patent might not withstand challenges to its validity by Microsoft and others, demonstrates how significant the grant of a patent is to a fledgling company's chances for success. See Timothy J. Mullaney, *Net Monopoly No Longer?*, BUSINESS WEEK, Sept. 27, 1999, at 47; David Shabelman, *Net Stocks Lower as Key Technical Level Remains Elusive*, THE STREET.COM, Sept. 8, 1999, available in LEXIS, News Library, News Group File; Shannon P. Duffy, *Microsoft, Priceline.com Battle Over Net Patent*, THE RECORDER, Oct. 15, 1999, at 2. On October 13, 1999, Priceline.com sued Microsoft in Federal Court in Connecticut alleging that Microsoft's Expedia service infringes on Priceline's patent. See Ca. No. 399cv1991 (D.Conn. 1999); *Microsoft Sued by Priceline*, N.Y. TIMES, October 14, 1999 at C9.

<sup>25</sup> See generally Joel M. Cohen & Arthur J. Burke, *An Overview of the Antitrust Analysis of the Suppression of Technology*, 66 ANTITRUST L. J. 421 (1998).

<sup>26</sup> Indeed, as discussed below, a dominant standard is often desirable. See *infra* Part III.

## B. NO MONOPOLY LASTS FOREVER

A second factor supporting the proposition that, in the technology sector, the protections of the copyright and patent laws should not be diminished and the application of the antitrust laws should not be broadened, is that history shows that, whether dealing with hardware, software or operating systems, no monopoly will last forever. A rapid and incessant evolution characterizes the technology industry, an evolution driven in large part by consumer demands and the speed of technological advances. These characteristics, unique to the technology industry, are likely to cause the entity that dominates a market one day because of its proprietary technology, to be displaced in time as technology advances or as consumer preferences change. Several examples illustrate the point.

### 1. *Intel/AMD*

From the early days of personal computers, Intel was the dominant maker of microprocessors. In August 1996, at least eighty percent of all personal computers sold contained Intel chips inside.<sup>27</sup> Intel implemented an impressive marketing plan, naming each successive and faster chip in an "x86" format such that the 286 processor would be followed by the faster 386 processor and the 486 and so on.<sup>28</sup> Despite Intel's successful advertising campaign and permeation of the market, Advanced Micro Devices ("AMD"), as well as Cyrix and NexGen, were nipping at the heels of Intel, trying to break into the chip market by providing an equally powerful yet less expensive alternative.

In the early 1990's, despite a court order prohibiting AMD from using Intel's microcode in its clone of the 486 chip,<sup>29</sup> AMD had made significant inroads into the 386 market.<sup>30</sup> Then, as AMD was about to release its 486 chip, Intel released its first Pentium chip. One reporter described the Pentium chip as "a 75 MHz engine that blew the socks off anything that AMD had in the store."<sup>31</sup> By 1995, however, AMD was ready to answer Intel's Pentium with its K5 microprocessor<sup>32</sup> and later

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<sup>27</sup> McCormack, Karen *Intel's Pentium Pro Chip Figures to Boot Up the Tech Giant* by 50%, MONEY MAG., Aug. 1996, at 42.

<sup>28</sup> See generally, John Dickinson, *Intel Tempts Fate with New Name for Super Chip* COMPUTER SHOPPER, Jan. 1993, at 64.

<sup>29</sup> Mark A. Kellner, *Judge Sends AMD Back to the Drawing Board* PC SOURCES, Feb. 1993, at 39.

<sup>30</sup> *How Digital is Intel*, DATAQUEST (INDIA), Nov. 15, 1997, available in LEXIS, News Library, News Group File.

<sup>31</sup> *Id.* (arguing that Intel's access to DEC's Alpha processor technology provided Intel with the ability to entrench itself in the chip market to the extent it did.).

<sup>32</sup> Ron Evans, *Chips off the new block*, BLACK ENTERPRISE, May 1995, at 41 (noting also the launch by NexGen of its Nx586 microprocessor and Cyrix of its M1 microprocessor.)

its K6 chip. By the time that AMD launched its K6 chip, commentators noted that it compared favorably to Intel's Pentium II and was "substantially cheaper."<sup>33</sup> Intel and AMD are still in fierce competition, and AMD actually pulled ahead of Intel in the race to be first to market with its new 700 megahertz microprocessor.<sup>34</sup>

Thus, in the microprocessor market, Intel has faced constant challenge to its initial dominant market position as companies like AMD and others have succeeded in developing chips that are nearly as fast as and significantly less expensive than Intel's. AMD and others have been successful in part because of the inevitable consumer demand for a cheaper chip and the speed with which chip technology advanced. Surely this competition, even in the face of the dominance Intel holds, has only benefited and will continue to benefit consumers in the form of faster and less expensive chips.<sup>35</sup> No more stringent enforcement of the antitrust laws or diminishing of Intel's intellectual property protections has been necessary to attain this competition.

