17 U.S.C. § 117: Is the Amendment to the Copyright Act Adequate To Regulate the Computer Software Market?, 7 Computer L.J. 227 (1986)

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NOTES

17 U.S.C. § 117: IS THE AMENDMENT TO THE COPYRIGHT ACT ADEQUATE TO REGULATE THE COMPUTER SOFTWARE MARKET?*

In response to pressure from creators and proprietors of computer software, Congress acknowledged the need to clarify the legal protection which applied to this property. The Commission on New Technological Uses of Copyright Works (CONTU or the Commission) was created to make recommendations on the feasibility of providing such protection under the Copyright Act[1] (Act). In 1980, Congress adopted the Commission's recommendations and amended section 117 of the Act to grant owners of copyrighted software a limited right to make back-up copies and adaptions of their programs.[2] During this period there was substantial growth in computer piracy and a decline in the effectiveness of proprietor-imposed software protection. The courts are currently determining the proper application of section 117 to the software market.

This Note surveys the most important issues regarding a program owner's rights under the amendment. Section I interprets congressional intent. Section II analyzes court interpretations of section 117. Case law in this area is sparse since many proprietors, unless assured of success, have been inhibited from filing lawsuits by the lack of guidance on this relatively new law. Section III, therefore, analyzes the amendment's ambiguities addressed by the courts and asserts that section 117, as presently interpreted and applied, does not sufficiently protect the rights of software owners and proprietors. This Note concludes by proposing principles which should guide court in its attempts to apply the legislative intent underlying the enactment of section 117 in light of the economic realities of the computer software market.

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* National First Place, Third Annual Computer Law Writing Competition.

1. General Revision of Copyright Law, Pub. L. No. 94-553, 90 Stat. 2541 (1976) (codified primarily at scattered sections of 17 U.S.C. (1982)).

2. Act of Dec. 12, 1980, Pub. L. No. 96-517, § 10, 94 Stat. 3015, 3028 (amending 17 U.S.C. §§ 101, 117 (1976)).

I. THE LANGUAGE

A statute, which seems clear and appropriate upon its enactment, may later become unclear or inadequate when applied to particular facts. This is common with statutes regulating rapidly evolving fields of technology.[3] Section 117 excuses two seemingly innocuous forms of software copying which would otherwise technically constitute acts of infringement. By doing so, Congress attempted to strike a balance between the owner's interest in making back-up copies of their own software and the proprietor's interest in recouping production and marketing costs.

Section 117 states:

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 new a [sic] 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.

Any exact copies prepared in accordance with the provisions of this section may be leased, sold, or otherwise transferred, along with the copy from which such copies were prepared, only as part of the lease, sale, or other transfer of all rights in the program. Adaptations so prepared may be transferred only with the authorization of the copyright owner.[4]

A. THE LEGISLATIVE HISTORY OF SECTION 117

After years of study on the appropriate measure of protection for computer software programs, Congress created CONTU to address the problem.[5] The Commission issued a final report in 1978 which recom-

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3. Boston & Kenway, *Software Copyright Loophole Erased by Boston Court*, 1 THE COMPUTER LAW., Oct. 1984, at 19.

4. 17 U.S.C. § 117 (1982). The exclusive rights of the owner of a copyright include, in relevant part, the right to: "(1) reproduce the copyrighted work; (2) prepare derivative works; (3) distribute copies to the public by sale or other transfer of ownership, or by rental, lease or lending; (4) perform the work publicly; (5) display the copyrighted work publicly." *Id.* § 106.

5. The Commission was created by an Act of Congress in 1974, Pub. L. No. 93-573, tit. II, 88 Stat. 1873, 1873-74 (1974). Pursuant to this Act, appointments to the Commission were made by President Ford in 1975. Many of the weaknesses in the Commission's recommendations, and the ineffectiveness of section 117 have been attributed to the Commission's composition. Critics contend that it was composed of a small cadre of "intellectual

mended two changes in the Act. The changes, adopted essentially verbatim by Congress, incorporated the computer program definition from section 101 of the Copyright Act, and deleted interim section 117 created by the 1976 Act, substituting the present version.[6]

CONTU reports give some guidance in properly interpreting section 117.[7] The *CONTU Report* was based largely on a study of the economics of the computer software market.[8] The Commission found that computer programs would only be disseminated in certain circumstances because the cost of development was far greater than duplication. Creators could recover all costs plus a fair profit on first sale, thus leaving them unconcerned about later publications. Although a creator normally finds this desirable, it would cause the price of programs to be so high that the number of programs would be drastically reduced.

Alternative possibilities included having a creator's costs borne by another, for example, the government, or having a creator be indifferent as to costs and donate work to the public.[9] The Commission did not find these to be viable alternatives in our non-socialist society.[10] Instead, they found that the best alternative for the computer industry exists when the creator could spread costs over sales of multiple copies.[11] Consequently, it concentrated on developing some protection against unauthorized copying.[12]

The *CONTU Report* recommended that copyright law be amended to provide copyright protection for computer software. The rationale

property elites," not creators or dealers in the computer market. These elites did not provide for economic reality. *See* N. HENRY, COPYRIGHT, CONGRESS & TECHNOLOGY: THE PUBLIC RECORD 19 (1978).

