COMPUTER SOFTWARE DERIVATIVE WORKS:
THE CALM BEFORE THE STORM

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I. Introduction

Every generation believes they live in the most exciting times of continued social and technological advancement. Since the advent of computers and the internet, however, the present is a time in which progress seems unrivaled. While the law races to catch up with technology, the area of law requiring the fastest runners may be that of computer software derivative works under current copyright law. An author's exclusive right to prepare derivative works is particularly challenged in the software environment where innovation often involves references to and incorporation of other preexisting works. Without definitive cases on point or specifically tailored legislation to guide the analysis, however, the scope of this note is simply to help define the issues presented, thereby drawing attention to what looks to be the calm before the impending storm.

This note considers the challenge posed by computer software derivative works. The note first discusses the definition of derivative works under the current Copyright Act, and analyzes how the courts have interpreted derivative works in analogous contexts. Because defining a derivative work necessarily considers whether it has infringed the underlying work, the note then discusses how the courts make infringement analyses. The infringement analysis focuses primarily on the abstraction-filtration method as it has developed in computer software cases. Finally, the note considers trends in cases and legislation that suggest an increasingly broad interpretation of derivative rights. This section emphasizes the Open Source movement which will no doubt have a significant impact on the future of computer software derivative works.

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II. Defining Derivative Works & Software in the Copyright Act

A. The Acts of 1790, 1870 and 1909

The exclusive right to prepare derivative works is relatively new to the law of copyright. The Act of 1790 protected only specific kinds of works, namely maps, charts and books and did not provide any protection for derivative works.[1] At the time, copyright law was intended to protect the physical works themselves as opposed to the author's right against copying or distribution.[2] Congress, perhaps in response to technological changes, expanded copyright in 1870 to include dramatizations and translations.[3] The 1909 Act added that making variations to protected works was an exclusive right granted to the author.[4] Congress limited the scope of this right by identifying specific variations that were protected based on their respective underlying work.[5] Although a limited right, the addition was significant. Prior to the enactment of the 1909 Copyright Act, the courts interpreted derivative works through the lens of the idea-expression dichotomy.[6] As a result, courts decided the less precise issue of whether the underlying work was copyrightable and if so, whether the defendant had violated the plaintiff's right to reproduce the work.[7] This approach left a gap for works that were similar to the underlying work, but which

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1. Copyright Act of 1790, ch. 15, §§ 1-2, 1 Stat. 124, 124-25. The Act of 1790 was also limited in that it provided copyright holders only a 14 year term of protection.

2. Michael Wurzer, *Infringement of the Exclusive Right to Prepare Derivative Works: Reducing Uncertainty*, 73 MINN. L. REV. 1521, n.10 (1989) (citing Stephanie K. Wade, *Derivative Works and the Protection of Ideas*, 14 GA. L. REV. 794 (1980)).

3. Act of July 8, 1870, ch. 230, § 86, 16 Stat. 198. The Act also expanded the scope of copyrightable subject matter to include plays, music compositions, paintings, and sculptures.

4. Copyright Act of 1909, ch. 320, 35 Stat. 1075.

5. The Act provided the right to: "Translate the copyrighted work into other languages or dialects, or to make any other versions thereof if it be a literary work; to dramatize it if it be a non-dramatic work; to convert it into a novel or other non-dramatic work if it be a drama; to arrange it or adapt it if it be a musical work; to complete, execute, and finish it if it be a model or design for a work of art." ch. 320, 35 Stat. 1075.

6. Copyright protection is limited to the expression of ideas. *See* 17 U.S.C. § 102(b) (2000) stating: "In no case does copyright protection for an original work of authorship extend to any idea." Discussions about the idea-expression dichotomy often start with Baker v. Selden, 101 U.S. 99 (1879); *see* Roger E. Schechter & John R. Thomas, INTELLECTUAL PROPERTY: THE LAW OF COPYRIGHTS, PATENTS, AND TRADEMARKS, § 3.3 (2003) (providing a detailed discussion of the case and the idea-expression dichotomy).

7. Paul Goldstein, *Derivative Rights and Derivative Works in Copyright*, 30 COPYRIGHT SOC'Y U.S.A. 209 (1983) (citing Baker v. Seldon, 101 U.S. 99 (1879)).

had changed form or function enough to avoid being characterized as strictly reproducing it.[8]

B. The Copyright Act of 1976: Derivative Works & Software

The Copyright Act of 1976 expressly provides for an author's exclusive right to prepare derivative works from her original, underlying work.[9] Subject to applicable limitations in Sections 107 through 120 of the Act, Section 106 grants to an author of a copyrighted work the exclusive right to "prepare derivative works based upon the copyrighted work."[10] Section 103 provides that derivative and collaborative works, if sufficiently original, are independently copyrightable.[11] It provides:

> The subject matter of copyright as specified by section 102 includes compilations and derivative works, but protection for a work employing preexisting material in which copyright subsists does not extend to any part of the work in which such material has been used unlawfully.

The copyright in a compilation or derivative work extends only to the material contributed by the author of such work, as distinguished from the preexisting material employed in the work, and does not imply any exclusive right in the preexisting material. The copyright in such work is independent of, and does not affect or enlarge the scope, duration, ownership, or subsistence of, any copyright protection in the preexisting material.[12]

Section 101 of the Copyright Act of 1976 provides the following definition:

> A "derivative work" is a work based upon one or more preexisting works, such as a translation, musical arrangement, dramatization, fictionalization, motion picture version, sound recording, art reproduction, abridgment, condensation, or any other form in which a work may be recast, transformed, or adapted. A work consisting of editorial revisions, annotations, elaborations, or other modifications which, as a whole,

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8. *Id.*
9. Copyright Act of 1976, 17 U.S.C. §§ 101–1332 (2006).
10. 17 U.S.C. § 106(2) (2006).
11. 17 U.S.C. § 103 (2006). The requirement of originality is discussed below in Section 3.A.
12. *Id.*

represent an original work of authorship, is a "derivative work."[13]

Nimmer defines a derivative work as consisting of "a contribution of original material to a preexisting work so as to recast, transform or adapt the preexisting work."[14]   An interesting philosophical argument concerning the nature of derivation itself was posited by Justice Story more than a century ago in *Emerson v. Davies*.[15] He argued that in truth all works are derivative works since no act of creativity takes place in a vacuum and unaffected by ideas that already abound in the world.[16] While Justice Story's oft-quoted opinion deals more squarely with the idea-expression dichotomy, it speaks to the fundamental issue of what is properly viewed under the law of copyright as an original contribution by one author to the work of another.[17]

The Act of 1976 as enacted did not, however, expressly protect software, although the House Report expressly intended that the scope of Section 102 include computer programs.[18] Meanwhile, Congress established the National Commission on New Technological Uses of Copyrighted Works ("CONTU") for the express purpose of studying computer technology and making recommendations for potential revisions to the 1976 Act.[19] The CONTU Final Report recommended that the Copyright Act be amended to make it explicit that computer

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13. 17 U.S.C. § 101 (West 2006).

14. Melville B. Nimmer & David Nimmer, NIMMER ON COPYRIGHT, §3.03[A] (Matthew Bender & Co., Inc. 2005).

15. 8 F. Cas. 615 (C.C.D. Mass. 1845).

16. "Every book in literature, science and art, borrows, and must necessarily borrow, and use much which was well known and used before. No man creates a new language for himself, at least if he be a wise man, in writing a book. He contents himself with the use of language already known and used and understood by others. No man writes exclusively from his own thoughts, unaided and uninstructed by the thoughts of others. The thoughts of every man are, more or less, a combination of what other men have thought and expressed, although they may be modified, exalted, or improved by his own genius or reflection." *Id.* at 619.

17. Nimmer, *supra* note 14, at §3.03[A].

18. H.R. REP. 94-1476, 1976 U.S.C.C.A.N. 5659, 5664 (Sept. 3, 1976). The Report states: "The history of copyright law has been one of gradual expansion in the types of works accorded protection, and the subject matter affected by this expansion has fallen into two general categories. In the first, scientific discoveries and technological developments have made possible new forms of creative expression that never existed before. In some of these cases the new expressive forms - electronic music, filmstrips, and computer programs, for example - could be regarded as an extension of copyrightable subject matter Congress had already intended to protect, and were thus considered copyrightable from the outset without the need of new legislation. In other cases, such as photographs, sound recordings, and motion pictures, statutory enactment was deemed necessary to give them full recognition as copyrightable works."

19. P.L. No. 93-573 (S 3976) Dec. 31, 1974.

programs are copyrightable subject matter.[20] The Report reasoned that the cost of making computer software is far greater than the cost or ease of copying them, and recognized that, in order to provide an incentive for continued software development, the law should provide more tailored protection.[21] CONTU recommended that Section 101 of the 1976 Act be amended to include a definition of computer programs, and suggested the following definition: "a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result."[22] Congress incorporated the CONTU definition verbatim in 1980.[23] One court has concluded that, in light of the scarce legislative history accompanying the 1980 revision, the CONTU Final Report should be considered instructive as to Congressional intent.[24] It is noteworthy, however, that the decision to protect software under the copyright laws did not pass without its critics.[25]

Software has many definitions, but as Section 101 contemplates, most definitions share the underlying concept that software is essentially comprised of instructions designed to cause a certain result, or of data structures that allow information to be manipulated.[26] More specifically, unlike a computer's hardware whose elements are physical, software is essentially comprised of logic, most fundamentally in the form of algorithms.[27] The programming process begins in a high level language such as BASIC and uses English words or phrases to describe the programmer's desired commands in shorthand.[28] The computer's hardware, however, cannot understand these English instructions.[29] The

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20. Final Report of the National Commission on New Technological Uses of Copyrighted Works [hereinafter *CONTU Final Report*] Chapter 1 (July 31, 1978). *Archived at* http://www.webcitation.org/5Y8IAw9K8.

21. *Id.* at Chapter 3.

22. *Id.*

23. P.L. No. 96-517 (HR 6933) Sec. 10(a) Dec. 12, 1980.

24. Midway Mfg. v. Strohon, 564 F. Supp. 741, n.6 (N.D. Ill. 1983).

25. *See e.g.*, Vance Franklin Brown, *The Incompatibility of Copyright and Computer Software: An Economic Evaluation and a Proposal for a Marketplace Solution*, 66 N.C. L. REV. 977 (1988) (arguing that current protections offers more than is needed to stimulate innovation and proposing a solution that would protect software with contract law as opposed to copyright law).

26. Roger S. Pressman, SOFTWARE ENGINEERING: A PRACTITIONER'S APPROACH 10 (McGraw-Hill 4th Ed. 1997); Ira Pohl and Alan Shaw, THE NATURE OF COMPUTATION: AN INTRODUCTION TO COMPUTER SCIENCE 33 (Computer Science Press 1981).

27. Pressman, *supra* note 26, at 10.

28. Dennis A. Adams, COMPUTER FUNDAMENTALS 95-96, 98 (Course Technology 1993); Susan A. Dunn, *Defining the Scope of Copyright Protection for Computer Software*, 38 STAN. L. REV. 497, 500-01 (1986); *see generally* Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d 1240, 1243 (3d Cir. 1983) (providing an informative description of computer software).

29. Adams, *supra* note 28, at 95.

programmer therefore must write a lower level "assembly" language or source code, which is comprised of symbols that prepare instructions for the computer's understanding.[30] Since computers operate on machine code, even the symbols of the assembly language must be translated into machine-readable object code by an assembler or compiler.[31]

As is further discussed below, recent decisions have established that the copyright protection afforded computer programs applies to both object and source code.[32] In addition, a program's "look and feel," as well as all visual outputs including graphic user interfaces ("GUIs") are now protectable.[33] The protectability of computer software derivative works, however, has not been as well defined. Defining the scope of protection for software derivative works presents a problem that may not be swept under the rug. The computer software industry is said to progress by a "stepping stone improvement process, with each innovation building on past innovations to produce an improved product."[34] The creative process for works of technology is incremental, and it is more common that new developments build on prior works rather than introducing an entirely new concept.[35] The very impetus behind the Open Source movement was to protect the right to use such a process without the intervention of the copyright laws to withhold access to prior works.[36] Without a directly applicable statute or cases on point, analysis of the problem may only be made by analogy and in light of policy considerations. The following sections of this note set out to make such an analysis.