## 2. IBM/DEC

In the early 1970's, IBM dominated the computer hardware market, believing that mainframe computing controlled the future. In the 1980's, Digital Equipment Corporation ("DEC") dominated the market for mid-range computers. Both companies stumbled badly as technology overwhelmed their respective market positions. Today, IBM no longer dominates the computer hardware market and Compaq, a personal computer maker, has purchased DEC to consolidate its market position.<sup>36</sup> Arguably, these two companies lost their market domination because they were unable or unwilling to keep up with the natural evolution of technology, market needs and market forces.

Specifically, DEC and IBM dominated the market for hard disks and treated all of their technology as proprietary. Each company strategically declined to reveal its future plans so that customers would buy machines that, sometimes even as soon as months later, would be replaced by faster and more powerful machines. In doing so, DEC and IBM were creating consumer demand for personal computers - demand

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<sup>33</sup> See, e.g., Julia Pitta, *Rival's New Processor Threat to Intel*, L.A. TIMES, Mar. 19, 1997, at D1; Roger Trapp, *Intel's Latest Chip Faces Hot Competition*, THE INDEPENDENT, May 2, 1997, at 24.

<sup>34</sup> See Lawrence M. Fisher, *Advanced Micro to Offer a 700-MHz Computer Chip*, N.Y. TIMES, Oct. 4, 1999, at C6.

<sup>35</sup> Larry Loeb, *Faster, Cheaper Chips in Store for 1999*, HOME OFFICE COMPUTING, Jan. 1999, at 15.

<sup>36</sup> Joann Muller, *Compaq, Digital Make it Official; Decision to Sell Maynard-based Company Finalized at Emotional Shareholder Meeting*, BOSTON GLOBE (City Edition), June 12, 1998, at C3.

that they could not meet, arguably because of the secretive and protective positions that they had adopted. As a result, their market control has all but disappeared.

### 3. *The Emergence of Linux and Java*

Microsoft has undisputed control of the PC operating system market and has built an empire on that central fact. Recently, however, two new technologies have emerged - the Linux operating system and Sun's Java programming language - each of which poses a significant threat to Microsoft's empire. As discussed below, Linux and Java are, in part, responses to consumer demand to establish an alternative to Microsoft. Their emergence supports the theory that the rapid evolution of the technological paradigm will prevent any one company from permanently dominating a market.

#### a. Linux

Many are touting the Linux operating system, a derivation of the UNIX operating system, as a potential threat to the dominance of Microsoft's windows operating system.<sup>37</sup> The primary reason Linux poses a threat to Microsoft is that it is presented as an alternative to Microsoft's Windows system and its source code is distributed at no charge.<sup>38</sup> Access to the source code enables developers to manipulate the code underlying the Linux operating system to enhance and customize its features, and thus rely on the efforts of others and the lessons learned. Although Linux has been criticized by some for not being user-friendly, the free availability of its source code in and of itself indicates a significant shift in the technological paradigm in marked contrast to Microsoft's careful control over its proprietary Windows system.<sup>39</sup> Linux is the product of a community effort and, as a result, may represent a viable alternative to the Microsoft Windows operating system.<sup>40</sup>

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<sup>37</sup> See, e.g. Doug Levy, *Linux Creator: Next Bill Gates?* USA TODAY, Jan. 7, 1999, at 3B.

<sup>38</sup> In creating a software program, a computer programmer first writes the program in "source code" which is the only form of the program that is readable by humans. After the source code is written, it is translated into a binary system of "0s" and "1s" readable only by machines (object code). Given the proprietary value inherent in the source code form of software, software is generally licensed by a vendor in object code form only.

<sup>39</sup> Presently, there are over twenty-two companies selling the Linux software, including Red Hat, and Caldera Systems, although Linux can be downloaded for free on the Internet. See Lawrence Fisher, *Supporters of Linux Worry that Commercialization Could Bring Chaos*, N.Y. TIMES, Oct. 18, 1999, at C5.

