

# COMMENT

## REVERSING COPYRIGHT MISUSE: ENFORCING CONTRACTUAL PROHIBITIONS ON SOFTWARE REVERSE ENGINEERING\*

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## I. INTRODUCTION

As intellectual property continues to play an ever-expanding role in the United States economy, the scope of copyrights and their relationship to other areas of the law are becoming increasingly important legal and economic issues.<sup>1</sup> Most commentators agree that the importance of the computer industry to the U.S. economy requires some protection of intellectual property rights in computer software.<sup>2</sup> Yet, the contours of these legal and economic interrelationships are far from clear,<sup>3</sup> and the proper scope of intellectual property rights available to owners and developers of computer software is a focus of active debate.<sup>4</sup>

Largely, the source of this debate is the unique nature of software: a piece of computer software is simultaneously an

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1. See 144 CONG. REC. S12,377 (daily ed. Oct. 12, 1998) (statement of Sen. Hatch) (“America exports more copyrighted intellectual property than any country in the world. . . . [I]n 1996, the core U.S. copyright industries achieved foreign sales and exports exceeding \$60 billion, surpassing, for the first time, every other export sector . . .”).

2. See, e.g., Philip J. Weiser, *The Internet, Innovation, and Intellectual Property Policy*, 103 COLUM. L. REV. 534, 539–40 (2003); Bruce Abramson, *Promoting Innovation in the Software Industry: A First Principles Approach to Intellectual Property Reform*, 8 B.U. J. SCI. & TECH. L. 75, 92–94 (2002); Pamela Samuelson et al., *A Manifesto Concerning the Legal Protection of Computer Programs*, 94 COLUM. L. REV. 2308, 2365–67 (1994).

3. See generally, e.g., Paul M. Schwartz & William Michael Treanor, *Eldred and Lochner: Copyright Term Extension and Intellectual Property as Constitutional Property*, 112 YALE L.J. 2331 (2003) (critiquing the call from legal scholars for active judicial review of congressional copyright legislation).

4. See generally, e.g., Dennis S. Karjala, *Copyright Protection of Computer Program Structure*, 64 BROOK. L. REV. 519 (1998) (discussing the judicial confusion that adds to the debate).

authored work of the type traditionally protected by copyright law and a functional invention similar in many ways to those protected by patents.<sup>5</sup> Because of the nature of its creation, software is written in a form understandable by humans, but it is commercially distributed to the public in a form readable only by computers.<sup>6</sup> It is therefore not perceptible, in this commercial form, as an “expression of ideas” as required for protection under the Copyright Act,<sup>7</sup> and the nonprotectible functional aspects of the software are de facto protected by copyright.<sup>8</sup> Only through a process called “reverse engineering” can software in a computer-readable form be translated to a form understandable by humans,<sup>9</sup> thereby allowing access to the functional aspects of the software that are not protected by the copyright grant.<sup>10</sup>

But here’s the rub: the most effective methods of reverse engineering require that the reverse engineer create copies of the protectible expression, thereby infringing the copyright.<sup>11</sup> At the same time, the boundary between idea and expression in copyright law has always been difficult to discern; this uncertainty regarding the scope of legal protection under copyright law has led many software licensors to include in license agreements clauses that prohibit all reverse engineering.<sup>12</sup>

The de facto protection, by copyright law, of nonprotectible functionality in computer software has raised an alarm in parts of the intellectual property community.<sup>13</sup> In response to concerns about this possible overprotection of software, courts have begun

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5. See Abramson, *supra* note 2, at 77.

6. Refer to notes 26–31 *infra* and accompanying text (explaining the process of creating computer software).

7. See 17 U.S.C. § 102 (2000).

8. Terril Lewis, *Reverse Engineering of Software: An Assessment of the Legality of Intermediate Copying*, 20 LOY. L.A. ENT. L. REV. 561, 564–65 (2000).

9. *Id.* at 563–64.

10. *Id.* at 564–65.

11. *Id.* at 564.

12. See, e.g., Software FX, Inc., *ChartFX for .NET License Agreement*, [http://www.softwarefx.com/SfxNetProducts/CfxforNET/license\\_agreement.aspx](http://www.softwarefx.com/SfxNetProducts/CfxforNET/license_agreement.aspx) (last visited Sept. 13, 2004) (allowing distribution by licensee provided that no reverse engineering occurs); Haptek Inc., *Haptek Player Software License Agreement*, <http://www.haptek.com/products/player/license.shtml> (last visited Sept. 13, 2004) (stating that end users may not “[m]odify, translate, reverse engineer, decompile, or disassemble the Software” or “[c]reate derivative works based on the Software”); Gnostice Info. Techs. Private Ltd., *PDFWiz End-User Software License Agreement and Limited Warranty*, <http://www.gnostice.com/PDFWizlicensing.asp> (last visited Sep. 16, 2004) (denying licensee the right to “modify, decompile, disassemble, reverse engineer or translate the software product”).

13. Pamela Samuelson, *CONTU Revisited: The Case Against Copyright Protection for Computer Programs in Machine-Readable Form*, 1984 DUKE L.J. 663, 665–66 [hereinafter Samuelson, *CONTU Revisited*].

to use the doctrine of misuse as a tool to hold certain copyrights unenforceable,<sup>14</sup> and several federal courts have adopted the misuse doctrine from patent law.<sup>15</sup> With its origins in the equitable doctrine of “unclean hands,” patent misuse is used as an affirmative defense against patent infringement when the patent holder has exceeded the scope of the patent’s grant of a limited monopoly.<sup>16</sup> Yet, at a time when the application of patent misuse has been restricted by Congress and the courts, copyright misuse is experiencing a notable increase in popularity.<sup>17</sup>

The bifurcated nature of software as a work that is simultaneously functional and expressive and summarizes the development of copyright and patent protection for computer software is introduced in Part II of this Comment. Issues surrounding accessibility of software functionality are also discussed with a brief explanation of the reverse engineering process and the use of the statutory defense of copyright fair use to preserve the legality of reverse engineering in certain circumstances.

Part III contains an explanation of the misuse doctrine, including its basis in patent law and later application to copyright law. This Comment argues that the doctrine of misuse has been misapplied to copyright law and that—even based on a proper rationale—it is unnecessary for the protection of the policy underlying the Copyright Act.

The recent Federal Circuit case of *Bowers v. Baystate Technologies, Inc.*<sup>18</sup> presents an example of a software license that was used successfully to prohibit reverse engineering.<sup>19</sup> Yet it is unclear if other circuits, especially the Fourth, Fifth, or Ninth Circuits, would have held the same. Part IV presents a discussion of how *Bowers* may demonstrate the existence of a disagreement among the circuits regarding the viability of copyright misuse as a doctrine. It is asserted that, although neither misuse nor fair use defenses were applied in *Bowers*, the statutory defense of copyright fair use, with the effect of open market dynamics, is sufficient to properly limit the scope of

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14. See Brett Frischmann & Dan Moylan, *The Evolving Common Law Doctrine of Copyright Misuse: A Unified Theory and Its Application to Software*, 15 BERKELEY TECH. L.J. 865, 898–900 (2000) (discussing two divergent approaches to misuse).

15. Refer to Parts III.B.1–III.B.2 *infra* (reviewing appellate court decisions that recognize copyright misuse).

16. 6 DONALD S. CHISUM, CHISUM ON PATENTS § 19.04 (2003).

17. Dan L. Burk, *Anticircumvention Misuse*, 50 UCLA L. REV. 1095, 1117, 1124–29 (2003).

18. 320 F.3d 1317 (Fed. Cir. 2003).

19. *Id.* at 1326–27.

software copyright. This Comment concludes with the assertion that such reverse engineering should be preventable through a licensing agreement, except in a case in which reverse engineering is absolutely necessary for the interoperability of software.

## II. OF SOFTWARE AND MISUSE

### A. *The Unique Nature and Special Problems of Software*

1. *Software: Intellectual Property Without a Home.* Computer software is unable to fit neatly into any of the traditional categories of intellectual property with which it has natural similarities.<sup>20</sup> Traditionally, the line separating patentable and copyrightable material has been relatively clear,<sup>21</sup> and the relevant bodies of law have developed to protect discrete classes of rights and works.<sup>22</sup> Copyright law only protects textual and artistic works and does not cover ideas, functional inventions, and processes.<sup>23</sup> In contrast, patent law protects only these functional inventions, processes, and ideas.<sup>24</sup> Problems arise immediately when contemplating not only the best, but also the allowable, forms of legal protection for software; by its very nature, a piece of software is a textual work that is designed to be functional.<sup>25</sup>

This bifurcated character of software results from the source code/object code division in the work.<sup>26</sup> Programmers typically write software in a textual source code—source code is essentially a derivation of a human language, for example, English, constrained by specific grammatical and structural rules, but nevertheless readable and understandable by humans.<sup>27</sup> Source code is therefore an expression of ideas and, as such, is protectible by traditional copyright laws.<sup>28</sup> However, for the instructions embodied in the source code to be understandable by a computer, source code must be “compiled” to

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20. Abramson, *supra* note 2, at 76.

21. *See id.* at 76 (introducing the “two primary categories of IP rights”).

22. *Id.* at 77.

23. 17 U.S.C. § 102 (2000).

24. 35 U.S.C. § 101 (2000).

25. *Id.*; 17 U.S.C. § 101 (2000); Abramson, *supra* note 2, at 77.

26. Abramson, *supra* note 2, at 77.

27. *See id.* at 115–16.

28. Refer to notes 36–52 *infra* and accompanying text (describing statutory treatment of software as a copyrightable work).

create a binary object code.<sup>29</sup> Because humans are unable to interpret object code directly, it has been a point of debate as to whether or not object code should be considered an expression of ideas.<sup>30</sup> More problematic for the application of copyright law is the obvious functional nature of computer programs: because computer programs perform a task, they cannot be per se merely textual or artistic works.<sup>31</sup>

Software manufacturers typically want to control access to the readable source code and, therefore, distribute software in object code form.<sup>32</sup> Whether this machine-readable form of software should be protected by copyright law is a point of debate among legal commentators.<sup>33</sup> Notwithstanding this debate, the issue of how to properly protect intellectual property rights embodied in software provides a challenge because, under current law, a single piece of software cannot be fully protected by either copyright or patent alone.<sup>34</sup>

2. *Shoehorning Software into Existing Legal Categories.* Until 1980, computer software was not clearly copyrightable.<sup>35</sup> In 1974, as part of the massive overhaul of the 1909 Copyright Act, Congress established the National Commission on New Technological Uses of Copyrighted Works (CONTU).<sup>36</sup> The stated purpose of CONTU was to make recommendations to Congress about whether any revisions to the Copyright Act were required

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29. Samuelson, *CONTU Revisited*, *supra* note 13, at 686.

30. *See id.* at 670–71. Much of this debate has been settled by the courts in opinions holding that both source code and object code are properly afforded full copyright protection. *See, e.g.*, *Johnson Controls, Inc. v. Phoenix Control Sys., Inc.*, 886 F.2d 1173, 1175 (9th Cir. 1989); *Whelan Assocs., Inc. v. Jaslow Dental Lab., Inc.*, 797 F.2d 1222, 1233 (3d Cir. 1986); *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240, 1246–49 (3d Cir. 1983); *Williams Elecs., Inc. v. Artic Int'l, Inc.*, 685 F.2d 870, 876–77 (3d Cir. 1982). Nevertheless, some commentators continue to argue that the scope of copyright protection afforded computer software should be limited because of the object code/source code dichotomy. *See Schwartz & Treanor, supra* note 3, at 2336–44.

31. *See* Lloyd L. Weinreb, *Copyright for Functional Expression*, 111 HARV. L. REV. 1149, 1152–54 (1998).

32. Abramson, *supra* note 2, at 124–26.

33. *See* Samuelson, *CONTU Revisited*, *supra* note 13, at 668.

34. *See, e.g.*, Pamela Samuelson, *Brief Amicus Curiae of Copyright Law Professors in Lotus Development Corp. v. Borland International, Inc.*, 3 J. INTELL. PROP. L. 103, 125–26 (1995) [hereinafter Samuelson, *Amicus Brief of Copyright Law Professors*] (arguing against the expansion of copyright law). *See also generally* Arthur R. Miller, *Copyright Protection for Computer Programs, Databases, and Computer-Generated Works: Is Anything New Since CONTU?*, 106 HARV. L. REV. 977 (1993) (supporting copyright protection).

35. *See* Robert P. Merges, *One Hundred Years of Solicitude: Intellectual Property Law, 1900–2000*, 88 CAL. L. REV. 2187, 2198–99 (2000) (discussing CONTU's attempts to define copyright protection for software).

