

Computer Software Copyright Issues: Section 117 and Fair Use

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I. INTRODUCTION

Throughout the twentieth century, intellectual property laws within the United States have shaped and have been shaped by developing technologies. Within the area of copyright law, for example, the United States Supreme Court, in 1908, found that a piano roll, a part of a player piano, was not a copy of a musical composition because it could not be read by human beings.¹ Despite the fact that a piano roll installed in a player piano could reproduce in sound the melody of a copyrighted song, the Court found that the manufacture and sale of the rolls was not a violation of the copyright owner's exclusive right to make and sell copies of the song.²

Near mid-century, a calibrated graphic chart,³ a part of a machine, was found not copyrightable by a United States Court of Appeals because it was to be used by a machine and did not convey information to the machine's user.⁴ Although an installed calibrated chart defined for the machine where to enter certain information upon it, the court found that the chart could be copied without violating the claimed copyright.⁵

1. *White-Smith Music Publishing Co. v. Apollo Co.*, 209 U.S. 1 (1908). In writing for the Court's majority, Justice Day described the technology at issue (the making and use of musical rolls) as one which had developed rapidly. *Id.* at 9. His conclusion was supported by this reference to the record: "[I]n the year 1902 from seventy to seventy-five thousand of such instruments were in use in the United States, and . . . from one million to one million and a half of such perforated musical rolls . . . were made in this country in that year." *Id.* To Justice Day, it was evident that the question involved in the use of such rolls [was] of very considerable importance, involving large property interests, and closely touching the rights of composers and music publishers. *Id.*

2. *Id.* at 16-17. At the time of the *White-Smith* decision, the provision of the copyright statute under which the action was brought limited the copyright owner's exclusive rights to the following: "printing, reprinting, publishing, completing, copying, executing, finishing and vending." *Id.* at 3 (quoting 3 U.S.C.S. § 4952 (1907)). Under the present copyright act, the *White-Smith* action might have been brought under the provision granting the copyright owner an exclusive right to reproduce the copyrighted work in copies or phonorecords. 17 U.S.C. § 106(1) (1988).

Unlike the provision construed in *White-Smith*, the present provision is broader in scope, with reproduction being the right, and making copies or phonorecords being examples of how the right may be exercised or violated. Moreover, the phonorecords made, by definition in the present act, appear to include the piano rolls of *White-Smith*. See 17 U.S.C. § 101 (1988). "Phonorecords" are material objects [the rolls] in which sounds are fixed by any method now known or later developed, and from which the sounds [musical notes] can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device [the player piano]. *Id.* Today, with a more inclusive right (reproduction includes phonorecords) and an expansive definition of phonorecords, which includes piano rolls, the issue of *White-Smith* would have been resolved in favor of the copyright owner.

3. *Brown Instrument Co. v. Warner*, 161 F.2d 910 (D.C. Cir.), cert. denied, 332 U.S. 801 (1947). The court of appeals further explained that the chart was used by the machine to mechanically record variables such as temperature and pressure. *Id.* at 910.

4. *Id.* Critical to the court's conclusion was the danger posed of monopolizing a machine, other than by patent, by recognizing a copyright in a chart essential to using the machine. *Id.* at 911. The court apparently assumed that the configuration of such a chart together with the collection and selection of the data or specifications on which it was based was dictated by the function of the machine; otherwise the court's policy concern was misplaced. The findings of the district court, however, did not reflect that the chart was essential to the function of the machine. *Id.* at 910-11.

5. *Id.* at 911.

In 1971 however, printed answer sheets, the format of which was required by the machines that would score a test taker's recorded answers, were found within the scope of copyright.⁶ Unlike the format of the calibrated graphic charts, the answer sheets' format was found to contain a mix of inherent meaning, of information conveyed, and the utility for the recording of responses.⁷ The sheets' format, therefore, instructed the test taker to answer the test in the way that the machine could score the answers and also enabled the machine to score the answers.⁸ As a result, although the format was required by the limitations of the machines that would score the answers, the court held that it could not be copied without violating the copyright claimed.⁹

In the 1990's, the piano roll, the calibrated chart, and the answer sheet format may be analogized to the computer program, which is part of a machine, the computer.¹⁰ A computer program's content might not be readable by most human beings;¹¹ although some programmers can read and understand even a machine language's programs. Also, a computer program provides a utility for the recording of responses. Finally, a given computer program might not convey information directly to the machine's user; although many programs do in the form of

6. *Harcourt, Brace & World, Inc. v. Graphic Controls Corp.*, 329 F. Supp. 517 (S.D.N.Y. 1971).

7. *Id.* at 524. As part of this passage, the court, when referring to the inherent meaning conveyed, was apparently alluding to the symbols selected and assembled on the answer sheets, which referred the test taker back to the question asked and to the space within which to record the answer. *Id.* at 523. Earlier in the opinion, the court concluded that the design of the answer sheets was a writing under the applicable copyright act and that the designer was an author under the act, thus, the design otherwise qualified for a copyright. *Id.*

8. *Id.* at 520.

9. *Id.* at 523.

10. It may be more accurate to say that the computer program may exist independently of, as well as part of, the computer. This chameleon-like quality, however, should not be a problem when a court is asked to determine whether the copying of a computer program violates a copyright in that program. *See infra* notes 86-162 and accompanying text.

11. The central processing unit (CPU) of a computer is designed and manufactured to understand and execute a certain instruction set. All instructions in that set and all data to be operated on by those instructions must be passed to the CPU as numeric codes in exact sequence. A computer program can be written directly in those codes (a machine language). Once an assembler program is a machine-coded for a particular CPU, however, programmers can use that assembler program to translate instructions written in a mnemonic form (an assembly language) into machine language. Thus, for example, instead of having to remember that the number code 40 causes an 8086 CPU to increment the number in the CPU's A-register by one, the programmer can write `inc ax;` and the assembler program will assemble the correct machine code for that instruction into proper sequence with machine codes for other mnemonic instructions in the assembly language program, into a machine language program (sometimes called an object code) which the computer can execute. Such an assembler program can also be used to create programs which convert a high level language's computer instructions like `AA=A+1` into executable machine code.

The Court of Appeals for the Third Circuit concluded in *Williams Electronics, Inc. v. Artic International, Inc.*, 685 F.2d 870, 877 (3d Cir. 1982), that Congress, in the wording of the definition of copies in the 1976 copyright law revision, 17 U.S.C. § 101, had intended to encompass technological advances in methods of expression, which would in the court's opinion include programs in the object code stage, despite such programs' limited intelligibility to human beings.

user Aprompts@ and Amenus.@¹² Thus, as Auser-friendly@ programs proliferate, the validity of the analogy of computer programs to the piano roll, the calibrated chart, and the answer sheet format increases.

In the 1990's, however, the issues of copyright coverage for and infringement of a copyright in a computer program¹³ are being analyzed within the framework of the 1976 Copyright Act¹⁴ (Athe 1976 Act@) as amended in 1980 (Athe 1980 amendments@) and thereafter.¹⁵ In particular, the amendment of section 117, which created a limited privilege to copy or adapt a copyrighted computer program, has brought the 1976 Act=s framework to bear on issues concerning the proper scope of that privilege found in the section. In turn, it is the question of who may assert the limited privilege, or who is Athe owner of a copy of a computer program,@ that provides the federal courts with the focal point for interpreting when amended section 117 will apply.¹⁶

It is the authors= purpose in this Article to isolate and analyze the ownership issues presented by amended section 117 within the broader framework of the 1976 Act=s provisions relating to the scope of copyright coverage.¹⁷ Solutions will follow analysis. To understand

12. Computer technology has provided an alternative to paper and print as the means of interacting with an information-processing machine. The scope of copyright coverage in such Auser interfaces@ has been best dealt with by the federal courts to date in *Lotus Development Corp. v. Paperback Software International*, 740 F. Supp. 37 (D. Mass 1990). See *infra* notes 143-63 and accompanying text.

13. When a copyright is found to exist in a computer program or when the copyright is found to be infringed, it is not the computer program as such that is the subject matter of either claim. As Congress makes clear in ' 102(a) of the 1976 copyright statute, a copyright is granted only in the Aoriginal works of authorship@ found within a computer program. See 17 U.S.C. ' 102(a) (1988). The authors use the phrase Acopyright in a computer program@ or similar phrases in this Article periodically, in the same colloquial way that courts have referred to copyright in Apiano rolls,@ Acalibrated charts,@ or Amachine readable answer sheets.@

14. 17 U.S.C. ' ' 101-914 (1988). See *infra* notes 33-38 and accompanying text.

15. 17 U.S.C. ' ' 101, 117 (1988). See *infra* notes 39-69 and accompanying text. There have also been amendments to the 1976 Act since those of 1980. Of note are the amendments enacted as part of the Computer Software Rental Amendments Act of 1990, Pub. L. No. 101-650, tit. 8, 104 Stat. 5089, 5134 (1990) (codified at 17 U.S.C. ' 109(b)(1)(A), (b)(2)(A)-(B), (b)(4), (d)-(e) (Supp. 1991)).

16. 17 U.S.C. ' 117 (1988). Amended ' 117 provides in part: ANotwithstanding 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 . . . @ Section 106 of the statute embodies the grant by Congress to the copyright owner of those exclusive rights which comprise the copyright. See *id.* ' 106(1)-(5).

17. Central to the copyright coverage or subject matter issues are ' ' 102 and 103 of the 1976 Act, 17 U.S.C. ' ' 102-103 (1988). On those issues relating to the scope of the rights of a copyright owner, ' 106 and the limitations found in ' ' 107 through 120 are the subject matter counterparts, 17 U.S.C. ' ' 106, 107 to 120 (1988 & Supp. 1991). Relevant definitions in ' 101 of the 1976 Act will also be analyzed. 17 U.S.C. ' 101 (1988). In dealing with all of the above provisions, the authors intend to remain faithful to this Article=s purpose. The analysis of the above provisions in the 1976 Act is but a prelude to the Aownership@ analysis. For detailed treatments of coverage or subject matter issues and related problems, see, e.g., Anthony L. Clapes et al., *Silicon Epics and Binary Bards: Determining the Proper Scope of Copyright Protection for Computer Programs*, 34 UCLA L. REV. 1493 (1987); John M. Conley & Robert M. Bryan, *A Unifying Theory for the Litigation of Computer Software Copyright Cases*, 6 COMPUTER L.J. 55 (1985); Peter S. Menell, *An Analysis of the Scope of Copyright Protection for Application Programs*, 41 STAN. L. REV. 1045 (1989); Raymond Nimmer & Patricia A. Krauthaus, *Copyright and Software Technology Infringement: Defining Third Party Development Rights*, 62 IND. L. REV. 13 (1986); Michael O. Sutton,

better the Aownership@ problem, the next part of this Article presents one type of factual setting that gives Aownership@ meaning to the creators and users of copyrighted computer programs.

II. A PROBLEM CASE ILLUSTRATED

Company A is in the business of providing computer programs that enable a computer to process financial information such as payrolls, ledgers, and accounts receivable. Company B, interested in computerizing the financial end of its business operation, contacted A; and the two agreed that A, at a certain cost, would provide a group of computer programs tailored to meet B=s existing needs.¹⁸

After the computer programs were completed, A and B agreed that the programs were the property of A, together with all rights of ownership, and that B was acquiring the right to use the programs.¹⁹ A then gave B one diskette copy of each of the computer programs to enable B to load the programs into its computer. A advised B to keep the diskette copies safe, after loading was complete, in the event the in-the-computer copies of each of the programs were later damaged or destroyed.²⁰

Equities, Evidence, and the Elusive Scope of Copyright Protection for Computer Software, 69 J. PAT. & TRADEMARK OFF. SOC=Y 551 (1987); W. David Taylor III, Comment, *Copyright Protection for Computer Software After Whelan Associates v. Jaslow Dental Laboratory*, 54 MO. L. REV. 121 (1989); Mark Friedman, Comment, *Copyrighting Machine Language Computer Software--The Case Against*, 26 HOUS. L. REV. 275 (1989).