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30. Pohl and Shaw, *supra* note 26, at 33.

31. Adams, *supra* note 28, at 95, Pohl and Shaw, *supra* note 26, at 33 and 227; Dunn, *supra* note 28, at 501.

32. Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d at 1243 (3d Cir. 1983) (defining source code as the human-readable language that is translated into object code by a compiler so that the computer can read it).

33. Gerard LaCroix and John Pinheiro, *Protecting the 'Look and Feel' of Computer Software*, 1 HIGH TECH. L.J. 411 (1986); Lewis Galoob Toys, Inc. v. Nintendo of Am., Inc., 780 F. Supp. 1283 (N.D. Cal. 1991).

34. Howard Root, *Copyright Infringement of Computer Programs: A Modification of the Substantial Similarity Test*, 68 MINN L. REV. 1264, 1292 (1984).

35. Raymond Nimmer and Patricia A. Krauthaus, *Copyright and Software Technology Infringement: Defining Third Party Development Rights*, 62 IND. L.J. 13, 38 (1986/1987) (stating that "new technology develops with knowledge of prior work."); *see also* Lewis Gloob Toys**.,** 964 F.2d at, 969 (citing Christian H. Nadan, Note, *A Proposal to Recognize Component Works: How a Teddy Bears on the Competing Ends of Copyright Law*, 78 CAL. L. REV. 1633, 1635 (1990) who states that "technology often advances by improvement rather than replacement").

36. Richard M. Stallman, *The GNU Project*, *archived at* http://www.webcitation.org/5Y8JLQFnT. *See* discussion *infra* Part 5.A.

III. The Primary Elements of Derivative Works

A. Originality of Derivative Work

The material contributed to or used to adapt a preexisting work must be original in its own right.[37] The Second Circuit interpreted the 1909 Act as requiring a "substantial variation" from the underlying work to support copyright in a work adapted from it.[38] Specifically, the court held that a change in medium was not sufficiently original to warrant protection in the new work.[39] The Federal Court of the Southern District of New York had previously held that changing the scale of an underlying work was sufficiently original to warrant protection in the smaller version because the reproduction called for "great skill and originality" and because it included a slight variation.[40] Paul Goldstein argues that the holding is correct because changing the scale of an underlying work also results from taking a photograph of it, and such a photograph would clearly be protectable.[41] Goldstein's analogy, however, introduces an additional variable, namely that the photograph is a change in medium. He does not analyze the characteristics of the works but endorses the decision in *Alva Studios v. Winninger* based on its consistency with copyright policy. Since the works in both *L. Batlin & Son, Inc. v. Snyder* and *Winninger* were in the public domain, they were free to copy and protecting the adapted works would prevent others from copying them and not the underlying public domain work.[42]

The issue of whether a change in medium is sufficiently original to support copyright has also arisen under the 1976 Act. The House Report on the 1976 Act offers important guidance: "[T]he criteria of copyrightable subject matter stated in Section 102 apply with full force to works that are entirely original and to those containing preexisting material."[43] Nonetheless, applying Section 102 to derivative works has yielded different conclusions.[44] Examples of insufficient originality

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37. Nimmer, *supra* note 14, at, §3.03[A].

38. L. Batlin & Son, Inc. v. Snyder, 536 F.2d 486, 491 (2d Cir. 1976) (*en banc*), *cert. denied*, 429 U.S. 857 (1976) (a plastic toy bank adapted from a metal toy bank, with slight alterations); Gilliam v. ABC Broadcasting, 538 F.2d 14, n.4 (2d Cir. 1976) (citing Nimmer, *supra* note 14); *see* Nimmer, *supra* note 14, at §3.03[A], 3-12.

39. L. Batlin, 536 F.2d at 49; Gilliam, 538 F.2d at n.4 (2d Cir. 1976) (citing Nimmer); *see* Nimmer, *supra* note 14, at §3.03[A], 3-12.

40. Alva Studios v. Winninger, 177 F. Supp. 265, 267 (S.D.N.Y. 1959) (the alleged infringer reproduced a Rodin sculpture on a much smaller scale).

41. Goldstein, *supra* note 7.

42. Goldstein, *supra* note 7.

43. H.R. REP. NO. 94-1476 (1976).

44. Naomi Abe Voegtli, *Rethinking Derivative Rights*, 63 BROOK L. REV. 1213,

include: gluing reproductions of artwork on ceramic tiles,[45] the addition of a commercial to the beginning of a videocassette of a motion picture,[46] speeding up a video game so as to view it in fast forward,[47] photographs of consumer products,[48] and style changes and grammatical editing of health care manuals.[49]   Examples of sufficiently original derivative works include: karaoke recordings,[50] a computer program adapted to department-specific needs,[51] visual displays generated by graphic user interface programs,[52] a book based on television scripts,[53] superimposing original patterns on a design background in the public domain to articles of clothing,[54] and a television production based on an original theatrical performance.[55]

One commentator points out that "a work that itself is not independently copyrightable can constitute a derivative work for a purpose of copyright infringement action in the Ninth Circuit but not in the Second Circuit."[56]   Only a minority of decisions share the view that

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1219 (1997).

45. Lee v. A.R.T., 125 F.3d 580 (7th Cir. 1997).

46. Paramount Pictures v. Video Broadcasting, 724 F. Supp. 808, 821 (D. Kan. 1989) ("While Defendant's advertisement is an original work, the court does not recognize the addition of it to a videocassette in any way recasting, transforming or adapting the motion picture. The result is not a new version of the motion picture.").

47. Midway Mfg. Co. v. Artic Intern, Inc., 704 F.2d 1009 (7th Cir. 1983) *cert. denied*, 464 U.S. 823 (1983).

48. SHL Imaging, Inc. v. Artisan House, Inc., 117 F. Supp. 2d 301 (S.D.N.Y. 2000).

49. Spilman v. Mosby-Yearbook, Inc., 115 F. Supp. 2d 148 (D. Mass. 2000).

50. Palladium Music, Inc. v. EatSleepMusic, Inc., 398 F.3d 1193 (10th Cir. 2005).

51. Quinn v. City of Detroit, 23 F. Supp. 2d 741 (E.D. Mich. 1998).

52. Apple Computer, Inc. v. Microsoft Corp., 717 F. Supp 1428 (N.D. Cal. 1989).

53. Twin Peaks Productions, Inc. v. Publ'ns Intern., Ltd., 996 F.2d 1366 (2d Cir. 1993).

54. Folio Impressions, Inc. v. Byer of California, 752 F. Supp. 583 (S.D.N.Y. 1990).

55. Nat'l Broad Co., Inc. v. Sonneborn, 630 F. Supp. 524 (D. Conn. 1985).

56. Voegtli, *supra* note 44, at 1219. S*ee also* Sherrese M. Smith, *Copyright Ownership and Transfer*, 830 PLI/PAT 9, 41 (May 2005) (noting the lack of uniformity among decisions); Assessment Tech. of WI, LLC v. WIREdata, Inc., 350 F.3d 640 (7th Cir. 2003); Dam Things from Denmark, a/k/a Troll Company Aps v. Russ Berrie & Company, Inc., 290 F.3d 548 (3d Cir. 2002); Matthew Bender & Co., Inc. v. West Pub. Co., 158 F.3d 674 (2d Cir. 1998) (expressly holding preexisting and derivative works to the same standard of originality); Maljack Productions, Inc. v. UAV Corp., 115 F.3d 1509 (11th Cir. 1997) (degree of originality required for derivative works is "low"); M. Kramer Mfg. Co., Inc., v. Andrews, 783 F.2d 421, 438 (4th Cir. 1986) (modifying the screen display on a video game met the originality standard articulated as "minimal" and "of a low threshold," citing Original Appalachian Artworks, Inc. v. Toy Loft, 684 F.2d 821 (11th Cir. 1982) and Thomas Wilson & Co. v. Irving J. Dorfman Co., 433 F.2d 409

the degree of originality required of the derivative work is no more than that modicum required of the underlying work or any other fixed work of authorship.[57] These decisions would seem consistent with the House Report. Such an interpretation of the originality requirement favors derivative authors, as their contributions are viewed independent from the original work, and the bar of originality is low.[58] Alternatively, some courts conclude that more is required of a derivative work than the mere modicum, employing such standards as "non-trivial" or "substantial" originality.[59] The majority of the decisions using these higher standards, however, employ them as a measurement of the derivative author's contribution to the original work as opposed to a measurement of the originality of that contribution.[60] The reasoning appears to be that the contribution must be substantial in order to have made a work that is distinguishable from the original.[61] As one court articulates, such a distinction is important for two reasons: to avoid the

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(2d Cir. 1970).

57. Watkins v. Chesapeake Custom Homes, LLC, 330 F. Supp. 2d 563, 573 (D. Md. 2004) (the derivative work must possess a "faint trace of originality" (citing Theotokatos v. Sara Lee Personal Products, 971 F. Supp. 332 (N.D. Ill. 1997)); Spilman v. Mosby-Yearbook, Inc., 115 F. Supp. 2d 148 (D. Mass. 2000) (expressly adopting the standard articulated in M. Kramer Mfg. Co., Inc., v. Andrews).

58. Voegtli, *supra* note 44, at 1220.

59. Waldman Pub. Corp. v. Landoll, Inc., 43 F.3d 775 (2d Cir. 1994) (mere modicum of originality insufficient); EFS Marketing, Inc. v. Russ Berrie & Co., Inc., 836 F. Supp. 128 (S.D.N.Y. 1993) ("substantial" originality required); Past Pluto Productions Corp. v. Dana, 627 F. Supp. 1435, (S.D.N.Y. 1986) (originality must be "more than trivial").

60. Entm't Research Group, Inc. v. Genesis Creative Group, Inc., 122 F.3d 1211 (9th Cir. 1997) ("merely trivial" insufficient); Weissmann v. Freeman, 868 F.2d 1313 (2d Cir. 1989) ("more than trivial"); Durham Industries, Inc. v. Tomy Corp., 630 F.2d 905 (2d Cir. 1980) ("more than trivial" variation); Donald v. Zack Meyer's TV Sales and Service, 426 F.2d 1027 (5th Cir. 1970) (variation must be "substantial, not merely trivial"); Psihoyos v. Nat'l Geographic Soc'y, 409 F. Supp. 2d 268 (S.D.N.Y. 2005) ("non-trivial"); JCW Investments, Inc. v. Novelty, Inc., 289 F. Supp. 2d 1023 (N.D. Ill. 2003) ("not merely trivial"); Earth Flag, Ltd. v. Alamo Flag Co., 154 F. Supp. 2d 663 (S.D.N.Y. 2001) ("non-trivial"); CRC Press, LLC v. Wolfram Research, Inc., 149 F. Supp. 2d 500 (D. Ill. 2000) (derivative work must be "substantially different" from underlying work); Gibson Tex, Inc. v. Sears Robuck & Co., 11 F. Supp. 2d 439 (S.D.N.Y. 1998) ("substantial in nature, not merely trivial"); Fred Riley Home Bldg. Corp. v. Cosgrove, 864 F. Supp. 1034 (D. Kan. 1994) (variation must be "more than trivial"); Simon v. Birraporetti's Restaurants, Inc., 720 F. Supp. 85 (S.D. Tex. 1989) ("more than minimal" variation); Conan Properties, Inc. v. Mattel, Inc., 712 F. Supp. 353 (S.D.N.Y. 1989) ("non trivial" contribution required); Dynamic Solutions, Inc. v. Planning & Control, Inc., 646 F. Supp. 1564 (S.D.N.Y. 1986) ("substantial, non-trivial"); Knickerbocker Toy Co., Inc. v. Winterbrook Corp., 554 F. Supp. 1309 (D. N.H. 1982) ("nontrivial"); Smith v. George E. Muehlebach Brewing Co., 140 F. Supp. 729 (D. Mo. 1956) ("more than trivial" variation).