36. Act of Dec. 31, 1974, Pub. L. No. 93-573, 88 Stat. 1873 (1974).

to accommodate works used in conjunction with computers or other new technological devices.<sup>37</sup> CONTU also considered whether computer programs as object code were a proper subject matter for copyright protection.<sup>38</sup>

When Congress enacted the Copyright Act of 1976, no explicit mention was made regarding the copyrightability of computer software.<sup>39</sup> However, in 1978, CONTU recommended that computer software be considered a proper subject of copyright protection because software is a form of expression; software should be extended the same protection as other copyrighted works; and the dichotomy between protectible expression and unprotectible ideas should be applied to software.<sup>40</sup> Although these conclusions were by no means unanimous,<sup>41</sup> Congress enacted the CONTU recommendations in 1980.<sup>42</sup> The resulting amendment to the Copyright Act of 1976 included a definition of “computer program” in the definitional section of copyrightable subject matter<sup>43</sup> and added a new section that established limitations to the exclusive rights of authors of computer programs.<sup>44</sup> The result of the amendment was the classification of computer programs as literary works, thereby granting them the same protection enjoyed by more traditional subjects of copyright law, such as books and periodicals.<sup>45</sup> This protection includes both literal and nonliteral elements of expression, just as copyright protection of a book includes the exact words used by the author as well as use of similar words that convey the same expression.<sup>46</sup> With software, the literal elements protected by copyright are not just the source code, but also the object code.<sup>47</sup>

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37. Weinreb, *supra* note 31, at 1165.

38. *Id.* at 1166.

39. Samuelson, *CONTU Revisited*, *supra* note 13, at 694.

40. Miller, *supra* note 34, at 982–83.

41. A CONTU commissioner and noted nonfiction author, John Hersey wrote a strong dissent in which he argued that software was a part of the machine of the computer, and the fact that code is written is merely a misleading artifact of a new type of engineering. Merges, *supra* note 35, at 2200.

42. Act of Dec. 12, 1980, Pub. L. No. 96-517, 94 Stat. 3015 (1980).

43. 17 U.S.C. § 101 (2000).

44. *Id.* § 117.

45. *Dun & Bradstreet Software Servs., Inc. v. Grace Consulting, Inc.*, 307 F.3d 197, 206 (3d Cir. 2002).

46. *Id.*

47. “Copyright protection subsists . . . in original works of authorship fixed in any tangible medium of expression . . . from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device.” 17 U.S.C. § 102(a) (2000) (emphasis added); see also *Fonar Corp. v. Domenick*, 105 F.3d 99, 104 (2d Cir. 1997); *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1519 (9th Cir. 1992) (noting

Thus, fully included in the framework of copyright law, computer programs came to be subjected to the same analysis as other literary works regarding the scope of copyright protection.<sup>48</sup> Copyright law requires a fundamental distinction between protectible “expression” and nonprotectible “ideas” or “functions.”<sup>49</sup> Regarding software, this limitation on the scope of copyright protection provides special problems for the application of copyright law because of the underlying functional nature of computer programs.<sup>50</sup> However, the existence of the functional attributes of a computer program will not preclude all copyright protection of the program.<sup>51</sup> In practice, one key goal of a copyright infringement suit is to separate expression from ideas or functions, allowing copyright protection only for the expressive elements.<sup>52</sup>

Despite the explicit inclusion of computer software as a category of authored works in the framework of copyright protection, there remains criticism, debate, and confusion concerning the proper scope of software protection by copyright.<sup>53</sup>

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that copyright law does not “require that a work be directly accessible to humans in order to be eligible for copyright protection”); *Williams Elecs., Inc. v. Artic Int’l, Inc.*, 685 F.2d 870, 877 (3d Cir. 1982).

48. See Miller, *supra* note 34, at 991–1014 (explaining the application of copyright law after CONTU to computer software protection).

49. David G. Luetgen, *Functional Usefulness vs. Communicative Usefulness: Thin Copyright Protection for the Nonliteral Elements of Computer Programs*, 4 TEX. INTELL. PROP. L.J. 233, 242 (1996).

50. Dennis S. Karjala, *Copyright Protection of Computer Documents, Reverse Engineering, and Professor Miller*, 19 U. DAYTON L. REV. 975, 978 (1994) [hereinafter Karjala, *Computer Documents*] (“A computer program in object code form is functional because it causes a computing machine to operate so as to achieve a certain result.”).

51. See, e.g., *Baystate Techs., Inc. v. Bentley Sys., Inc.*, 946 F. Supp. 1079, 1089 (D. Mass. 1996) (holding that a program’s data structure and organization were not copyrightable while the program itself could be copyright protected).

52. The Copyright Act contains no standards for this critical idea/expression distinction. See *Wrench LLC v. Taco Bell Corp.*, 256 F.3d 446, 454–55 (6th Cir. 2001) (recognizing the split in the U.S. Courts of Appeal regarding the proper interpretation of the scope of the Copyright Act as either a literal reading that excludes ideas and other intangible forms of expression from copyright protection, or a broader reading extending the scope “beyond the tangible expressions that can be protected under the Act to elements of expression which themselves cannot be protected”). However, the courts have developed several approaches that can be applied to computer software suits, including an “abstraction test,” *Nichols v. Universal Pictures Corp.*, 45 F.2d 119, 121 (2d Cir. 1930), the doctrine of merger, *Gates Rubber Co. v. Bando Chem. Indus., Ltd.*, 9 F.3d 823, 838 (10th Cir. 1993), the *scène a faire* doctrine, *Softel, Inc. v. Dragon Med. & Scientific Communications, Inc.*, 118 F.3d 955, 963 (2d Cir. 1997), and public domain, *Computer Assocs. Int’l, Inc. v. Altai, Inc.*, 982 F.2d 693, 710 (2d Cir. 1992).

53. James A.D. White, *Misuse or Fair Use: That Is the Software Copyright Question*, 12 BERKELEY TECH. L.J. 251, 280–81 (1997). Some of the most significant debates center around whether software object code is copyrightable, whether protection of software by copyright violates the prohibition of protection for a system established by *Baker v. Selden*, 101 U.S. 99, 100–01 (1879), whether copyrighting software violates the statutory

Although some commentators see little problem with extending copyright law to protecting software as source code or object code,<sup>54</sup> opponents of copyright protection for software typically develop their arguments around a number of common criticisms.<sup>55</sup> First, they argue that computer programs are functional in nature and that allowing copyright protection would afford patent-like monopolization of processes without the strict standards required by patent law.<sup>56</sup> The second argument claims that because programs are distributed to the public in object code,<sup>57</sup> the public should be able to copy them in order to access the underlying ideas, noting that these ideas are not protected by copyright.<sup>58</sup> Finally, they argue that the most economically efficient use of technology requires a reduction in copyright protection for software to allow for software interoperability.<sup>59</sup>

Typically, commentators who espouse one or more of these criticisms suggest that software would be more appropriately protected under patent law<sup>60</sup> or under a new regime of intellectual property rights designed specifically for computer programs.<sup>61</sup> Yet despite the frequent call for software to be protected by patent only and not by copyright, courts denied patent protection for computer programs until 1981 or later.<sup>62</sup> Courts have traditionally interpreted the patent statute that

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prohibition of protection for ideas, procedures, systems, or processes, what is the role of shrinkwrap licenses, and whether reverse engineering copyrighted software constitutes infringement. *Id.* at 281.

54. See, e.g., Miller, *supra* note 34, at 983–84 (arguing that the CONTU recommendations were sound, as computer programs are “quite similar” to traditional literary works).

55. *Id.* at 985. A more current, but essentially similar, discussion of these criticisms to copyright protection for software can be found in Frischmann & Moylan, *supra* note 14, at 905–19.

56. See Frischmann & Moylan, *supra* note 14, at 905–09.

57. Abramson, *supra* note 2, at 124–25.

58. See, e.g., *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1526 (9th Cir. 1992) (finding that “the record clearly establishes that disassembly of the object code in Sega’s video game cartridges was necessary in order to understand the functional requirements”).

59. Refer to Part IV.B *infra* (discussing software interoperability).

60. See, e.g., Samuelson, *Amicus Brief of Copyright Law Professors*, *supra* note 34, at 129–30. (arguing that because computer programs embody many useful methods and systems, they are largely outside the scope of copyright law and should only be protected through patents); Karjala, *Computer Documents*, *supra* note 50, at 978 (arguing that because the differences between patent and copyright are largely attributable to the primary role of patents to protect functional works and of copyrights to protect nonfunctional works, and because computer programs are functional, computer programs should be protected by patents and not copyrights).

61. Samuelson et al., *supra* note 2, at 2365–66.

62. The specific date is set by one’s interpretation of relevant case law. See CHISUM, *supra* note 16, § 1.01, at 1-8 to 1-9.

allowed the patenting of any new process<sup>63</sup> as excluding mathematical formulae, mental processes, or algorithms.<sup>64</sup> However, the impact of this general prohibition declined in 1981 when the Court held that a computer program could be patented as part of an industrial process.<sup>65</sup>

Several opinions handed down by the U.S. Court of Appeals for the Federal Circuit in the 1990s, as well as changes in the Patent and Trademark Office's (PTO) view of software as patentable material, paved the way for the patenting of software not associated with any physical product or process.<sup>66</sup> Finally, in 1998, the Federal Circuit held that a physical process or a machine need not be tied to the software; rather, because the software in question produced a "useful, concrete and tangible result" the software "constitute[d] a practical application of a mathematical algorithm, formula, or calculation" and was directly patentable.<sup>67</sup> More recently, especially with so-called "business method" patents relating to software applications, the courts have been even more generous in allowing patents in areas traditionally viewed as out-of-bounds.<sup>68</sup>

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63. 35 U.S.C. § 101 (2000).

64. The justification for this prohibition was that so-called processes that describe existing natural laws or recite steps that can be performed by the human mind are not interpreted as being included in the scope of "useful arts" as required for patentable subject matter by U.S. CONST. art. I, § 8, cl. 8. See CHISUM, *supra* note 16, § 1.01, at 1-8 to 1-9. "Phenomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work." *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972).

65. *Diamond v. Diehr*, 450 U.S. 175, 191-93 (1981). The holding of this case has been subjected to conflicting interpretations regarding scope. Compare Julie E. Cohen & Mark A. Lemley, *Patent Scope and Innovation in the Software Industry*, 89 CAL. L. REV. 1, 9 (2001) (viewing the *Diamond* decision and later appellate decisions as establishing the patentability of computer software as long as the patent application described a physical process or "machine" into which the software was included), with Pamela Samuelson, *Benson Revisited: The Case Against Patent Protection for Algorithms and Other Computer Program-Related Inventions*, 39 EMORY L.J. 1025, 1098 (1990) (viewing the *Diamond* holding more narrowly as relating only to the industrial process and not covering the computer software except as an integrated part of that process).

66. For example, *In re Alappat*, 33 F.3d 1526 (Fed. Cir. 1994), allowed a party seeking patent protection for software to draft claims to include a general purpose computer, reasoning that with the program loaded, the computer became a special purpose computer as soon as it read the software instructions. In the next year, the PTO issued new examining guidelines that allowed a patent to be issued for programs embodied on medium such as magnetic tapes or floppy disks. Cohen & Lemley, *supra* note 65, at 10.

67. *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1373 (Fed. Cir. 1998). See also Cohen & Lemley, *supra* note 65, at 10 (commenting that the significance of *State Street Bank* was the realization that "even physical structure was unnecessary, so long as a process or idea was useful").

68. See, e.g., *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 73 F. Supp. 2d 1228, 1238-39 (W.D. Wash. 1999) (upholding business methods patent for "one-click" online

Despite the available, and arguably stronger, patent protection,<sup>69</sup> software manufacturers often opt not to pursue patents, as patenting material requires public disclosure of the subject of the patent.<sup>70</sup> Rather, software manufacturers tend to rely on the protection of source code that can be achieved through copyright law in conjunction with the distribution of the software in object code form under terms that prohibit reverse engineering.<sup>71</sup>

It is precisely this “stronger” protection, to the extent that it exists, that critics of software copyrights believe creates too much protection for the owner of the software copyright and, in so doing, undermines the public policy justification for copyrights.<sup>72</sup> Near the center of the debate is the primary process by which an individual can access the nonprotected functional elements embedded within computer software: reverse engineering.<sup>73</sup> This concern over access to the functional ideas embedded within object code has given rise to a push, largely from groups of legal commentators, to limit the strength of protection granted software by copyrights through the doctrines of fair use and misuse.<sup>74</sup>

## B. *Reverse Engineering and Copyright Law*

1. *A Brief Primer on Reverse Engineering.* A significant measure of concern surrounding the strength of copyright protection for computer software is focused on the process of reverse engineering of software.<sup>75</sup> As previously discussed, computer software is typically distributed in object code form,

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shopping).

69. Aaron Xavier Fellmeth, *Copyright Misuse and the Limits of the Intellectual Property Monopoly*, 6 J. INTEL. PROP. L. 1, 30 & n.121 (1998).

70. See White, *supra* note 53, at 285–86 (discussing the importance of “prevent[ing] access to important parts of [software]”).

71. See Frischmann & Moylan, *supra* note 14, at 907 (explaining how object code and copyright law combine to protect software).

72. Ilan Charnelle, *The Justification and Scope of the Copyright Misuse Doctrine and Its Independence of the Antitrust Laws*, 9 UCLA ENT. L. REV. 167, 169–76 (2002).

73. See Pamela Samuelson & Suzanne Scotchmer, *The Law and Economics of Reverse Engineering*, 111 YALE L.J. 1575, 1607–09 (2002).