6. The Commission's recommendations were added to H.R. 6933, 96th Cong., 2d Sess. (1980). *See* An Act To Amend the Patent And Trademark Laws, Pub. L. No. 96-517, 94 Stat. 3007 (1980) (codified at 17 U.S.C. §§ 101, 117 (1982)). These recommendations were adopted by the Legislature with little debate and only one language change-evidence that Congress respected the Commission's views. The final amendment grants "owners," as opposed to "rightful possessors," a limited right to copy and adapt their software. *See* H.R. 6933, 96th Cong., 2d Sess. (1980). For the implications of this change, see *infra* notes 55-78 and accompanying text.

7. NATIONAL COMM'N ON NEW TECHNOLOGICAL USES OF COPYRIGHTED WORKS, FINAL REPORT [hereinafter CONTU REPORT], *reprinted in significant part in* 3 COMPUTER L.J. 53 (1981).

8. *Id.* at 9-12, 3 COMPUTER L.J. at 56-60.

9. *Id.* at 11, 3 COMPUTER L.J. at 59.

10. *Id.*

11. *Id.*

12. *Id.* at 12-26, 3 COMPUTER L.J. at 60-85. The Commission failed to recognize another viable marketing scheme which existed at the time of the CONTU studies. A proprietor recovers revenues through "free/share-ware." This system offers programs free to the public, on an honor system basis. The public sends in a fee to the creator if a program is found useful. Programs, such as PC-Write, are distributed through this system.

given was: (1) it is necessary to give program authors some form of legal protection to encourage creation and dissemination of computer programs; (2) protections other than through copyright are ineffectual or impose too great a cost on society; and (3) copyright will provide sufficient protection for an author without unduly restricting public access.[13] In 1980, Congress apparently glad to have the issue of computer program protection resolved, passed the recommendations almost verbatim.[14]

The final amendment attempted to correct two basic concerns of CONTU. The first concern was that the definition of "copies," under the 1976 Act, might include mere inputting of a program.[15] Section 117(2) was intended "to provide a legitimate holder of a computer program with permission to do that copying of the program which is necessary for him to be able to use it in his computer without running afoul of possible infringement acts."[16] It was therefore found appropriate to give an owner the right to copy a program to guard against damage or destruction.[17]

The second concern was over the lack of standard programming languages and hardware.[18] Realizing that it was primarily through customizing programs that the widespread use for software emerged, Congress enacted section 117(1) which gave an owner the right to make programming changes necessary to use a program for the purposes it was both purchased and sold.

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13. *Id.* Other forms of legal protection considered and dismissed were patent and trademark protection. The reasons exceed the scope of this Note. Commissioners Hersey and Karpatkin in dissents expressed doubts about the advisability of extending copyright protection to computer programs. *Id.* at 27-38, 3 COMPUTER L.J. at 85-104. Commissioner Nimmer, although concurring with the majority wrote a separate opinion in which he also expressed such doubts. *Id.* at 26-27, 3 COMPUTER L.J. at 84-86.

14. Congress did not follow CONTU's recommendation to extend section 117 rights to "rightful possessors" of a copyrighted program, but, in contrast, extended them only to "owners." *Compare* 17 U.S.C. § 117 *with* CONTU REPORT, *supra* note 7, at 12, 3 COMPUTER L.J. at 60-61. *See also* Kelso & Rebay, *Problems of Interpretation Under the 1980 Computer Amendment*, 23 SANTA CLARA L. REV. 1001 (1983); Samuelson, *CONTU Revisited: The Case Against Copyright Protection for Computer Programs in Machine-Readable Form*, 1984 Duke L.J. 663.

15. CONTU REPORT, *supra* note 7, at 12-13, 3 COMPUTER L.J. at 60-63. 17 U.S.C. § 101 defines copies as "material objects . . . in which a work is fixed by any method now known or later developed, and from which the work can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device."

16. Transcript of CONTU meeting No. 19, at 98-99 (Jan. 1978).

17. CONTU REPORT, *supra* note 7, at 13, 3 COMPUTER L.J. at 61-63. *See also* Atari, Inc. v. JS & A Group, Inc., 597 F. Supp. 5 (E.D. Ill. 1983) (owners in possession of programs on mediums susceptible to damage by electrical or mechanical failure could invoke section 117).

18. CONTU REPORT, *supra* note 7, at 13, 3 COMPUTER L.J. at 61-63.

Although not expressly stated in either the amended Act or the *CONTU Report*, transcripts of the Commission's work reveal that originally there was an attempt to expressly limit the scope of a user's right to copy to instances in which the exercise of such a right "did not harm the interests of the copyright proprietor."[19] Absent such an express limitation in the amendment, conflict has developed between proprietors, interested in maximum return on a program, and owners, interested in maximum usage.[20] This ambiguity, combined with the volatile nature of the computer market, creates a problem for courts trying to interpret section 117 to provide a resolution for such conflicts.

B. Proliferation of Unauthorized Copying

Despite section 117's ban on unauthorized software duplication, illegal copying has escalated.[21] Proprietors have responded by developing and using physical and mechanical protection devices. These typically employ a modified operating system which make it more difficult to copy, but also make it almost impossible to view and adapt a program.[22] Many software users have complained because these devices can prevent purchasers from making authorized back-up copies.[23] Further, these protection devices can prevent hobbyists from learning through making suitable, authorized adaptations of a program.[24]

Coded protection devices, or "code-breakers,"[25] are programs which allow a user to copy a protected program. These were marketed follow-

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19. *Id.*

20. *See infra* subsection I(B)(1). There are good reasons for allowing owners to make back-up copies. If a software owner's only copy "crashes," only two options exist. A new one can be purchased or an owner can wait an indeterminate time for the manufacturer to provide a replacement copy free of charge. If the latter procedure is followed, the software owner would pay no additional charge to the vendor but might pay in lost revenues. When a salary program crashes, for example, an employer must pay to have salary checks manually computed and issued.