61. Entm't, Research Group, 122 F.3d. at 1217.

confusion that would result if two indistinguishable works were copyrighted, and to prevent a copyright owner from extending his copyright beyond the statutory period by making an identical work as the period was nearing its end.[62]

One court's discussion of the confusion between the two standards may provide the correct approach.[63] Comparing *Batlin*[64] and *Gracen v. Bradford Exchange*,[65] the court states:

> [Both cases] initially recognize that the quantum of originality required for copyright protection is modest and that the contributions [of the derivative author] need only rise above the minimal or trivial to be protected. But both opinions then continue on to require that the contributions be "substantially" different from the preexisting work. It would appear that a contribution could be more than trivial, but still not substantially different from the preexisting work. Would such a contribution be entitled to protection?[66]

The court left the question unanswered but it clarified that the two standards are not mutually exclusive.[67] The same modicum of originality is required in order to warrant protection, but the derivative work, because it uses an underlying work as its foundation, must distinguish itself from that underlying work substantially in order to distinguish itself as a new work. This approach contemplates a two step analysis. The first step considers what has been added to the underlying work and whether it is at least minimally original. This would involve considering whether a change in medium, for example, was sufficiently original to warrant copyright protection.[68] Next, the court would consider whether the derivative work contributed enough to the underlying work to enable audiences to distinguish between the two. The problem in interpretation may derive from characterizing the latter analysis as another measurement of originality.

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62. Gaiman v. McFarlane, 360 F.3d 644, 661 (7th Cir. 2004).

63. Moore Publishing, Inc. v. Big Sky Marketing, Inc., 756 F. Supp. 1371, 1375, n.2 (D. Idaho 1990).

64. 536 F.2d 486 (2d Cir. 1976).

65. 698 F.2d 300 (7th Cir.1983).

66. Moore Publishing, Inc., 756 F. Supp. at 1375, n.2.

67. *Id.* The court reasoned that since the contribution in controversy "[did] not rise above the trivial" that it need not address the second question of whether the resulting work was substantially different from the underlying work. *Id.*

68. Note that the *Batlin* court held that such a contribution was insufficient, 536 F.2d at 489 (following the lower court's conclusion that despite a change in medium, the second work was "practically an exact copy of the first.").

This approach, however, conflicts with Nimmer. He would instead use the substantially different measurement as the proper standard for originality in a derivative work. He writes:[69]

> In general, the applicable standard in determining the necessary quantum of originality is that of a 'distinguishable variation' that is more than 'merely trivial.' Any variation will not suffice, but one that is sufficient to render the derivative work distinguishable from its prior work in any meaningful manner will be sufficient.[70]

The reason for Nimmer's approach may be purely pragmatic. Indeed, it is almost impossible to imagine any derivative work in isolation from its underlying work.[71] Another rationale for using a comparison of the two works as a measurement of originality is suggested by an economic authority:

> To determine the presence of incremental and hence copyrightable expression [added by the derivative author] requires comparison between the original and the derivative. Some courts have required that the increment (call it "incremental originality") be significant. They worry that if the threshold is set too low and the copyrights on original and derivative works happen to be in different hands . . . the costs of determining infringement could be prohibitive.[72]

While this does not resolve why the derivative work's *originality* ought to depend upon such a comparison, it does illuminate why courts may benefit from making it. Nimmer goes on to question the *Gracen* court for its rationale in upholding a "substantially different" standard of originality as inhibiting incentive since the first derivative author would have too much control over any subsequent derivative works.[73] Nimmer then points out that the court assumes there are a limited number of ways to transform or adapt an underlying work and properly concludes this may not be a fair generalization.[74]

Computer software as an underlying work easily meets the minimal

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69. Nimmer, *supra* note 14, at §3.03[A], 3-12 and 3-13.
70. *Id*.
71. *See e.g*., Emerson v. Davies, 8 F. Cas. 615 (C.C.D. Mass. 1845).
72. William M. Landers & Richard A. Posner, THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW 113 (The Belknap Press of Harvard University Press 2003).
73. Nimmer, *supra* note 14, at §3.03[A], 3-14.
74. Nimmer, *supra* note 14, at §3.03[A], 3-14 and 3-15 ("That premise itself would appear to be factually unjustified.").

threshold requirement of originality required for protection.[75] With respect to the originality requirement for computer software derivative works, however, the case law is not yet developed, and the best analysis is likely to be made by analogy. If Nimmer's approach is adopted, a computer program derived from another will have to introduce a variation that makes it substantively distinguishable from the underlying program such that users could distinguish them. A program which borrows protected code might show its originality as a derivative work by providing greater compatibility with another program or by making itself more customized to particular commercial uses. However, straying too far from the underlying code in function may be too much of a distinction. For example, in *Vault Corp. v. Quaid Software, Ltd.*, [76] the allegedly infringing derivative work contained only 30 characters of the underlying work's source code, which totaled 50 pages.[77] The owner of the underlying work argued unsuccessfully that while the amount copied was quantitatively small, it was qualitatively significant and was crucial to the operation of the program.[78] The court held that the second work was not a derivative of the first because it did not perform the same function.[79]

B. Substantial Copying of the Preexisting Work

By definition, a derivative work is dependent upon another, underlying or preexisting work.[80] The standard traditionally adopted by the courts in determining whether a work is derived from a preexisting work is if it contains a "substantial" amount of material from that preexisting piece.[81] This determination is a question of fact.[82] Since the

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75. Assessment Technologies of WI, LLC v. Wiredata, Inc., 350 F.3d 640, 643 (7th Cir. 2003). The case involved software used to compile real estate tax assessment data. The court reasoned that the software was original because no other real estate assessment program had arranged the material with the same fields and category groupings. *Id.*

76. 847 F.2d 255, 267 (5th Cir. 1988).

77. *Id.*

78. *Id.* at 267-68.

79. *Id.* at 268.

80. 17 U.S.C. § 101. *See also* Stewart v. Abend, 495 U.S. 207, 233-34 (1990) (arguing that 17 U.S.C. § 103 "undermines . . . the conclusion that the derivative work is 'completely independent' of the preexisting work").

81. Mulcahy v. Cheetah Learning LLC, 386 F.3d 849, 853-54 (8th Cir. 2004) (endorsing the use of a qualitative measurement of the material allegedly copied); Twin Peaks Prods., Inc. v. Publ'ns Int'l, Ltd.*,* 996 F.2d 1366, 1373 (2d Cir. 1993) ("The [derivative work] contain[ed] a substantial amount of material from the [underlying work], transformed from one medium to another."); Litchfield v. Spielberg, 736 F.2d 1352, 1357 (9th Cir. 1984); Eden Toys, Inc. v. Florelee Undergarment Co., Inc., 697 F.2d 27, 34 (2d Cir. 1982) (derivative work is one

derivative works must "incorporate that which itself is the subject of copyright,"[83] the nature of what is copied must be a substantial amount of the underlying work's expression, and not merely the idea.[84] Where substantial, the fact that the copied work is in a different medium from the original work will not preclude a finding of copying.[85] Note that the requirement of fixation also applies to derivative works, the result being that whatever material has been borrowed must remain fixed in the derivative work.[86]

Nimmer identifies the requisite level of copying as that which would make the derivative work an infringing one if the material had been taken without the consent of that work's author.[87] Any infringement under Nimmer's standard is thus necessarily twofold; first as violating the right to make reproductions and second as violating the right to prepare derivative works.[88] Where adopted, this standard has been interpreted to mean that if the derivative author lacks consent, his work is necessarily an infringing one.[89] The standard is, however, more properly used in understanding the extent to which the author of the derivative work has contributed to the underlying work.[90] Note that in

which "borrows substantially from existing works."); M.H. Segan Ltd. P'ship v. Hasbro, Inc., 924 F. Supp. 512, 521 (S.D.N.Y. 1996) (citing *Eden Toys*); Cent. Point Software, Inc. v. Nugent, 903 F. Supp. 1057, 1060 (E.D. Tex. 1995) (citing *Twin Peaks*); Apple Computer, Inc. v. Microsoft Corp., 779 F. Supp. 133 (N.D. Cal. 1991); Original Appalachian Artworks, Inc. v. Schlaifer Nance & Co., Inc., 679 F. Supp. 1564 (N.D. Ga. 1987); Raffoler, Ltd. v. Peabody & Wright, Ltd., 671 F. Supp. 947, 953 (E.D.N.Y. 1987) ("[the derivative work] must have been substantially copied from a prior work," citing Nimmer, *supra* note 14).

82. Reyher v. Children's Television Workshop, 533 F.2d 87, 90 (2d Cir. 1976).

83. Nimmer*, supra* note 14, at §3.01.

84. Berg v. Symons, 393 F. Supp. 2d 525, 541 (S.D. Tex. 2005) (copying the general "look" of jewelry designs did not constitute copying of the protected expression of copyright holder and therefore did not amount to an unauthorized derivative work); Reyher, 533 F.2d at 89-90 (where only the theme of the prior story was substantially similar to the allegedly infringing book, the latter was not a derivative work of the former).

85. Rogers v. Koons, 751 F. Supp. 474, 478 (S.D.N.Y. 1990) (sculpture copied from a photograph held to be a copy of the photograph). The court cites Nimmer for the proposition that "copyright in a work protects against unauthorized copying not only in the original medium in which the work was produced, but also in any one medium as well . . . . The fact that a work in one medium has been copied from a work in another medium does not render it any less a 'copy.'"

86. Lewis Galoob Toys, 964 F.2d 965 (9th Cir. 1992); Micro Star v. Formgen Inc., 154 F.3d 1107 (9th Cir. 1998).

87. Nimmer*, supra* note 14, at §3.01.

88*. Id.*

89. Gracen v. Bradford Exch., 698 F.2d 300 (7th Cir.1983); Pickett v. Prince, 52 F. Supp. 2d 893, 903 (N.D.Ill. 1999) (citing Dynamic Solutions, Inc. v. Planning & Control, Inc., 646 F. Supp. 1329 (S.D.N.Y. 1986)).

90*. See infra*, Part 3.C.

the context of computer software, the requirement of substantial copying becomes increasingly more significant where qualitative and quantitative measurements of copied material are less certain.[91]   For example, one commentator points out that many modern software programs merely "reference" the preexisting work, or are designed merely to interact with preexisting software programs and incorporate only a few elements of their programming structure.[92]   She argues that such works warrant different treatment from the traditional derivative work analysis, suggesting that they are essentially integrated works.[93]

The question of substantial copying may also arise in the context of translating program languages. There are two ways a computer program can be translated that may trigger a derivative works analysis, namely, translating between high level languages such as from BASIC to FORTRAN and/or translating from source code to object code.[94]   In *Synercom Technology, Inc. v. University Computing Co.,* [95] the Northern District of Texas held that translating high level languages is analogous to translating from English to French, and is thus an infringement of the original work.[96]   The court reasoned that the original language constituted expression as opposed to idea, and that the act of translating was essentially copying that expression, altering only the "external manifestation" of the expression.[97]   Alternatively, the Southern District of New York came to the opposite conclusion in *Q-Co Industries, Inc. v. Hoffman.*[98]

Here, the court held that the translated computer program written originally for Atari hardware translated for an IBM computer copied only the idea and not the expression because the two kinds of hardware were significantly different.[99]   Interestingly, the court noted that viewing the second program as a derivative work of the first made their similarities appear more significant, but because it held that the expression was too different to support infringement, the similarities

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91. Lydia Pallas Loren, *The Changing Nature of Derivative Works in the Face of New Technologies*, 4 J. SMALL & EMERGING BUS. L. 57 (2000).