74. Refer to Parts II.B.2, III.B *infra* (discussing fair use and copyright misuse respectively).

75. See, e.g., Samuelson & Scotchmer, *supra* note 73, at 1608–10; Ivan Rothman, *From Sega to Sony and Beyond: An Alternative Legal Basis for Software Reverse Engineering*, INTEL. PROP. L. NEWSL., Spring 2000, at 1; Ralph D. Clifford, *Simultaneous Copyright and Trade Secret Claims: Can the Copyright Misuse Defense Prevent Constitutional Doublethink?*, 104 DICK. L. REV. 247, 283 (2000).

and that object code is unintelligible to humans.<sup>76</sup> Distribution in this format is principally done for two reasons: first, because most software users are not interested in reading the program code, and second, to try to keep the code hidden as a trade secret from actual or potential competitors.<sup>77</sup> Regardless of the rationale, the distribution of a program in object code when the program is protected by copyright creates difficult issues for the interpretation of the intellectual property rights of the copyright owner.<sup>78</sup> Although expression of the object code is protected by copyright, the functional aspects of the program and the ideas embodied in the program are not protected.<sup>79</sup> However, object code cannot be understood by humans and access to nonprotected functional elements can only be obtained through some type of reverse engineering.<sup>80</sup> Because the method and underlying purpose of reverse engineering may constitute copyright infringement, many commentators complain that the availability of copyright protection for software object code effectively creates patent-like protection for a program's functional elements.<sup>81</sup>

Reverse engineering is a standard practice in the software industry<sup>82</sup> and can be accomplished by a variety of methods.<sup>83</sup> Several methods of reverse engineering pose little legal risk of copyright infringement.<sup>84</sup> For instance, "studying published documentation, performing timing tests and observing the inputs, outputs, and conditions of operation" are all methods of reverse engineering that pose no legal problems regarding the rights of a copyright owner.<sup>85</sup>

However, two methods of reverse engineering, decompilation and disassembly, have been repeatedly challenged as violating intellectual property rights in general and copyright in

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76. Refer to notes 20–34 *supra* and accompanying text (discussing the nature of computer software).

77. Samuelson & Scotchmer, *supra* note 73, at 1608.

78. See Karjala, *Computer Documents*, *supra* note 50, at 978–80.

79. See 17 U.S.C. § 102(b) (2000) (stating copyright's limitations).

80. See Brief Amicus Curiae of Eleven Copyright Law Professors in *Sega Enterprises Ltd. v. Accolade, Inc.*, reprinted in 33 JURIMETRICS J. 147, 155–56 (1992) [hereinafter Amicus Brief of Eleven Professors].

81. See, e.g., Samuelson, *Amicus Brief of Copyright Law Professors*, *supra* note 34, at 125–29.

82. Samuelson & Scotchmer, *supra* note 73, at 1607.

83. See *Sony Computer Entm't, Inc. v. Connectix Corp.*, 203 F.3d 596, 599–601 (9th Cir. 2000); Barbara J. Vining, Note, *The Future of Computer Software in the Reverse Engineering War. Excessive Protection v. Innovation*, 67 BROOK. L. REV. 567, 570–73 (2001).

84. Victor Siber, *Software Letters: Interpreting Reverse-Engineering Law*, IEEE SOFTWARE, July-Aug. 1990, at 4, 4.

85. *Id.* at 8.

particular.<sup>86</sup> Both of these methods require that at least a partial reproduction be made of the original object code program<sup>87</sup>—a so-called “intermediate copy.”<sup>88</sup> To the extent that the reproduced object code is protected by copyright, the making of this (often temporary) copy constitutes prima facie copyright infringement.<sup>89</sup>

2. *Reverse Engineering as a Fair Use.* Fair use is a possible defense for making these copies of computer software for reverse engineering purposes, at least in limited circumstances.<sup>90</sup> The fair use defense has its roots in the mid-nineteenth century case of *Folsom v. Marsh*,<sup>91</sup> and it has been used since that time to provide additional flexibility in the copyright system.<sup>92</sup> It does this by exempting certain modest uses of a copyrighted work from infringement liability when such uses will not significantly undermine the economic interests of the copyright holder.<sup>93</sup> Conceptually, the fair use defense prevents “rigid application of the copyright statute when, on occasion, it would stifle the very creativity which that law is designed to foster.”<sup>94</sup> In 1976, Congress codified the fair use defense in the Copyright Act and established four factors, similar to those articulated by Justice Story in *Folsom*, to be considered when assessing fair use.<sup>95</sup>

86. Samuelson & Scotchmer, *supra* note 73, at 1607–08.

87. See Brian Fitzgerald et al., *Innovation, Software, and Reverse Engineering*, 18 SANTA CLARA COMPUTER & HIGH TECH. L.J. 121, 124–29 (2001) (providing a comprehensive overview of reverse engineering techniques); *Finding a Balance: Computer Software, Intellectual Property, and the Challenge of Technological Change*, OTA-TCT-527 (U.S. Congress, Office of Technology Assessment, Washington D.C.), May 1992, at 146–48 (providing a detailed explanation of reverse engineering through decompilation and disassembly), <http://www.wws.princeton.edu/~ota/>.

88. Lewis, *supra* note 8, at 563 n.12.

89. Rothman, *supra* note 75, at 1.

90. See *Ninth Circuit Rules That Intermediate Copying During Reverse Engineering of Software Is Fair Use*, COMPUTER LAW., May 2000, at 33, 33–34; Douglas C. Wyatt, *Bowers Strikes a Rigid Course Through the Shifting Sands of Shrink-Wrap Licenses*, METROPOLITAN CORP. COUNS., Apr. 2003, at 11.

91. 9 F. Cas. 342 (C.C.D. Mass. 1841) (No. 4901).

92. Paul Goldstein, *Fair Use in a Changing World*, 50 J. COPYRIGHT SOC'Y U.S.A. 133, 140 (2003).

93. *Id.* at 140–41.

94. *Iowa State Univ. Research Found., Inc. v. Am. Broad. Cos.*, 621 F.2d 57, 60 (2d Cir. 1980).

95. *Folsom*, 9 F. Cas. at 345; 17 U.S.C. § 107 (2000). The codified fair use defense lists four factors to be considered when determining whether a copying activity is a fair use of the copyrighted work:

- (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
- (2) the nature of the copyrighted work;
- (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
- (4) the effect of the use upon the potential market for or value of the copyrighted work.

17 U.S.C. § 107.

Of the four statutory factors determining fair use, the first factor, “purpose and character of the use,”<sup>96</sup> and the fourth factor, “effect of the use upon the potential market for or value of the copyrighted work,”<sup>97</sup> are clearly the most important factors and have been the primary focus of analysis by the courts.<sup>98</sup> The first factor, the purpose and character of use, is dominated by two dichotomies: the balance between transformative versus reproductive use of the copyrighted work, and the balance between commercial and noncommercial use of the copyrighted work.<sup>99</sup> Use of a copyrighted work is transformative, or productive, where the copying activity contributes “in some way to the overall social inventory” of authored works.<sup>100</sup> Such uses tend to be classified as fair use, as contrasted with reproductive use, which typically consists of rote copying.<sup>101</sup> The transformative/reproductive dichotomy is not rigidly defined.<sup>102</sup> When use of a copyrighted work is merely reproductive, and a determination of fair use may draw on the commercial/noncommercial dichotomy—for instance, a school teacher making fifteen copies of a newspaper article for classroom instruction—the clear noncommercial use of the work will tend to influence a court to find the copying activity to be a fair use.<sup>103</sup>

The fourth factor of fair use, the effect of the copying activity on the plaintiff’s potential market for the work,<sup>104</sup> has been identified by the U.S. Supreme Court as the “single most important element of fair use.”<sup>105</sup> Although seemingly simple on a conceptual level, this element has proved difficult for the courts to apply.<sup>106</sup> The identification of a “potential” market for the copyrighted work can suffer from circularity in logic, where nearly every use of a copyrighted work can have an effect on the

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96. 17 U.S.C. § 107.

97. *Id.*

98. Jon M. Garon, *Normative Copyright: A Conceptual Framework for Copyright Philosophy and Ethics*, 88 CORNELL L. REV. 1278, 1342–43 (2003).

99. ROGER E. SCHECHTER & JOHN R. THOMAS, *INTELLECTUAL PROPERTY: THE LAW OF COPYRIGHTS, PATENTS AND TRADEMARKS* 220–21 (2003) (describing the difficulties courts have in making distinctions within these two dichotomies).

100. *Id.* at 219; *see also* *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 578–84 (1994) (finding that a parody may be sufficiently “transformative” to warrant a fair use defense); Pierre N. Leval, *Toward a Fair Use Standard*, 103 HARV. L. REV. 1105, 1111 (1990) (elaborating on the nature of transformative uses).

101. SCHECHTER & THOMAS, *supra* note 99, at 219.

102. *Id.* at 219–20.

103. Garon, *supra* note 98, at 1343.

104. 17 U.S.C. § 107 (2000).

105. *Harper & Row, Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 566 (1985).

106. SCHECHTER & THOMAS, *supra* note 99, at 228.

“potential” market for the work.<sup>107</sup> The courts have identified the resulting dilemma<sup>108</sup> and, as at least a partial solution to the logical difficulty, the Court has indicated that potential markets for copyrighted works include only those works that “creators of original works would in general develop or license others to develop.”<sup>109</sup>

The courts have paid special attention to these two elements of fair use when determining the status of reverse engineering of software<sup>110</sup> and have held, generally, that reverse engineering of software to access the underlying nonprotected functional elements is a fair use.<sup>111</sup> The U.S. Court of Appeals for the Ninth Circuit first established the status of reverse engineering of software as a fair use in *Sega Enterprises Ltd. v. Accolade, Inc.*,<sup>112</sup> where it noted that, given the difficulty interpreting copyright law in light of new and changing technology, “a court must keep in mind the public policy underlying the Copyright Act.”<sup>113</sup> The court reasoned that, because computer programs are distributed in object code form, the only way to further the goal of copyright law is to allow public access to the nonprotected functional aspects of the program through such means as reverse engineering.<sup>114</sup> The Ninth Circuit emphasized this view eight years later in *Sony Computer Entertainment, Inc. v. Connectix Corp.*,<sup>115</sup> when it held that any method of reverse engineering, as long as it was

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107. *Id.*

108. *See, e.g., Williams & Wilkins Co. v. United States*, 487 F.2d 1345, 1357 n.19 (1973) (“It is wrong to measure the detriment to plaintiff by loss of presumed royalty income—a standard which necessarily assumes that plaintiff had a right to issue licenses.”).

109. *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 592 (1994).

110. *See Eric Douma, Fair Use and Misuse: Two Guards at the Intersection of Copyrights and Trade Secret Rights Held in Software and Firmware*, 42 IDEA 37, 41–42 (2002) (discussing the *Sony* court’s treatment of the first and fourth fair use factors and their respective roles in the outcome of *Sony*).

111. *Id.* at 41–43.

112. 977 F.2d 1510 (9th Cir. 1992).

113. *Id.* at 1527. The court specified that the purpose of the Copyright Act is “to stimulate artistic creativity for the general public good.” *Id.* (quoting *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 432 (1984)).

114. *Id.* at 1527–28.

115. 203 F.3d 596 (9th Cir. 2000). For a detailed discussion of this case, see Derek Prestin, Comment, *Where to Draw the Line Between Reverse Engineering and Infringement: Sony Computer Entertainment, Inc. v. Connectix Corp.*, 3 MINN. INTELL. PROP. REV. 137, 174 (2002) (arguing that the *Connectix* ruling “correctly extends fair use protection far enough to protect the use of reverse engineering[,] to produce compatible products and to prevent software developers from gaining de facto monopoly over the functional aspects of their work”).

necessary to access the unprotected functional components of copyrighted software, could be defended as fair use.<sup>116</sup>

### III. THE DOCTRINE OF MISUSE IN INTELLECTUAL PROPERTY

Clearly, copyrights can be used to restrict reverse engineering of computer software. In some instances, as discussed in the previous section, a reverse engineer may plead a fair use defense in response to allegations of copyright infringement.<sup>117</sup> Both fair use and misuse have been argued to preserve a right to reverse engineer software.<sup>118</sup> Certainly, this common use of the doctrines suggests an operational linkage between them.<sup>119</sup> However, there are important conceptual differences between the two doctrines, especially regarding the relative significance of the copyright holder's versus the alleged infringer's activities.<sup>120</sup> Critics of the scope of software copyrights have advocated the application of a misuse doctrine, developed in patent law, to copyright.<sup>121</sup> As an affirmative defense that has its roots in the equitable doctrine of "unclean hands," the patent misuse defense not only negates the infringement of the defendant but also renders the patent unenforceable against any party while the offending practices continue.<sup>122</sup>

Unfortunately, when the courts adopted the doctrine of patent misuse for copyright law, important details were lost in translation.<sup>123</sup> The resulting doctrine of copyright misuse, to the extent it can be called a doctrine, is ambiguous and difficult to apply uniformly.<sup>124</sup> Therefore, owners of intellectual property rights in software are unable to determine adequately the legal scope of their licensing agreements, and in attempting to protect their software development investments, they may own only an

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116. *Connectix*, 203 F.3d at 603–04. It is, however, important to note that software cases like *Connectix* that have found reverse engineering to be fair use have dealt with copyright software that was sold on the open market. *Id.* In contrast, no court has yet applied a fair use defense to the alleged infringement of licensed software.