18. The fact pattern being developed was drawn, in part, from *S.O.S., Inc. v. Payday, Inc.*, 886 F.2d 1081 (9th Cir. 1989). See *infra* notes 242-77 and accompanying text (discussion of *S.O.S.* and related issues). This pattern presents but one variant of the Aownership@ issue; namely, one in which the parties are in a position to negotiate the terms of their agreement. The other variant, which the authors will examine as an example of a Ahard@ case problem, is one in which no room for bargaining exists between the parties. See *infra* note 206 and accompanying text.

19. As the facts in the text reflect, analysis of the ownership issue may entangle the parties in issues of contract construction. It is important to remember, however, that the contract issues are federal in nature. Although these issues may turn on state law, they do so only coincidentally, i.e., when the application of state contract law principles coincide with federal copyright policy. The confusion likely to be engendered by the analysis of Acoincidence@ versus Ainterference,@ of course, creates an even greater need for a settled construction of who Aowns the copies.@ On the issue of preemption, see, e.g., *Vault Corp. v. Quaid Software Ltd.*, 847 F.2d 255 (5th Cir. 1988) (1976 Act can preempt state laws regarding licensing provisions).

20. The National Commission on New Technological Uses of Copyrighted Works (CONTU), which was created by Congress to study the problems of computer uses of copyrighted works and recommend legislation, see *infra* notes 39-59 and accompanying text, saw that new in-the-computer (Aessential step@) copies in many cases would need to be made from a more permanent author-provided copy but that such copying would technically be an infringement. See NATIONAL COMMISSION ON NEW TECHNOLOGICAL USES OF COPYRIGHTED WORKS, FINAL REPORT 12-13 (1979) [hereinafter CONTU FINAL REPORT]. Moreover, CONTU saw that even a more permanent author-provided copy of a computer program (such as a copy on magnetic tape or diskette) might itself be subject to Adestruction or damage by mechanical or electrical failure@ (such as damage to the magnetic storage medium or inadvertent magnetic erasure making the copy unusable). See *id.* at 13. Therefore, CONTU, in its recommended ' 117, provided that neither (1) making an in-the-computer copy Aas an essential step in the utilization of the computer program in conjunction with a machine@ nor (2) making backup (Aarchival@) copies of the author-provided copy of the program would be an infringement. *Id.* at 12. As a corollary, such noninfringing copies could only be transferred in conjunction with transfer of all rights in the computer program, including the right to use the program. See *id.* at 12-13.

After financial changes occurred in B=s business, which A=s initial computer programs could not accommodate, B again contacted A, who was willing to adapt its computer programs to B=s new needs at a certain dollar cost. A and B, however, were not able to reach an agreement because the dollar cost of the adaptation was prohibitive to B. B then contacted C, a company that specializes in adapting existing computer programs that no longer accommodate user needs.²¹ C, whose charge to B for the adaptation of A=s computer programs was less than A=s, was hired to do the job.²²

21. B and C would presumably be relying on the additional noninfringing privilege, granted to an Aowner of a copy of a computer program@ by 17 U.S.C. ' 117 (1988), to Aauthorize the making of . . . [an] adaptation of that computer program.@ Beyond the threshold issue of whether B is an owner of a copy of the program and thus entitled to the privilege is the issue of whether B=s intended Aadaptation is created as an essential step in the utilization of the computer program in conjunction with a machine.@ *Id.* ' 117(1).

CONTU began its discussion of the need for an adaptation privilege by reciting Aa lack of complete standardization among programming languages and hardware in the computer industry.@ CONTU FINAL REPORT, *supra* note 20, at 13. That rationale is in accord with the statutory description of the privilege as recommended by CONTU and adopted by Congress: that the adaptation be an essential step in the utilization of the program. Thus, minor changes might be made to the program to allow it to be run as contemplated by the author but on computers with slightly different hardware or system software than that on which the program was written and tested. Having once justified minor Atweaking@ to provide compatibility of the program with computer systems on which the program would otherwise not run, however, CONTU next somewhat glibly asserted that translation of a program from one higher-level language to another and addition of features to the program Awould fall within this right.@ *See id.* Significantly, neither of these latter two examples fit well inside the proviso in ' 117(1) that a noninfringing adaptation must be an Aessential step in the utilization of the computer program in conjunction with a machine.@ *See id.* at 12; 17 U.S.C. ' 117(1) (1988) (a proviso that CONTU itself drafted and could have worded differently before submitting the proposed statute to Congress).

Even CONTU, however, proposed that the allowed rights of conversion and addition Acould only be exercised so long as they did not harm the interests of the Aowner of the copyright in the computer program.@ CONTU FINAL REPORT, *supra* note 20, at 13. A copyright owner is granted the exclusive right Ato prepare derivative works based upon the copyrighted work.@ 17 U.S.C. ' 106(2) (1988). CONTU knew that translation of a program into another language or adding features to the program would violate ' 106(2); but CONTU thought that no harm would result to the computer program copyright owners if such adaptations (derivative works) were made untransferable without authorization from the owner of the copyright in the original program. *See* CONTU FINAL REPORT, *supra* note 20, at 12-13. Furthermore, CONTU conjectured that Ait is likely that many transactions involving copies of programs are entered into with full awareness that users will modify their copies to suit their own needs.@ *Id.* at 13. CONTU then compared the potential of harm to the computer program copyright owner from untransferable adaptations to the theoretical harm to the owner of a copyright in a book by making notes in the margins of the book. *Id.* CONTU did not mention, however, that in an era of intense antimonopolistic sentiment during which public libraries were becoming popular in the United States, case law had established that book publishers could not enforce contractual provisions designed to restrain book transfer. *See, e.g.,* Platt & Munk Co. v. Republic Graphics, 315 F.2d 847 (2d Cir. 1963) (Ajust reward@ variation of Afirst sale@ principle). *But see* H.R. REP. NO. 1476, 94th Cong., 2d Sess. 79 (1976), *reprinted in* 1976 U.S.C.C.A.N. 5659, 5708 (conditions on future disposition may be enforceable in contract but not Aby an action for infringement of copyright@).

Book publishers have since ceased trying to Alicense@ copies of books in the face of this Afirst sale@ doctrine. Owners of copyright in other kinds of works, however, have sought and received statutory relief from a broad construction of Afirst sale@ rights. Thus, phonorecord, and recently computer software, lending for commercial advantage is now prohibited. 17 U.S.C. ' 109(b)(1)(A) (Supp. 1991). Differences in case law and statutory treatment depend not only on political trends but also on the differences between kinds of copyrighted works. The implications of such differences may not be immediately understood when a new kind of copyrighted work employing new technology comes on the scene. Speaking in 1978, CONTU believed that Arightful possessors of copies of [computer] programs@ should as a matter of statutory law be privileged to enhance that program for their own use; but CONTU acknowledged that copyright owners would be able to preclude such adaptation by

As part of the agreement between *B* and *C*, *C* made copies of each of *A*'s copyrighted computer programs from those in *B*'s possession. *C* modified these programs as agreed. *A* subsequently learned of *B*'s and *C*'s use of its copyrighted computer programs.

A may claim, because it had retained all ownership rights²² by contract, that it remained the owner of the copies of the computer programs and that *B* had no right to permit *C* to copy and adapt the copyrighted computer programs, because *B*'s rights were limited to safekeeping of the supplied copies and day-to-day use of the programs. *A* may claim, therefore, that it alone may authorize any copying of or adaptations to the programs.

B, however, may claim that it paid *A* for the service of writing tailor-made computer programs and for the copies of each computer program and that *B*, therefore, became the owner of the copies supplied to it by *A*.²³ As owner of those copies, *B* could permit the copies of *A*'s programs further to be copied and adapted by *C*²⁴ for *B*'s use, even though neither *B* nor *C* could transfer the adaptations to a fourth party without *A*'s authorization.

Both *A* and *B* claim to be the owner of a copy of a computer program²⁵ in this setting, used to illustrate the ownership²⁶ issue that arises in the 1980 amendments to section 117 of the 1976 Act. Because amended section 117 embodies an explicit statutory limitation upon certain

contract. *Id.* at 13-14. In amending just the one term "rightful possessor" in CONTU's proposed ' 117 to "owner" in the adopted version of ' 117 which is now the law, Congress appears to have conformed ' 117's terminology to that of ' 109, which codifies "first sale rights" but specifies that "[t]he privileges prescribed by subsections (a) and (b) do not, unless authorized by the copyright owner, extend to any person who has acquired possession of the copy . . . from the copyright owner, by rental, lease, loan, or otherwise, without acquiring ownership of it." See 17 U.S.C. ' 109(c) (current version at 17 U.S.C. ' 109(d) (Supp. 1991)).

22. In point of fact, *A* should be able to do the adaptation less expensively than *C* because of *A*'s familiarity with the computer programs created by it. *A*, however, may be attempting to extract the highest price possible from a customer who has grown accustomed to or dependent on *A*'s programs; or *A* may be passing on other costs of doing business as a computer software vendor, such as research and development or support costs.

The CONTU commissioners believed that a rightful possessor of a copy of a copyrighted computer program should be able to adapt the program in order to add features to the program that were not present at the time of rightful acquisition.²⁷ See CONTU FINAL REPORT, *supra* note 20, at 13. These commissioners also believed that such enhancements should be privileged only when the copyright owner was not harmed. CONTU sought to create a presumption that "users" are authorized to modify programs, a presumption that copyright proprietors (owners) would have to overcome by explicit contractual provision. *Id.* at 13-14. Returning to the hypothetical used by the authors, *A* will be harmed by *C*'s being paid to do the modifications instead of *A*; but *A* failed to protect itself against adaptations under the contract with *B*. Thus, the preceding policy recommendations of CONTU are in conflict with each other in the hypothetical.

23. *B*'s claim may also be based on a principle fundamental to the nature of a copyright, whether under the 1976 Act or historically, namely, a copyright is distinct from tangible property rights in any particular copy. See 17 U.S.C. ' 202 (1988); *Pushman v. New York Graphic Soc'y, Inc.*, 39 N.E.2d 249 (N.Y. 1942). *B*, although conceding *A*'s right to own the copyright in the literary product²⁸ of *A*'s computer programs, may try to take advantage of this distinction by claiming to own the paid-for tangible copies. 17 U.S.C. ' 202, however, also provides: "[N]or, in the absence of agreement, does transfer of ownership of a copyright or of any exclusive rights under a copyright [such as the right to use a computer program] convey property rights in any material object [such as diskette copies]." 17 U.S.C. ' 202 (1988).

24. If *A* is found to be the owner of the copies, *B* may claim fair use. See 17 U.S.C. ' 107 (1988). The fair use doctrine will be examined in a later portion of this Article. See *infra* note 281 and accompanying text (beginning of fair use analysis).

rights of the Acopyright owner²⁵ in a computer program, it is necessary to view the scope of copyright in computer programs: i.e., when may a copyright be claimed in a computer program; and when does a claimed copyright cover acts of copying or adaptation done without the authority of the copyright owner? This Article examines both these questions in an attempt to demonstrate why one like A, the creator of the copyrighted computer programs, may be able to claim the exclusive rights to copy and adapt under the 1976 Act. The next part of this Article, therefore, will examine from an historical perspective the bases of A=s claim to statutory copyright.

III. THE COMPUTER PROGRAM COPYRIGHT: AN HISTORICAL VIEW

A. Introduction

The Copyright Act of 1976 took effect on January 1, 1978.²⁶ The only section of the 1976 Act that suggested that Congress authorized a copyright in computer programs was section 117,²⁷ which was designed to preserve the rights of existing copyright owners and those using their works Ain conjunction@ with computers.²⁸ Among the works contemplated by Congress, apparently, were those existing computer programs necessary to make the computer operate.²⁹ As to these programs and other copyrighted works, the rights preserved by section 117 were to be determined under the laws in effect through December 31, 1977.³⁰ Whether Congress intended the 1976 Act to cover all other computer programs was to be resolved by the Act=s

25. See 17 U.S.C. ' 106(1)-(2) (1988). See also *infra* note 84 (text of ' 106).

26. Pub. L. No. 94-553, 90 Stat. 2541 (1976). The Act was passed by Congress and then signed by the President on October 19, 1976. Budgetary and other housekeeping matters caused the effective date of the Act to be postponed until January 1, 1978.