92. *Id.*

93. *Id.* The practice of referencing preexisting works is discussed more fully below in the section on Open Source, *see infra* Part 5.A.

94. Synercom Tech., Inc. v. Univ. Computing Co., 462 F. Supp. 1003, 1013 n.5 (N.D. Tex. 1978) (holding that translating a program from FORTRAN to ANGOL infringed copyright in the program); Adams, *supra* note 28, 95 (describing the process of translation from source code to object code as necessary for computer hardware to be able to read human intelligible source code which is written first).

95. Synercom Technology, Inc., 462 F. Supp. at 1013 n.5.

96. *Id.*

97. *Id.*

98. 625 F. Supp. 608, 616 (S.D.N.Y. 1985).

99. *Id.*

referenced were presumably in the underlying idea.[100]   The *Q-Co* decision is consistent with Congressional intent as expressed in the CONTU Report, although the Report applies section 117 to reach its conclusion as opposed to applying an idea-expression analysis.[101]   The Report characterizes the translation of a program from one high level language to another as the program user's right "to make those changes necessary to enable the use for which [the program] was both sold and purchased" which is included under section 117.[102]

The Ninth Circuit Court of Appeals held that translating a program's assembly language in the reverse order, (i.e., from machine readable object code to human readable source code) is protected under the fair use doctrine.[103]   The court emphasized the requirement that the derivative work copy a substantial amount of the underlying work with policy-based reasoning: "where the infringement is small in relation to the new work created, the fair user is profiting largely from his own creative efforts rather than free-riding on another's work. A prohibition on all copying whatsoever would stifle the free flow of ideas without serving any legitimate interest of the copyright holder."[104]   If the defendant had copied a substantial amount of the underlying work, it would have had to obtain permission from the first author to avoid infringement and lose its rights in the derivative work.[105]

C. Lawful Use of the Preexisting Work

Under Section103(a), the derivative work must make lawful use of the preexisting work.[106]   This requirement effectively guards against violations of the copyright owner's exclusive rights of reproduction and from preparing derivative works. This increases the author's incentive for creating a work that he may monopolize.[107]   Paul Goldstein identifies another important rationale; that in the absence of consent, "the owner [cannot] contract against acts of the infringer that might divest copyright protection for the underlying expression."[108]   The

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100. *Id.* at 615.
101. *CONTU Final Report*, *supra* note 20 at Chapter 3. The report suggested the adoption of § 117 to the Copyright Act of 1976.
102. *Id.*
103. Atari Games Corp. v. Nintendo of Am. Inc., 975 F.2d 832, 844 (9th Cir. 1992).
104. *Id.* at 843.
105. *See* 17 U.S.C. § 103(b) (requiring lawful use of the work). *See infra* Part 3.C.
106. 17 U.S.C § 103(a) (2006).
107. 17 U.S.C. §§ 106(1)-(2) (2006); Landers & Posner, *supra* note 72, at 110.
108. Paul Goldstein, *supra* note 7.

preexisting work must be capable of copyright protection under section 102, although it need not have an existing copyright.[109] Rather, it need only be protectable as an original work of authorship.[110] In the case of an underlying work that has not yet been published, it is established that the authors has the right to control the manner and time in which his work is first released to the public.[111]

It is noteworthy that lawful use may also be found after a successful fair use defense or by using works that are in the public domain. These instances however, are outweighed by those where consent is achieved by obtaining permission from the author of the underlying work.[112] Finally, it is important to note that even where a derivative author obtains the requisite consent, using the underlying work beyond the terms of the license will also support a finding of infringement.[113]

An interesting theory arising from the requirement of lawful use is the Second Circuit's so called "Pervades Standard," in which it reasoned that a derivative copyright would be invalidated for lack of consent unless the preexisting work tended to "pervade" it.[114] In other words, "the creator of a derivative work would not require authorization if the preexisting work does not 'pervade' the derivative work."[115] The court in *Eden Toys, Inc. v. Florelee Undergarment Co.*[116] is credited with creating the approach, and despite some criticisms, a few subsequent decisions have followed this reasoning.[117] The rationale behind the

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109. Nimmer, *supra* note 14, at §3.06.

110. *Id.*

111. Harper & Row Publishers, Inc. v. Nation Enter., 471 U.S. 539 (1985).

112. Nimmer, *supra* note 14, at §3.06. *See infra* Part 4.A.

113. *See* LGS Architects, Inc. v. Concordia Homes of Nevada, 434 F.3d 1150 (9th Cir. 2006); Stewart v. Abend, 495 U.S. 207 (1990); Gilliam v. Am. Broad. Cos., 538 F.2d 14 (2d Cir. 1976); Liu v. Pricewaterhouse, LLP, 182 F. Supp. 2d 666 (N.D. Ill. 2001). *See also* Evolution, Inc. v. Sun Trust Bank, 342 F. Supp. 2d 943 (D. Kan. 2004); Gentieu v. Tony Stone Images/Chicago, Inc., 255 F. Supp. 2d 838 (N.D. Ill. 2003); Adobe Systems, Inc. v. One Stop Micro, Inc., 84 F. Supp. 2d 1086 (N.D. Cal. 2000).

114. Eden Toys, Inc. v. Florelee Undergarment Co., 697 F.2d 27, n.6 (2d Cir. 1982). After applying the rule, however, the court determined under the relevant facts that since the author of the original work had granted permission, the derivative work was valid. In addition to the substantive problems discussed in this analysis and in Pickett v. Prince, 52 F. Supp. 2d 893 (N.D. Ill. 1999), the standard has since been superseded in New York as an evidentiary procedure in Fed.R.Civ.P. 52(a). Pickett, 52 F. Supp. 904, n.13.

115. Pickett, 52 F. Supp. 2d at 903.

116. 697 F.2d 27, n.6 (2d Cir. 1982).

117. *See* Eden Toys, 697 F.2d at n.6 (For those cases following Eden Toys *see* Theotokatos v. Sara Lee Pers. Prods., 971 F. Supp. 322 (N.D. Ill. 1997); Lui v. Price Waterhouse, LLP, 182 F. Supp. 2d 666 (N.D. Ill. 2001); Pickett v. Prince, 52 F. Supp. 2d at 903-04 (citing Dynamic Solutions, Inc. v. Planning & Control, Inc., 646 F. Supp. 1329 (S.D.N.Y. 1986)); JBJ Fabrics, Inc. v. Brylane, Inc., 714 F. Supp. 107 (S.D.N.Y. 1989); For what appears to be the most recent case using the

approach is not entirely clear.[118]   As the court in *Pickett v. Prince*[119] elucidates, it is difficult to imagine a derivative work that is not "pervaded" by the preexisting work.[120]   The test seems to mistake the requirement of originality for that of authorization, perhaps only adding an alternative articulation of the substantial variation standard used in an originality analysis.[121]   The *Pickett* court accused the plaintiff of confusing the two concepts when he claimed that because his work was significantly different from the preexisting work, finding support in the fact that his work was three dimensions while defendant's was two, it overcame the 'pervades' analysis and was thus a valid derivative work.[122]   While the *Pickett* court ruled against the plaintiff on the issue of authorization alone, it went on to acknowledge the plaintiff's argument in favor of originality and only denied its validity as a derivative work because he was not able to persuade the court that the additions to the preexisting work were not all functional.[123]   Finally, as Nimmer notes, the pervades standard has the undesired result that derivative authors may make derivative works without the permission of the original author as long as the subsequent work does not pervade it.

This would undermine the original author's right as a copyright holder.[124]

Many courts follow the rule that the accused work will be a derivative work only if it would be considered an infringement of the underlying

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rule, see Sobhani v. @radical.media Inc., 257 F. Supp. 2d 1234 (C.D. Cal. 2003) (Video commercial director was not entitled to copyright protection for elements he added to fast food commercials because the preexisting work pervaded the derivative work).

118. *See* Pickett v. Prince, 52 F. Supp. 2d at 903 (discussing the development of the standard).

119. *Id.*

120. *Id.* at 907. "[T]he [Gracen] standard may apply in all cases where the preexisting work clearly 'pervades' the derivative work; indeed, unless the preexisting work 'pervades' the new one, arguably the newer work is not 'derivative at all.'"

121. *See supra* Part 3.A.

122. Pickett, 52 F. Supp. 2d at 904-6.

123. *Id.* at 906-07. The court chose to rely on the so-called "bright-line authorization standard" of Gracen, and cites Nimmer (*see* Nimmer, *supra* note 14) as supporting the choice of analysis: "Put another way, a work will be considered a derivative work only if it would be considered an infringing work if the material that it has derived from a preexisting work had been taken without the consent of a copyright proprietor of such preexisting work. It is saved from being an infringing work only because the borrowed or copied material was taken with the consent of the copyright owner of the prior work, or because the work has entered the public domain."

124. Nimmer, *supra* note 14, at § 3.06, n.22.1.

work absent consent.[125] The court therefore must determine whether the allegedly infringing work is substantially similar to the underlying work as a precursor to determining whether it is a derivative work. There seem to be two potential problems with this approach. First, an infringement analysis must consider the substantial similarity between the two works. Such similarity is highly likely in the case of derivative works since they incorporate a substantial amount of the underlying work.[126] Whether or not the court gets through an entire infringement analysis or merely uses it as a guidepost, the derivative work will likely be cast in an unfavorable light. In the case of computer software in particular, the works may not be discernable to an untrained jury.

Second, the relationship between the rights of the two authors (that of the original work and that of the allegedly infringing derivative work) becomes unclear because rights arising under section 106 and those arising under section 103(a) are not always consistent.[127] Nimmer writes, "the right to claim copyright in a non-infringing derivative work arises by operation of law, not through authority from the copyright owner of the underlying work."[128] Similarly, the *Steward v. Abend*[129] court reasoned that the inference to be drawn from the consent requirement is "that Congress simply intended that a derivative work author may not employ a copyrighted work without the author's permission, although of course he can obtain copyright protection for his own original additions."[130] Benjamin Kaplan has also written: "[it] is surely wrong to assume that what Hollywood is content to call a dramatization or screen treatment of a novel or play would necessarily

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125. *See e.g.*, Palladium Music, Inc. v. EatSleepMusic, Inc., 398 F.3d 1193 (10th Cir. 2005); Bucklew v. Hawkins, Ash, Baptie & Co., LLP, 329 F.3d 923 (7th Cir. 2003); Micro Star v. Formgen Inc., 154 F.3d 1107 (9th Cir. 1998); Berg v. Symons, 393 F. Supp. 2d 525 (S.D. Tex. 2005); Mannion v. Coors Brewing Co., 377 F. Supp. 2d 444 (S.D.N.Y. 2005); TMTV Corp. v. Mass Productions, Inc., 345 F. Supp. 2d 196 (D. P.R. 2004); Tiffany Design, Inc. v. Reno-Tahoe Specialty, Inc., 55 F. Supp. 2d 1113 (D. Nev. 1999); Fred Riley Home Bldg. Corp. v. Cosgrove, 864 F. Supp. 1034 (D. Kan. 1994); Wolff v. Inst. of Elec. and Electronics Eng'rs, Inc. 768 F. Supp. 66 (S.D.N.Y. 1991); Dynamic Solutions, Inc. v. Planning & Control, Inc., 646 F. Supp. 1329 (S.D.N.Y. 1986); Gallery House, Inc. v. Yi, 582 F. Supp. 1294 (N.D. Ill. 1984); H.C. Wainwright & Co. v. Wall St. Transcript Corp., 418 F. Supp. 620 (S.D.N.Y. 1976); *See also* Nimmer, *supra* note 14, at § 3.06, n.4.
126. *See supra* Part 3.B.
127. "The subject matter of copyright as specified by section 102 includes compilations and derivative works, but protection for a work employing preexisting material in which copyright subsists does not extend to any part of the work in which such material has been used unlawfully." 17 U.S.C. § 103(a) (2006).
128. Nimmer, *supra* note 14, at §3.06, 3-34.34 (noting that the right may be limited by the terms of a licensing agreement).
129. 495 U.S. 207, 232 (1990).
130. Stewart v. Abend, 495 U.S. at 232.