117. See, e.g., White, *supra* note 53, at 290; Douma, *supra* note 110, at 39.

118. Lewis, *supra* note 8, at 575–76, 584.

119. Burk, *supra* note 17, at 1129.

120. See *id.* at 1130 (explaining that while the fair use defense focuses on the defendant's acts, the misuse doctrine analysis considers the activities of the copyright holder, even against third parties).

121. See White, *supra* note 53, at 310; Lewis, *supra* note 8, at 584; Burk, *supra* note 17, at 1127; Fellmeth, *supra* note 69, at 33–34; Frischmann & Moylan, *supra* note 14, at 899–900.

122. See CHISUM, *supra* note 16, § 19.04.

123. See Fellmeth, *supra* note 69, at 27–28 (discussing the differences between patent misuse and copyright misuse).

124. RAYMOND T. NIMMER, THE LAW OF COMPUTER TECHNOLOGY § 7.38 (3d ed. 2003).

unenforceable copyright.<sup>125</sup> To understand how copyright misuse can cause such a result, it is important to understand the historical roots of patent misuse, as well as the limitations placed on it by Congress and the courts.

A. *Patents and the Rise of Misuse Doctrine*

The doctrine of misuse originally developed as a common law response to the U.S. Supreme Court's concern over patent tying arrangements,<sup>126</sup> but it has experienced a history of development and change.<sup>127</sup> It is generally understood that the Court established the doctrine of patent misuse as an affirmative defense to infringement in *Morton Salt Co. v. G.S. Suppiger Co.*<sup>128</sup> In that case, the Court found that the leasing of a patented salt tablet machine on the condition that only Morton Salt's subsidiary's salt tablets be used in the machine created a limited monopoly in the salt tablet industry.<sup>129</sup> As the salt tablets were outside Morton Salt's patent, the company was extending the scope of its patent monopoly beyond the limits allowed by the U.S. Constitution, the Patent Act, and public policy interests.<sup>130</sup> Relying on the principle of "unclean hands" in equity<sup>131</sup> and the decision in *Motion Picture Patents*,<sup>132</sup> the Court refused to grant relief to Morton Salt on its claim of patent infringement against its competitor who leased similar, unpatented salt tablet machines to commercial canners.<sup>133</sup>

It is critical to the significance of the *Morton Salt* decision that the defendant in the infringement action had not leased a salt tablet machine from Morton Salt and could not, therefore, claim direct harm from the terms of the agreement that the

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125. See Frischmann & Moylan, *supra* note 14, at 869 (noting that copyright misuse is not fully established).

126. J. Dianne Brinson, *Patent Misuse: Time for a Change*, 16 RUTGERS COMPUTER & TECH. L.J. 357, 360–62 (1990) (presenting a useful example of patent tying, which previously was an acceptable use for patents).

127. See James B. Kobak Jr., *A Sensible Doctrine of Misuse for Intellectual Property Cases*, 2 ALB. L.J. SCI. & TECH. 1, 10–30 (1992).

128. 314 U.S. 488 (1942). Some commentators have suggested that the patent misuse doctrine actually began long before *Morton Salt*, in *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502 (1917). Brinson, *supra* note 126, at 364–65 (citing William J. Nicoson, *Misuse of the Misuse Doctrine in Infringement Suits*, 9 UCLA L. REV. 76, 82–84 (1962)); John T. Soma et al., *Software Interoperability and Reverse Engineering*, 20 RUTGERS COMPUTER & TECH. L.J. 189, 225 (1994).

129. *Morton Salt*, 314 U.S. at 490–94 (holding that such a tying arrangement is contrary to public policy).

130. *Id.* at 492.

131. *Id.* at 492–93.

132. *Id.* at 491 (citing *Motion Picture Patents*, 243 U.S. at 510).

133. *Id.* at 494.

Court held were overreaching.<sup>134</sup> Indeed, the Court clearly indicated that patent misuse was a defense to infringement even when the defendant had not suffered from the misuse.<sup>135</sup> In *Morton Salt*, the infringing party lacked contractual privity with the patent holder.<sup>136</sup> What mattered was that the public interest, as it was viewed by the Court, would be offended if a misused patent were enforced.<sup>137</sup> The Court therefore declined to enforce any aspect of the patent unless and until the effects of the misuse of the patent dissipated from the marketplace.<sup>138</sup> It did this without any reliance on antitrust laws.<sup>139</sup>

In *Morton Salt*, the Court planted the seeds of what would later be viewed as an implicit approval of the expansion of the patent misuse doctrine into other areas of intellectual property law. The Court suggested that similar principles in equity “will deny relief for infringement of a trademark where the plaintiff is misrepresenting to the public the nature of his product” as well as “in the case of copyright [infringement].”<sup>140</sup> However, it is unclear whether the justification implied in *Morton Salt* for the expansion of the misuse doctrine to trademarks and copyrights truly supports the expansive interpretation apparently given to it by the Court.<sup>141</sup>

In *Morton Salt*, the Court explicitly addressed the practice of tying arrangements.<sup>142</sup> In later years, the Court established only

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134. *Id.* at 491–92.

135. *Id.* at 493.

136. *See id.* at 490–91 (discussing the competitor relationship between Morton Salt Co. and G.S. Suppiger Co.).

137. *Id.* at 494 (“It is the adverse effect upon the public interest of a successful infringement suit, in conjunction with the patentee’s course of conduct, which disqualifies him to maintain the suit, regardless of whether the particular defendant has suffered from the misuse of the patent.”).

138. *Id.* at 493.

139. *Id.* at 494 (“It is unnecessary to decide whether respondent has violated the Clayton Act, for we conclude that in any event the maintenance of the present suit to restrain petitioner’s manufacture or sale of the alleged infringing machines is contrary to public policy . . .”).

140. *Id.*

141. To justify these statements regarding copyright, the Court cited *Edward Thompson Co. v. American Law Book Co.*, 122 F. 922 (2d Cir. 1903) and *Stone & McCarrick v. Dugan Piano Co.*, 220 F. 837 (5th Cir. 1915). *Morton Salt*, 314 U.S. at 494. It is important to note that, in these two copyright cases, the respective circuit courts declined to enforce a specific copyright infringement claim in circumstances where the copyrighted work was a compilation and the plaintiff therefore did not have a copyright on the compiled components of the copyrighted work in question. *Am. Law Book*, 122 F. at 926; *Dugan Piano*, 220 F. at 840–43. Thus, these copyright cases should be viewed not as an adoption of a precursor of a copyright misuse doctrine, but rather a limitation on the statutory scope of copyrightability.

142. *Morton Salt*, 314 U.S. at 493–94.

two other categories of patent misuse.<sup>143</sup> Nevertheless, the doctrine of misuse continued to expand as lower courts established additional categories of practices that rendered the patent at issue unenforceable.<sup>144</sup> Analysis of the practices for potential misuse, like the Court's reasoning in *Morton Salt*, lacked a basis in antitrust law, relying instead on a view of the damage to the public interest that was believed to result from expansions in the scope of patent grants.<sup>145</sup>

Beginning in the 1940s, there was a degree of unification of patent misuse and antitrust standards with the *Mercoïd* cases, marking the pinnacle of the Court's opposition to tying arrangements.<sup>146</sup> In *Mercoïd Corp. v. Minneapolis-Honeywell Regulator Co.*,<sup>147</sup> the Court stated that, for purposes of patent misuse, tying arrangements should be viewed through the lens of antitrust law, not patent law, and that a finding of patent misuse should result in a per se violation of antitrust laws.<sup>148</sup> In *Mercoïd Corp. v. Mid-Continent Investment Co.*,<sup>149</sup> the Court denied a remedy for contributory patent infringement based on a defense of patent misuse.<sup>150</sup> Underlying these decisions was a presumption that ownership of a patent conferred market power,<sup>151</sup> and that therefore the defendants were not required to prove the plaintiff's market power when asserting the defense.<sup>152</sup>

In response to these expansive *Mercoïd* opinions, and in order to restrict the application of the doctrine of patent misuse, Congress included § 271(d) in the Patent Act of 1952.<sup>153</sup> Section

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143. See *Zenith Radio Corp. v. Hazeltine Research, Inc.*, 395 U.S. 100, 139 (1969) (royalty payments based on a percentage of total sales as patent misuse); *U.S. Gypsum Co. v. Nat'l Gypsum Co.*, 352 U.S. 457, 472 (1957) (price fixing as patent misuse). In both of these cases, the Court's rationale for extending the patent misuse doctrine relied heavily on antitrust principles. *Zenith Radio Corp.*, 395 U.S. at 140–41; *U.S. Gypsum Co.*, 352 U.S. at 472.

144. See generally CHISUM, *supra* note 16, § 19.04[3] (providing a comprehensive treatment of the many categories of patent misuse).

145. See Kobak, *supra* note 127, at 21–22.

146. *Id.* at 15–17.

147. 320 U.S. 680 (1944).

148. *Id.* at 684.

149. 320 U.S. 661 (1944). “The instant case is a graphic illustration of the evils of an expansion of the patent monopoly by private engagements.” *Id.* at 666.

150. *Id.* at 670.

151. See Daniel J. Gifford, *The Antitrust/Intellectual Property Interface: An Emerging Solution to an Intractable Problem*, 31 HOFSTRA L. REV. 363, 381 (2002).

152. *Id.*

153. See Tom Arnold & Louis Riley, *Contributory Infringement and Patent Misuse: The Enactment of § 271 and Its Subsequent Amendments*, 76 J. PAT. & TRADEMARK OFFICE SOC'Y, 357, 369–70 (1994) (reading congressional hearings that described the purpose of § 271(d) as providing exceptions to misuse to resurrect contributory infringement).

271(d) was later amended by the Patent Misuse Reform Act of 1988,<sup>154</sup> further restricting the application of patent misuse to tying arrangements in circumstances where the patentee is found to possess market strength.<sup>155</sup> The Federal Circuit has followed the lead of Congress and has limited the application of patent misuse to circumstances in which its application can be appropriately justified by antitrust rationale, requiring that the patent holder possess some degree of market power related to the patent.<sup>156</sup>

Thus, as currently understood, a finding of patent misuse can take one of two possible forms.<sup>157</sup> The first occurs when the patent holder seeks to expand the scope of the patent beyond what is legally allowed in ways that are considered to be per se misuse by the Court.<sup>158</sup> Activities in these categories are to be deemed misuse even in the absence of any anticompetitive effect.<sup>159</sup> The second occurs when the patent holder violates antitrust principles.<sup>160</sup> However, patent laws allow certain anticompetitive acts that would ordinarily be considered illegal under antitrust laws alone.<sup>161</sup> Therefore, the relevant analysis requires that a court first determine if the practice in question fits a category held to be per se misuse by the Court.<sup>162</sup> In the absence of per se misuse, the court must make a factual determination that “the overall effect of the [activity] . . . tends to restrain competition unlawfully in an appropriately defined relevant market.”<sup>163</sup> The test for this “antitrust approach” has its foundation in antitrust law and the rule of reason analysis.<sup>164</sup> Because the focus of this antitrust misuse is centered on anticompetitive effect when considering all of the extrinsic evidence, the patent holder must be shown to possess sufficient

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154. Pub. L. No. 100-703, 102 Stat. 4674 (1988).

155. 35 U.S.C. § 271(d) (2000).

156. *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 706 (Fed. Cir. 1992) (“To sustain a misuse defense involving a licensing arrangement not held to have been *per se* anticompetitive by the Supreme Court, a factual determination must reveal that the overall effect of the license tends to restrain competition unlawfully in an appropriately defined relevant market.” (quoting *Windsurfing Int’l, Inc. v. AMF, Inc.*, 782 F.2d 995, 1001–02 (Fed. Cir. 1986))).

157. Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575, 1662 (2003).

158. *Id.*

159. *Id.*

160. *Id.*

161. *Id.*

162. Frischmann & Moylan, *supra* note 14, at 898.

163. *Windsurfing Int’l, Inc. v. AMF, Inc.*, 782 F.2d 995, 1001–02 (Fed. Cir. 1986).

164. See Frischmann & Moylan, *supra* note 14, at 898 (providing a two-part rule of reason test).

market or economic power to affect an anticompetitive result with its patent-related practices.<sup>165</sup>

Some commentators, most notably those from the Chicago School of Economics, argue for a unification of patent misuse and antitrust standards.<sup>166</sup> The most visible adherent of this view, Judge Posner,<sup>167</sup> has argued that the doctrine of misuse is outdated<sup>168</sup> and that antitrust laws provide a more reliable and consistent method of dealing with behaviors that are often termed misuse.<sup>169</sup> Although this approach has generated a great deal of debate among legal commentators,<sup>170</sup> its continued viability does much to suggest how far removed current conceptions of patent misuse are from the original doctrine established in *Morton Salt*.