21. It is estimated that twenty to thirty percent of the industry's revenues are siphoned off annually by piracy and unauthorized resale of software. NAT'L OTC STOCK J., April 25, 1983, at 5. The Association of Data Processing Service Organizations (ADAPSO) estimates that piracy cost the $1.3 billion computer industry approximately $325 million in revenues in 1983. *Update*, ELEC. WEEKLY, April, 1984.

22. T. HARRIS, THE LEGAL GUIDE TO COMPUTER SOFTWARE PROTECTION 189-90 (1985). This year "MicroPro" Software Corp. had to remove its copy protection device from one of its new products because it made it difficult for users to access the program. Kneale, *Bugs Come in All Sizes-And Are Tough To Destroy*, Wall St. J., Oct. 2, 1985, at 33, col. 4.

23. T. HARRIS, *supra* note 22, at 189.

24. *Id.*

25. Code-breakers are generally defined as external mechanisms used to break the physical or mechanical code which proprietors often place on their systems in order to preclude users from copying their program. Examples of such devices include Copy II Plus, Wild Card 2, and Locksmith.

ing enactment of section 117. A code-breaker manufacturer described the connection between the amendment and marketing of one code-breaker as follows: "In December of 1980, President Carter signed the bill into law [and] in January the first advertisement for [code-breaker] 'Locksmith' hit the magazines."[26] Code-breaker manufacturers rely upon user back-up rights to justify their business. As a result of code-breakers, however, it is estimated that at least forty percent of the software in circulation are unauthorized copies.[27] Proprietors' profits decline once a program can be copied.

1. Proprietors' Response

Proprietors' response to unauthorized copying has been to bring lawsuits against the responsible parties.[28] This brought proprietors and owners into conflict. Both groups have refused to recognize the others' interests, or to reach a compromise. Proprietors contend that copy-protection mechanisms are necessary to correct market inadequacies and keep users "honest."[29] A competitive market demands more sophisticated programs, requiring thousands of hours to develop and market.[30] The ability to make unauthorized copies limits developers' ability to recoup costs. Consequently, proprietors admonish that continued unauthorized copying will have a pernicious effect on the market, causing an ultimate decrease in quality software, and a concomitant escalation in the price of software.[31]

Conversely, users argue that copy-protection devices exist to intimidate users into paying inflated prices for replacement software. Users assert that it is absurd to pay exorbitant prices for the "nth" copy of the same software package,[32] and that much of the unauthorized copying would not exist with more enlightened marketing policies.[33]

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26. Memorandum from Tom Olson, Staff Counsel, Subcommittee on Patents, Copyrights and Trademarks, Senate Judiciary Committee, to J. Taphorn, Inside Legal Advisor for International Business Machines, Inc. (IBM) (Feb. 6, 1985) [hereinafter Olson Memo].

27. Azzara, *Copyright Protection for Software: Court Rule Seen As Landmark*, COMPUTER SYS. NEWS, Sept. 12, 1983, at 10.

28. *See, e.g.*, Lotus Dev. Corp. v. Rixon, Inc., No. 84-278-C (D. Mass. filed Jan. 27, 1984). *See also* Sterne & Saidman, *Copying Mass-Marketed Software*, BYTE, Feb. 1985 at 387 ("we . . . know from discussions with top lawyers at several governmental agencies that a massive clean up campaign is afoot as organizations silently trash their unauthorized copies.").

29. Sterne & Saidman, *supra* note 28, at 387.

30. T. HARRIS, *supra* note 22, at 190. *See also* SAS Institute v. S & H Computer Systems, Inc., Nos. 82-3669 & 82-3670 (M.D. Tenn. filed 1985) (In this case for copyright infringment by a licensee of a computer program, the court found it compelling that the proprietor's work had initially taken numerous "man-years" to create.)

31. T. HARRIS, *supra* note 22, at 190.

32. *Id.*

33. Sterne & Saidman, *supra* note 28, at 390.

Yet, recent technological advances in software which provide outline software for the creation of most types of commercial programs may undermine the proprietors' argument.[34] This software decreases the necessary labor in developing a program by twenty to eighty percent. Consequently advocates of the users' position on this debate argue that revenues being lost through pirating are being recouped by savings in production, thus vitiating any need to inflate software prices.[35]

2. Legislative Response

New legislation being considered by the Subcommittee on Patents, Copyrights and Trademark, Senate Judiciary Committee would employ one of the following legislative alternatives to combat unauthorized copying of software.[36] One alternative repeals section 117, giving software proprietors the option to permit customers to make back-up copies. The problem would be that software companies would have no incentive to permit back-ups, thus recreating the situation which initially led to the enactment of section 117(2).[37] Another alternative gives software users the right to make back-up copies where there is a "bona fide need." Proponents contend that a bona fide need exists when a software proprietor fails to provide other methods to obtain back-up copies.[38] Ambiguity in defining this term probably precludes adoption of this recommendation.