27. 17 U.S.C. ' 117 (1977). This section provided:

Notwithstanding the provisions of sections 106 through 116 and 118, this title does not afford to the owner of copyright in a work any greater or lesser rights with respect to the use of the work in conjunction with automatic systems capable of storing, processing, retrieving, or transferring information, or in conjunction with any similar device, machine, or process, than those afforded to works under the law, whether title 17 or the common law or statutes of a State, in effect on December 31, 1977, as held applicable and construed by a court in an action brought under this title.

Pub. L. No. 94-553, tit. 1, ' 101, 90 Stat. 2565 (1976) (codified at 17 U.S.C. ' 117 (1977) (amended 1980)).

28. H.R. REP. NO. 1476, 94th Cong., 2d Sess. 116 (1976), *reprinted in* 1976 U.S.C.C.A.N. 5659, 5731.

29. *Id.* As House Report 1476 suggested, albeit somewhat obliquely, a computer program may qualify as a subject matter of copyright. See *infra* notes 37-38 and accompanying text.

30. H.R. REP. NO. 1476, *supra* note 28, at 116, *reprinted in* 1976 U.S.C.C.A.N. at 5731. Important to note is the lack of clarity in House Report 1476 concerning the choice of law issues that could be raised under ' 117. Although the Judiciary Committee recognized that the action for infringement would be federal in nature and that the exclusive rights allegedly infringed upon could be asserted either as a matter of state or federal law (those contemplated by the 1909 Copyright Act), the committee provided the federal courts no guidance as to the method by which to determine the law to be applied. *Id.*, *reprinted in* 1976 U.S.C.C.A.N. at 5731.

remaining provisions.³¹ Central to that issue is whether, under section 102 of the 1976 Act, Congress intended to include a computer program, in some fashion, among the original works of protected authorship.³²

B. Section 102: The Subject Matter of Copyright and Computer Programs

When Congress passed the present Copyright Act in 1976, section 102(a)³³ embodied two criteria thought to be fundamental to securing a copyright. First, a copyright was available to original works of authorship only. Second, the copyright was available only when the original work was fixed in any tangible medium of expression.³⁴

In expressing the first criterion, Congress chose a phrase not found in earlier copyright statutes--"original works of authorship"--and chose to leave that phrase undefined in the statute.³⁵ Although it did so, the committee reports of both Houses reflect that the phrase "incorporate[d]" without change the standard of originality established by the courts.³⁶ As to

31. *Id.* House Report 1476 breaks down the issue of copyright coverage for a computer program into four categories: (1) "copyrightability," (2) "ownership," (3) "term [duration]," and (4) "formal requirements." *Id.* This Article, of course, is focused on the first category primarily.

32. It is not the authors' intent to join in the many excellent works which treat, in detail, the subsistence issues. Rather, we seek to treat those issues briefly in order to bring to the reader's attention what, from the language and history of the 1976 Act and its 1980 amendments dealing with computer programs, appears to be a congressional policy of inclusion of computer programs as a copyright subject matter under section 102 of the Act. For a sampling of the many law review articles treating computer subject matter issues in detail, see *supra* note 17.

33. 17 U.S.C. § 102(a) (1988). Section 102(a) reads as follows:

§ 102. Subject matter of copyright: In general

(a) Copyright protection subsists, in accordance with this title, in original works of authorship fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device. Works of authorship include the following categories:

- (1) literary works;
- (2) musical works, including any accompanying words;
- (3) dramatic works, including any accompanying music;
- (4) pantomimes and choreographic works;
- (5) pictorial, graphic, and sculptural works;
- (6) motion pictures and other audiovisual works; and
- (7) sound recordings.

Id. "Architectural works" was added by amendment and made effective on December 1, 1990. See The Architectural Works Copyright Protection Act of 1990, Pub. L. No. 101-650, tit. 7, 104 Stat. 5089, 5133.

34. 17 U.S.C. § 102(a) (1988). Both Houses of Congress, as the committee report of each suggests, recognized the essential nature of these criteria to the grant of copyright. See H.R. REP. NO. 1476, *supra* note 28, at 51, reprinted in 1976 U.S.C.C.A.N. at 5664; S. REP. NO. 473, 94th Cong., 1st Sess. 50 (1975).

35. The phrase "original works of authorship" was chosen for two reasons: (1) to avoid exhausting the constitutional power of Congress to legislate in this field; and (2) to eliminate the uncertainties arising from the . . . phrase . . . all the writings of an author," which was found in the copyright statute under revision. See H.R. REP. NO. 1476, *supra* note 28, at 51, reprinted in 1976 U.S.C.C.A.N. at 5664; S. REP. NO. 473, *supra* note 34, at 50.

whether the contents of a computer program could meet this standard, the committee reports both stated:

The history of copyright law has been one of gradual expansion in the types of works accorded protection, and the subject matter affected . . . 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-- . . . 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.³⁷

Particularly insightful within this passage was the committees' recognition of copyright coverage available to original computer programs historically; thus there was no need in the pending legislation to treat the coverage issue discretely. Having been found capable of copyright and given the copyright laws' history of gradual expansion, original computer programs remained a subject matter covered under the bills.³⁸

C. The Commission on New Technological Uses (CONTU) and Computer Programs

The Copyright Act of 1976 was the culmination of twenty-one years of effort on the part of both Houses of Congress.³⁹ Among the problems proving impossible to deal with explicitly through the bills introduced during this period were those relating to computer programs.⁴⁰ In

36. H.R. REP. NO., *supra* note 28, at 51, *reprinted in* 1976 U.S.C.C.A.N. at 5664; S. REP. NO. 473, *supra* note 34, at 50. In giving meaning to the phrase "all writings of an author," which appeared in the copyright act immediately preceding the 1976 Act, courts were careful to distinguish between the word "writings" in that statute from the same word used in the Copyright Clause of the Constitution. *See* U.S. CONST. art. I, ' 8, cl. 8; Act of July 30, 1947, ch. 391, 42 Stat. 654, *repealed by* The Copyright Act of 1976, Pub. L. No. 94-553, 90 Stat. 2541. The courts did so in an effort to avoid finding something covered by the copyright statute when Congress did not intend to do so, or finding something incapable of copyright under the Constitution that Congress might one day want to protect. H.R. REP. NO. 1476, *supra* note 28, at 51, *reprinted in* 1976 U.S.C.C.A.N. at 5664; S. REP. NO. 473, *supra* note 34, at 50.

37. H.R. REP. NO. 1476, *supra* note 28, at 81, *reprinted in* 1976 U.S.C.C.A.N. at 5664; S. REP. NO. 473, *supra* note 34, at 50.

38. That original computer programs were intended to be included within the scope of ' 102(a) does not, of course, begin to answer the questions that surround the issue of whether there exists in a given computer program the qualities necessary in order to satisfy the originality requirement. The House and Senate committee reports, however, provide the following assistance: "This standard does not include requirements of novelty, ingenuity, or esthetic merit, and there is no intention to enlarge the standard of copyright protection to require them." H.R. REP. NO. 1476, *supra* note 28, at 51, *reprinted in* 1976 U.S.C.C.A.N. at 5664; S. REP. NO. 473, *supra* note 34, at 50.

39. *See* CONTU FINAL REPORT, *supra* note 20, at 3.

40. These problems and the absence of treatment came to the attention of Congress as early as 1967 when a bill was introduced to create a National Commission on New Technological Uses of Copyrighted Works (CONTU). *Id.* Although the problems continued to exist, this bill was not passed. Pub. L. No. 93-573, 88 Stat. 1873 (1974).

order to provide the time necessary to study these problems and to avoid additional delays in revising the copyright laws, Congress, in 1974, created the National Commission On New Technological Uses of Copyrighted Works (CONTU).⁴¹ Among the charges given this body were to study the issues surrounding and to recommend legislation concerning the reproduction, use, and creation of copyrightable works in conjunction with the use of computers.⁴²

Although the 1976 Act was enacted before the work of the commission was finalized, Congress anticipated the work's completion by its incorporation of section 117 into the 1976 Act.⁴³ This section preserved the status quo of computer-related issues until July 31, 1978, when CONTU issued its Final Report, and beyond to the computer-related amendments of the Copyright Act in 1980.⁴⁴

The CONTU Final Report reflects the unanimous opinion that computer programs were entitled to legal protection of some kind.⁴⁵ The commissioners were split, however, on the bases of that protection. The commission's majority thought that copyright coverage under the 1976 Act was available and that the scope of that coverage should be defined broadly in order to favor the copyright claimant.⁴⁶

In reaching these conclusions, the majority analogized the creation of a computer program to that of a novel, poem, play, . . . or telephone directory.⁴⁷ As such, a computer program qualified under the Constitution of the United States as a "writing" which Congress has authority to protect by copyright.⁴⁸ These commissioners also recognized that the history of the

41. Under the enabling legislation, CONTU was given three years to complete its work. See Act of Dec. 31, 1974, Pub. L. No. 93-573, tit. 2, ' 206(b), 88 Stat. 1873 (codified as amended at 2 U.S.C. ' 206(b) (1974)).

42. Act of Dec. 31, 1974, Pub. L. No. 93-573, tit. 2, ' 201, 88 Stat. 1873, as amended by Act of June 21, 1976, Pub. L. No. 94-314, 90 Stat. 692; Act of Oct. 28, 1977, Pub. L. No. 95-146, 91 Stat. 1226. Interesting to note is the somewhat clouded way in which Congress set out the purpose of CONTU in relation to the computer issues:

(b) The purpose of the Commission is to study and compile data on:

(1) the reproduction and use of copyrighted works of authorship:

(A) in conjunction with automatic systems capable of storing, processing, retrieving, and transferring information, and

....

(2) the creation of new works by the application or intervention of such automatic systems

Act of Dec. 31, 1974, Pub. L. No. 93-573, tit. 2, ' 201(b), 88 Stat. 1873, as amended by Act of June 21, 1976, Pub. L. No. 94-314, 90 Stat. 692; Act of Oct. 28, 1977, Pub. L. No. 95-146, 91 Stat. 1226.

43. See *supra* note 27 and accompanying text.

44. See *supra* note 15 and accompanying text.

45. See CONTU FINAL REPORT, *supra* note 20, at 10.

46. In reaching both conclusions, the majority found that it would take only a few changes to the 1976 Act in order to achieve the following principles of computer program copyright:

1. Copyright should proscribe the unauthorized copying of these works.
2. Copyright should in no way inhibit the rightful use of these works.
3. Copyright should not block the development and dissemination of these works.
4. Copyright should not grant anyone more economic power than is necessary to achieve the incentive to create.

Id. at 12.

47. *Id.* at 15.

48. *Id.* at 14-15. The commissioners also recognized that the word "writing" has a broad and dynamic meaning, which the United States Supreme Court concluded extends to such articles as photographs, commercial art, motion pictures, and sound recordings. *Id.* at 14. See, e.g., *Goldstein v. California*, 412 U.S. 546, 561-62

copyright laws was one of frequent expansion, with existing protection never withdrawn and subject matter lists never conclusive of all works subject to protection.⁴⁹ That this frequent expansion had already included computer programs, at least within certain limits, was supported by the Register of Copyright=s acceptance of certain programs for copyright registration as early as 1964.⁵⁰ In addition, Congress, prior to the enactment of the 1976 Act, had indicated its intention to include computer programs within the Act=s scope and had analogized them to Aliterary works.⁵¹ Finally, the commission=s majority, in the exercise of its own judgment, concluded that computer programs were and remained a subject matter of copyright.⁵²

Two commissioners dissented from the proposition that copyright law covered computer programs.⁵³ For Commissioner Hersey, only the early stage or written form of a program, and

(1973) (A[A]lthough the word `writings= might be limited to script or printed material, it may be interpreted to include any physical rendering of the fruits of creative intellectual or aesthetic labor. Thus, recordings of artistic performances may be within the reach of [Article I, section 8] Clause 8.@) (citations omitted); *Kalem Co. v. Harper Bros.*, 222 U.S. 55 (1911) (The Court specifically held that defendant who had sold an unauthorized motion picture film of a copyrighted book may be found liable for violating the right to perform the book publicly, when the film was exhibited.); *Bleistein v. Donaldson Lithographing Co.*, 188 U.S. 239 (1903). Memorable among several passages in Justice Holmes=s opinion in *Bleistein* are the following: AIt is obvious also that the plaintiffs= case is not affected by the fact, if it be one, that the pictures represent actual groups--visible things . . . [T]hat fact would not deprive them of protection.@ *Bleistein*, 188 U.S. at 249. AA picture is none the less a picture and none the less a subject of copyright that it is used for an advertisement.@ *Id.* at 251. *See also* *Burrow-Giles Lithographic Co. v. Sarony*, 111 U.S. 53, 58 (1884) (ABy writings in that clause is meant the literary productions of those authors . . . by which the ideas in the mind of the author are given visible expression.@).