### B. Arrival of Patent Misuse to Copyright Law.

The similarities between patent and copyright law have resulted in the application of the patent misuse defense to copyright disputes.<sup>171</sup> However, unlike patent misuse, which is supported by a large body of case law that refines the scope and application of the doctrine, copyright misuse is poorly defined and unclear in its application.<sup>172</sup> While the doctrine of patent misuse has evolved substantially over decades of application,<sup>173</sup> courts applying a misuse doctrine to copyright seem to ignore the important changes to the scope and application of the patent misuse doctrine.<sup>174</sup> Thus, although the scope of patent misuse is

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165. Following the Patent Misuse Reform Act, courts are not to presume that the owner of a patent possesses market power; rather, the courts must analyze the level of actual market power possessed by the patent holder. Leo J. Raskind, *Licensing Under United States Antitrust Law*, 20 BROOK. J. INT'L L. 49, 59–60 (1993). This position has also been adopted by the U.S. Department of Justice and FTC in the Antitrust Guidelines for the Licensing of Intellectual Property, § 2.2, at <http://www.usdoj.gov/atr/public/guidelines/ipguide.pdf> (Apr. 6, 1995), which state, “The Agencies will not presume that a patent, copyright, or trade secret necessarily confers market power upon its owner.”

166. White, *supra* note 53, at 274–76.

167. *Id.* at 274–75.

168. See *USM Corp. v. SPS Techs., Inc.*, 694 F.2d 505, 511 (7th Cir. 1982) (noting that patent misuse arose before federal antitrust law had fully developed).

169. *Id.* at 512 (“If misuse claims are not tested by conventional antitrust principles, by what principles shall they be tested?”).

170. See, e.g., Charnelle, *supra* note 72, at 178–79.

171. See, e.g., *Lasercomb Am., Inc. v. Reynolds*, 911 F.2d 970, 976 (4th Cir. 1990).

172. *In re Napster, Inc. Copyright Litig.*, 191 F. Supp. 2d 1087, 1103 n.11 (N.D. Cal. 2002); see also NIMMER, *supra* note 124, § 7.38.

173. See CHISUM, *supra* note 16, § 19.04[1] (discussing the historical development of misuse).

174. See Burk, *supra* note 17, at 1125 (noting that the court in *Lasercomb* relied on the patent misuse reasoning from *Morton Salt*, decided nearly fifty years earlier).

contracting and becoming increasingly limited to application through an antitrust-based rule of reason,<sup>175</sup> copyright misuse is being applied primarily through a public policy approach.<sup>176</sup>

1. *Lasercomb and the Establishment of Copyright Misuse.* The U.S. Court of Appeals for the Fourth Circuit, in *Lasercomb America, Inc. v. Reynolds*,<sup>177</sup> was the first court to expressly apply the doctrine of misuse to copyright.<sup>178</sup> Lasercomb licensed four prerelease copies of its CAD-CAM<sup>179</sup> software to Holiday Steel Rule Die Corp.<sup>180</sup> Per the license agreement presented to Holiday Steel, neither the licensee nor the licensee's employees would engage in the development, production, or sale of similar software during the ninety-nine-year term of the agreement.<sup>181</sup>

Holiday Steel never signed the license agreement, but, as a result of an apparent oversight by Lasercomb, nonetheless obtained the software.<sup>182</sup> Holiday Steel made several copies of the software for private use, circumventing protective features and avoiding additional licensing fees.<sup>183</sup> Subsequently, Holiday Steel created and sold a software program that was nearly an exact copy of the Lasercomb software, and it marketed the software as its own.<sup>184</sup> The district court found Holiday Steel and associated defendants liable for breach of contract<sup>185</sup> and copyright infringement.<sup>186</sup>

The Fourth Circuit reversed this decision, expressly holding that the defense of copyright misuse did exist and that it applied

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175. See *USM Corp. v. SPS Techs., Inc.*, 694 F.2d 505, 512 (7th Cir. 1982) (reasoning that antitrust principles should apply to patent misuse).

176. See *Burk*, *supra* note 17, at 1124–26 (comparing copyright misuse to classic patent misuse).

177. 911 F.2d 970 (4th Cir. 1990).

178. *Id.* at 976–78. Courts and commentators that support the copyright misuse doctrine often suggest that its roots were established much earlier. See *Burk*, *supra* note 17, at 1124. In *Morton Salt*, the U.S. Supreme Court merely suggested that the equitable doctrine of misuse *could* be applied to trademark and copyright cases. *M. Witmark & Sons v. Jensen*, 80 F. Supp. 843 (D. Minn. 1948), is arguably the first court case to uphold a copyright misuse defense. Troy Paredes, Comment, *Copyright Misuse and Tying: Will Courts Stop Misusing Misuse?*, 9 HIGH TECH. L.J. 271, 285–86 (1994).

179. CAD-CAM stands for “computer assisted design and computer assisted manufacture.” *Lasercomb*, 911 F.2d at 971 & n.2.

180. *Id.* at 971.

181. *Id.* at 973.

182. *Id.*

183. *Id.* at 971.

184. *Id.*

185. Although the defendants did not sign Lasercomb's licensing agreement, a letter in which the president of Holiday Steel admitted to the oral agreement's existence was used to establish the existence of a contract. *Id.* at 973 n.7.

186. *Id.* at 972.

in the case at hand.<sup>187</sup> While acknowledging that there was little case law on the subject, the circuit court based its holding on the “similarity of rationales underlying the law of patents and the law of copyrights.”<sup>188</sup> Regarding the proper application and scope of copyright misuse, the court relied on the reasoning of the *Morton Salt* opinion.<sup>189</sup> It expressly rejected the district court’s reliance on antitrust and the rule of reason, emphasizing that copyright misuse exists independently from antitrust law and is based solely on public policy considerations.<sup>190</sup> According to the court, because the misuse doctrine arose out of equitable principles, it could be used by a defendant such as Holiday Steel despite a failure to agree to the offending license terms.<sup>191</sup>

It is interesting to note that although the Fourth Circuit relied heavily on the similarities between the justifications for patent and copyright protection, it ignored the recent developments shifting the scope of patent misuse toward antitrust and away from public policy rationales.<sup>192</sup> Indeed, despite a current prevailing view that patent misuse is broader than antitrust principles alone, even the public policy approach to patent misuse analysis is based on antitrust principles.<sup>193</sup> Nevertheless, the court in *Lasercomb* ignored considerations of market power and based its holding on the plain language of the licensing agreement rather than on the actual market effect.<sup>194</sup> The result is seemingly contradictory: While relying solely on the analogies between copyright and patent law for its justification of the copyright misuse defense, the Fourth Circuit sent the new copyright misuse doctrine on a course independent from the increasing antitrust influence on the modern patent misuse defense.

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187. *Id.* at 979.

188. *Id.* at 973.

189. *Id.* at 976–77.

190. *Id.* at 977–78 (“The question is not whether the copyright is being used in a manner violative of antitrust law (such as whether the licensing agreement is ‘reasonable’), but whether the copyright is being used in a manner violative of the public policy embodied in the grant of a copyright.”).

191. The court reasoned that copyright misuse is analogous to patent misuse and thus does not require that Holiday Steel be injured by the misuse. *Id.* at 979. In this regard, it was enough that the defendants demonstrated that at least one party had agreed to Lasercomb’s license terms. *Id.* at 973. The court rejected Lasercomb’s claim that the license terms were negotiable and the supporting testimony that at least one party using the Interact software had negotiated out of the offending license terms. *Id.* at 973 & n.8.

192. Refer to notes 146–65 *supra* and accompanying text (discussing this shift).

193. *In re Napster, Inc. Copyright Litig.*, 191 F. Supp. 2d 1087, 1103 n.11 (N.D. Cal. 2002) (“Patent misuse bases its analysis on antitrust principles and consequently is doctrinally analogous to antitrust-based copyright misuse. It is less helpful when employing the ‘public policy’ analysis adopted by the Ninth Circuit.”).

194. *Lasercomb*, 911 F.2d at 979.

2. *Subsequent Application of Copyright Misuse.* Since *Lasercomb*, three other federal circuits have joined the Fourth Circuit in expressly adopting a doctrine of copyright misuse.<sup>195</sup> However, no clear rule emerges from these cases;<sup>196</sup> indeed, although each court adopting copyright misuse relies on the reasoning in *Lasercomb* and the rationale developed in the patent misuse cases, each court seems to develop inconsistent applications of the misuse doctrine to copyrights.<sup>197</sup>

In *Practice Management Information Corp. v. American Medical Association*,<sup>198</sup> the U.S. Court of Appeals for the Ninth Circuit expressly adopted the defense of copyright misuse for copyright infringement.<sup>199</sup> The American Medical Association (AMA) licensed a copyrighted medical coding system (“CPT”) to the Health Care Financing Administration (HCFA).<sup>200</sup> “In exchange, HCFA agreed ‘not to use any other system of procedure nomenclature . . . for reporting physicians’ services’ . . . .”<sup>201</sup>

Practice Management, a third-party medical textbook seller, had purchased print copies of the CPT from the AMA for resale, but when Practice Management was unable to negotiate a volume discount, it brought suit, alleging that the AMA’s copyright was invalid and seeking declaratory judgment.<sup>202</sup> Finding copyright misuse, the court based its reasoning on application of the public policies underlying the Copyright Act to the “plain language of the AMA’s licensing agreement.”<sup>203</sup>

Only the Fifth Circuit has adopted the defense of copyright

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195. Following *Lasercomb*, the doctrine of copyright misuse was expressly adopted in *Practice Management Information Corp. v. American Medical Association*, 121 F.3d 516, 520 (9th Cir. 1997); *Alcatel USA, Inc. v. DGI Technologies, Inc.*, 166 F.3d 772, 792–93 (5th Cir. 1999); *Video Pipeline, Inc. v. Buena Vista Home Entertainment, Inc.*, 342 F.3d 191, 206 (3d Cir. 2003). Other courts have acknowledged the development of copyright misuse but have either declined to adopt the defense or have discussed but not expressly adopted the defense. See *United Tel. Co. of Mo. v. Johnson Publ’g Co.*, 855 F.2d 604, 612 (8th Cir. 1988) (not expressly adopting the defense but stating in dicta that should such a defense be applied it would be controlled by the rule of reason analysis similar to antitrust principles); *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147, 1169–70 (1st Cir. 1994) (acknowledging the development of a copyright misuse defense but expressly choosing not to decide whether to adopt the defense); *Bateman v. Mnemonics, Inc.*, 79 F.3d 1532, 1547 (11th Cir. 1996) (expressly joining other circuits in finding that extrinsic considerations may serve as a defense to copyright infringement).

196. NIMMER, *supra* note 124, § 7.38.

197. *Id.*

198. 121 F.3d 516 (9th Cir. 1997).

199. *Id.* at 520.

200. *Id.* at 517.

201. *Id.* at 517–18 (first alteration in original).

202. *Id.* at 518.

203. *Id.* at 520–21.

misuse in a case involving reverse engineering of software.<sup>204</sup> *Alcatel* was a more complex case than either *Lasercomb* or *Practice Management*, and it required the court to look beyond the text of the license agreement to the context of the dispute.<sup>205</sup> Alcatel USA, Inc. (formerly DSC Communications Corp. (“DSC”)) designed, manufactured, and sold equipment comprising telephone switching systems to long distance service providers.<sup>206</sup> DSC sold its (unpatented) telephone switches, but licensed the copyrighted software that was used to control the switches.<sup>207</sup> The license agreement included terms that restricted the copying of the software.<sup>208</sup> As the demand for telephone services grew, DSC customers could add capacity to their switches by adding expansion cards sold by DSC.<sup>209</sup>

DGI Technologies, Inc. was formed for the express purpose of designing and selling expansion cards that would function with the DSC switches.<sup>210</sup> DGI reverse engineered the firmware from one of DSC’s microprocessor cards in a process that required making multiple copies of DSC’s copyrighted firmware.<sup>211</sup> To acquire the necessary operating system software, DGI surreptitiously copied the DSC operating system from a DSC customer.<sup>212</sup>

DSC sued DGI for, inter alia, copyright infringement resulting from copies made of DSC firmware during the reverse engineering process and copies surreptitiously made of DSC’s copyrighted operating system.<sup>213</sup> Although at trial the jury found DGI guilty of copyright infringement, the appellate court accepted DGI’s defense of copyright misuse and refused to enforce DSC’s copyright, following the reasoning in *Lasercomb*.<sup>214</sup> Central to the court’s reasoning was its finding

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204. Alcatel USA, Inc. v. DGI Techs., Inc., 166 F.3d 772, 777–78 (5th Cir. 1999).

205. Frischmann & Moylan, *supra* note 14, at 892.

206. *Alcatel*, 166 F.3d at 777.

207. *Id.*

208. *Id.* The relevant terms of the software license provided that

(1) the operating system software remains the property of DSC; (2) the customer has the right to use the software only to operate its switch; (3) the customer is prohibited from copying the software or disclosing it to third parties; and (4) the customers are authorized to use the software only in conjunction with DSC-manufactured equipment.