A third approach would prohibit the sale of code-breakers. This option is one-sided and unacceptable for several reasons. It attacks the problem of illegal copying but does not give software users back-up rights. Second, it would be conceptually awkward to outlaw code-breakers while leaving section 117(c) intact. Software users would retain the right to make back-up copies, but could not purchase the software to accomplish this task.

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34. *See* Tonkin, *The Creator*, 80 MICRO, Jan. 1983, at 74. Examples of such programs include, "Turbo Screen" by Pascom Computing, "Sizzling C" by Microsoft, and "Knowledge Man" by Lotus.

35. Vendors are charging between $400.00 and $1500.00 for programs which they make with program outlines that market from $60.00 to $200.00 and then claim that their programs are not overpriced.

36. Olson Memo, *supra* note 26.

37. *See* CONTU REPORT, *supra* note 7, at 3. The amendment was essentially created to strike a balance between securing proprietors' rights without unduly restricting users' ability to utilize software for the intended purposes.

38. Copyright owners might thwart piracy by providing extra copies at the time of the purchase at a moderate price, or guaranteeing steady delivery of replacement copies for damaged programs. *Id. See also* Buckley & Davis, *1-2-3 Go: Lotus Writes a Program for Supremacy in Personal Computer Software But Bugs Remain*, Wall St. J., May 15, 1985, at 1, col. 6, 14, col. 1 (in order to keep on top of the computer market, IBM is offering free copies of some programs with the purchase of its hardware).

The final proposal, and one currently in existence, is for the legislature to do nothing, and let the courts decide the legality of sales of code-breaking software. Since many of the current problems do not appear to have been anticipated by the drafters of section 117,[39] however, the courts will be interpreting a statute, the wording of which may not lead to the arguably intended result.

3. *Judicial Response*

Due to the failure of other protections, many proprietors have begun to seek judicial redress against software pirates and contributory infringers.[40] Proprietors were initially hesitant to sue for several reasons.[41] They were apprehensive that bad press from unfavorable decisions could result in extensive loss of sales, or that a capricious decision would be issued because many courts and lawyers lack sufficient understanding of the technology or the law in this area.[42] Further, discovery requirements could lead to forced disclosure of valuable secret information about other programs.

Proprietors, who have taken the risks of bringing a lawsuit, have found the judiciary quite amenable to their position. Courts have consistently interpreted users' rights under section 117 narrowly in copyright infringement actions by limiting the type of medium and user exempted under it.[43]

II. JUDICIAL INTERPRETATIONS OF SECTION 117

A. LIMITATIONS ON WHAT MAY BE COPIED

1. Atari, Inc. v. JS & A Group, Inc.

In *Atari, Inc. v. JS & A Group, Inc.*,[44] the United States District

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39. Interview with Michael Keplinger, Legal Advisor to the Patent and Trademark Office of the Legislation and the Internal Affairs, former Inside Advisory Counsel for CONTU (May 15, 1985).

40. *See* Atari, Inc. v. JS & A Group, Inc., 597 F. Supp. 5 (E.D. Ill. 1983); Lotus Dev. Corp. v. Rixon, Inc., No. 84-278-C (D. Mass. filed Jan. 27, 1984) (settled); Micro-Sparc Inc. v. Amtype Corp., 592 F. Supp. 33 (D. Mass. 1984) (finding Amtype guilty of contributory infringement for offering copies of source listed computer programs published in Nibbles magazine); Apple Computer, Inc. v. Formula Int'l, 594 F. Supp. 617 (C.D. Cal. 1984) (finding Formula guilty of contributory infringement where it had made copies in ROM of Apples' programs).

41. *See* Sterne & Saidman, *supra* note 28, at 387 (citing *Lotus Dev. Corp.*, No. 84-278-C and Lotus Dev. Corp. v. Health Group Inc. (settled 1984)). *See also Microbytes, VisiCorp Software Arts Settle Suit, Offer New Packages*, BYTE, Nov. 1984, at 10.

42. Dorr & Eigles, *Ownership of Software and Computer Stored Data*, 13 COLO. LAW. 577 (1984).

43. *See infra* section II.

44. 597 F. Supp. 5 (E.D. Ill. 1983).

Court issued the first ruling on the archival copying provision of the Act. JS & A sold a device which was used to duplicate Atari videogame cartridges into (Read Only Memory) (ROM).[45] Atari contended that JS & A had contributorily infringed on Atari's section 106(1) exclusive right to replicate its own copyrighted work.[46] JS & A claimed a section 117 exemption, stating that its product had a substantial noninfringing use in its ability to duplicate Atari games for archival purposes.[47]

The court looked to the *CONTU Report* for evidence of congressional intent in enacting section 117.[48] It concluded that the right to make archival copies was only available for programs which were inscribed on mediums susceptible to destruction or damage by "mechanical or electrical failure."[49] Since the primary threat to the video cartridges in question was physical, the court found JS & A's defense a "pretext" and held them in contempt.[50] The court concluded from an interpretation of the legislative history in the *CONTU Report* that congressional intent was not to create a general rule making copying of copyrighted works as back-ups noninfringing, but to create a limited exemption to section 106 which applied to programs inscribed on mediums of particular susceptibility.[51]

2. *Problems of a Medium-Related Limitation*

JS & A's "medium based" analysis to the section 117 exemption presents problems for users of programs contained on more durable mediums. Post decision commentators predict that the *JS & A* decision will accelerate the trend toward putting programs in ROM instead of

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45. ROM is defined as a computer device containing a program or data permanently stored on chips when the unit was made. It can apply to either internal memory or external data storage. From the manufacturers' viewpoint, the advantage of putting programs in ROM is that they cannot be copied, adapted or modified without great difficulty. The advantage to a user is that programs on this medium run faster. *See* Miller, *Computer Software and Related Technology*, 193 P.L.I. 369, 413-14 (1984).