49. CONTU FINAL REPORT, *supra* note 20, at 15. The commissioners noted that copyright statutes had moved from a subject matter of A`map, chart, book or books=@ in 1790, to A[o]riginal works of authorship,@ which reflected the expansion of Athe breadth of copyright=s scope.@ *Id.* (quoting Copyright Act of 1790, 1 Stat. 124). The commissioners also found that A[o]n no occasion in American history has copyright protection been withdrawn from a class of works for which it has been available.@ *Id.*

50. *Id.* The requirements of registrability were as follows:

- (1) Sufficient originality,
- (2) Prior publication, and
- (3) Submission of human readable copies.

Id. at 15. *See also* U. S. COPYRIGHT OFFICE, COPYRIGHT REGISTRATION FOR COMPUTER PROGRAMS (1964), reprinted in 11 BULL. COPYRIGHT SOC=Y 361 (1964). At least one commentator concluded that Congress did not intend in 1964 to include within the scope of copyright coverage machine-readable-only computer programs. *See* Pamela Samuelson, *Creating A New Kind of Intellectual Property: Applying The Lessons of the Chip Law to Computer Programs*, 70 MINN. L. REV. 471 (1985) (machine-readable computer programs were first covered by copyright with the amendments to the 1976 Act in 1980).

51. *See* CONTU FINAL REPORT, *supra* note 20, at 16. *See also supra* note 37 and accompanying text.

52. CONTU FINAL REPORT, *supra* note 20, at 16.

53. *Id.* at 27, 37. The late Commissioner Nimmer wrote a separate, concurring opinion in which he expressed his concern that the majority=s Arecommendation of open-ended copyright protection for all computer software@ would open the door to copyright=s expansion to tangible expression of any and all original ideas and so posed Aa serious constitutional issue, in that it is arguable that such an approach stretches the meaning of *authors* and *writings* as used in the Copyright Clause of the Constitution beyond the breaking point.@ *Id.* at 26 (emphasis in original). Commissioner Nimmer suggested a standard which--if protecting all software proved unduly restrictive--would limit protection to Aprograms which produce works which themselves qualify for copyright protection.@ *Id.* at 27.

not the computer-useable form, could be covered by copyright.⁵⁴ In reaching this conclusion, Commissioner Hersey took the position that the analogy of computer programs to a set of instructions (a form of literary work), distinct from the function to be performed through following the instructions, ends when the programs become (in chip or hardware form) a permanent part of the actual machinery; or they may become interchangeable parts, or tools, insertable into and removable from the machine.⁵⁵ In the latter form, the program performs a computer control function only, which is a mechanical fact and, thus, is not a writing capable of copyright.⁵⁶ Based on this conclusion, Commissioner Hersey recommended to Congress that the Act of 1976 . . . be amended to make it explicit that copyright protection does not extend to a computer program in the form in which it is capable of being used to control computer operations.⁵⁷ It should be noted that the 1980 amendments to the Act contained no provision suggesting that Congress had accepted the Hersey recommendation.⁵⁸

For example, a data base such as WESTLAW⁷ would be in large part a compilation, i.e., a work created from original selection and arrangement of cases or other legal materials and one covered by the 1976 Act in ' 103 explicitly, if also an original work of authorship under ' 102(a) of the Act. A program that controlled the operation of a traffic light, however, would not be covered by the 1976 Act because the operation of a traffic light is a process, which is excluded expressly from being covered under the 1976 Act by ' 102(b). *Id.* See also 17 U.S.C. ' ' 101, 102(a)-(b), 103(a)-(b) (1988). Section 103(a) states in relevant part as follows: 'The subject matter of copyright as specified by section 102 includes compilations . . . ' *Id.* ' 103(a). Section 101 defines the term compilation as 'a work formed by the collection and assembling of preexisting materials or of data that are selected, coordinated, or arranged in such a way that the resulting work as a whole constitutes an original work of authorship.' *Id.* ' 101. The distinction that Commissioner Nimmer attempted to make is similar to that which the authors analyze in part V of this Article. See *infra* note 111 and accompanying text (beginning of analysis).

54. CONTU FINAL REPORT, *supra* note 20, at 28.

55. *Id.* Hersey's conclusion appears to be based upon the first of two principles which underlay this portion of the Hersey dissent, namely, a program is protected only when it exists physically and separately from the computer. Once installed, however, it becomes part of the process which enables the computer to function. Historically, and under the 1976 Act, a process or part of a process is not a subject matter of copyright. See *Baker v. Selden*, 101 U.S. 99 (1879); 17 U.S.C. ' 102(b) (1988). Section 102(b) in relevant part reads as follows: 'In no case does copyright protection for an original work of authorship extend to any . . . process . . . regardless of the form in which it is described, explained, illustrated, or embodied in such work.' 17 U.S.C. ' 102(b) (1988).

56. Commissioner Hersey's position appears to embody the principle that the subject matter of copyright must communicate information of its own, intelligible to a human being. CONTU FINAL REPORT, *supra* note 20, at 29. See generally *Baker v. Selden*, 101 U.S. 99 (1879). A computer program, however, once installed in the computer, does not communicate information when it is intended to be read by the computer alone. This principle of communication is one perhaps having a constitutional dimension. To be a writing of an author under the Copyright Clause, must the computer program meet this communication requirement? This principle has never been made an explicit part of a United States copyright statute, nor has it been found by the United States Supreme Court to be a qualification to a copyright under any such statute. *But cf.* *White-Smith Music Publishing Co. v. Apollo Co.*, 209 U.S. 1 (1908) (copyright in musical composition did not cover reproduction in unreadable form). *But see Williams Elecs., Inc. v. Artic Int'l, Inc.*, 685 F.2d 870 (3d Cir. 1982) (Congress in the 1976 Act rejected a subject matter requirement of intelligible to humans).

57. CONTU FINAL REPORT, *supra* note 20, at 37.

58. See 17 U.S.C. ' ' 101, 117 (1988). Section 101 was amended in 1980 to add the phrase 'computer program' and defined the phrase as 'a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result.' *See id.* ' 101. See *infra* note 63 and accompanying text (text of ' 117, as amended in 1980). See also Michael A. Pope & Patrick B. Pope, *Protection of Proprietary Interests In*

D. Computer Programs and the 1980 Amendments to the Copyright Act of 1976

Two years following the final report of the Commission on New Technological Uses, Congress amended the 1976 Copyright Act in two respects.⁵⁹ First, Congress incorporated within the definitional section of the Act a definition of a computer program.⁶⁰ Second, and more important for this article, Congress repealed section 117 of the 1976 Act⁶¹ and passed the following replacement provision:

Limitations on exclusive rights: Computer programs

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.

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.⁶²

Computer Software, 30 ALA. L. REV. 527, 529 (1979) (within the Hersey dissent was found the A[best] reasoned approach . . . [to] protecting computer software@).

Commissioner Karpatkin was the other commissioner to dissent. Rather than setting out his views, however, Karpatkin, somewhat equivocally, added his name to the Hersey column. CONTU FINAL REPORT, *supra* note 20, at 38. Commissioner Karpatkin=s opinion, for the most part, attempts to make a case for the copyright coverage of data bases and the appropriate scope of that coverage, examines the creation of new works by or through computers, and analyzes questions of copyright formalities. *Id.* at 38-46.

59. These amendments were passed as part of the Copyright Act of 1980, Pub. L. No. 96-517, ' 10, 94 Stat. 3015, 3028 (amending 17 U.S.C. ' ' 101, 117 (1976)), which dealt, in large measure, with several amendments to the Patent and Trademark Laws. *See* 17 CONG. REC. 29,890-29,901 (1980).

60. 17 U.S.C. ' 101 (1988). AA `computer program= is a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result.@ The definition incorporates verbatim the recommendation of the CONTU commissioners. CONTU FINAL REPORT, *supra* note 20, at 12. It also reflects, by implication, that a computer program embodies a form of expression (Astatements or instructions@) and thus may qualify for coverage under the 1976 Act as an original literary work. *See* 17 U.S.C. ' 102(a)(1) (1988). ALiterary works@ had already been defined in the 1976 Act as Aworks . . . expressed in words, numbers, or other verbal or numerical symbols or indicia, regardless of the nature of the material objects, such as . . . tapes, disks, or cards, in which they are embodied.@ *Id.* ' 101. Finally, and again by implication, a computer program may embody a form of expression (numerical symbols or indicia) although communicating to the computer only (the definition of Acomputer program@ contemplates direct use Ain a computer@ to affect the desired result). *See* *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240 (3d Cir. 1983). *See also supra* notes 10-12 and accompanying text.

61. *See supra* notes 27-31 and accompanying text.

62. 17 U.S.C. ' 117 (1988).

This provision, as its legislative history suggests, was designed to eliminate Aconfusion about the legal status of computer software by enacting the recommendations of the Commission on New Technological Uses of Copyrighted Works clarifying the law of copyright of computer software.⁶³ Amended section 117 eliminates some of the confusion alluded to in its legislative history. By carving out a privilege to copy and adapt a copyrighted computer program in certain settings, Congress has recognized implicitly that a Acomputer program,@ as defined in section 101,⁶⁴ is included within the coverage of the 1976 Act. Also, amended section 117's reference to section 106 reflects that Congress has intended for the rights granted to copyright owners in section 106, generally, to be granted to the copyright owner of a computer program.⁶⁵

Amended section 117, however, does not achieve the Aclarity@ suggested by its legislative history. In this regard, Congress states in amended section 117 that, when complying with either clauses (1) or (2), it is the Aowner of a copy of a computer program@ who is not an infringer.⁶⁶ The CONTU recommendation which, according to the legislative history of amended section 117, was being followed, provided however that the Arightful possessor of a copy@ was to be accorded the amended section 117 privilege.⁶⁷ Congress gave no explicit reason for its substitution of the term Aowner@ for the phrase Arightful possessor.@⁶⁸

63. See 126 CONG. REC. 29,895 (1980).

64. See *supra* note 58.

65. By its terms, amended ' 117 limits the rights to copy and adapt. The right to copy is granted to the owner of a copyright by clause (1) of ' 106. 17 U.S.C. ' 106(1) (1988). The right to adapt is granted by clause (2) of that section. *Id.* at ' 106(2). On the issues of construction raised generally by amended ' 117, see J. Clark Kelso & Alexandra Rebay, *Problems of Interpretation Under The 1980 Computer Amendment*, 23 SANTA CLARA L. REV. 1001 (1983); Peter B. Maggs, *Computer Programs as the Object of Intellectual Property in the United States of America*, 30 AM. J. COMP. L. 251 (Supp. 1982); Cary H. Sherman, *Special Problems With Computer uses of Copyrighted Works: What Does Section 117 Really Mean?*, 230 PRAC. L. INST. PAT. 313 (1986); Robin Michael, Note, *17 USC ' 117: Is The Amendment to the Copyright Act Adequate to Regulate the Computer Software Market?*, 7 COMPUTER L.J. 227 (1986).

66. 17 U.S.C. ' 117 (1988).

67. CONTU FINAL REPORT, *supra* note 20, at 12. CONTU used the phrase Arightful possessor@ to mean owner, lessee, or licensee of a copy of the copyrighted computer program. *Id.* Section 109(a) provides that, A[n]otwithstanding the provisions of section 106(3), the owner of a particular copy . . . lawfully made under this title, or any person authorized by such owner, is entitled, without the authority of the copyright owner, to sell or otherwise dispose of the possession of that copy@ 17 U.S.C. ' 109(a) (1988) (emphasis added). Not only did Congress use the word *owner* in ' 109 rather than *possessor*, but also this section=s legislative history reflects that Congress intended for the section to apply in one situation only, namely, when the copyright owner transferred ownership of the copy to a third person. See H.R. REP. NO. 1476, *supra* note 28, at 79, *reprinted in* 1976 U.S.C.C.A.N. at 5693.