*Id.*

209. *Id.* at 777–78.

210. *Id.* at 778.

211. *Id.* at 778–79.

212. *Id.* at 779.

213. *Id.* at 777.

214. *Id.* at 793.

that, through the terms of DSC's software licensing agreement, DSC was attempting to extend the copyright protection granted to its software to uncopyrighted (and unpatented) microprocessor and expansion cards.<sup>215</sup> To support this reasoning, the court discussed the anticompetitive nature of DSC's actions and the resulting development of a limited monopoly;<sup>216</sup> the opinion contained no discussion of market power.<sup>217</sup> Rather, the Fifth Circuit, like the courts that decided *Lasercomb* and *Practice Management*, focused on the effect of DSC's actions on the underlying policy goals embodied in the Copyright Act.<sup>218</sup>

Notably, the Fifth Circuit allowed DGI to invoke the defense of copyright misuse despite the jury's finding that DGI had misappropriated DSC's trade secrets and come to court with "unclean hands."<sup>219</sup> In doing so, the court rejected the position of the Federal Circuit<sup>220</sup> that a defendant with "unclean hands" could not successfully invoke the defense because copyright misuse is an equitable defense.<sup>221</sup> Thus, in *Alcatel*, as in *Practice Management*, the court adopted the defense of copyright misuse based on the original reasoning of patent misuse embodied in *Morton Salt*, which diverged from the original scope of the misuse doctrine, broadened its application, and increased the apparent power of the doctrine relative to patent misuse.<sup>222</sup>

Most recently, the U.S. Court of Appeals for the Third Circuit adopted the defense of copyright misuse.<sup>223</sup> The court, after a lengthy discussion of the development of the defense of copyright misuse, expressly adopted the doctrine and recognized that it may exist "beyond its traditional anti-competition context [developed in *Morton Salt*]," but it held the defense inapplicable in the case at hand.<sup>224</sup>

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215. *Id.* at 792–93.

216. *Id.* at 793–94.

217. *Id.* at 772–99.

218. *Id.* at 793–94.

219. *Id.* at 794.

220. *Atari Games Corp. v. Nintendo of Am. Inc.*, 975 F.2d 832, 846 (Fed. Cir. 1992) (applying the law of the Ninth Circuit).

221. *Alcatel*, 166 F.3d at 794–95.

222. *See* Gifford, *supra* note 151, at 399–400 (discussing the differences in parameters between copyright misuse and patent misuse).

223. *Video Pipeline, Inc. v. Buena Vista Home Entm't, Inc.*, 342 F.3d 191, 206 (3d Cir. 2003).

224. *Id.*

3. *Commonalities and Confusion in Copyright Misuse.* The U.S. Supreme Court has not explicitly articulated the scope and application of copyright misuse.<sup>225</sup> Arguably, however, it has implicitly accepted the doctrine's application to copyright law in three cases. In *United States v. Paramount Pictures*,<sup>226</sup> the Court affirmed a prohibition on block-booking<sup>227</sup> practices in the motion picture industry, reasoning that such practices enlarge the monopoly of the copyright of the motion picture through a tying arrangement.<sup>228</sup> The Court relied on the restrictions on patent licensing as articulated in *Morton Salt* as justification for this holding, but did not use the term "copyright misuse."<sup>229</sup> Thus, while explicitly commenting that licensing practices such as block-booking were contrary to the public interest of copyright law,<sup>230</sup> the Court required the existence of an antitrust practice such as restraint on trade before prohibiting the practice.<sup>231</sup>

In *United States v. Loew's, Inc.*,<sup>232</sup> the Court considered the issue of block-booking in the motion picture industry under the Sherman Act<sup>233</sup> and noted the general applicability of the *Paramount* holding to tying arrangements involving copyrights.<sup>234</sup> The Court stated that the market power of the defendant, which must be present to sustain an antitrust action concerning allegations of a tying license, is presumed when the subject of the arrangement is copyrighted.<sup>235</sup> Most recently, in *Broadcast Music, Inc. v. Columbia Broadcasting System, Inc.*,<sup>236</sup> the Court reversed a finding of copyright misuse by the Second Circuit Court of Appeals.<sup>237</sup> Without discussing the merits of the copyright misuse defense, the Court held that because the lower court erred in finding a per se antitrust violation, the copyright misuse finding

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225. *Id.* at 203–04.

226. 334 U.S. 131 (1948).

227. "Block-booking" is a practice where the producer or distributor of a film licenses a film to an exhibitor on the condition that another film or group of films from the distributor will also be licensed for exhibition. *Id.* at 156. When this practice was used in the 1940s, all of the defendants' films would be licensed prior to production. *Id.*

228. *Id.* at 157–58.

229. *Id.*

230. *Id.* at 158 ("The sole interest of the United States and the primary object in conferring the monopoly lie in the general benefits derived by the public from the labors of authors." (quoting *Fox Film Corp. v. Doyal*, 286 U.S. 123, 127 (1932))).

231. *See id.* at 158 (justifying licensing restriction on the basis of enlargement of copyright-derived monopoly).

232. 371 U.S. 38 (1962).

233. *Id.* at 40.

234. *See id.* at 44–45.

235. *Id.* at 45–46 (citing *United States v. Paramount Pictures*, 334 U.S. 131 (1948)).

236. 441 U.S. 1 (1979).

237. *Id.* at 24.

that was dependent on the antitrust violation also had to be reversed.<sup>238</sup>

While not defining the contours of a copyright misuse defense entirely, the Court has clearly recognized its existence.<sup>239</sup> Even without a clear statement on the acts that constitute misuse, the Court has implied that copyright misuse should be governed by the same policies as those that control the application of patent misuse.<sup>240</sup> If the doctrines of patent and copyright misuse are grounded in the same policies of invalidation, they should be bounded by the same policies of limitation.<sup>241</sup> However, without an explicit statement from the Court, the circuit courts remain unclear on the application of the misuse defense to copyright.<sup>242</sup> Indeed, the courts applying misuse to copyright have drifted far from the course of misuse set by patent law.<sup>243</sup>

Particularly troubling about the application of copyright misuse by the circuit courts is the simultaneous dependence on a reasoning that first builds on a close analogy between copyright and patent law and then ignores the development of the patent misuse doctrine and the limitations on its application.<sup>244</sup> In *Morton Salt*, the Court established the patent misuse defense as separate from the antitrust laws of the time;<sup>245</sup> its existence was rationalized on the basis of upholding the public policy interests inherent in the patent laws.<sup>246</sup> However, the courts in *Lasercomb* and *Practice Management* construe the public policy basis articulated in *Morton Salt* broadly and without consideration of the changes since *Morton Salt* in both antitrust laws and the patent misuse doctrine.<sup>247</sup> Importantly, despite the public policy rationale presented in *Morton Salt*, the plaintiff in that case did possess market power that, following a modern analysis, might

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238. *Id.* at 6–7.

239. *See Paramount Pictures*, 334 U.S. at 157 (approving lower court decision “[t]hat enlargement of the monopoly of the copyright was condemned . . . in reliance on the principle which forbids the owner of a patent to condition its use on the purchase or use of patented or unpatented materials”); *Loew’s*, 371 U.S. at 47–48 (applying analogy of patent misuse through tying arrangements to license of copyrighted works).

240. *See* 4 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 13.09[A], at 13-294 (1963) (noting that in *Loew’s*, the Court made “tacit approval of an analogy between patents and copyrights, with respect to a misuse defense”).

241. *See* NIMMER, *supra* note 124, § 7.38.

242. Paredes, *supra* note 178, at 289.

243. *See* Gifford, *supra* note 151, at 401–03.

244. *See id.*

245. *See* *Morton Salt Co. v. G.S. Suppiger Co.*, 314 U.S. 488, 494 (1942).

246. *Id.* at 492.

247. Refer to notes 146–65 *supra* and accompanying text (discussing this shift).

easily result in a finding of antitrust-based patent misuse today.<sup>248</sup> Indeed, the Federal Circuit has limited patent misuse to circumstances in which the plaintiff's market power can be proven, and misuse can be established only through reliance on the rule of reason standard of analysis.<sup>249</sup>

#### IV. CONTRACTUAL PROHIBITIONS ON REVERSE ENGINEERING OF SOFTWARE

In January 2003, the U.S. Court of Appeals for the Federal Circuit upheld a contractual provision in a computer software license that prohibited reverse engineering, finding the reverse engineer liable for copyright infringement and breach of contract.<sup>250</sup> Given the established law that reverse engineering is fair use, why did the Federal Circuit not find that the actions of the reverse engineer constituted a fair use of the copyrighted software? Alternatively, considering the standard of misuse established by *Lasercomb* and carried through to the *Alcatel* reverse engineering case, why was the contractual prohibition on reverse engineering not held to be a misuse of the copyright? Certainly, the prohibition on reverse engineering kept the licensee from accessing the functional elements of the (unpatented) software, thus arguably extending the scope of the limited monopoly over the copyrighted expression beyond the scope of the copyright law. Therefore, such a contract clause arguably undermines the public policy underlying copyright law and constitutes copyright misuse.

##### A. *Bowers v. Baystate Technologies, Inc.: Where's the Misuse?*

Harold Bowers was the developer and patent holder of Cadjet, a template that improved the usability of CAD software.<sup>251</sup> A user of Bowers's CAD template envisioned a way to improve the functionality of the template and associated CAD programs and designed Geodraft, an add-on tolerancing program that operated with CAD.<sup>252</sup> Bowers purchased an exclusive license for the copyrighted Geodraft software and bundled his Cadjet and Geodraft together as the Designer's Toolkit.<sup>253</sup> The Designer's

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248. See *Morton Salt*, 314 U.S. at 490–91 (discussing Morton Salt Co.'s ability to prevent competition because of its leasing arrangement with the canners).

249. See *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 706 (Fed. Cir. 1992).

250. *Bowers v. Baystate Techs., Inc.*, 320 F.3d 1317, 1326 (Fed. Cir. 2003).

251. *Id.* at 1320–21.

252. *Id.* at 1321.

253. *Id.* at 1322.

Toolkit was sold “with a shrink-wrap license that, *inter alia*, prohibited any reverse engineering” of the software.<sup>254</sup>

During this same period, appellant Baystate Technologies designed and marketed other tools to be used in conjunction with CAD software, including Draft-Pak, a product that contained a template and geometric dimensioning and tolerancing software.<sup>255</sup> When Bowers approached Baystate and proposed a formal agreement that involved bundling his template with Draft-Pak, Baystate refused the offer, “telling Mr. Bowers that it believed it had ‘the in-house capability to develop the type of products you have proposed.’”<sup>256</sup>

Shortly after Bowers released the Designer’s Toolkit, Baystate obtained copies of the product and released a new version of its Draft-Pak product that possessed many features of the Designer’s Toolkit.<sup>257</sup> Increased price competition between the Designer’s Toolkit and Draft-Pak followed the introduction of the new version of Draft-Pak.<sup>258</sup> Baystate eventually sued Bowers for declaratory judgment with respect to Bowers’s Cadget patents and Bowers counterclaimed for, *inter alia*, copyright infringement, patent infringement, and breach of contract.<sup>259</sup>

The principle issue facing the Federal Circuit in this case was whether federal copyright law preempted the prohibition against reverse engineering as included in Bowers’s shrinkwrap licensing agreement.<sup>260</sup> The court held that there was no preemption, and it also held that, based largely upon an interpretation of First Circuit law, the Copyright Act does not normally preempt a state contract law claim that restrains copying.<sup>261</sup> The court supported this reasoning using the law of other circuits to demonstrate that the Copyright Act does not preempt contractual constraints on copyrighted articles.<sup>262</sup>

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254. *Id.*

255. *Id.*

256. *Id.*

257. *Id.*

258. *Id.*

259. *Id.*

260. For an in-depth discussion of federal preemption, see generally Deanna L. Kwong, *The Copyright-Contract Intersection*: Softman Products Co. v. Adobe Systems, Inc. & Bowers v. Baystate Technologies, Inc., 18 BERKELEY TECH. L.J. 349 (2003) and Merritt A. Gardiner, Note, Bowers v. Baystate Technologies: *Using the Shrinkwrap License to Circumvent the Copyright Act and Escape Federal Preemption*, 11 U. MIAMI BUS. L. REV. 105 (2003).

261. *Bowers*, 320 F.3d at 1324 (citing *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147, 1164 (1st Cir. 1994)).