46. For a listing of a copyright owner's exclusive rights, see *supra* note 4. Section 117 has been judicially determined as providing a limited exemption to these rights. *See also* Atari, Inc. v. JS & A Group, Inc., 597 F. Supp. 5 (E.D. Ill. 1983); Hubco Data Prods. Corp. v. Management Assistant, Inc., 219 U.S. Pat. Q. 450 (D. Idaho 1983).

47. *Atari*, 597 F. Supp. at 10. *But cf. Prom Blaster Gets Blasted*, 1 THE COMPUTER LAW. 49 (1984) (citing JS & A's advertisement: "JS & A makes available a great opportunity to protect your cartridge investment *and earn extra money selling copies* . . . .") (emphasis added).

48. *Atari*, 597 F. Supp. at 8-9.

49. *Id.* at 9 (citing CONTU REPORT, *supra* note 7, at 31, 3 COMPUTER L.J. at 92-93).

50. *Id.* at 10. The court was required to determine the primary use for the alleged infringer's copying device. *Id.* The court noted that since there were only nine JS & A games, the Prom Blaster's intended purpose was to facilitate duplication of videogames of other vendors. *Id.*

51. *Id.*

easily duplicated, and easily damaged, floppy disks,[52] and, in fact, this has already begun.[53] If these mediums are found to be less susceptible to the electrical or mechanical damage relied upon in JS & A, rightful owners will be precluded from making accessible back-ups. This would arguably be in contravention of section 117(2).

Programs encoded in ROM were intended by the Commission to be exempted under section 117. This has been criticized because ROM programs are utilitarian in nature and, as such, do not fall within the traditional realm of copyright law.[54] The court prompted move to ROM encoded programs will probably result in conflicting case law as judges are forced to justify copyrightability of these new utilitarian works[55] and then decide whether back-up copying is exempted under section 117. This criticism is without justification, however, because the issue of a program's copyrightability is separate from the issue of the medium in which the program is embodied.

B.   LIMITATIONS ON WHO MAY COPY

1.   Micro-Sparc, Inc. v. Amtype Corp.

The recent decisions in *Micro-Sparc, Inc. v. Amtype Corp.*[56] and *Apple Computer, Inc. v. Formula International, Inc.*[57] applied the section 117 exemption to users only. The issue in *Micro-Sparc* was whether a third party could claim the protection of section 117 when it sold disk versions of programs to purchasers of printed copies of those programs. The court held no, in spite of section 117 language which states: "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."[58] Rejecting a literal reading, the court ruled that section 117(1) only permitted *an owner* to input "a copy into the owner's own computer."[59] The Court therefore found Amtype guilty of contributory infringement for offering computer programs to subscribers of Micro-Sparc's program magazine which were source listed in the

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52. *See* Kutten, *Court Restricts Right To Duplicate ROM Software*, MINI-MICRO SYS., Nov. 1984, at 233, 236.

53. Only hard diskettes can be utilized with Apple's Macintosh computers. *See* Kneale, *Design Changes May Reduce the Price of Hard Disk Drives*, Wall St. J., Feb. 22, 1985, at 33 col. 1. In 1984, the hard disk drive market consisted of approximately over 2.4 million disks, and by the end of 1986 the number is expected to increase to 6 million.

54. Samuelson, *supra* note 14, at 727.

55. *See id.* at 741-49.

56. 592 F. Supp. 33 (D. Mass. 1984).

57. 594 F. Supp. 617 (C.D. Cal. 1984).

58. 17 U.S.C. § 117 (1982).

59. *Micro-Sparc*, 592 F. Supp. at 34 (emphasis added).

magazine and available on disks from the publisher.[60]

Under *Micro-Sparc*, only the owner of a copy of a printed program can input a copy of it into his own machine for his or her own use; the owner cannot authorize a third person to create a disk copy. This interpretation of section 117 was derived largely from the *CONTU Report*.[61] Although legislative history is generally sound evidence of statutory intent, it may not be so here. It is unlikely that pirating of printed programs, as occurred in *Micro-Sparc*, was considered either by CONTU or by Congress at the time section 117 was drafted.[62]

2. Apple Computer, Inc. v. Formula International, Inc.

The defendant in *Apple Computer* was not a user, but a third party who was copying Apple Computer's copyrighted programs and selling computers and computer kits which included these programs on ROM chips.[63] The court found that only a rightful owner-user of a copyrighted computer program is authorized to make a copy of the purchased original.[64] Although Formula International had rightfully purchased Apple programs on "Wong diskettes," and, therefore, under a literal reading of section 117, was an "owner" and could lawfully copy the programs, the court rejected a literal interpretation. It turned to the *CONTU Report* and concluded that Formula International could not rely upon section 117 because it was not the intended user, but had made copies for subsequent sale and distribution.[65]

Critics contend that adopting the *Apple Computer* owner-user limitation requires a strained reading of section 117 since that section literally permits an owner to "authorize" a third party to make copies for use on the owner's machine.[66] They argue that the court's interpretation impedes proper utilization of computer programs in certain contexts. For example, because a library is not the intended user of the programs it purchases, the court's limitation would preclude libraries from making back-up copies of programs it purchased for use by its pa-

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60. *Id.* (holding Amtype typing service liable for copyright infringement in providing disks containing programs which had been published in Nibbles magazine when such programs were also available from the publisher on disks even though the publisher charged a higher price).