To make explicit the status of Aarchival@ copies made under amended ' 117 and to bring those copies within the framework of ' 109(a), CONTU included the following provision in their recommended ' 117: AAny 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.@ CONTU FINAL REPORT, *supra* note 20, at 12. CONTU was concerned that only the current Arightful possessor@ of the authorized copy be in sole possession of all additional copies made under the ' 117 privilege.

For this recommendation to comply with ' 109(a), as CONTU intended, however, the lessor, seller, or transferor must be an *owner* and not a mere *possessor*. The word *possessor* used elsewhere in the recommended ' 117 and the related passages of the CONTU FINAL REPORT should, as a consequence, be read as *owner* when using

Although the substitution of Aowner@ for Arightful possessor@ may seem of little consequence to amended section 117's application, it is in fact of great importance if one construes the privilege to apply to only Aowners@ and not to mere rightful possessors. For example, in the hypothetical presented earlier in this paper,⁶⁹ A, the copyright owner of the computer programs, claims for two related reasons to be the owner of the copies that A relinquished possession of to B:

- (1) Under their agreement, A the programs were the property of A, together with all rights of ownership;@ and
- (2) The diskette copy of each of the copyrighted computer programs given by A to B was given for two purposes only:
 - (a) To enable B to load each program into B=s computer; and
 - (b) As backups, should the copyrighted computer programs which were loaded by B be damaged or destroyed.

A therefore retained ownership of each Adiskette@ copy of the copyrighted computer programs, whereas B rightfully possessed the copies for two limited purposes only.

B, who authorized C to copy and adapt the copyrighted computer programs, claims ownership of the Adiskette@ copies of A=s copyrighted computer programs for two reasons:

- (1) Under their agreement, B paid A for a service (the creation of the computer programs originally) and for the copies of the copyrighted computer programs; and
- (2) A=s retention of all ownership rights related to the service (creation and so copyright ownership) alone.

Given the claims to ownership of each copy by both A and B and the uncertainty arising from Congress=s substitution of the term Aowner@ in amended section 117 for the phrase Arightful possessor@ found in the CONTU recommendation, this Article will, in the parts that follow, analyze each opposing claim. This examination will focus upon federal judicial opinions, suggesting certain resolutions of this uncertainty in discrete cases.

CONTU=s work as history, because of Congress=s substitution of Aowner@ for Arightful possessor@ in enacting amended ' 117.

More recently, in 1984 and 1988 Congress added to and amended ' 109(d), which now provides that A[t]he privileges prescribed by subsections (a) and (c) do not, unless authorized by the copyright owner, extend to any person who has acquired *possession* of the copy . . . from the copyright owner, by rental, lease, loan, or otherwise, without acquiring *ownership* of it.@ 17 U.S.C. ' 109(d) (1988) (emphasis added).

Apparently, the point made by Congress in amending ' 109(d) was that there is a major distinction between the rights of an owner of a copy and the mere possessor of one. If amended ' 117 is to be read in harmony with ' 109(a) and (d), an owner of a copy only, and not a possessor, is granted the privileges embodied within both sections.

68. *But see supra* note 67.

69. *See supra* notes 18-25 and accompanying text.

IV. ANALYSIS OF RIGHTS

A. Introduction

As reflected by the hypothetical problem reviewed in the preceding part of this Article, both *A*, the creator of, and *B*, the licensee of, the copyrighted computer programs, claim ownership of the diskette copies of those programs transferred to *B* by *A*. *A*, when it discovers that *C* has made copies of and has adapted the diskette copies of the copyrighted computer programs in *B*'s possession, may bring a copyright infringement action,⁷⁰ basing the action on the theory that *A* not only owned the copyright in the computer programs but also retained ownership of the copies given to *B*.⁷¹ Thereafter, *A* will claim that *B* did not have *A*'s authorization to permit *C* either to copy or adapt the programs.⁷² Finally, *A* will claim that when

70. See 17 U.S.C. ' 501 (1988) (defining an infringer as one who violates any one of the rights of the copyright owner or of an author created by the 1976 Act). Should *A*'s action prove successful, *A* may have available several legal and equitable remedies provided for in the 1976 Act. In particular, an injunction may issue which would prevent *B* and *C*, if both are sued successfully, from continuing to use the infringing copies or adaptations. See 17 U.S.C. ' 502 (1988). Also, the infringing copies or adaptations may be impounded during the pendency of the action and destroyed upon its successful completion. See 17 U.S.C. ' 503 (1988).

71. Recall the distinction between the copyright in a computer program and a distinct property right in the copies. See *supra* note 23 and accompanying text. By virtue of amended ' 117, it may not be enough that *A* prove ownership of the infringed copyright. Should *B* be proven the owner of the copies under ' 117 and its privilege otherwise found applicable, *A* may not prevail in the infringement action. Again, just as the concept of a copyright should be kept distinct from that of the tangible property (copy), so should the ownership of either. See 17 U.S.C. ' 202 (1988).

72. It should be kept in mind that *A*, if able to claim ownership of a valid copyright, is accorded, under ' 106 of the 1976 Act, the exclusive rights to reproduce . . . in copies[®] and to prepare derivative works.[®] See 17 U.S.C. ' 106(1), (2) (1988). In addition, it should be noted that, in enacting ' 106, Congress took the position philosophically to set forth the copyright owner's exclusive rights in broad [or copyright owner-favorable] terms.[®] H.R. REP. NO. 1476, *supra* note 28, at 61, *reprinted in* 1976 U.S.C.C.A.N. at 5674. In doing so, Congress departed from its approach in copyright acts prior to the 1976 Act. The approach taken by Congress in prior copyright acts was to state the copyright owner's rights in narrow or user-favorable terms. See, e.g., 17 U.S.C. ' 1(a) (1909) (A[t]o print, reprint, . . . copy[®]). That Congress chose this approach when enacting the 1976 Act is of major significance for two interrelated reasons:

- (1) Certain problems are eliminated in interpreting the intent of Congress to include within the stated right a particular form for manifesting it, e.g., whether the right to copy a copyrighted computer program includes loading it into the computer; and
- (2) Congress has reflected its intent to provide the copyright owner with rights measurably greater than it had provided in prior copyright acts, e.g., the right to reproduce in copies includes, by definition of copies, reproduction 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.[®] See 17 U.S.C. ' 101 (1988).

Congress has expressed the rights of copyright owners in the 1976 Act in owner-favorable terms. Congress also, when subjecting those rights to limitations or requirements, chose to proceed discretely by enacting individual provisions directed toward a given limit or requirement. Once again, unlike copyright acts prior to the 1976 Act, limitations in general are stated in narrow terms, less favorable to copyright users; e.g., the limitations of the present ' 117 to the privilege to copy or adapt are circumscribed to the copy made or adaptation done 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*.[®] 17 U.S.C. ' 117(1) (1988) (emphasis added). This approach to the expression of limitations or requirements is in keeping with Congress's intent to state a copyright owner's rights in terms favorable to the

C copied and adapted the programs, *C* infringed *A*'s copyright and that *B* contributed to the infringement by authorizing *C* to copy and adapt.⁷³

By way of defense, *B* will rely on the privilege to copy or adapt found in amended section 117, basing the privilege claim on the premise that *B*, not *A*, owns each diskette copy of the copyrighted computer programs at issue.⁷⁴ As an alternative to the amended section 117 defense, *B* may also assert that each copy and adaptation made was a fair use of *A*'s copyright in the computer programs. *B*'s claim in this regard is based upon section 107 of the 1976 Act.⁷⁵ Finally, *B* may assert that *A*'s claim of copyright is deficient either because the computer programs do not embody a subject matter included within section 102(a) of the 1976 Act⁷⁶ or because neither the copies made nor adaptation done by *C* violated *A*'s rights under section 106 of the Act.⁷⁷

copyright owner. It follows that just as the rights are measurably more favorable to the copyright owner by congressional design, the limitations upon those rights are less favorable to users. The problems of interpretation are no longer those of the rights of owners but, rather, are those of the privileges of alleged infringers within the Act's stated limitations less favorable to them.

73. Section 106 of the 1976 Act not only grants to the copyright owner exclusive rights, but also grants to the copyright owner the exclusive right to authorize the exercise of any of these rights. 17 U.S.C. § 106 (1976). Congress has clearly stated its intention to avoid any questions as to the liability of contributory infringers. See H.R. REP. NO. 1476, *supra* note 28, at 61, *reprinted in* 1976 U.S.C.C.A.N. at 5674. If found to have wrongfully authorized *C* to copy or to adapt, *B* is liable to *A*, as is *C*, the actual wrongdoer.

74. See *supra* note 23 and accompanying text.

75. 17 U.S.C. § 107 (1988). The § 107 limitation upon the exclusive rights of a copyright owner enumerated in § 106 is unlike the other limitations provided for in the 1976 Act. The concept of a fair use of copyrighted material originated with the federal courts in the first half of the nineteenth century rather than with copyright statutes existing at that time. See *Folsom v. Marsh*, 9 F. Cas. 342 (C.C.D. Mass. 1841) (No. 4,901). From then to the enactment of the 1976 Act, the fair use principle was raised as a defense in many cases of alleged infringement and its application was ruled upon. The defense that emerged on the eve of the passage of the 1976 Act was characterized by its fact-specific nature and the many criteria recognized as relevant to its application. See H.R. REP. NO. 1476, *supra* note 28, at 65-66, *reprinted in* 1976 U.S.C.C.A.N. at 5678-80. When Congress enacted § 107, therefore, it sought to accomplish two goals: (1) to offer some guidance to users in determining when the principles of the doctrine apply; and (2) to permit courts to adapt the doctrine to particular situations on a case-by-case basis. *Id.* at 66, *reprinted in* 1976 U.S.C.C.A.N. at 5680. In pursuit of these goals, Congress chose to restate the doctrine in very broad terms and to make explicit some of the doctrine's relevant criteria. It did not, however, intend to freeze, . . . change, narrow, or enlarge [the concept of a fair use] in any way. *Id.*, *reprinted in* 1976 U.S.C.C.A.N. at 5680. The authors will analyze the fair use defense in a subsequent part of this article. See *infra* note 281 and accompanying text (beginning of analysis).

76. 17 U.S.C. § 102(a) (1988). See also *infra* note 94 and accompanying text (beginning of analysis).

77. 17 U.S.C. § 106 (1988). The issues raised by this potential defense, of course, presuppose that *A* may rightfully claim a copyright under the 1976 Act. See *supra* note 33. The defense, in the context of the hypothetical, may be raised with respect to *A*'s claims of infringement through both copying and adaptation. For example, *B* may claim that, when *A*'s copyrighted computer programs were copied and adapted to form new computer programs, *C* copied or adapted only materials that were not subjects of *A*'s copyright. More particularly, under the 1976 Act, *B* may contend that *C* copied only the ideas, concepts, or principles that were found in *A*'s copyrighted computer programs. Because the 1976 Act makes clear that in no case does copyright protection for an original work of authorship extend to these elements of any copyrighted work, the copying from and adaptation of *A*'s copyrighted computer programs would not be infringements if *B*'s contention is true. 17 U.S.C. § 102(b) (1988).

The next section of this Article will review the major authorship and rights issues that have arisen in the software context.⁷⁸ The treatment of these issues is designed merely to set the backdrop for the amended section 117 ownership analysis and its understudy, section 107 fair use analysis.

B. The Issues and Philosophy of Section 102: Authorship Within Computer Programs

Earlier, this Article examined the bases of a claim of statutory copyright in a computer program.⁷⁹ As noted, the Copyright Office had, prior to the passage of the present copyright statute, accepted certain computer programs for registration.⁸⁰ Moreover, it was noted that the legislative history underlying the 1976 Act reflected the pre-Act recognition of copyright coverage for computer programs and a congressional desire to continue that coverage under the 1976 Act.⁸¹ Finally, because Congress was not prepared to deal with the computer program issue when the Act was passed in 1976, it created the Commission on New Technological Uses and, in light of that commission's Final Report, passed the 1980 amendments to the Act.⁸² In doing so, Congress erased any doubt that computer programs may embody the subject matter of statutory copyright.⁸³ When a particular computer program meets the subject matter requirements of the 1976 Act, therefore, the copyright owner is entitled to all of the rights granted by Congress through the statute.⁸⁴

The authors will treat these infringement issues later in this article. *See infra* note 94 and accompanying text (beginning of analysis).