be an infringing copy if not licensed."[131]   While at odds with the approach taken by the Second Circuit, these approaches suggest that the law protects the work of a derivative author upon creation of the work and not upon obtaining permission from another author. The fact that the derivative work infringes the underlying work would only operate to take that protection away. If correct, this "innocent until proven guilty" approach to derivative works could ease perceived restrictions on innovation because the derivative authors would benefit from the same policy-based incentive as an original author.[132]

IV. Infringement of Derivative Works

A. Infringement Generally

A copyright holder's exclusive rights are infringed when she proves that her work is protectable, it has been copied by one with access to it and that the copy is unlawfully appropriated.[133] Unlawful appropriation is established where the defendant's work is substantially similar to the plaintiff's.[134] Authorities make the point, however, that there exists a lack of uniformity among courts, one issuing the caveat that there are a "surprisingly large number of formulas for infringement floating around in the case law . . . Different courts use different terms to express the same concepts, and the concepts are combined or broken up in different ways depending on the nature and complexity of the case."[135] Nimmer's formulation, derived from *Feist Publications, Inc. v. Rural Tel. Serv. Co.*,[136] simplifies the rule to two elements, namely, copyright ownership by the plaintiff and copying of the plaintiff's work by the defendant.[137]   Another commentator specifies that the prima facie case

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131. Benjamin Kaplan, et. al., AN UNHURRIED VIEW OF COPYRIGHT, REPUBLISHED (AND WITH CONTRIBUTIONS FROM FRIENDS) 56 (Iris Geik, et. al. eds. LexisNexis Matthew Bender 2005).

132. The policy behind copyright law is to provide incentives for authors of creative works who, without receiving rewarded for their efforts through legal protection, may conclude that the effort is simply not worth it. Schechter & Thomas*, supra* note 6, at § 1.3.

133. *Id.* at § 9.1.

134. *Id.*

135. *Id.*

136. 499 U.S. 340 (1991).

137. Nimmer, *supra* note 14, at §13.01, 13-5 and 13-6. Registration of the plaintiff's work constitutes prime facie evidence in favor of her ownership, although in the absence of registration ownership may be established by originality of the work to her and copyright ability of the subject matter. *Id.* at §13.01, 13-6 and 13-7.

of infringement requires copying of a material amount of expression.[138]

Even where the plaintiff establishes that the defendant copied his work, further proof is required to show that it amounts to an unlawful appropriation of the plaintiff's material.[139] The first question is factual and the second legal, thus establishing the former does not require a finding of liability in the latter.[140] In most circumstances copying must be inferred by circumstantial evidence since the actual act of copying was most likely not witnessed or admitted.[141] The plaintiff therefore must ordinarily prove that the defendant had access to her work and that the defendant's work is substantially similar to hers.[142] It is noteworthy that in cases where the similarity between the two works is sufficiently "striking," some courts have held that proof of access is not necessary.[143]   The following section discusses the elements of substantial similarity and the standards used in establishing it.

B. Substantial Similarity

As stated above, an action for infringement will require a showing of copying by the defendant and that such copying leaves the defendant's work substantially similar to the plaintiff's.[144] In defining "substantial," Nimmer points out that it is both of quantitative and qualitative concern and will vary with the nature of the works in question.[145] Although acknowledging that the distinction "has received almost no express judicial recognition," he goes on to define two kinds of similarity, namely comprehensive nonliteral similarity ("where the fundamental essence or structure of one work is created in another") and fragmented literal similarity ("virtually, though not necessarily, word for word").[146] There are at least a few recent decisions, however, endorsing use of this terminology.[147]

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138. William F. Patry, 3 PATRY ON COPYRIGHT § 9:4 (2007).
139. Schechter & Thomas, *supra* note 6 at § 9.1.
140. Nimmer, *supra* note 14, at §13.01[B], 13-9 n.26.8 (citing *Fiest*: "Not all copying, however, is copyright infringement."). 499 U.S. 340 (1991).
141. Schechter & Thomas, *supra* note 6 at § 9.1.
142. Nimmer, *supra* note 14, at § 13.01[B], 13-12 (endorsing Professor Latman's favoring of "probative similarity" for substantial similarity). At least one recent case has used Nimmer's terminology: Positive Black Talk, Inc. v. Cash Money Records, Inc., 394 F.3d 357 (La. 2004).
143. Nimmer, *supra* note 14, at §13.02[B], 13-26.
144. *See supra* Part 4.A.
145. Nimmer, *supra* note 14, at § 13.03[A], 13-34 and 35 "[I]t is equally clear that two works may not be literally identical and yet for purposes of copyright infringement, may be found to be substantially similar."
146. Nimmer, *supra* note 14, at § 13.03[A], 13-35, and 13-36 through 13-53.
147. Palmer v. Braun, 287 F.3d 1325 (11th Cir. 2002) ("comprehensive nonliteral

The courts have utilized the "ordinary observer" test for finding substantial similarity.[148] Generally, the court will find the two works substantially similar where "the ordinary observer, unless he set out to detect the disparities, would be disposed to overlook them, and regard their aesthetic appeal as the same."[149] Note that in music cases in particular, the court may hear expert testimony to assist in an understanding of what reactions the ordinary observer may make.[150] In computer software cases, the highly technical and unfamiliar nature of the works may also require such expert testimony.[151] The "ordinary observer" test is generally a qualitative rather than quantitative measurement,[152] although at least a few cases have upheld a *de minimus* defense to infringement.[153]

The Ninth Circuit has formulated a two-part test for substantial similarity consisting of an extrinsic and an intrinsic test.[154] The

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similarity"); Whelan Associates, Inc. v. Jaslow Dental Laboratory, Inc., 797 F.2d 1222, n.26 (3d Cir. 1986) (citing Nimmer for both definitions) (*see* Nimmer, *supra* note 14); Neal Public's, Inc. v. F & W Publ'ns, Inc., 307 F. Supp. 2d 928, 930-32 (N.D. Ohio 2004) ("fragmented literal similarity"); Kroencke v. Gen. Motors Corp., 270 F. Supp. 2d 441, 444 (S.D.N.Y. 2003) ("fragmented literal similarity"); Paramount Pictures Corp. v Carol Publ'g Group, 11 F. Supp. 2d 329, 333-34 (S.D.N.Y. 1998) ("fragmented literal similarity").

148. Nimmer, *supra* note 14, at §13.03[A].

149. Gal v. Viacom Intern, Inc., 403 F. Supp. 2d 294, 304 (S.D.N.Y. 2005) (citing Judge Hand's formulation of the rule in Peter Pan Fabrics, Inc. v. Martin Weiner Corp., 274 F.2d 487, 489 (2d Cir. 1960)).

150. Arnstein v. Porter, 154 F.2d 464, 473 (2d Cir. 1946).

151. Nimmer, *supra* note 14, at §13.03[E][4] (noting that the ordinary observer will not have an aesthetic response to object or source code).

152. Murray Hill Public's, Inc. v. Twentieth Century Fox Film Corp., 361 F.3d 312, 320 (6th Cir. 2004); Jacobsen v. Deseret Book Co., 287 F.3d 936 (10th Cir. 2002) ("primarily qualitative"); Neal Publications, Inc. v. F & W Publications, Inc., 307 F. Supp. 2d 928, (N.D. Ohio 2004).

153. Newton v. Diamond, 388 F.3d 1189 (9th Cir. 2004); Lajoie v. Pavcon, Inc., 146 F. Supp. 2d 1240, 1248 (M.D. Fla. 2000) (stating if differences between the works significantly outweigh the similarities, such similarities will be deemed "inconsequential"); Brooktree Corp. v. Advanced Micro Devices, Inc., 977 F.2d 1555 (Fed. Cir. 1992).

154. *See* Sid & Marty Krofft Television Prod., Inc. v. McDonald's Corp., 562 F.2d 1157 (9th Cir. 1977); Olson v. Nat'l Broadcasting Co., Inc., 855 F.2d 1446 (9th Cir. 1988); Apple Computer, Inc. v. Microsoft, 821 F. Supp. 616, 618 (N.D. Cal. 1993) (citing Apple Computer, Inc. v. Microsoft Corp., 799 F. Supp. 1006 (N.D. Cal. 1992). *See also* Rice v. Fox Broadcasting Co., 330 F.3d 1170 (9th Cir. 2003); Metcalf v. Bocho, 294 F.3d 1069 (9th Cir. 2002); Express, LLC v. Fetish Group, Inc., 424 F. Supp. 2d 1211 (C.D. Cal. 2006); Amini Innovation Corp. v. Anthony California, Inc., 439 F.3d 1365 (Fed. Cir. 2006); Miracle Blade, LLC v. Ebrands Commerce Group, LLC, 207 F. Supp. 2d 1136 (D. Nev. 2002); Idema v. Dreamworks, Inc., 162 F. Supp. 2d 1129 (C.D. Cal. 2001); Fleener v. Trinity Broad. Network, 203 F. Supp. 2d 1142 (C.D. Cal. 2001).

objective test is said to consider whether the ideas of the two works are substantially similar based on "objective, external criteria"[155] in which "analytic dissection is appropriate."[156] The intrinsic test considers whether the expression of the two works is similar based on an ordinary observer's response to "the total concept and feel of the works."[157] In *Apple Computer, Inc. v. Microsoft Corp.*,[158] the court elucidated changes to the test: "As it has evolved, however, the extrinsic test now objectively considers whether there are substantial similarities in *both* ideas and expression, whereas the intrinsic test continues to measure expression subjectively."[159] The Eighth Circuit has fashioned a similar test, although not expressly adopting the extrinsic/intrinsic language from the Ninth Circuit.[160] The Second Circuit's analysis is essentially the same, applying the ordinary observer standard to those protectable elements which comprise a work's overall concept, look and feel although not explicitly adopting the Ninth Circuit's language.[161] The Second Circuit has also articulated a "more discerning" ordinary observer test for derivative works based on works found in the public domain,[162] or when the works contain protectable and unprotectable elements in order to compare only the protectable elements shared by both works.[163]

C. Abstraction and Filtration

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155. Express, LLC v. Fetish Group, Inc., 424 F. Supp. 2d 1211, 1228 (C.D. Cal. 2006) (citing Three Boys Music Corp. v. Bolton, 212 F.3d 477 (9th Cir. 2000)).

156. Apple Computer, Inc. v. Microsoft, 821 F. Supp. 616, 619 (N.D. Cal. 1993).

157. *Id.*

158. Apple Computer, Inc. v. Microsoft Corp., 35 F.3d 1435 (9th Cir. 1994), *cert denied*, 513 U.S. 1184 (1995).

159. *Id.* at 1442 (emphasis in original).

160. Taylor Corp. v. Four Seasons Greetings, LLC, 403 F.3d 958 (8th Cir. 2005); Janel Russell Designs, Inc. v. Mendelson & Assoc., Inc., 114 F. Supp. 2d 856 (D. Minn. 2000).