61. *Id.* at 35.

62. *See* Boston & Kenway, *supra* note 3, at 20. CONTU's chief concern about software protection was to devise legislation which would stem burgeoning unauthorized copying, primarily from floppy disks. *Id.*

63. Apple Computer, Inc. v. Formula Int'l, Inc., 594 F. Supp. 617 (C.D. Cal. 1984).

64. *Id.* at 621.

65. *Id.*

66. 17 U.S.C. § 117. *See* Brooks, *Fair Use of Computer Software: Is There Any Such Thing?*, 191 P.L.I. 217, 236 (1984); Boston & Kenway, *supra* note 3, at 20.

trons.[67] The same rationale would prevent schools purchasing single programs for simultaneous use by numerous students from making necessary back-up copies, since these would not be for the owner's (the school's) intended use. Restrictions on such use not only contravene congressional intent,[68] they are adverse to the realities of the software market since programs which are used in settings such as schools are often written for multi-user systems and priced accordingly.

The courts have also failed to define the term "owner" in employing the owner-user restriction, and the Act does not define the term. Since Congress adopted the CONTU recommendations verbatim except for changing the "rightful possessor" restriction to "owner," this would appear to be a crucial term.[69] It is possible that courts will continue to give section 117 a narrow interpretation, and will exclude rightful possessors, such as licensees or bailees, from the section's protection.[70] This could be a problem since purchaser-owners and licensee-rightful possessors often appear to be economic equivalents under current license and sales practices in the computer industry.

3. *Shrink-Wrap Licensing Agreements*

The usual marketing technique in the computer software market is a sale with a one time fee.[71] Although continuing support and maintenance may be promised, such arrangements are becoming less prevalent. "Shrink-wrap" license agreements, however, used in the computer software market, could be treated by courts as true licensing agreements, and result in exclusion of these "users" from section 117 protection under the courts' owner-user analysis.

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67. Brooks, *supra* note 66, at 236. See HELMS, SOFTWARE UTILITY AND COPYRIGHT: ISSUES IN COMPUTER ASSISTED INSTRUCTION (1985) for an excellent discussion on the effect of computers and privacy in the educational system.

68. CONTU REPORT, *supra* note 7, at 3. One of the principles surrounding the Commission's recommendations was the creation of a legal method which allowed users to adapt programs to use them for the purposes bought and sold. *Id.*

69. Many courts interpreting section 117 have ignored this fundamental language change. *See* Atari, Inc. v. JS & A Group, Inc., 597 F. Supp. 5, 9 (E.D. Ill. 1983) (quoting Midway Mfg. Co. v. Strohon, 564 F. Supp. 741, 750 n.6 (N.D. Ill. 1983) "Congress adopted . . . [CONTU's] recommendations without alteration . . . . "); Apple, Inc. v. Franklin Computer Corp., 714 F.2d 1240, 1247 (1983), *cert. dismissed,* 464 U.S. 1033 (1984).

70. *See* Whelan Associates, Inc. v. Jaslow Dental Laboratory, Inc., 797 F.2d 1222 (D.C. E. Penn. 1985) (Although not decided on this point, the court interpreted "owner" as synonymous with "purchaser"—not encompassing "licensees."). *See also* Bryan & Conley, *A Unifying Theory for the Litigation of Computer Software Copyright Cases,* 63 N.C.L. REV. 563, 601 n.286 (1985) (citing S & H Computer Sys. v. SAS Inst., Inc., 568 F. Supp. 416, 422 (M.D. Tenn. 1983) where a section 117 defense was raised by defendants but found inapplicable since the case dealt with "licensees" rather than program "purchasers" or "owners").

71. Brooks, *supra* note 66, at 245.

Shrink-wrap agreements purport to bind a user when the seal (or shrink-wrap) is broken. Their terms detract from characterizing the transaction as a sale for "ownership" purposes.[72] Shrink-wrap agreements are "as-is" warranties, automatically triggered when a purchaser opens the package seal.[73] Proprietors use these agreements for two reasons. First, because a person cannot easily sue for shortcomings in a program that he does not "own," they believe it will relieve them of this liability. Secondly, they believe it will give them continued control over use of the program. Their purpose is to limit a program's use to one person, one machine, and to prevent a buyer from copying a program or program instruction manual.[74]

It may prove difficult to enforce the terms of these shrink-wrap licensing agreements in court because the terms often do not reflect market realities. Most purchasers do not read the licensing agreement before opening a package to use a program. Further, most software licensing arrangements do not include continued control typical of traditional licensing agreements.[75] It is possible that courts concerned about unreasonable restraint on alienation and economic realities will find a sale rather than a license.[76] Supposed licensees would then be owners who could invoke the section 117 exclusion.[77]