78. This Article does not intend to analyze these issues comprehensively because much of that work has been addressed in several excellent articles. *See, e.g., supra* notes 17, 65.

79. *See supra* notes 33-38 and accompanying text.

80. *See supra* note 50 and accompanying text.

81. *See supra* notes 37-38 and accompanying text.

82. *See supra* note 39 and accompanying text (beginning of discussion of CONTU Commission); *supra* note 20 (discussion of CONTU Final Report); *supra* note 60 and accompanying text (discussion of amendments passed, in part, pursuant to CONTU recommendations).

83. *See supra* notes 58, 65 and accompanying text.

84. Those rights are set out in the 1976 Act, as most recently amended effective December 1, 1990, as follows:

' 106. Exclusive rights in copyrighted works

Subject to sections 107 through 120, the owner of copyright under this title has the exclusive rights to do and to authorize any of the following:

- (1) to reproduce the copyrighted work in copies or phono-records;
- (2) to prepare derivative works based upon the copyrighted work;
- (3) to distribute copies or phono-records of the copyrighted work to the public by sale or other transfer of ownership, or by rental, lease, or lending;
- (4) in the case of literary, musical, dramatic, and choreographic works, pantomimes, and motion pictures and other audiovisual works, to perform the copyrighted work publicly; and
- (5) in the case of literary, musical, dramatic, and choreographic works, pantomimes, and pictorial, graphic, or sculptural works, including the individual images of a motion picture or other audiovisual work, to display the copyrighted work publicly.

17 U.S.C. ' 106 (Supp. 1990).

Although Congress had intended that computer programs may embody a subject matter warranting the claim to a copyright,⁸⁵ Congress left it to the federal courts to further define the nature of that subject matter.⁸⁶ Therefore, under section 102, the general subject matter provision of the 1976 Act,⁸⁷ federal courts have had to address two issues arising from the Act's vague language: (1) does the computer program at issue embody a work of authorship?;⁸⁸ and (2) was an attempt being made to copyright an excluded subject, namely, an Aidea, procedure, process, system, method of operation, concept, principle, or [discovery](#)?⁸⁹

85. Viewing the intent of Congress from a different perspective, it was no more than a desire of Congress not to exclude computer programs entirely from qualifying for coverage under the 1976 Act as works of authorship in ' 102(a). *See* 17 U.S.C. ' 102(a) (1988).

86. Congress did so not only with respect to computer programs but also with respect to every other claim of copyright under the 1976 Act. *See supra* notes 33-38 and accompanying text.

87. *See supra* note 33 (text of ' 102).

88. There also exists in any claim of statutory copyright, including one relating to a computer program, an issue of Aoriginality. This issue is distinct from the Aworks of authorship issue. It is the Awork of authorship issue that has proven most controversial in the area of computer programs.

As to the Aoriginality issue, any claim to statutory copyright, to be sustained, requires at a minimum the act of Aindependent intellectual creation. *See, e.g.,* Reader's Digest Ass'n v. Conservative Digest, Inc. 821 F.2d 800, 806 (D.C. Cir. 1987); Atari Games Corp. v. Oman, 693 F. Supp. 1204, 1205 (D.D.C. 1988), *rev'd and remanded with instructions*, 888 F.2d 878 (D.C. Cir. 1989). The Copyright Clause of the Constitution has been interpreted by the United States Supreme Court to limit the term Aauthors and also, therefore, to limit Congress's authority to determine what subject matter may be covered by copyright legislation. *See* Burrow-Giles Lithographic Co. v. Sarony, 111 U.S. 53, 57-58 (1884) (AAAn author . . . is he to whom anything owes its origin; originator; maker').

In addition to Aoriginality meaning Aindependent intellectual creation as a Constitutional requirement for authorship, the Supreme Court has also construed the word Awritings in the Copyright Clause to require that a modicum of creative expression be present in any material which Congress intends to cover by copyright legislation. *See* The Trade-Mark Cases, 100 U.S. 82, 94 (1879) (originality was recognized as the requirement, but the Court placed emphasis on its creative component).

The meanings required by *Burrow-Giles* and the *Trade-Mark Cases* to be given to the phrase Aoriginal works of authorship or the word Aoriginal ' 102(a) of the 1976 Act should be kept distinct from the type of construction issues that have been raised before lower federal courts with respect to computer programs. These issues, which also relate to the application of ' 102(a), focus upon the Aworks of authorship language of the section. The Aworks of authorship issues will be analyzed by the authors in a subsequent part of this Article. *See infra* notes 93-162 and accompanying text.

89. 17 U.S.C. ' 102(b) (1988). *See also infra* notes 91-164 and accompanying text.

It should be noted, of course, that there is a third requirement found in ' 102(a) that must be satisfied before a copyright subsists under the statute. This is the requirement of Afixation, which is defined in the 1976 Act as follows:

A work is Afixed in a tangible medium of expression when its embodiment in a copy or phonorecord, by or under the authority of the author, is sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration. A work consisting of sounds, images, or both, that are being transmitted, is Afixed for purposes of this title if a fixation of the work is being made simultaneously with its transmission.

17 U.S.C. ' 101 (1988).

Examinations of the fixation requirement in the computer program setting have been undertaken by lower federal courts. *See, e.g.,* Midway Mfg. Co. v. Strohon, 564 F. Supp. 741 (N.D. Ill. 1983); Tandy Corp. v. Personal Micro Computers, Inc., 524 F. Supp. 171 (N.D. Cal. 1981). Although the fixation requirement has usually proven to be easily satisfied in the computer program context, it can be a major issue when the infringement is claimed in

C. The Works of Authorship Requirement and Computer Programs: The Views of Federal Courts

In examining the federal courts' construction of the requirement found in section 102(a) of the 1976 Act that a copyright exists in only works of authorship,⁹⁰ it is important to remember that this predicate to a copyright was first recognized by courts interpreting copyright acts preceding the Act of 1976.⁹¹ Additionally, this requirement long predated the invention of the computer and the computer programs needed for its operation.⁹² As such, federal courts, with congressional approval, have been asked to apply the requirement to a relatively new and evolving technology (the computer) and an arguable form of expression (a computer program) nonexistent for most of the requirement's lifetime. Moreover, federal courts have been asked to do so against a history of gradual expansion in the subject matter of statutory copyright.⁹³

This mixture of existing principles, new technology and expression, and historical legislative expansion has led to a definite trend among the federal courts now applying the works of authorship requirement of the 1976 Act to computer programs. Federal courts have found that there is, within the computer program, a work of authorship protectable by copyright. Thus, the trend in the federal decisions to date favors the copyright claimant. This trend is exemplified by one of the earlier decisions in which a federal court of appeals sustained the claim of copyright in several computer programs.⁹³

the copyrighted audiovisual work aspects of the computer program. *See* Lewis Galoob Toys, Inc. v. Nintendo of America, Inc., No. C-90-1440, 1991 U.S. Dist. LEXIS 9887 (N.D. Cal. July 12, 1991); *see also* notes 312-316 and accompanying text.

89. 17 U.S.C. § 102(b) (1988). *See also infra* notes 91-164 and accompanying text.

It should be noted, of course, that there is a third requirement found in § 102(a) that must be satisfied before a copyright subsists under the statute. This is the requirement of fixation,⁹⁴ which is defined in the 1976 Act as follows:

A work is fixed in a tangible medium of expression when its embodiment in a copy or phonorecord, by or under the authority of the author, is sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration. A work consisting of sounds, images, or both, that are being transmitted, is fixed for purposes of this title if a fixation of the work is being made simultaneously with its transmission.

17 U.S.C. § 101 (1988).

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90. The works of authorship requirement is grounded in the Copyright Clause of the Constitution and its limitations of writings and authors is based upon the authority of Congress to enact copyright legislation. *Cf. Burrow-Giles*, 111 U.S. at 57-61 (description of writings and authors).

91. *See supra* note 48 and accompanying text.

92. *See supra* note 37 and accompanying text.

93. *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240 (3d Cir. 1983).

In *Apple Computer, Inc. v. Franklin Computer Corp.*, the plaintiff, Apple, claimed copyrights in programs in Aobject code,@ a computer language designed to be read by the computer only.⁹⁴ The defendant, Franklin, in light of the use of Aobject code@ and the design of the computer programs to be read by the computer, took the position that they were not works of authorship under section 102(a) of the 1976 Act.⁹⁵ Franklin further argued that programs written in object code were not literary works under section 102(a)(1) of the Act.⁹⁶ The Court of Appeals for the Third Circuit rejected both arguments.⁹⁷

As to the defendant=s first position, the *Apple* court concluded that under the 1976 Act Congress did not intend to limit the meaning of Aworks@ to those designed to be read by humans only.⁹⁸ On the second question, namely, whether programs written in object code were literary works, the definition of Aliterary works@ found in the statute provided the answer for the court.⁹⁹ Included within that definition are Anot only . . . words but also `numbers, or other . . . numerical symbols or indicia.=@¹⁰⁰ The court found, therefore, that Congress had defined the phrase Aliterary work@ to include a computer program written in Aobject code.@¹⁰¹

The *Apple* decision on the Aobject code@ issue is typical of federal courts= view of the Aworks of authorship@ standard. When a copyright is claimed in a work written in machine-

94. *Id.* at 1243. The court described this language as the Alowest level computer language, . . . a binary language using two symbols, 0 and 1, to indicate an open or closed switch (e.g., `01101001' means, to the Apple [computer], add two numbers and save the result).@ *Id.* To clarify the issues that the court was to address, it also outlined the process through which a computer program reaches the object code stage.

The *Apple* court noted that a computer program is written originally in a computer language which can be learned and understood by humans (a high level language). This language uses English words and symbols as opposed to strictly binary code. Once the program reaches completion at this stage, it is said to be written in source code. The program written in source code, however, cannot be read by the computer=s brain, the central processing unit (CPU). To enable the CPU to follow the instructions found within the program, the source code is Atranslated by a `compiler= program into object code.@ *Id.* The object code version of a program can be stored on a Amemory device . . . incorporated into the circuitry of the computer@ (a semi-conductor chip) or on a diskette (floppy disk). *Id.* When the program is distributed, it is usually in its object code version. *Id.* See also *supra* note 11.

95. *Id.* at 1246-49.

96. *Id.* at 1246-48.

97. *Id.* at 1249.

98. *Id.* at 1248-49. The *Apple* court was, in part, reaffirming its holding in *Williams Electronics, Inc. v. Artic International, Inc.*, 685 F.2d 870 (3d Cir. 1982). See *supra* note 11. The *Apple* court added, however, that the distinction between human and machine readers first suggested at the turn of the century by the United States Supreme Court in *White-Smith Music Publishing Co. v. Apollo Co.*, 209 U.S. 1 (1908), Awas intended to [be] obliterate[d]@ by the 1976 Copyright Act. *Apple*, 714 F.2d at 1248. Finally, the *Apple* court relied on the 1980 Amendments to the 1976 Act and the majority report of the CONTU Commission in support of its conclusion. *Id.* at 1246-49. See *supra* notes 1-2 and accompanying text (discussion of *White-Smith*).

99. *Apple*, 714 F.2d at 1249.