161. Nimmer credits the Ninth Circuit for formulating the test in Roth Greeting Cards v. United Card Co., 429 F.2d 1106 (9th Cir. 1970). Nimmer, *supra* note 14, at 10.03[A][1][c], 13-43, n.38. For other recent cases in the Second Circuit using the test, *see* Tufenkian Import/Export Ventures, Inc. v. Einstein Moomjay, Inc., 338 F.3d 127 (2d Cir. 2003); Yurman Design, Inc. v. PAJ, Inc., 262 F.3d 101 (2d Cir. 2001); Gal v. Viacom Intern, Inc., 403 F. Supp. 2d 294, 304 (S.D.N.Y. 2005) (citing Hamil America, Inc. v. GFI, 193 F.3d 92, 100-102 (2d Cir.1999)); Clonus Associates v. DreamWorks, LLC, 417 F. Supp. 2d 248 (S.D.N.Y. 2005); Bill Diodato Photography, LLC v. Kate Spade, LLC, 388 F. Supp. 2d 382 (S.D.N.Y. 2005).

162. Folio Impressions, Inc. v. Byer California, 937 F.2d 759, 765-66 (2d Cir. 1991) (also discussed in Hamil America, Inc. v. GFI, 193 F.3d 92 (2d Cir. 1999)).

163. *See e.g.*, Psihoyos v. Nat'l Geographic Soc'y, 409 F. Supp. 2d 268, 274 (S.D.N.Y. 2005); U-Neek, Inc. v. Wal-Mart Stores, Inc., 147 F. Supp. 2d 158 (S.D.N.Y. 2001).

Computer software cases have challenged the applicability of the substantial similarity test to infringement analyses comparing two programs. The first attempt at adapting the test to software in *Whelan Associates v. Jaslow Dental Laboratory*[164] condensed the two-step analysis set forth in *Arnstein vs. Porter*,[165] which uses expert testimony to determine whether the works are similar enough to presume copying took place, and the ordinary observer's judgment as to whether copying has been illicit.[166]   The *Whelan* court reasoned that most lay jury members and judges alike are not equipped to decipher the detailed compositions of software in a way that they would experience an artistic work.[167]   The court therefore concluded that the better approach is to use a single-step analysis incorporating both expert and lay testimony.[168] The abstractions test had been deemed inapplicable where the programs share and are designed to achieve the same functional objectives.[169]   The *Whelan* court responded to the problem by modifying the test, concluding that the computer program's function or design objective was its idea and the elements that carried out that function were expression.[170]

The difficulty for the Third Circuit, however, came in determining what comprised the programs' expressive elements and could be analyzed for their similarities, and which elements were exempt from this analysis because they were unprotectable ideas.[171]   With an analogy to *scenes a faire*, the court determined that a program's function or purpose represented its underlying idea. Everything not required by its function represented its protectable expression.[172]   The result was an expansion of copyright protection not only to a program's source and object code which were not in dispute, but also to its "structure,"

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164. 797 F.2d 1222 (3d Cir. 1986), *cert denied*, 479 U.S. 1031 (1987).

165. 154 F.2d 464 (2d Cir. 1946).

166. *Id.* at 468-69.

167. Root, *supra* note 34, at 1285-6.

168. Whelan Assoc. v. Jaslow Dental Lab., 797 F.2d 1222, 1233 (3d Cir. 1986).

169. Nimmer, *supra* note 14, at § 13.03[F], 13-123.

170. Whelan, 797 F.2d at 1236.

171. *Id.* at 1235-36.

172. *Id.* at 1236. The *scenes a faire* rule prevents copyright from extending to those events or characters that arise from a common theme. Schechter & Thomas, *supra* note 6 at § 4.3 *(*citing *Walker v. Time Life Films, Inc.*, 784 F.2d 44, 50 (2d Cir. 1986) in which the court states "[e]lements such as drunks, prostitutes, vermin and derelict cars would appear in any realistic work about the work of policemen in the south Bronx . . . It would surely hinder subsequent authors if they could only portray the South Bronx as populated by the sober, the law abiding and the chaste.").

"sequence" and "organization."[173]   The decision has been widely criticized by commentators[174] and most notably by the court in *Computer Associates International, Inc. v. Altai, Inc.*[175] Commentators critical of the *Whelan* decision who favor keeping a traditional abstractions approach for computer software cases would, however, keep its heavy reliance on expert testimony to interpret the works.[176] The Second Circuit in *Computer Associates* was also willing to extend protection to a program's structure, sequence and organization, but would do so more cautiously. The court criticized the Third Circuit for relying too heavily on highly abstract "metaphysical distinctions" and instead narrowed the filtration step to take the practical considerations of programming into account.[177]   The court employed the abtraction-filtration-comparison method, but the rule would more readily filter out as unprotectable those elements of the program dictated by efficiency, external factors such as the mechanical specifications of computer hardware, standard techniques used in the industry, and elements in the public domain.[178]

The *Computer Associates* court proposed a filtration method whereby the abstraction of plaintiff's work is performed to distinguish ideas and expression, followed by a filtering out of unprotectable elements from the expression and a comparison of what remains with the alleged infringing work.[179]   Note that the *Apple Computer, Inc. v. Microsoft Corp.* court employed a similar three-step process but the third step required "defin[ing] the scope of the plaintiff's copyright – that is, decid[ing] whether the work is entitled to 'broad' or 'thin'

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173. Whelan, 797 F.2d at 1233-41.

174. *See e.g*., Nimmer, *supra* note 14, at § 13.03[A][1][d] ("[The court's] sweeping rule and broad language extend copyright protection too far."); Wm. David Taylor, *Copyright Protection for Computer Software after Whelan Associates v. Jaslow Dental Laboratory*, Comment, 54 MO. L. REV. 121 (1989); Vance Franklin Brown, *The Incompatibility of Copyright and Computer Software: An Economic Evaluation and a Proposal for a Marketplace Solution*, 66 N.C. L. REV. 977 (1988).

175. 982 F.2d 693 (2d Cir. 1992).

176. Nimmer's primary criticism is: "The crucial flaw in [the court's] reasoning is that it assumes that only one 'idea,' in copyright terms, underlies any computer program, and that once a separable idea can be identified, everything else must be expression." Nimmer, *supra* note 14, §13.03[F][1],13-132; Root, *supra* note 34 at 1285-6; Wurzer, *supra* note 2.

177. Computer Associates, 982 F.2d at 706.

178. *Id.* at 708 (citing Nimmer, *supra* note 14).

179. *Id.* at 710. "Once a court has sifted out elements of the allegedly infringed program that are 'ideas' or are dictated by efficiency or external factors, or taken from the public domain, there may remain a core of protectable expression. In terms of a work's copyright value, this is the golden nugget."

protection."[180] This finding then informs the subjective comparison of the two works.[181] *Computer Associates*, however, is considered the prevailing standard, and has seen some application to works other than computer software.[182] The first step is essentially Judge Hand's abstractions test, but the subsequent steps are specifically beneficial to an analysis of computer software because they take into account the fact that while a program may have many functional elements, such elements are produced from a highly creative programming process.[183]

D. Market-based Test As an Alternative to the Substantial Similarity Test in Derivative Works

Some commentators suggest that the substantial similarity test itself is inadequate in computer software derivative works cases.[184] One problem may be that computer software derivative works are often translations from one programming language to another.[185] Nimmer notes that not only do "computer programs tend to be incomprehensible to a lay judge or jury . . . the difficulties in applying the traditional substantial similarity test to computer programs are exacerbated by the fact that computer programs are as much of a science as an art."[186] Furthermore, the nature of the computer software market may lessen the applicability of the substantial similarity test.[187] In addition to considerations of cost and efficiency, the substantial similarity test is not appropriate for computer software cases because copiers are motivated to create new works that are compatible with current systems, and therefore functionality often requires the works to be substantially similar.[188] As mentioned above, the computer software industry is said to progress by a "stepping stone improvement process, with each innovation building on past innovations to produce an improved product."[189] Thus protecting the copyright owner's interest in the underlying work too broadly may have the undesired result of

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180. Apple Computer, Inc. v. Microsoft Corp., 35 F.3d 1435, 1443 (9th Cir. 1994).
181. *Id.*
182. Nimmer, *supra* note 14, §13.03[F], 13-126-13-127 (stating that "this filtration test may now be regarded as the dominant, albeit not universal, standard").
183. Nimmer, *supra* note 14, §13.03[F], 13-31.
184. Root, *supra* note 34, at 1285-86; Nimmer, *supra* note 14, at §13.03[F], 13-23.
185. Wurzer, *supra* note 2, at 1529.
186. Nimmer, *supra* note 14, at §13.03[F],13-23.
187. Nimmer & Krauthaus, *supra* note 35.
188. *Id.*
189. Root, *supra* note 34, at 1292.

discouraging innovation.[190]   Paul Goldstein suggests that derivative works should be conceptualized as different from reproductions of the underlying work by matters of degree.[191]   According to this analysis, derivative works and reproductions are not categorically different, but may be distinguished by analyzing the degree to which the derivative author adds new material to the original work and the degree to which the new work is able to enter new markets.[192]   On the other hand, the nature of the industry also fuels arguments in the alternative which would provide broader rights for copyright owners against subsequent innovators who may improperly build from their works.[193]

As a result, one recent Seventh Circuit decision employed an alternative to the substantial similarity test, using instead a market-based theory.[194]   In *Midway Mfg. Co. v. Artic International, Inc.*,[195] the Seventh Circuit emphasized the impact the alleged derivative work would have on the underlying work based on the perceived demand for both works (the defendant had created a speeded-up version of the plaintiff's video game).[196]   The court reasoned that a speeded up phonograph record is likely to not be a derivative work under 17 U.S.C. § 101 because "the additional value to the copyright owner of having the right to market separately the speeded-up version of the recorded performance is too trivial to warrant legal protection for that right."[197] A speeded-up video game is not trivial, however, and qualifies as a derivative work because it "is a substantially different *product* from the original game."[198]   Thus, the author of the original game should be entitled under the copyright laws to monopolize on the speeded-up version.[199]

The Ninth Circuit employed this line of reasoning in *Lewis Galoob Toys v. Nintendo*[200] to conclude that the defendant did not create an infringing derivative work.   The court emphasized the importance of whether or not the defendant's work satisfied demand for the plaintiff's underlying work.[201]   Viewing works as *products* may ease the difficulty

190. Root, *supra* note 34, at 1289-1290; Taylor, *supra* note 174, at 133-34.
191. Goldstein, *supra* note 7.
192. *Id.* at n.29.
193. *CONTU Final Report*, *supra* note 20 at Chapter 3.
194. Midway Mfg. Co. v. Artic Int'l, Inc, 704 F.2d 1009 (7th Cir. 1983), *cert denied*, 464 U.S. 823; *see* Worlds of Wonder, Inc. v. Veritel Learning Systems, 658 F. Supp. 351, 356 (N.D. Tex. 1986).
195. 704 F.2d 1009 (7th Cir. 1983), *cert denied*, 464 U.S. 823.
196. Midway Mfg., 704 F.2d at 1013.
197. *Id.* at 1015.
198. *Id.* (emphasis added).
199. *Id.*
200. 964 F.2d 965 (9th Cir. 1992).
201. Lewis Galoob Toys, 964 F.2d 965, 968 (9th Cir. 1992) *discussing* Mirage

of an infringement analysis, but it risks placing too much responsibility on the market as indicia of the work's validity. In an extreme application, the court may look at the marketability of a work to determine its copyrightability without enough regard to its author or its originality. Some commentators endorsing a market-based approach would use market indicators to weigh the rights and interests of the original and derivative authors.[202] They argue that the strength of the original author's claim increases as the derivative work directly impacts established markets for the original work.[203] This analysis seems more favorable than the Ninth Circuit's approach in *Lewis Galoob* because it emphasizes the rights of the parties as opposed to the copyrightability of the works alone.