Software manufacturers, seemingly concerned about enforceability of shrink-wrap agreements, have been lobbying to give these licenses legal force.[78] Lobbying has typically resulted in legislation which enforces the licenses' copying prohibition as well as clauses denying any sales guarantee. Four states have enacted this type of legislation since last year. In addition, a similar law is being proposed in the Senate, and a House Subcommittee had plans to study the issue in 1986.[79]

III.   AMBIGUITIES IN THE LANGUAGE OF SECTION 117

A.   "COPY" OR "COPIES"—WHAT DOES THE LANGUAGE AUTHORIZE?

Once the court has decided *who* may copy and from what program medium, there remains the task of deciding *how much* copying is permissible; section 117 is ambiguous. In three places the amendment authorizes making a copy (singular), while in subsection (2) it authorizes

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72. Brooks, *Shrink Wrap License Agreements: Do They Prevent the Existence of a First Sale*, 1 COMPUTER LAW. 3, 17 (1984).

73. Kneale, *supra* note 22, Wall St. J., Oct. 2, 1985, at 33, col. 6.

74. *Id.*

75. *See* Brooks, *supra* note 72.

76. *Id.*

77. Brooks, *supra* note 66.

78. Kneale, *supra* note 22, at 33, col. 6.

79. *Id.*

making copies (plural). Several commissioners or staff members of CONTU[80] stated that the Commission deliberately chose the singular form. Major cases have embraced the statements contained in the *CONTU Report* as indicative of legislative intent.[81] An argument can be made that statements of members of the Commission should be controlling, and, therefore, that section 117 authorizes an owner to make only one copy of a computer program.

A better interpretation is that section 117 was intended to control the number of users, not number of copies.[82] An owner of a program should be allowed to make any number of copies for personal use. It is unreasonable to limit users to a single back-up copy, since today's software is not durable. At least two back-up copies have usually been maintained.[83]

Those who believe that section 117 should permit an owner to make multiple copies of a program for personal use believe so for legitimate reasons. For example, high risk of damage from system failure or careless operators justify duplication. In addition, environmental hazards, such as fire, water or particles from cigarette smoke, can present a high risk of destruction.[84] A user should be able to modify and adapt programs to fulfill changing needs. The relative expense of programs, especially tailor-made programs, justifies keeping not only an original, but copies of all modified versions.[85]

No adverse market effects would result from allowing multiple copies when there is a limitation that copies cannot be distributed for profit.[86] The question is whether a copyright owner loses income because of copying. Potential profits would not be adversely affected. It is reasonable to interpret copyright law to allow an owner to make as

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80. Melville Nimmer, Vice-Chairman of the Commission; Arthur Levine, Executive Director of the Commission staff; and Michael Keplinger, Assistant Executive Director and Senior Attorney of the Commission Staff.

81. *See, e.g.,* Apple Computer, Inc. v. Formula Int'l, Inc., 594 F. Supp. 617 (C.D. Mass. 1984); Micro-Sparc, Inc. v. Amtype Corp., 592 F. Supp. 33 (D. Mass. 1984); Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d 1240 (3d Cir. 1983), *cert. dismissed*, 464 U.S. 1033 (1984); Midway Mfg. Co. v. Artic Int'l, Inc., 704 F.2d 1009 (7th Cir. 1983); Artic Elecs., Inc. v. Artic Int'l, Inc., 685 F.2d 870 (3d Cir. 1984).

82. *See* Brooks, *supra* note 66, at 242; HELMS, *supra* note 67, at 242.

83. *See* Brooks, *supra* note 66, at 242.

84. *See* Buckley & Davis, *supra* note 38, at 1, col. 6. The most minute particle may tear and possibly destroy a disk if it gets lodged in a groove. Also, fingerprints cause the most common form of damage to software, and are 99% fatal. These are all factors which occur readily in environments such as secretarial pools, large business offices, and schools which utilize software on a continuous basis.

85. Brooks, *supra* note 66, at 242.

86. HELMS, *supra* note 67, at 41.

many copies of a program as desired, on the condition that they are not distributed to a third person for use on another machine.

Proponents of an interpretation allowing only a single copy admonish that proliferation of copies in some environments, such as schools, could substantially affect the market and copyright owners' profits.[87] The multiple copy interpretation would allow a school to buy one copy of a computer program and legally make multiple copies for in-school use by students. Manufacturers' potential profits could thus be decreased by the number of student users.

Some criticisms of interpreting section 117 as allowing only a single copy have been posed. Arguably, section 117 would still permit owners to make several contemporaneous copies,[88] creating the same effect as if multiple, successive duplications were allowed. Multi-user computers would also allow several users to access a program simultaneously. These potentially decrease market sales and create the same type of financial hardship which some people contend results from multiple duplication.[89]

The ambiguity concerning the number of copies that section 117 allows will be more evident as office automation becomes more prevalent. The *CONTU Report* does not discuss this problem except in the context of selling a single copy and keeping the original.[90] Such broad contexts were apparently not considered by CONTU when it made its recommendation over two decades ago.

B. A RIGHT TO MAKE ADAPTATIONS

It is difficult to determine the scope of an owner's right to make authorized adaptations of copyrighted programs under section 117. Pursuant to subsection (2), the rightful owner is allowed 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.*"[91]

A purpose for allowing adaptations was to permit owners to convert programs from one language to another, facilitate use, and allow an owner to add features not present at acquisition.[92] The Commission

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87. *Id.* at 46.