100. *Id.*

101. *Id.* For decisions in which a similar result was reached, see, e.g., *Digital Communications Associates, Inc. v. Softklone Distributing Corp.*, 659 F. Supp. 449, 454-55 (N.D. Ga. 1987), and *Midway Manufacturing Co. v. Strohon*, 564 F. Supp. 741, 750 (N.D. Ill. 1983).

readable codes (languages) and the copying is of the literal aspects of a computer program, the results favor the claimant.¹⁰²

To date, the decisions of those federal courts dealing with the new technologies used to embody a program within the computer, such as computer chips, also favor the copyright claimants. For example, in *Apple*, the defendant claimed that a computer program encoded upon a read-only memory (ROM) computer chip was not a work of authorship.¹⁰³ The defendant apparently contended that, once Apple encoded its programs onto a chip, it had turned the programs into Autilitarian objects or machine parts@ in which no copyright could be claimed.¹⁰⁴ The court rejected this argument on two grounds: (1) Apple was not claiming a copyright in the Aencoded chip@;¹⁰⁵ and (2) a computer chip is simply the device used to embody the program in a tangible form.¹⁰⁶ The use of the chip for this purpose, therefore, did not detract from the status of Apple=s computer programs as works of authorship.¹⁰⁷

When the *Apple* court resolved the issues (of a computer program written to be read by the computer and the encoding of the program onto a ROM) in a manner favorable to the copyright claimant, it broke relatively new ground, but only in relation to the literal aspects of computer programs. Today, as a general proposition, federal courts are taking the copyright claimant=s view of the Aworks of authorship@ requirement within the literal aspect setting.¹⁰⁸ Whether that requirement is satisfied has proven to be a more complex question when a copyright is claimed in the nonliteral elements of a computer program¹⁰⁹ because federal courts have had to construe--Adefine@ may be a better term--the relationship between works of

102. This conclusion follows from both the language of the 1976 Act and its legislative history as well as from the 1980 amendments to the Act and their history. See *supra* notes 33-52 and accompanying text. In referring to the copying of the literal aspects of a copyrighted computer program, the authors are equating the phrase Aliteral aspects@ with the machine-readable text of a copyrighted computer program, as opposed to nonliteral aspects such as the program=s structure and its output to a visual display or printing device.

103. *Apple*, 714 F.2d at 1249.

104. *Id.* Because the court=s treatment of this issue is quite brief, it is difficult to determine, with great precision, the nature of the defendant=s position.

105. *Id.* at 1249 n.7.

106. *Id.* at 1249. As the court noted, the use of the computer chip was how the copyright claimant may satisfy the ' 102(a) requirement of fixation. *Id.* See also *supra* note 89 and accompanying text (discussion of the fixation requirement).

107. *Apple*, 714 F.2d at 1249.

108. See, e.g., *Lotus Dev. Corp. v. Paperback Software Int=l*, 740 F. Supp. 37 (D. Mass. 1990) (in plaintiff=s copyright infringement action, defendant, alleged infringer, copyrighted computer program user, conceded that the literal aspects of a computer program are works of authorship).

109. Typically the nonliteral element at issue is the structure or part of the structure of a copyrighted computer program. For example, in the first such case brought before a United States court of appeals, *Whelan Associates, Inc. v. Jaslow Dental Laboratories, Inc.*, 797 F.2d 1222, 1229-30 (3d Cir. 1986), *cert. denied*, 497 U.S. 1031 (1987), the court described computer program structure in terms of computer program creation and design. The court noted that computer program design included issue isolation, fact gathering, flow chart preparation (within which are arranged Asubroutines@ or Amodules@ that themselves must be arranged), and selection and arrangement of data. *Id.* Structure, in other words, is a computer program=s design that must be in place before the program is written or coded. See *id.*

authorship in section 102(a) of the 1976 Act and the prohibition found in section 102(b). In section 102(b), Congress excluded ideas, processes, and the like from the purview of copyright.¹¹⁰ Emerging from the issue of the nature of this relationship is the second and currently most prominent problem surrounding a copyright claimed in a computer program, namely, whether a work of authorship (the expression of an idea) exists in the nonliteral aspects of a copyrighted computer program or whether these aspects of a copyrighted computer program are a mere idea or ideas and, thus, prohibited expressly in section 102(b) from being the subject of a claim to copyright. The next part of this Article examines this issue.

V. AWORKS OF AUTHORSHIP@ (PROTECTED EXPRESSION) AND UNPROTECTED IDEAS: FEDERAL COURTS ATTEMPT A RELATIONAL BALANCING

A. *Computer Programs--AUseful Articles@*

The analysis of whether there exists in a copyrighted computer program a nonliteral element or elements that form a subject matter covered by the 1976 Act has been undertaken by federal courts in two distinct ways.¹¹¹ At least one federal court has operated from the premise that a computer program is by definition a Auseful article.@¹¹² Given this premise, the court arrived at two seemingly opposing yet congressionally approved principles: (1) the design of a useful article is a subject matter of copyright only to the extent that such design incorporates pictorial or graphic features that can be identified separately from, and are capable of existing independently of, the utilitarian aspects of the article;¹¹³ and (2) a work of authorship includes a graphic work.¹¹⁴

110. 17 U.S.C. ' 102(b) (1988).

111. The second way in which federal courts have analyzed the issue of copyright coverage in the structure of a computer program will be examined in the part of this Article titled AComputer Programs--The Expression Versus Idea Dichotomy and the Scope of Copyright Coverage.@ See *infra* notes 125-63 and accompanying text.

112. See *Lotus Dev. Corp. v. Paperback Software Int=*, 740 F. Supp. 37 (D. Mass. 1990).

113. *Id.* at 54. See also 17 U.S.C. ' 101 (definition of A[p]ictorial, graphic, and sculptural works@).

114. *Lotus*, 740 F. Supp. at 48. See 17 U.S.C. ' 102(a)(5) (1988). Congress not only included graphic works as a category of works of authorship but also attempted to clarify the distinction between this subject matter category and the useful article or its design, which Congress did not intend to cover under the 1976 Act. The useful article was defined as one Ahaving an intrinsic utilitarian function that is not merely to portray the appearance of the article or to convey information.@ 17 U.S.C. ' 101 (1988). The useful article was further defined as A[a]n article that is normally [considered] a part of a useful article.@ *Id.* Because computer programs are employed to produce useful results, they would fit within this definition, except that programs typically do convey information and often portray a distinct appearance in the form of a user interface.

Congress also defined the phrase Agraphic work@ in the 1976 Act. The graphic work includes Aworks of artistic craftsmanship insofar as their form but not their mechanical or utilitarian aspects are concerned.@ 17 U.S.C. ' 101 (1988). Congress also recognized that the Adesign of a useful article@ is to be considered a graphic work if, and only to the extent that, it meets two requirements: (1) the design=s graphic features can be Aidentified separately from@ the utilitarian aspects of the useful article; and (2) the design=s graphic features are Acapable of existing independently of the utilitarian aspects of the [useful] article.@ *Id.*

Arguably, these two principles are at odds because a copyrighted computer program=s nonliteral elements of structure¹¹⁵ or graphic display are part of the design of the program¹¹⁶ (a useful article) and may not meet the separability requirements of section 101. One conclusion that follows is that the graphic aspects of a computer program cannot be copyrighted because to do so would copyright the useful article as well.¹¹⁷ The opposing conclusion, however, is that the copyright is claimed in the graphic aspects of a computer program only and to the extent that they incorporate . . . features that can be identified separately from, and are capable of existing independently of, the utilitarian aspects of the [computer program].@¹¹⁸

When confronted with the useful article incapable-of-being-copyrighted line of argument, therefore, at least one federal district court judge has recognized that the analogy between a copyrighted computer program and a useful article is fatally flawed when it implies that no nonliteral graphic feature of the computer program can be covered by the copyright. That judge, in *Lotus Development Corp. v. Paperback Software International*,¹¹⁹ not only rejected the useful article@ per se principle but also recognized that Congress had done so in the 1976 Act=s definition of a Agraphic work.@¹²⁰ More importantly, the *Lotus* court also rejected the policies offered by the defendant in support of the per se principle.¹²¹ One of those policies was restated by the court as follows: A[T]he policy of promoting creativity favors extremely narrow copyright protection in computer programs for anything beyond source code and object code

115. 115. See *supra* note 109.

116. It has been suggested that this part of a copyrighted computer program often entails greater creativity than coding the computer program. See *Whelan Assocs., Inc. v. Jaslow Dental Lab., Inc.*, 797 F.2d 1222, 1229-30 (3d Cir. 1986), *cert. denied*, 497 U.S. 1031 (1987).

117. See *supra* note 113.

118. 17 U.S.C. ' 101 (1988). Although the copyright claimant=s position reflects the definitional distinction and the limits of what is a graphic work versus the Adesign of a useful article,@ this position touches only the tip of the Atest of separability and independence@ iceberg. Congress did not go further and formulate, in the 1976 Act, a standard by which to apply this test. Also, the legislative history lacks needed clarity. House Report 1476 suggests, on the one hand, that Congress did not intend to include the shape or nature of the design of a useful article within the Act=s purview; yet, on the other hand, elements identified that are conceptually separable from utilitarian aspects may be protected by copyright. See H.R. REP. NO. 1476, *supra* note 28, at 55, *reprinted in* 1976 U.S.C.C.A.N. at 5668. In contexts other than those involving copyrighted computer programs, lower federal court judges have found it difficult to arrive at a standard by which to apply the Atest of separability and independence.@ See, e.g., *Brandir Int'l, Inc. v. Cascade Pac. Lumber Co.*, 834 F.2d 1142 (2d Cir. 1987) (compare Judge Oakes= opinion for the court with Judge Winter=s dissent); *Carol Barnhart Inc. v. Economy Cover Corp.*, 773 F.2d 411 (2d Cir. 1985) (compare Judge Mansfield=s opinion for the court with Judge Newman=s dissent). See also Pamela Samuelson, *Creating a New Kind of Intellectual Property: Applying the Lessons of the Chip Law to Computer Programs*, 70 MINN. L. REV. 471 (1985) (Auseful article@ analysis calling for separate legislation for computer programs from the 1976 Act).

119. 740 F. Supp. 37 (D. Mass. 1990).

120. See *supra* note 114 and accompanying text.

121. Of note is Judge Keeton=s admonition against the use of policy arguments that are inconsistent with the mandates of legislation. *Lotus*, 740 F. Supp. at 73, 76-77.

[literal elements]¹²² This policy, the *Lotus* opinion suggested, was inconsistent with congressional mandates and with the role courts must play in enforcing those mandates.¹²³

The *Lotus* court assumed its proper role, therefore, when it rejected the policy of narrow copyright coverage for a computer program because Congress did not seek to achieve this policy. The court also recognized that the analogy of a computer program to a useful article, and the analysis of Aseparability@ inherent within it, is but a corollary to AThe Idea-Expression Riddle.@¹²⁴ This Article will now examine the ARiddle@ to see if the policy of Anarrow copyright protection@ is its answer.

B. Computer Programs--The Expression Versus Idea Dichotomy and The Scope of Copyright Coverage

The relationship between nonliteral features of a copyrighted computer program, expression under section 102(a) of the 1976 Act, and ideas under section 102(b)¹²⁵ was first analyzed by a federal court in *Synercom Technology, Inc. v. University Computing Co.*¹²⁶ In *Synercom*, the copyright claims were argued to cover Ainput formats,@ i.e., the arrangement and sequencing of data which facilitated computer program access.¹²⁷ The court, after recognizing that the formats did express, in the literal sense, ideas to their users, stated that Athe formats are copyrightable if the ideas they express are separable from their expression.@¹²⁸

122. *Id.* at 71.

123. According to Judge Keeton, that role was a limited one in which the court Arespects legislative policy choices, whether explicit or implicit.@ *Id.*

124. *See id.* at 58-60.

125. A copyrighted computer program has been classified as a literary work under ' 102(a) of the 1976 Act. *See supra* notes 96-101 and accompanying text. It is well-settled that the copyright in a literary work covers nonliteral elements. *See, e.g., Nichols v. Universal Pictures Corp.*, 45 F.2d 119, 121 (2d Cir. 1930), *cert. denied*, 282 U.S. 902 (1931) (Judge Hand, writing for the court of appeals, stated: AIt is of course essential to any protection of literary property . . . that the right cannot be limited literally to the text, else a plagiarist would escape by immaterial variations.@). By analogy, it has been recognized that the copyright in a computer program may cover the program=s nonliteral elements. *See, e.g., Whelan Assocs., Inc. v. Jaslow Dental Lab., Inc.*, 797 F.2d 1222 (3d Cir. 1986), *cert. denied*, 497 U.S. 1031 (1987). The problem that remains, however, is determining which nonliteral elements are covered and which are not. *See infra* notes 126-62 and accompanying text.