<sup>40</sup> Linux has increased its market share by 212% in the past year. See *id.*; Greg May, *Linux Set to Challenge Microsoft's Dominance*, THE DES MOINES REGISTER, April 19, 1999, at 18; Jay Greene, *Comdex - Linux: Just the Rival Microsoft's Looking For*, THE SEATTLE TIMES, Nov. 21, 1998 at C1; Amy Rogers, *Netscape's Andreessen: Linux Buzz 'Extremely Hot'*,

## b. Java

Java, a programming language for Internet and intranet applications<sup>41</sup> that is proprietary to Sun Microsystems, has similarly emerged as the result of a shift in the technological paradigm. Prior to Java, computer applications written in a particular programming language could only be used in conjunction with a specific operating system. Thus, programmers desiring to maximize profits wrote applications designed for the most widely used operating systems, such as Microsoft's Windows system. Java represents a significant evolution because it permits cross-platform programs, *i.e.*, programs written in Java may be run on various operating systems.

Java is actually comprised of two parts—a programming language to be interpreted and the interpreter. A Java program is written in “byte code” which cannot be run alone by a computer. Instead, the “byte code” of the Java program is “interpreted” or translated into “machine code” by the “Java Virtual Machine,” which then runs the program.<sup>42</sup> Thus, programs written in Java are not dependent on or specific to any particular hardware or operating system and can run on any computer equipped with the Java Virtual Machine. The “cross-platform” nature of Java programs poses a significant threat to Microsoft's dominance in the operating system market. Since software developers can now write applications that can run on any operating system, there will be one less reason for buyers to purchase computers installed with Microsoft's Windows operating system. In effect, the value of Microsoft's dominance of the operating system market has the potential of being significantly reduced by the existence of the cross-platform medium for Internet and Intranet applications that Java provides—a concern even Microsoft acknowledges.<sup>43</sup>

As can be seen from the foregoing examples, in the technology industry, today's dominant technology may be quickly replaced by tomorrow's improvements without any manipulations by non-market forces, thus eliminating the need for expansive application of anti-trust laws. In the technology sector, natural causes will kill the dinosaurs.

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TECHWEB NEWS, (Oct. 1, 1998) (visited Aug. 26, 1999) <[http://www.techweb.com/wire/story/TWB\\_1998100150011](http://www.techweb.com/wire/story/TWB_1998100150011)>.

<sup>41</sup> An intranet is a local area network (LAN) of computers that operates the same way an internet does, but cannot be accessed by computers outside of the network (as in a corporation's internal computer system). An internet is a network of networks accessible to anyone, with the Internet (with a capital “I”) being the largest internet in the world.

<sup>42</sup> See Java (visited Aug. 26, 1999) <<http://www.techweb.com/encyclopedia/defineterm?term=java>>.

<sup>43</sup> Stev Lohr and Joel Brinkley, *Testimony on Microsoft's League of its Own*, N.Y. TIMES, Dec. 2, 1998, at C2; Rob Fixmer, *Java's Universality is a Threat to Microsoft*, N.Y. TIMES, Nov. 19, 1998, at C4; Chris Nerney, *Java Has Key Role in Microsoft-DOJ Drama*, NETWORK WORLD, June 1, 1998, at 45-46.

### C. THE PUBLIC SEEKS STANDARDS

A final factor arguing against any change to the antitrust or intellectual property laws as applied to the technology sector is that users seek and desire predictability, compatibility, and interoperability, and recognize the distinct benefits of having industry standards that serve these goals - standards which often arise only through a dominant market entity. The need for uniform standards is more apparent during the nascent stages of a developing product market because at that stage, assessments must be made as to the utility and functionality of new products.