262. *Id.* at 1324–25 (citing *ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447 (7th Cir. 1996); *Wrench LLC v. Taco Bell Corp.*, 256 F.3d 446 (6th Cir. 2001); *Nat’l Car Rental Sys., Inc. v. Computer Assocs. Int’l, Inc.*, 991 F.2d 426 (8th Cir. 1993); *Taquino v. Teledyne Monarch*

Recognizing its holding in *Atari Games Corp. v. Nintendo of America Inc.*,<sup>263</sup> the Federal Circuit stated that its holding on preemption in *Bowers* did not affect its position that reverse engineering is a fair use exception to copyright infringement.<sup>264</sup> However, it also noted the importance of respecting freedom of contract.<sup>265</sup> Although some courts have held that a state law prohibiting *all* copying of computer software is preempted by federal copyright law,<sup>266</sup> the Federal Circuit could not justify extending this position to private contractual agreements.<sup>267</sup> Indeed, it is the position of the First Circuit that contract clauses waiving statutory rights and defenses are enforceable.<sup>268</sup> By using Bowers's Designer's Toolkit software, Baystate contracted away its statutory fair use defense.<sup>269</sup>

Even if the contractual prohibition on reverse engineering had not been enforceable, it is likely that Baystate's attempt at invoking the fair use defense would have failed. Considering the statutory requirements of fair use,<sup>270</sup> the fourth factor—the effect of Baystate's use of Bowers's software functionality upon the potential market for or value of Bowers's software—weighs heavily in Bowers's favor. Evidence indicated that the newly released Draft-Pak, which included much of the Designer's Toolkit functionality, was having a measurable effect on Bowers's market.<sup>271</sup> In addition, the first statutory fair use factor, the purpose and character of the use, would also weigh in Bowers's favor because of Baystate's use of the reverse-engineered product to create a commercial product that would closely match the functionality of Bowers's software.<sup>272</sup> Although the nature of the copyrighted work was largely functional<sup>273</sup> and therefore deserves a reduced level of protection in this context, the weight of this factor in Baystate's favor would not likely control the balance of factors considered in a fair use analysis. Assuming, arguendo, that the Federal Circuit had performed a fair use analysis in *Bowers* and had rejected the fair use defense to infringement,

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Rubber, 893 F.2d 1488 (5th Cir. 1990); *Acorn Structures v. Swantz*, 846 F.2d 923 (4th Cir. 1988)).

263. 975 F.2d 832 (Fed. Cir. 1992).

264. *Bowers*, 320 F.3d at 1325.

265. *Id.*

266. *Id.* (citing *Vault Corp. v. Quaid Software, Ltd.*, 847 F.2d 255 (5th Cir. 1988)).

267. *Id.* at 1325–26.

268. *Id.*

269. *See id.*

270. Refer to note 95 *supra* (presenting the statutory factors of fair use).

271. *Bowers*, 320 F.3d at 1322.

272. *Id.* at 1326.

273. *See id.* at 1321 (describing the patent claims covering the copyrighted software).

many commentators would likely have called for an application of a misuse doctrine.<sup>274</sup>

Generally, the facts in *Bowers* could fit a copyright misuse analysis under *Lasercomb*, *Practice Management*, or *Alcatel*.<sup>275</sup> The shrinkwrap licensing agreement included in *Bowers*'s Designer's Toolkit prohibited any reverse engineering of the software.<sup>276</sup> However, because reverse engineering is the only process by which noncopyrightable ideas can be accessed from object code,<sup>277</sup> the licensing agreement prohibited access to nonprotectible elements of the program and extended the scope of *Bowers*'s copyright to nonprotectible ideas in the software. In fact, the copyright misuse defense was not even raised in the Federal Circuit.<sup>278</sup> The practical explanation for the argument's absence is that Baystate realized that the defense could not prevail before the Federal Circuit. The Federal Circuit, unlike the Courts of Appeal for the Fourth, Fifth, and Ninth Circuits, has clearly articulated its position on the misuse defense in the patent context: misuse should be considered only in light of an antitrust approach, directed by a rule of reason analysis.<sup>279</sup> Moreover, the court's comments in *Atari* suggest that the patent standard would apply in a copyright misuse case.<sup>280</sup> Following this antitrust approach, the court would not be able to find that *Bowers* had the market power necessary to support a finding of copyright misuse.

### B. Justification of Contractual Reverse Engineering Prohibitions

Contractual provisions that prohibit reverse engineering of software are common in both negotiated and shrink-wrap licenses.<sup>281</sup> By their very nature, these contract terms extend the

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274. See, e.g., Rothman, *supra* note 75, at 8 (suggesting that the misuse doctrine, rather than the fair use defense, should be applied to protect software reverse engineering).

275. In contrast, one could view the holding in *Bowers* as one that is generally applicable to contract clauses prohibiting the reverse engineering of software. Such a view would require the holdings in *Lasercomb* and *Alcatel* to be read narrowly and interpreted as limiting prohibitions against reverse engineering only in unusual fact settings.

276. *Bowers*, 320 F.3d at 1322.

277. See Amicus Brief of Eleven Professors, *supra* note 80, at 154–55 (explaining that object code is unreadable by humans).

278. See Mark A. Lemley, Brief of Amici Curiae in Support of Petition for Panel Rehearing and Rehearing En Banc of Defendant-Appellant Baystate Technologies, Inc., *Bowers v. Baystate Tech., Inc.*, 320 F.3d 1317 (Fed. Cir. 2003) (No. CV-91-40079).

279. *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 706 (Fed. Cir. 1992).

280. *Atari Games Corp. v. Nintendo of Am. Inc.*, 975 F.2d 832, 846 (Fed. Cir. 1992).

281. Marshall Leaffer, *Engineering Competitive Policy and Copyright Misuse*, 19 U. DAYTON L. REV. 1087, 1103 (1994).

protection that copyright laws give to the owner of a copyrighted program.<sup>282</sup> Owners of software copyrights tend to have more difficulty enforcing their rights relative to owners of “hard copy” copyrights because software is easy to copy and difficult to police.<sup>283</sup>

There is another, potentially more serious, problem facing software copyright owners regarding the enforcement of statutory property rights. As discussed earlier, software is inherently utilitarian and, as such, embodies functional characteristics that cannot be protected by copyright.<sup>284</sup> However, even for traditional copyrightable works (i.e., “hard copy” works), it is often difficult for a court to identify the boundary separating the functional ideas from the expression of those ideas.<sup>285</sup> In the case of software, the problem is even more complex.<sup>286</sup> Software copyright owners can never know, at the time object code is distributed to the public, how much of the software will be protected by the courts.<sup>287</sup> Therefore, owners seek to block access to all parts of their programs through the use of license terms that prohibit reverse engineering.<sup>288</sup>

On one hand, strict enforcement of these contractual provisions would seem to undermine the policy rationale of copyright laws—the promotion of the dissemination of ideas to encourage further creative work.<sup>289</sup> Clearly, one can present arguments to convince even the most ardent supporter of software copyrights that there are some legitimate uses of reverse engineering.<sup>290</sup> On the other hand, the complete absence of enforcement of reverse engineering prohibitions would likely stifle the creative work (in software) that the copyright laws are intended to promote. Software developers invest heavily in research and development<sup>291</sup> and, absent adequate intellectual

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282. Professor O'Rourke presents a clear overview of the relationship between copyright law and software licensing practices in Maureen A. O'Rourke, *Drawing the Boundary Between Copyright and Contract: Copyright Preemption of Software License Terms*, 45 DUKE L.J. 479, 481 (1995) [hereinafter O'Rourke, *Drawing the Boundary*].

283. *Id.* at 489.

284. Refer to notes 25–31, 48–52 *supra* and accompanying text.

285. See *Nichols v. Universal Pictures Corp.*, 45 F.2d 119, 121 (2d Cir. 1930) (L. Hand, J.) (“Nobody has ever been able to fix that boundary, and nobody ever can.”).

286. O'Rourke, *Drawing the Boundary*, *supra* note 282, at 493.

287. *Id.*

288. *Id.*

289. *Id.* at 493.

290. Such legitimate uses may include software interoperability, debugging, and noncommercial research.

291. O'Rourke, *Drawing the Boundary*, *supra* note 282, at 497.

property rights protection, would be compelled to invest in other methods of protection.<sup>292</sup>

C. *Applicability of Misuse and Fair Use to No-Reverse Engineering Clauses*

We have examined two tools existing in copyright law, misuse and fair use that can be employed by the courts to limit contractual provisions in software licensing agreements that prohibit reverse engineering. Although they possess many functional similarities, these tools are conceptually very different. Justification of the misuse doctrine focuses on the behavior of the copyright owner, regardless of the actions of the alleged infringer, whereas justification of the fair use defense focuses on the actions of the alleged infringer.<sup>293</sup> Which defense has a role in enforcing a right to reverse engineer software remains an open question.

1. *Misuse Is Misplaced in Copyright Law.* As discussed at length, the copyright misuse defense is an equitable doctrine that was adopted from patent law.<sup>294</sup> This origin creates a number of difficulties for the doctrine's application to copyright law<sup>295</sup> and suggests that the doctrine is ill-suited to deal with issues that arise in software copyrights.

Much of the justification for the application of the misuse doctrine to copyrights derives from a concern respecting the strength of the software copyright: that copyright protection of object code gives patent-like protection to the functionality underlying the software<sup>296</sup> and may be used improperly to extend the scope of the copyright-limited monopoly beyond what is allowed by public policy concerns.<sup>297</sup> Such fear, or at least such distrust, of intellectual property was central to the U.S. Supreme Court's reasoning when it first articulated the patent misuse defense in *Morton Salt*.<sup>298</sup> Indeed, the sweeping effects of the patent misuse defense—the unenforceability of a misused patent against all infringers until the misuse had dissipated from the

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292. *Id.*

293. See Note, *Clarifying the Copyright Misuse Defense: The Role of Antitrust Standards and First Amendment Values*, 104 HARV. L. REV. 1289, 1305–06 (1991).

294. Refer to Part III.B *supra*.

295. Kobak, *supra* note 127, at 33–34.

296. See White, *supra* note 53, at 280–81 (highlighting several issues of software copyrightability).

297. *Id.* at 286 & n.138.

298. See Kobak, *supra* note 127, at 21–22 (discussing the breadth of the *Morton Salt* decision).

market—evidences the underlying hostility of the Court toward the limited monopolies granted by patents.<sup>299</sup>

In many ways, one can draw parallels between the arrival of the misuse doctrine and copyright laws. Like the concern about overreaching patent power in the early Twentieth Century,<sup>300</sup> the copyright protection of computer software has created concern about copyright power.<sup>301</sup> It should therefore be of little surprise that the court in *Lasercomb* adopted the patent misuse approach articulated in *Morton Salt* but ignored the evolution of patent misuse that occurred during the fifty years between the two cases.<sup>302</sup> However, the *Morton Salt* approach to copyright misuse is, quite simply, a misuse of the doctrine of misuse.

Although the concern regarding software copyrights is that they grant patent-like protection without the strict patent law limitations and reviews, it should be difficult to justify an approach to copyright misuse that is more oppressive than the doctrine in patent law. Thus, at the very least, copyright misuse should be applied in the same manner as current patent misuse: an antitrust approach to misuse controlled by a rule of reason analysis.<sup>303</sup> The court in *Lasercomb* erred by failing to consider either the congressional limitations placed on patent misuse or the trend toward an antitrust approach to misuse as applied by the courts.<sup>304</sup> Consideration of these trends as applied in patent law would have foreclosed a finding of misuse in the *Lasercomb* case. Despite the overreaching license limitations in that case, it seems that *Lasercomb* did not have the market power sufficient to justify a finding of misuse in an antitrust-based analysis.<sup>305</sup>

It is not simply the method of application of the copyright misuse defense that is questionable; rather, it is not clear that the misuse doctrine is needed to any degree in copyright law.<sup>306</sup> Many of the concerns surrounding overreaching language in

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299. *Id.* at 27.

300. *Id.* at 22.

301. *See, e.g.,* White, *supra* note 53, at 284–88 (recognizing that copyright can “confer significant market power”); Amicus Brief of Eleven Professors, *supra* note 80, at 153 (stressing that overprotection could give copyright owners a monopoly similar to patents).

302. *See* Kobak, *supra* note 127, at 34 (noticing that the *Lasercomb* court did not refer to legislation and case law that previously limited the application of the misuse doctrine in patent infringement).

303. *Mallinckrodt, Inc., v. Medipart, Inc.*, 976 F.2d 700, 706 (Fed. Cir. 1992).

304. *Lasercomb Am., Inc., v. Reynolds*, 911 F.2d 970, 976–77 (4th Cir. 1990).

305. *See id.* at 971 (observing that *Lasercomb* had not yet marketed its product generally).

306. Raymond T. Nimmer, *Breaking Barriers: The Relation Between Contract and Intellectual Property Law*, 13 BERKELEY TECH. L.J. 827, 871 (1998) (noting that the misuse defense concentrates on competition law).

software licensing agreements can be adequately addressed by contract law principles.<sup>307</sup> Particularly severe cases of overreaching licensing terms can be better addressed by antitrust law.<sup>308</sup> Indeed, antitrust law has developed dramatically since *Morton Salt*, and it results in more predictable outcomes to disputes.<sup>309</sup> But perhaps most importantly, issues of reverse engineering can be addressed adequately through the fair use defense.<sup>310</sup>

2. *The Fair Use Defense Adequately Protects Copyright Policy Surrounding Reverse Engineering.* Unlike patent law, copyright law has a statutory defense, fair use,<sup>311</sup> which limits the scope of a copyright grant where a limited monopoly may undermine public interests.<sup>312</sup> The fair use defense, unlike copyright misuse, is well developed by the courts: a large body of case law on fair use is available for interpretive purposes and to help predict the likely status of copying activity.<sup>313</sup>

Certainly, the fair use defense will not be successful in all instances of reverse engineering. Indeed, it is unlikely that the reverse engineering activities in either *Alcatel* or *Bowers* would have passed the fair use test because of the effects of the product resulting from the reverse engineering on the potential market of the copyright holder.<sup>314</sup> However, such limitations on the fair use defense are critical to preserving the policy justifications for the copyright regime; without any limitations on fair use, copyright protection of software would be meaningless.<sup>315</sup>

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307. *Id.* at 872–73.