V. Indications of Expansive Rights for Derivative Authors in Other Contexts

The question of whether derivative rights ought to be more or less expansive has arisen in related copyright contexts as well. These provide at least some suggestion that, mindful of the balance between ownership and innovation, there are circumstances in which the law has found narrow rights in an original author's work. While open source is the primary consideration for purposes of this paper, other examples are included for their additional insight.

A. Open Source

The open source movement is particularly relevant to the discussion of how computer software derivative works are treated. In 1985, former MIT computer scientist Richard M. Stallman founded the Free Software Foundation ("FSF"), an organization dedicated to the free development and distribution of software.[204] By its own description, the FSF seeks to protect the computer users' rights to "use, study, copy, modify, and redistribute computer programs."[205] Before founding the FSF, Stallman developed an operating system he called GNU that could compete with the then industry leading UNIX, but that would be free to use, modify and distribute.[206] To ensure that these rights would be preserved, he

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Editions, Inc. v. Albuquerque A.R.T. Co., 856 F.2d 1341 (9th Cir. 1988).
202. Nimmer & Krauthaus, *supra* note 35, at 36-37.
203. *Id.* at 37.
204. *See* The Free Software Foundation, *archived at* http://www.webcitation.org/5WacqrpoT; Stallman, *supra* note 36.
205. Free Software Foundation, *supra* note 204.
206. Stallman, *supra* note 36.

wrote the General Public License ("GPL") to ensure that the software he developed and distributed to others for free would not be adopted by another and subsequently made proprietary under copyright or other law.[207] Numerous other open source advocacy groups joined Stallman, and while perhaps the most widely known, the GNU GPL is not the only open source license available.[208] Further, there is no indication that open source is losing momentum.[209] Analysts report that investment in and use of Linux, one of the most widely known open source operating systems, continues to rise.[210] In addition, Asian governments such as China, Japan, Indonesia, Taiwan, and South Korea are reportedly endorsing the switch to open source models.[211]

The Open Source Initiative suggests ten characteristics of an open source license, but as one commentator suggests, the definition may boil down to the following three: 1) the license provides executable and source code; 2) allows modifications and redistribution (with or without the modifications); and 3) does not limit distribution to particular uses or fields.[212] The philosophy behind the GPL is called "Copyleft" and it proposes to use copyright law to keep software free as opposed to keeping it proprietary.[213] Calling source code "open" or "free" under the GPL or its equivalent may give the false impression that the copyright owner has waived her copyrights in the work, thereby releasing the work into the public domain. In fact, the Copyleft approach allows the author to retain her copyrights, and use those rights to ensure that subsequent recipients use her work in the way that she

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207. *Id.*

208. A comprehensive list of public licenses are available at opensourcelegal.org, *archived at* http://www.webcitation.org/5Wad7H893 and Open Source Initiative, *archived at* http://www.webcitation.org/5Y8tA6LAv. The GNU Web site also provides other license models with commentary, *archived at* http://www.webcitation.org/5Y8tQYW2c.

209. Ashlee Vance, *Study Shows Linux on the Rise in Data Centers*, IDG NEWS SERVICE, Jan. 13, 2003, *archived at* http://www.webcitation.org/5WadDhyml.

210. *Id.*

211. ZDNet Asia, Vietnam gov't opts for open source, Nov. 3, 2003, *archived at* http://www.webcitation.org/5Y8uhNT03.

212. The Open Source Initiative (OSI), is a non-profit corporation formed to educate about and advocate for the benefits of open source. OSI would require that the license 1) provide free distribution, 2) include source and executable code, 3) allow for modification and derived works, 4) maintain integrity of the original author's code, 5) not discriminate against persons or groups of potential licensees, 6) not discriminate against fields or endeavors, 7) require distribution of the license with the work, 8) not limit the license to a specific product, 9) not place restrictions on other software distributed with the license, and 10) be technology neutral. Open Source Definition, *archived at* http://www.webcitation.org/5Y8uoiFnz.

213. *What is Copyleft?*, GNU OPERATING SYSTEM, *archived at* http://www.webcitation.org/5YIzJ3Ul6.

wants.[214]   As one commentator aptly puts it, use of the GPL or its equivalent "turns the customary use of intellectual property on its head, by using intellectual property laws, which normally are used to guard exclusive rights, to safeguard free access to and use of software."[215] Although outside the scope of this note, the question naturally arises as to whether such a license is enforceable.[216] It is worth noting here, that because the GPL governs copying, modification and distribution rights, all of which are protected under § 106 of the Copyright Act, the GPL may rely on the copyright laws as opposed to contract law to enforce its provisions.[217]

Assuming the GPL is enforceable, as its creators do, an open source license is only as strong as the copyright laws on which it relies. Even in using the copyright law offensively instead of defensively, so to speak, an open source license does so only with the enumerated rights in 17 U.S.C. § 106.[218] For software derivative works, this means that the license protects derivative works based on an original open source work only if the work would qualify as a derivative work under § 103.[219] The GPL expressly defines a derivative work but nevertheless leaves some ambiguity.[220] Section "0" of the GPL states that the license is applicable to "a work based on the [original open source program] or any derivative

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214. *See* the GPL Version 2 [hereinafter *GPL*], Preamble (stating that the GPL protects a user's right first by copyrighting the software) *archived at* http://www.webcitation.org/5YDBlujHL.

215. Stephen M. McJohn, *The Paradoxes of Free Software*, 9 GEO. MASON L. REV. 25, 35 (2000).

216. *See generally* Jason B. Wacha, *Taking the Case: Is the GPL Enforceable*, 21 SANTA CLARA COMPUTER & HIGH TECH. L.J. 451 (2005); Brian W. Carver, *Share and Share Alike: Understanding and Enforcing Open Source and Free Software Licenses*, 20 BERKELEY TECH. L.J. 443 (2005); Kenneth J. Rodriguez, *Closing the Door on Open Source: Can the General Public License Save Linux and Other Open Source Software?*, 5 J. HIGH TECH. L. 403 (2005); Nina L. Chang, *No GNU is Good G'News for SCO: Implications of SCO v. IBM,* 9 INTELL. PROP. L. BULL. 47 (2004). The articles also address the ongoing SCO v. IBM case in which SCO has alleged that IBM placed portions of SCO's protected code into an open source product.

217. Michael L. Stoltz, *The Penguin Paradox: How the Scope of Derivative Works in Copyright Affects the Effectiveness of the GNU GPL*, 85 B.U. L. REV. 1439, 1447 (2005); 17 U.S.C. § 106 (2002).

218. Those rights are: 1) the right to reproduce the work, 2) prepare derivative works, 3) distribute copies, 4) perform a literary, musical, dramatic, choreographic, pantomime, motion picture and other audiovisual works publicly, 5) display a literary, musical, dramatic, choreographic, pantomime, pictorial, graphic, sculptural work, or individual images of a motion picture or other audiovisual work publicly, 6) perform a sound recording publicly by means of a digital transmission. 17 U.S.C. § 106 (2002).

219. *See* Stoltz, *supra* note 217, at 1442.

220. *Id.* at 1442-43 (*citing* Phil Albert, *Sticks, Stones and the GPL*, ECT NEWS, Nov. 27, 2004, *archived at* http://www.webcitation.org/5WayDCpmh).

work under copyright law: that is to say, a work containing the [original open source program] or a portion of it, either verbatim or with modifications and/or translated into another language."[221] The license goes on to state: "If identifiable sections of that work are not derived from the [original open source program], and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works."[222]

Open source software development is particularly tricky for a derivative works analysis because it encourages integrating original open source code with any changes the user wishes to make.[223] Programs using the GNU and other operating systems use modules called kernels or libraries which, while useless alone, make running the operating system possible.[224] For example, Linux is the kernel on which GNU is based.[225] The reliance on libraries is prevalent in most commonly used programs because they contain code required to carry out basic functions such as data sorting, and efficiency is increased if the program does not have to contain the code for each basic function it carries out.[226] The process by which a program relies on the library or kernel is called linking which may be done either statically or dynamically.[227] Commentators suggest that while static linking almost certainly creates a derivative work, the question of whether a derivative work is created through dynamic linking poses a more complicated and significant question.[228] The reasoning appears to be that while statically linked works are dependent on one another to function, dynamically linked works may exist independently from one another.[229] Therefore a

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221. *GPL, supra* note 214. Phil Albert notes that there are three possible definitions of a derivative work in the GPL: one before the colon, one after the colon, and one under § 103 of the Copyright Act, 17 U.S.C. § 103. Albert, *supra* note 220.

222. *GPL*, *supra* note 214. Section 2 also later states "Thus, it is not the intent of this section to claim rights or context your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the [original open source program]." *Id.*

223. *See* Stoltz, *supra* note 217, at 1448.

224. *Linux and the GNU Project*, GNU, Mar. 20, 2008, *archived* http://www.webcitation.org/5YDDVVkvC.

225. *Id.*

226. Stoltz, *supra* note 217, at 1448 (also noting that such use may increase efficiency in the correction of errors).

227. *Id.* at 1449-50 (describing both static and dynamic linking with greater technical detail).

228. Stoltz, *supra* note 217, 1450-52. Interestingly, the author cites *Pickett v. Prince* here for the proposition that a derivative work is likely created where the final work "incorporates" an underlying copyrighted work.

229. *Id.* at 1450-52.

statically linked work will incorporate most, if not all, of another underlying work while dynamically linked works do not need one another to operate effectively.[230]

The implications of this distinction may be far reaching in terms of a derivative works analysis. As discussed above, any work derived from a GNU program will be licensed under the GPL and will require that its code be accessible to all end users.[231] This would in effect keep a growing number of derivative works unproprietary. But as the GPL itself states, protection (in the form of open access) will extend only to those works properly defined as derivative works.[232] One commentator succinctly identifies the problem: "If copyright law does not recognize a derivative work where two programs interact in common ways, the GPL copyleft regime may contain an enormous loophole for proprietary exploitation."[233] He reasons that if dynamically linked programs do not rely on one another for copyright protection, a subsequent work referencing but not incorporating a GPL work will be outside the scope of the GPL and thus may become proprietary.[234] For example, if a programmer has a copy of a Linux kernel under the GPL and develops a program that works in accordance with kernel without copying it, the new work will not be a derivative work under § 103 of the Copyright Act because it does not contain a substantial amount of the kernel.[235] The new work will be copyrightable by the programmer, and she may then refuse to release its code when she sells it to other users. If the program has more value than the kernel to its users, the fact that the kernel is open source becomes irrelevant since it is only useful with a proprietary program.[236]

B. The Fair Use Defense

If a derivative work infringes the copyright in the underlying work, the author of the derivative work may try asserting a fair use defense.[237] In a traditional analysis, the court considers the defendant's work in light of the four fair use factors as set out in 17 U.S.C. § 107.[238] In

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230. *Id.* at 1450-52.

231. *See GPL*, *supra* note 214 and accompanying text.

232. *Id.*

233. , at 1442.

234. *Id.* at 1464.

235. 17 U.S.C. § 103.

236. Stoltz, *supra* note 217, at 1464 (calling the GPL work "obsolete" at that point).

237. 17 U.S.C. § 107 (2000).