For example, several years ago, when publishing on the World Wide Web was just beginning to become a reality, the early web publishers quickly discovered that the formatting capabilities of the code underlying web pages used to indicate different typefaces, images and links to other hypertext documents—known as “hypertext markup language” or “html” - was insufficient to permit complex and consistent formatting of web-published documents.<sup>44</sup> Margins, fonts, and other style features were not as flexible in html as they were in other publishing applications. In addition, the viewer of a web page could alter the font, color and underscoring on his or her computer which, in turn, would alter the way in which the web page was displayed. Thus, the same web page would look different to different viewers, depending upon the configurations of the individual's system.<sup>45</sup>

In response to this “inadequacy” in the html, a private company, Adobe, marketed a software application known as Adobe Acrobat™, which allows web publishers to format complex web pages, while controlling how users view these pages. To encourage web publishers to use its Acrobat™ publishing tool to create web-published documents, Adobe provides to users, free of charge, the software that allows web users to view Acrobat-published documents. Thus, Adobe has filled a recognized need for uniform compatibility and interoperability standards during the infancy of the web-publishing industry. As a result, Acrobat™ has become a necessary tool for web publishers, and consequently defines the industry standard with regard to html formatting.<sup>46</sup> Adobe reported approximately 20 million downloads of its free reader software as of August of 1998,<sup>47</sup> and web users encounter more and more Acrobat™ files,

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<sup>44</sup> Richard Karpinski, *Adobe Hones Net Strategy—Positions Acrobat as Wild Card for Web*, INTERNETWEEK, Oct. 9, 1995 at 1A1; Michael J. Miller, *Casting a Net Beyond HTML: Future Standards on the Internet*, PC MAGAZINE, Nov. 21, 1995, at 75-76; John L. Cleveland, *Acrobat or HTML: Pick the Best Path to the Web*, ASAP, June 1, 1995, at 40.

<sup>45</sup> See Karpinski, *supra* note 44.

<sup>46</sup> See *Adobe Founders Chart Direction of Web and Print Publishing*, CANADA NEWSWIRE, March 2, 1999, available in LEXIS, News library, Canada NewsWire file.

<sup>47</sup> See Sandeep Junnarkar and Jeff Peline, *Adobe Seeks Silver Lining*, CNET News.com (visited Aug. 26, 1998) <<http://www.news.com/News/Item/0,4,25710,00.html>>.

including IRS tax forms, other government documents, and commercial brochures.

The establishment of such publicly demanded industry standards have, in turn, arguably enhanced the web publishing market, as those who desire to publish information or market products on the web know that the viewers of such pages are seeing the same thing, as designed and approved by the publisher or the marketer of the product. Now that a standard is established and the web publishing industry is off to a roaring start, the field is open for other publishing tools to emerge.<sup>48</sup> The presence of several different publishing tools (perhaps not all available free of charge) would arguably have created chaos in the early stages of web publishing and arguably could have slowed its development.

Thus, the prospect of utilizing the antitrust laws or the intellectual property laws as tools to compel the presence of numerous industry standards arguably would frustrate the market and consumer desires and may pose significant roadblocks in the evolution and development of technology.

## CONCLUSION

The computer technology industry, even in the initial stages of its development, has significantly influenced our society on a practical and procedural level. With increasing regularity, new technologies emerge that promise to enable us to accomplish a greater number of tasks, bigger tasks, faster and cheaper.

While technology promises to revolutionize, it is also becoming apparent that the technology industry does not behave with the same speed or in a manner similar to other industries our country has nurtured. The technology market is fueled primarily by an entrepreneurial spirit, and is based largely on the ownership or control of intellectual property (as opposed to physical property). This market is guided by a consumer market which seeks uniform industry standards, yet is more than willing to topple a dominant market player who abuses its position or fails to keep up with technological evolution, all without the interference of antitrust laws. The emergence of Linux and the rapidity with which it is gaining a market position is a perfect illustration of this phenomenon. Moreover, the alternatives to existing dominant standards are more readily available given the speed of dissemination permitted by technology. Finally, the speed of technological change is a marked contrast to the time required to pursue antitrust litigation. The time required to investigate, litigate

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<sup>48</sup> One of the latest developments in this area is the introduction of XML (extensible markup language) that was created to expand this interoperability between web pages and viewer computer technology beyond the limits of SGML or HTML.

and likely appeal an antitrust case might take two to three years. In the technology sector, three years is a virtual eternity. Within three years, the very assumptions giving a specific technology market dominance are likely to change and the market will have moved in a new direction.

All of these factors support the conclusion that the traditional methods of statutory and judicial intervention in the form of increased anti-trust enforcement or the diminishing of intellectual property rights do not have as much utility in the technology sector as in other industries. While case law will undoubtedly evolve as current laws are applied to accommodate new technologies, there is no policy reason that supports imposing a different standard or applying different rules to those whose intellectual property relates to the technology sector. The market is a far harsher judge than any court.