308. Kobak, *supra* note 127, at 37.

309. *See* USM Corp. v. SPS Techs., Inc., 694 F.2d 505, 511–12 (7th Cir. 1982) (arguing that misuse claims not based on antitrust principles may subject “the rights of patent holders to debilitating uncertainty”).

310. Maureen A. O’Rourke, *Toward a Doctrine of Fair Use in Patent Law*, 100 COLUM. L. REV. 1177, 1221 (2000) [hereinafter O’Rourke, *Toward a Doctrine*] (noting that both the *Atari* and *Sega* courts employed the fair use doctrine in the reverse engineering context).

311. 17 U.S.C. § 107 (2000); O’Rourke, *Toward a Doctrine*, *supra* note 310, at 1180.

312. At least one commentator has called for the development of a fair use defense in patent law. *See generally* O’Rourke, *Toward a Doctrine*, *supra* note 310.

313. *See* William W. Fisher III, *Reconstructing the Fair Use Doctrine*, 101 HARV. L. REV. 1659, 1669–86 (1988) (reciting the factors to be weighed when applying the fair use defense).

314. Douma, *supra* note 110, at 65–67 (discussing reverse engineering in *Alcatel*); refer also to Part IV.A *supra* (discussing the reverse engineering activities in *Bowers*).

315. Some commentators promote the view that software object code should not be copyrighted. *See, e.g.*, Samuelson et al., *supra* note 2, at 2347–56. However, the copyrightability of object and source code is clearly within the scope of the Copyright Act at an operational level. *See* Dun & Bradstreet Software Servs., Inc. v. Grace Consulting, Inc. 307 F.3d 197, 214 (3d Cir. 2002). The status of software copyrightability should not be

In cases where copyrighted software is licensed under terms that prohibit reverse engineering, the licensee is merely contracting away a statutory defense.<sup>316</sup> This practice is well accepted under principles of contract law and should be analyzed under the principles of preemption.<sup>317</sup> Indeed, the defense of fair use may not be generally applicable when the parties to a dispute are in contractual privity.<sup>318</sup> With the exception of preemption, there should be no legal rationale for not permitting this contractual arrangement when the contract is valid and there is no violation of antitrust laws. In either instance, the court need not rely on the poorly developed, misplaced doctrine of copyright misuse to allow reverse engineering of software.

*D. A Blanket Right to Reverse Engineer Is Not Needed as a Mandatory Rule*

One of the more important justifications for reverse engineering is that it allows for software interoperability, or compatibility.<sup>319</sup> The term “interoperability” encompasses two general types of software compatibility requirements: horizontal and vertical.<sup>320</sup> Vertical interoperability ensures that the product, or output, of one computer program is readable by another;<sup>321</sup> for example, allowing a non-Microsoft address book program created for a PDA to be accessed and operated by Microsoft’s Windows CE operating system. Horizontal interoperability allows two different programs to understand output generated by each other;<sup>322</sup> for example, allowing documents created in Corel WordPerfect to be accessed by Microsoft Word.

It is likely that interoperability can be achieved through market drivers despite any legal constraints on reverse

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open to modification by judicial fiat through the loose application of the codified fair use defense.

316. See Fisher, *supra* note 313, at 1727–29 (discussing the possibility that parties can make private agreements that do not harm public policy).

317. See generally Mark A. Lemley, *Beyond Preemption: The Law and Policy of Intellectual Property Licensing*, 87 CAL. L. REV. 111, 138–44 (1999) (providing a detailed discussion of preemption in intellectual property law).

318. See Eric Douma, *The Uniform Computer Information Transactions Act and the Issue of Preemption of Contractual Provisions Prohibiting Reverse Engineering, Disassembly, or Decompilation*, 11 ALB. L.J. SCI. & TECH. 249, 263–67 (2001). *But see* O’Rourke, *Drawing the Boundary*, *supra* note 282, at 521–22 (arguing that such a generality is over simplistic).

319. Gary R. Ignatin, Comment, *Let the Hackers Hack: Allowing the Reverse Engineering of Copyrighted Computer Programs to Achieve Compatibility*, 140 U. PA. L. REV. 1999, 2022–23 (1992).

320. *Id.* at 2042–44.

321. *Id.* at 2042.

322. *Id.* at 2043–44.

engineering. For the sake of illustration, suppose a small software developer recognizes an unfulfilled market for software to operate on handheld computers that run on the Windows CE operating system. Windows CE is copyrighted software owned by Microsoft Corp.<sup>323</sup> Assuming, *arguendo*, that the licensing contract for Windows CE prohibits all reverse engineering of the Microsoft operating system, without an ability to reverse engineer the operating system, the small software developer would be unable to design software that would be vertically interoperable with Windows CE.

Such a scenario, if this were the end of the story, would arguably conflict with copyright policy. The underlying motivation to copyright is to encourage the distribution of creative expression, thereby fostering creation of authored works and providing benefit to the public.<sup>324</sup> Continuing our illustration, if there really is a demand for software products like those the small developer seeks to create, Microsoft will likely move to fill this market. If Microsoft, for business reasons, decides to forego entry into this new market area, the small developer might be able to license from Microsoft the code that is needed to create vertical interoperability.<sup>325</sup> If both of these market responses fail and a refusal by Microsoft to license parts of its source code prevent the small developer from entering the marketplace, there might be a cause of action under antitrust laws.

Arguably, such a market-based approach is a large step from a system that allows a copyright misuse defense. Perhaps a more realistic solution to the problem of damage that may result from licensing prohibitions on reverse engineering of software has already been accepted by three different drafting processes. The Uniform Computer Information Transactions Act (UCITA),<sup>326</sup> the Digital Millennium Copyright Act (DMCA),<sup>327</sup> and the European Union Council Directive on the Legal Protection of Computer

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323. U.S. Copyright Registration No. TX-4-395-662 (registered Feb. 18, 1997).

324. See Soma et al., *supra* note 128, at 227 (“The purpose and policy of copyright law is to promote dissemination of ideas and information.”).

325. In fact, this is a common practice in the software industry and, given the market conditions as described here, would benefit both the small developer and Microsoft. See, e.g., *EMC and IBM Loosen Kimonos*, COMPUTERWIRE NEWS, Oct. 7, 2003, 2003 WL 64187008 (announcing a software licensing agreement between IBM Corp. and EMC Corp. to allow for interoperability of products).

326. The National Conference of Commissioners on Uniform State Laws drafted and approved the latest version of UCITA at its annual conference meeting on August 2, 2002. Two states, Virginia and Maryland, have adopted UCITA as of this writing. The latest version is available at <http://www.law.upenn.edu/bll/ulc/ucita/2002final.pdf> (last visited Sept. 8, 2004).

327. 17 U.S.C. § 1201 (2000).

Programs (“EU Directive”)<sup>328</sup> all recognize contractual provisions that prohibit what would otherwise be fair use reverse engineering in software licensing agreements.<sup>329</sup> All three also contain provisions that protect licensees who engage in reverse engineering for purposes of certain interoperability, contrary to contractual restrictions.<sup>330</sup>

The EU Directive contains provisions that limit when reverse engineering of software will be tolerated and how the information gained from the reverse engineering process can be used.<sup>331</sup> First, the EU Directive establishes the conditions required for reverse engineering by methods other than decompilation.<sup>332</sup> The process of decompilation is treated separately and is permitted only to achieve interoperability with other programs.<sup>333</sup> A program produced using the decompiled information can compete with the decompiled program only to the extent that it interoperates with other software in the same way as the decompiled program does; decompilation cannot be used merely to research the underlying functionality.<sup>334</sup> These conditions and exceptions cannot be overridden by contract.<sup>335</sup>

In 2002, the Standby Committee for UCITA, established by the American Bar Association, approved a set of amendments to UCITA that included a new section 118, entitled “Terms on Reverse Engineering.”<sup>336</sup> The language of the section is derived from the EU Directive, and it operates largely in the same fashion.<sup>337</sup> UCITA does not protect all reverse engineering conducted for interoperability from contractual restraint.<sup>338</sup> It

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328. Council Directive 91/250/EEC of May 14, 1991 on the Legal Protection of Computer Programs, 1991 O.J. (L 122) 42 [hereinafter EU Council Directive 91/250].

329. For a detailed discussion of these bodies of law, see generally Jacques De Werra, *Moving Beyond the Conflict Between Freedom of Contract and Copyright Policies: In Search of a New Global Policy for On-line Information Licensing Transactions*, 25 COLUM. J.L. & ARTS 239 (2003) (discussing UCITA, the DMCA, and the EU Directive).

330. 17 U.S.C. § 1201(f); UCITA § 118; EU Council Directive 91/250, *supra* note 328, art. 6.

331. David S. Teske & Tia Arzu, *Considerations in International Intellectual Property Licensing*, COMPUTER & INTERNET L., Aug. 2003, at 10, 15.

332. EU Council Directive, 91/250, *supra* note 328, art. 5.

333. *Id.* art. 6.

334. David Syrowik, *Restriking the Balance*, MICH. B.J., Mar. 2003, at 30, 34.

335. EU Council Directive, 91/250, *supra* note 328, art. 9.

336. Syrowik, *supra* note 334, at 32; refer also to note 326 *supra*.

337. Jonathan Band, *Closing the Interoperability Gap: NCCUSL's Adoption of a Reverse Engineering Exception in UCITA*, COMPUTER & INTERNET LAW., May 2002, at 1, 4.

338. Jean Braucher, *The Failed Promise of the UCITA Mass-Market Concept and Its Lessons for Policing of Standard Form Contracts*, 7 J. SMALL & EMERGING BUS. L. 393, 415 (2003).

does, however, protect reverse engineering that is “necessary to achieve interoperability of an independently created computer program with other programs.”<sup>339</sup> The provisions on reverse engineering are not intended to defeat access controls in order to make infringing copies of the software; rather, decompilation must be otherwise permitted under the Copyright Act (for example, via the fair use doctrine) for the exceptions to apply.<sup>340</sup>

The DMCA includes controversial provisions that make it illegal to circumvent or help circumvent technological devices that prevent unauthorized use of copyrighted digital works.<sup>341</sup> However, like UCITA and the EU Directive, the DMCA “expressly allow[s] circumvention when necessary to achieve interoperability between two software components.”<sup>342</sup>

## V. CONCLUSION

The doctrine of copyright misuse is misplaced in copyright law and is unnecessary for the protection of the public policy underlying copyright law. The adaptation of the doctrine from patent law was inherently flawed.<sup>343</sup> Although the Fourth Circuit in *Lasercomb* relied on the similarities between patent and copyright law to justify the application of misuse to copyright,<sup>344</sup> it ignored the evolution of the patent misuse doctrine that occurred during the fifty years prior to *Lasercomb*, adapting the patent doctrine to changes in antitrust law and shifting economic values.<sup>345</sup>

In the context of software, the courts risk undermining longstanding principles of contract law by applying copyright misuse to contractual prohibitions on reverse engineering in a misguided attempt to protect the policy behind copyright laws. It is well settled that parties can opt out of statutory defenses through contractual agreement.<sup>346</sup> The analysis of license terms

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339. UCITA § 118(b) (2002).

340. Philip J. Weiser, *The Internet, Innovation, and Intellectual Property Policy*, 103 COLUM. L. REV. 534, 553 (2003).

341. Robert W. Gomulkiewicz, *After 30 Years, Debate Over Software Is Still Noisy: Do Current Laws Protect Too Little or Too Much?*, NAT'L L.J., May 12, 2003, at S10.

342. *DMCA Should Not Block Interoperability Efforts, Trade Group Tells 6th Cir.*, INTELL. PROP. LIT. REP., July 22, 2003, at 8.

343. See Kobak, *supra* note 127, at 33–34 (stating that the “historical basis for the patent misuse doctrine . . . has little application to copyright”).

344. *Lasercomb Am., Inc. v. Reynolds*, 911 F.2d 970, 976 (4th Cir. 1990).

345. Kobak, *supra* note 127, at 34; refer also to Part III.A *supra* (tracing the commonalities between copyright and patent law).

346. *Bowers v. Baystate Techs., Inc.*, 320 F.3d 1317, 1325–26 (Fed. Cir. 2003).

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that prohibit reverse engineering should be approached through contract, not copyright, law.

Certainly, a complete prohibition on reverse engineering would be detrimental to public policy interests. However, the statutory copyright defense of fair use is more than adequate to protect legitimate uses of reverse engineering without harming the intellectual property rights of software copyright owners.<sup>347</sup> Indeed, this realization has been reached in the past decade by three different drafting processes: UCITA, the DMCA, and the EU Directive.

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347. Refer to Part IV.C.2 *supra*.