88. *See* Note, *Protecting Computer Software: A Comprehensible Analysis*, 1983 ARIZ. ST. L.J. 611, 702 (1983).

89. *Id.*

90. *See* CONTU REPORT, *supra* note 7, at 31-33, 3 COMPUTER L.J., at 92-97.

91. 17 U.S.C. § 117(1) (1982) (emphasis added).

92. CONTU REPORT, *supra* note 7, at 13, 3 Computer L.J. at 61-63. Telephone interview with Michael Keplinger, Legal Advisor to the Patent and Trademark Office of Legislation and Internal Affairs and former inside advisory counsel for CONTU (May 15, 1985)

recognized that sales of software are often made with knowledge that owners will make modifications to fulfill specific needs. To avoid potential injury to copyright proprietors section 117 prohibits a program owner from transferring an adapted copy to another person without the copyright owner's permission.[93]

CONTU did not foresee, and thus section 117 did not address, the necessity to disassemble a program to convert one higher-level language to another, or modify and enhance a program.[94] Yet, if the only way to accomplish these tasks is disassembly, section 117 may grant an owner this right.[95] Problems arise when an owner breaks into a program, uses reverse engineering, and creates a competitive program. Ethical concepts, however, might prohibit such an infringer from seeking section 117(2) protection.[96]

Courts have not decided whether section 117 would permit a rightful owner to make copies or adaptations of programs to produce a competitive product.[97] Although the section literally permits such conduct, it probably contravenes congressional intent. The *CONTU Report* states that section 117's purpose is to allow copying of a program to "permit its use by that possessor."[98] Nothing in the *CONTU Report* connotes an intent to provide a defense to defendants whose purpose is other than to make lawful use of a program that they rightfully own in conjunction with its implementation on their own machine. Courts should rely upon congressional intent rather than the section's literal language in ruling on these cases.[99]

It will be necessary for courts to examine a defendant's purpose in copying to decide if it was intended to be permitted. Factors for this analysis are not given in section 117. It has been suggested that, since section 117 may be an extension of section 107's[100] "fair use" exemption, the factors for determining fair use should be used to determine the applicability of a section 117 exemption. Under the fair use analysis, a defendant would be precluded from claiming an exemption under section 117 when the main motive for copying or adapting software is commer-

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wherein he stated, inter alia, that an intention of the Commission was to allow little more than the conversion from one language to another. It was not considered that the section would be construed to allow for the reverse engineering of the program for commercial purposes.

   93. 17 U.S.C. § 117 (1980).

   94. Telephone interview with Keplinger, *supra* note 92.

   95. *Id.*

   96. Bryan & Conley, *supra* note 70.

   97. *Id.*

   98. CONTU REPORT, *supra* note 7, at 13, 3 Computer L.J. at 61-63.

   99. *See also* Kelso & Rebay, *supra* note 14, at 1031.

   100. 17 U.S.C. § 107 (1982).

cial.[101] Any attempt to adapt or copy source code should be an infringement of copyright unless: (1) undertaken for non-profit or similar purposes, or otherwise permitted under the fair use exemption; or (2) intended for authorized use in conjunction with a computer contemplated by section 117.[102]

CONCLUSION

How should courts construe section 117? Guidance is found in the *CONTU Report*. The Commission admonished that "[a]ny legislation enacted as a result of these recommendations should be subject to a periodic review to determine its adequacy in the light of continuing technological changes."[103] This review should especially consider the impact of such legislation on competition and consumer prices in the computer and information industries and the effect on cultural values of including computer programs within the ambit of copyright law." Ideally, review and update should take place annually for five years or until the market begins to stabilize.

Until legislative update is mandated, conflict will arise between authors needing to protect their work and purchasers needing to copy or modify their software.[104] Because the computer industry is burgeoning, more intense competition will almost certainly guarantee an increase in piracy. The courts will remain the only viable redress until engineers can implement techniques to thwart infringement, or proprietors obviate the incentive to pirate.

The courts should interpret section 117 with the economic market in mind. It would not be appropriate to strictly apply either the language of the *CONTU* REPORT or the statute. Instead, courts should implement congressional policy, codified in these sources, by applying section 117 in a manner which is responsive to changes in the marketplace.

The general courts may not be the best forum for deciding section 117 cases. Although case history on section 117 is sparse, current decisions are not consistent. Further, section 117 issues do not fit well within traditional copyright law. Judges with special expertise are needed. The United States Court of Appeals for the Federal Circuit, which presently decides issues of patent and trademark law exclusively, may provide the best forum to decide section 117 controversies. This would increase case law uniformity, and potentially remove some of the

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101. *Id.* § 107(1). One factor to be considered is the purpose and character of the use, including whether such use is for commercial or nonprofit educational purpose. *Id.*

102. *See* 1 THE COMPUTER LAW., Feb. 1984, at 11, n.10.

103. CONTU REPORT, *supra* note 7, at 2.

104. *See* T. HARRIS, *supra* note 22, at 191.

apprehension currently precluding parties from seeking court redress for market problems. Until such a remedial measure is implemented, users will continue to have to pay more for software (compensating for pirates) until the market balances itself.

Section 117, as it is currently being enforced, provides too little protection, too late to adequately address issues concerning copyright protection of computer software. Without the necessary consistency and expertise, courts simply cannot give section 117 the force which CONTU and Congress intended.

Robin Michael