238. The factors include: "(1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational

addition, the statute provides specific uses favorable to a finding of the defense including, "criticism, comment, news reporting, teaching, scholarship, or research."[239]   In the context of derivative works, these factors provide a potential safe harbor for derivative authors to use a preexisting work if the purpose of that use is criticism, comment, or, as in the case of *Campbell v. Acuff-Rose Music, Inc.*, parody.[240]   The case involved a parody of Roy Orbison's song "Oh, Pretty Woman" by the group 2 Live Crew.[241]   2 Live Crew asked permission to move forward with their parodied version, offering to give credit of authorship and ownership to Orbison, but they were refused.[242]   2 Live Crew proceeded without authorization, and Acuff-Rose, the assignee of Orbison's rights, brought a claim for infringement. The court held that authors of parody may claim fair use under § 107, reasoning that such use has "transformative value" and can "provide social benefit, by shedding light on an earlier work, and, in the process, creating a new one."[243]

2 Live Crew conceded that its version was an infringement but for the applicability of the fair use defense through parody.[244]   Given the nature of the works, however, it is not evident that the parodied version was not essentially a derivative work that lacked authorization.[245]   The court's analysis of the fourth factor of fair use (the effect of the use upon the potential market for or value of the copyrighted work) provides some insight into the distinction.[246]   The court reasoned that if 2 Live Crew's version presented substantial harm to the derivative rap market for Orbison's work, it would be less inclined to make a finding of fair use "because the licensing of derivatives is an important economic incentive to the creation of originals."[247]   To this the court first noted that the only concern in a fair use analysis is the possibility of market substitution as opposed to derivative market development, and second it properly reasoned that the likelihood that Orbison would tap markets that cast

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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 (2000). *See also*, Sony Corp. v. Universal City Studios, Inc., 464 U.S. 417 (1984).

239. 17 U.S.C. § 107 (2000).

240. 510 U.S. 569 (1994).

241. *Id.*

242. *Id.* at 572.

243. *Id.* at 579.

244. Acuffe-Rose, 510 U.S. at 574.

245. *Id.* at 594-597. The lyrics of both songs demonstrate that it was not evident that 2 Live Crew intended a parody.

246. *Id.* at 592-593.

247. *Id.*

him or his work in an unfavorable light was small.[248]   An economic
authority agrees: "A parody is not a substitute for the original work. But
it must copy enough of that work to make the parody recognizable, and
that amount of copying is deemed fair use."[249]

The parody, however, may be one of a few cases in which a
derivative work may not serve as a substitution in the market.   In
particular, computer programs building on the preexisting work to
provide greater efficiency certainly will be a substitute.   One can also
imagine an artistic work serving this end; for example many who did not
read J.R.R. Tolkien's Lord of the Rings may find the movie an attractive
alternative. Note that the petitioners in *Abend*[250] argued (following an
unsuccessful argument that their ownership survived the expiration of
the original author's copyright term) that their use of the original story
in their motion picture was fair use.[251] The court concluded that the use
neither fell within any of the favored categories of use nor met the
requirements of the four fair use factors.[252] This suggests that while it
may be an important alternative defense for derivative authors to
consider, the circumstances under which it may be invoked successfully
are narrow.

It would be more likely that a computer software derivative work
would be successful on a fair use defense if it had reverse engineered the
underlying work. In light of its policy goal of promoting the arts and
sciences, the Copyright Act does not prohibit one from analyzing a
copyrighted work in such a way as to understand its unprotectable
elements such as its ideas or methods of operation.[253] The Ninth Circuit
held that reverse engineering the object code of a program constitutes
"intermediate copying" that is protected under fair use because the
defendant had done so to understand the unprotectable elements of the
program.[254] The defendant did not prevail, however, because the court
considered its use of the intermediate copy commercially exploitative.[255]

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248. "The market for potential derivative uses includes only those that creators of
original works would in general develop or license others to develop. Yet the
unlikelihood that creators of imaginative works will license critical reviews or
lampoons of their own productions removes such uses from the very notion of a
potential licensing market." Acuffe-Rose, 510 U.S. at 592-93.

249. Landers & Posner, *supra* note 72, at 155 (*citing* Campbell v. Acuff-Rose
Music, Inc., 510 U.S. 569 (1994)).

250. 495 U.S. 207 (1990).

251. *Id.* at 237.

252. *Id.*

253. Atari Games Corp. v. Nintendo of Am. Inc., 975 F.2d 832, 842-43 (9th Cir.
1992).

254. *Id.* at 843.

255. *Id.* citing Sony Corp. v. Universal City Studios, Inc., 464 U.S. 417, 451
(1984).

Thus the decision expands a derivative author's rights only insofar as she uses the copy of the original work in a non-commercial way.[256] To the commercial software developer, it is difficult to imagine a use that would be protected under this rule.

C. 17 U.S.C. § 117 and Consumer Modification

The Copyright Act provides a more specific exemption to infringement liability for users making a copy of a program in order to use it properly on their computers. 17 U.S.C. § 117 provides a limited exemption for what would otherwise be an infringing copy made by a computer user who, in loading a program into his computer for use, makes an "archival" copy.[257] Subsequent decisions have reflected a broad interpretation, allowing the copy of the program to be adapted to function on the user's system, even where new features are added by the user.[258] The Fifth Circuit went further, declaring that "Section 117(1) contains no language to suggest that the copy it permits must be employed for a use intended by the copyright owner, and, absent clear congressional guidance to the contrary, we refuse to read such limiting language into this exception."[259] Nimmer concludes that ownership in such adaptations permissible by operation of law under § 117 as opposed to by authorization as required in § 103(a) is currently an open question.[260] The CONTU Report suggests that the user's rights under § 117 should include translating the program between high level languages, as well as adding features that are not included in the program at the time of purchase.[261] The Report goes on to say that

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256. Atari Games Corp., 975 F.2d at 843
257. The statute provides:
    (a) Making of additional copy of adaptation by owner of copy.--
    Notwithstanding the provisions of section 106, it is not an infringement
    for the owner of a copy of a computer program to make or authorize the
    making of another copy or adaptation of that computer program
    provided:
    (1) that such a new copy or adaptation is created as an essential step in
    the utilization of the computer program in conjunction with a machine
    and that it is used in no other manner; or
    (2) that such new copy or adaptation is for archival purposes only and
    that all archival copies are destroyed in the event that continued
    possession of the computer program should cease to be rightful.
17 U.S.C. § 117 (2000).
258. RAV Comm'ns, Inc. v. Philipp Bros. Inc., 87 CR 3366, 1988 U.S. Dist. 1988 WL 36174 (S.D.N.Y. 1988); Krause v. Titleserv, Inc., 402 F.3d 119 (2d Cir. 2005).
259. Vault Corp. v. Quaid Software Ltd., 847 F.2d 255, 261 (5th Cir. 1988).
260. Nimmer, *supra* note 14, at § 3.06, 3-34.34 § 8.08[B][2].
261. *CONTU Final Report*, *supra* note 20, at Chapter 3.

neither right would properly be exercised without the program owner's permission.[262] The Report emphasizes the private nature of such uses and suggests that the law should not intervene to prevent them unless the program user copies and vends the adapted program (now a derivative work).[263] The Report suggests that contractual provisions would be the most appropriate way for the copyright holder to prevent the user from making the translations and modifications since protection under § 117 would not be triggered until she attempts to copy and sell them.[264] It is noteworthy, however, that the rights granted under § 117 can be, and indeed are, avoided by using a licensing arrangement as opposed to selling the software outright.[265] Therefore, it is arguable that the impact of § 117 on derivative works does not have as much significance as it may first appear.

D. Orphan Works

On January 31, 2006 the U.S. Copyright Office issued a report to address concerns about the status of orphan works.[266] Orphan works are copyrighted works whose owners "may be impossible to identify and locate."[267] While proposals were made that would require administrative and procedural as opposed to legislative changes, the report reflects wide support for changing the criteria for orphan work status with a limitation on remedies in the case that an owner reappears.[268] The report recommends an "ad hoc" system in which potential users of suspected orphan works are required to conduct a "reasonable search" to find the owner before proceeding with use.[269] The report recommends specific limitations on injunctive relief for derivative works: "where the orphan work has been incorporated into a derivative work that also includes substantial expression of the user, then injunctive relief will not be available to stop the use of the derivative work in the same manner as it was being made prior to the claim of infringement, provided the user pays reasonable compensation

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262. *Id.*

263. *Id.*

264. *Id.*

265. *See* Stephen M. McJohn, *Fair Use of Computer Software*, 28 RUTGERS L.J. 593, n.18 (1997). McJohn discusses Triad Systems Corp. v. Southeastern Express Co., 64 F.3d 1330 (9th Cir. 1995) and notes that Triad and most software companies use licensing as opposed to sales to avoid granting § 117 rights to its customers.

266. United States Copyright Office, *Report on Orphan Works* (2006), *archived at* http://www.webcitation.org/5WerrDvYt.

267. *Id.*

268. *Id.* at 86-87.

269. *Id.* at 129 (concluding that a registry is "premature" at this time).

to the copyright owner."[270]   The significance of the law to computer software derivative works is potentially substantial, as the report recognizes:

> We received numerous comments from individuals who cited computer programs as examples of orphan works, typically where the company that produced the software had gone out of business and the copyright owner of the program could not be located . . . In some examples the user could have (and in fact did) write his own code to interface with the existing work or duplicate its features and functions.[271]

The report suggests that, at least in some circumstances, copyright law may require greater flexibility to meet the demands of a changing marketplace.

E. Nimmer's "Pitch" Exception

Nimmer argues for an exception to the requirement of authorization in § 103: "there should be an exception to this rule, in the limited context of someone who uses a copyrighted work in order to create a derivative work to be used solely to pitch the copyright owner as to its exploitation."[272]   While it is difficult to argue that the exemption would not alleviate to some degree the tension between ownership and innovation, one can imagine procedural impracticalities.   Particularly, the exemption may not provide an incentive for a derivative author who is uncertain about the precise direction his work will take, or if there is serious question as to whether the original author will grant approval.   Recall *Acuff-Rose* discussed above.[273]   2 Live Crew clearly would have fallen within Nimmer's proposed safe harbor, but it is not evident that the exemption would have any real meaning since, as was the case, Orbison was not at all interested in authorizing a parody of his work.   If the author spends a great deal of time and money creating the derivative work for presentation to the original author in order to have complete creative control initially, there is understandable incentive to proceed and take one's chances with a fair use defense if authorization is not granted.   Indeed, even if consent is granted, the original author may place conditions on use and marketing that may inhibit the derivative

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270. *Report on Orphan Works*, *supra* note 266, at 136.
271. *Id.* at 69.
272. Nimmer, *supra* note 14, at § 3.06, 3-34.32.
273. *See supra* notes 240-249 and accompanying text.

author's objectives.

The idea has support from other commentators. They suggest a system in which copyright law adopts a rule analogous to improvement patents.[274] Under such a system the non-licensee would be permitted to create a derivative work "on spec" hoping thereafter to obtain approval by the original author.[275] The derivative author would be advised that selling the work without such approval would be an infringement.[276] Landers and Posner conclude: "Creativity might be stimulated and transaction costs actually reduced if a prospective creator of a derivative work could make the work without first having to persuade the owner of the original work that it was a worthwhile venture."[277] Although presenting a compelling economic argument, the idea shares a potential problem with Nimmer's "pitch" exception, namely that if the derivative author does not get approval, there would seem to be compelling incentive to sell the work anyway.

VI. Conclusion

Paul Goldstein queries: "How, specifically, must infringement tests be reshaped to meet the particular needs of derivative rights? Must fair use and the originality requirement be recast?"[278] He goes on to conclude that "Copyright is made to do too much in resolving [derivative works] cases in favor of the owners of the underlying works. The task is better left to unfair competition and trademark laws."[279] While perhaps a more pragmatic solution to some copyright issues, it sidesteps the theoretical question of whether or not copyright law may adapt in changing global markets. More important, it avoids the core issue in any copyright question, that is, the balance between ownership rights and greater access for innovation and public enjoyment. If copyright law is to survive growing markets with instantaneous online access to countless works, it will be best served by developing consistent rules that offer predictability to owners and innovators alike.

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274. Landers & Posner, *supra* note 72, at 111-112.
275. *Id.*
276. *Id.*
277. *Id.*
278. Goldstein, *supra* note 7.
279. *Id.*