126. 462 F. Supp. 1003 (N.D. Tex. 1978). This opinion was written at a time nearly contemporaneous with the effective date of the 1976 Act. *See supra* note 26. District Court Judge Higginbotham, therefore, had little authority to guide his analysis. Also, Judge Higginbotham analyzed the expression versus idea issue without the benefit of the 1980 computer-related amendments to the 1976 Act. *See supra* notes 60-69 and accompanying text (discussion of amendments to 1976 Acts). Finally, the judge=s decision was nearly contemporaneous with the publication of the CONTU Final Report. *See supra* notes 20-21, 26 and accompanying text. At that point in time, Congress=s intent with respect to the coverage of a copyright in the nonliteral aspects of a computer program was, at least arguably, less than clear.

127. *Synercom*, 462 F. Supp. at 1011-14.

128. *Id.* at 1012. The principle that a copyright may be claimed in the expression of an idea only and that the expression must be separate from the idea originated in the seminal United States Supreme Court decision of *Baker v. Selden*, 101 U.S. 99 (1879). In *Baker*, a copyright was claimed in a book that described a system of

When further analyzing the separability question, the *Synercom* court chose to analogize the formats at issue to the familiar "figure-H" pattern of an automobile stick.¹²⁹ Having struck this analogy, the court reasoned that a copyright, if claimed by the maker of the car who chose the pattern, would only exist in detailed expressions of that pattern, such as a prose description or pictorial or graphic depiction of it.¹³⁰ A second car maker was therefore free to use the pattern itself. Just as a copyright could not be claimed in the pattern, it could not be claimed in the plaintiff's input formats.¹³¹

The *Synercom* court, by implication, seems to have limited any claim of copyright to the literal elements of a computer program. By doing so, the decision reflects the view that the expression versus idea line drawn by Congress in section 102(a) versus (b) of the 1976 Act was

bookkeeping. As part of the book, the copyright claimant selected, arranged, and sequenced lines and headings (similar to a T-account balance sheet) in order to illustrate graphically the operation of the system. *Id.* at 101. In the subsequent infringement action, the Court assumed that the defendant made and used account-books arranged on substantially the same system. *Id.* The copyright claimant took the position that no one can make or use similar ruled lines and headings . . . without violating the copyright. *Id.* The Court concluded that the copyright claimed did not cover the system. In response to claimant's position, the Court, although recognizing that the ruled lines and headings may be descriptive or illustrative of the system, concluded that they were not covered by the copyright. The Court noted that the copyright claimant's arrangement of the lines and headings was expressive. They were, however, beyond the copyright's reach because the ruled lines and headings of accounts must necessarily be used as incident to [the system]. *Id.* at 104.

The *Baker* Court's use of words such as "illustrations," "explanation," or "described" in association with the scope of the copyright claimed gave rise to the requirement of expository content as an element of the expression. The absence of that element was another reason why the *Baker* Court denied copyright coverage for the Selden accounting forms. *Id.* The expository content requirement continues to survive today. *See, e.g.,* 37 C.F.R. § 202.1(c) (Copyright Office regulation denying a copyright in blank forms).

Finally, from *Baker*'s denial of the copyright claim, on the basis that the expression was necessarily incident to the system, has arisen the "separability" test. This test was used by federal courts originally outside the computer context. *See, e.g.,* *Morrissey v. Proctor & Gamble Co.* 379 F.2d 675 (1st Cir. 1967) (contest rules); *Continental Casualty Co. v. Beardsley*, 253 F.2d 702 (2d Cir. 1958) (commercial forms). Now, as reflected by Judge Higginbotham's opinion in *Synercom*, the test is used and elaborated upon by federal courts within the copyrighted computer program setting.

129. *Synercom*, 462 F. Supp. at 1013. The court's choice of the H-pattern, familiar not only to auto makers but also to the driving public, doomed from the outset *Synercom*'s claims of copyright and infringement. The familiar H-pattern, or the idea and its "H" configuration, the expression of the idea, even if chosen and designed by the copyright claimant and therefore original under § 102(a), will likely be found inseparable. *Id.* In this regard, Judge Higginbotham acknowledged that there are many more possible choices of computer formats, and the decision among them more arbitrary. *Id.* (and so presumably more room for finding separability). He nevertheless concluded that this does not detract from the force of the analogy. *Id.*

130. Implied is the court's conclusion that nonliteral aspects of a computer program are not covered by copyright. *Id.* at 1013.

131. There were actually two findings made by the court: (1) the defendant, in using the input formats, was not an infringer because the formats were, as the court put it, "expressed ideas, not expressions"; and (2) in the alternative, the formats were not copyrightable. *Id.* at 1014. It appears that the latter finding was based on the court's conclusion that the formats embodied no "stylistic creativity above and beyond the bare expression of sequence and arrangement." *Id.*

intended to be drawn against the computer program copyright claimant in the nonliteral context.¹³²

In contrast to the *Synercom* line of cases resolved against the copyright claimant is a line of cases favoring the claimants. The leading decision reflecting this latter view is *Whelan Associates, Inc. v. Jaslow Dental Laboratory, Inc.*¹³³ The *Whelan* court, when examining whether the overall structure (nonliteral element) of a copyrighted computer program was covered by the copyright, not only accepted the analogy between computer programs and literary works but also recognized that, just as literary works can be infringed upon without copying their

132. It may be argued that because *Synercom* predated the 1980 amendments to the 1976 Act, see *supra* notes 60-68 and accompanying text, the court too readily found a lack of separability between the input formats and the underlying idea based upon the analogy to a familiar automobile stick H-pattern. See *Synercom*, 462 F. Supp. at 1013. In fact, it appears that most other federal district courts and courts of appeal have rejected the narrow, infringer view of nonliteral computer program copyright protection. See *infra* notes 133-62 and accompanying text. Even when courts have followed the *Synercom* view, they have done so either within a very circumscribed setting or against persuasively reasoned authority.

For example, in *Plains Cotton Cooperative Ass'n v. Goodpasture Computer Services, Inc.*, 807 F.2d 1256 (5th Cir.), *cert. denied*, 484 U.S. 821 (1987), an appeal was taken by the copyright claimant from the denial of its application for a preliminary injunction. At issue was the design (configuration or nonliteral element) of the claimant's software system, which provided information on the cotton market. *Id.* at 1257-58. The district court held that the claimant failed to provide sufficient evidence of copying, and that there was insufficient evidence that the design could be copyrighted. *Id.* at 1260-61. The Fifth Circuit found *Synercom* persuasive because the record supported the inference that the claimant's design was influenced significantly by the externalities of the cotton market. *Id.* at 1262. The court declined to hold that those patterns [claimant's design] cannot constitute 'ideas' in a computer context. *Id.* The decision of the district court was affirmed accordingly. *Id.* at 1264. Note, of course, that the court of appeals in *Plains Cotton* was not deciding the actual merits of the case. Also, the court affirmed the district court's finding on the copying issue under the 'clearly erroneous' standard of review.

The *Plains Cotton* court apparently recognized the *Synercom* premise, that a claim of copyright in a computer program design should be looked at differently from (more favorable to defendant than) designs in other contexts. The court recognized, however, that the issue is presented to us on review of a denial of a motion for preliminary injunction. *Id.* at 1262. It appears that a less than complete record was before the court.

Notwithstanding the arguable limitations upon both the *Synercom* and *Plains Cotton* decisions, they continue to be viable within the Fifth Circuit. See *Engineering Dynamics, Inc. v. Structural Software, Inc.*, No. 89-1655, 1991 U.S. Dist. LEXIS 13843 (E.D. La. August 29, 1991). In this case, the district court stated that it was bound to follow the law of the Fifth Circuit. *Id.* at *12. Thereafter, the district court concluded that formats (nonliteral design elements of a copyrighted computer program) were found not to be within the subject matter of copyright in *Plains Cotton*. According to the court in *Engineering Dynamics*, the Fifth Circuit Court of Appeals in *Plains Cotton* reasoned that both programs, copyrighted and allegedly infringing, convey the same standardized information to the user. *Id.* at *13. Finally, the district court judge in *Engineering Dynamics* concluded that this, too, was a case of programs conveying standardized information and that *Plains Cotton* was not distinguishable on the basis that the *Plains Cotton* court was reviewing the appropriateness of the issuance of a preliminary injunction under an 'abuse of discretion' standard. *Id.* at *12.

Perhaps the law of the Fifth Circuit is, in 1991, as the *Engineering Dynamics* court found it to be. The court also recognized, however, that the reasoning by a district court within another circuit may be persuasive, particularly given the extraordinary expansion of the computer industry since *Synercom* was decided. *Id.* This 'extraordinary expansion' may, in fact, lead the Fifth Circuit, unlike the *Engineering Dynamics* court, to limit *Plains Cotton* and *Synercom* and thus expand the scope of copyright coverage afforded to such nonliteral elements of a computer program as input formats or user interfaces.

133. 797 F.2d 1222 (3d Cir. 1986), *cert. denied*, 497 U.S. 1031 (1987).

literal elements, so can computer programs.¹³⁴ Implicit within this conclusion was the court=s finding that Congress intended such claimant-favorable coverage for copyrighted computer programs.

Having accepted the premise that nonliteral elements of copyrighted computer programs may be covered by the copyright, the *Whelan* court next examined the relationship between the expression and the idea in this context. That relationship, it was thought, should be analyzed under the following principle: *A[T]he purpose or function of a utilitarian work would be the work=s idea, and everything that is not necessary to that purpose or function would be part of the expression of the idea.*¹³⁵

In determining whether or not the nonliteral elements of a copyrighted computer program were necessary to the program=s purpose, the *Whelan* court made two other inquiries: (1) what was the program=s purpose?; and (2) were there a variety of ways to achieve that purpose?¹³⁶ The court then applied its principle to the copyright claimant=s computer program and answered the relevant questions the principle posed. The court found that the copyrighted computer program was one that aided in the business operations of a dental laboratory@ (the program=s purpose).¹³⁷ Thereafter, the court concluded that, because competing computer programs with structures different from the claimant=s were being marketed (a variety of means to accomplish the purpose), the claimant=s chosen structure was unnecessary to the program=s purpose and, thus, was covered by the copyright.¹³⁸

134. *Id.* at 1233-34. It is apparent, from the sources cited in support of the *Whelan* court=s conclusion, that the court viewed the copyrighted computer program at issue as akin to a literary work of fiction as opposed to a work of nonfiction. For example, the court referred to the opinions in *Sheldon v. Metro-Goldwyn Pictures Corp.*, 81 F.2d 49 (2d Cir. 1936), and *Nichols v. Universal Pictures Corp.*, 45 F.2d 119 (2d Cir. 1930), *cert. denied*, 282 U.S. 902 (1931). In both *Sheldon* and *Nichols*, the copyrighted literary work involved was a play. See Raymond Nimmer & Patricia A. Krauthaus, *Copyright and Software Technology Infringement: Defined Third Party Development Rights*, 62 IND. L.J. 13, 36 (1986) (programs resemble fiction works and fall within that copyright subject matter framework).

The copyrighted computer program in *Whelan*, however, was designed to operate a dental laboratory. *Whelan*, 797 F.2d at 1224. Had the court followed what appears to be an alternative analogy, that is, to literary works of nonfiction, perhaps its analysis of the expression versus idea dichotomy would have turned in the defendant=s direction rather than in the copyright claimant=s. See *infra* notes 152-54 and accompanying text. See also Linda C. Odom, Note, *Fact v. Fiction: A Survey of the Distinction=s Impact on Copyright Infringement Claims*, 18 MEM. ST. U. L. REV. 99, 116-17 (1987) (issues of computer program infringement should be adjudged under an objective standard comparable to that applied to other nonfiction works).

135. *Whelan*, 797 F.2d at 1236. The principle espoused by the court was clearly born from *Baker v. Selden*, 101 U.S. 99 (1879). See *supra* note 128.

136. *Whelan*, 797 F.2d at 1236. In support of its relevant queries, the *Whelan* court relied on two well-established copyright doctrines. The first was *scènes à faire*, nonliteral elements indispensable to literary works of fiction. *Id.* Such devices (the obligatory villain in a melodrama, for example), indispensable in each work authored in a particular genre, are not covered by copyright but rather are found to be part of the work=s idea. The second copyright doctrine was that, in a fact intensive@ work, the choice of one of a limited number of ways to achieve the work=s purpose belongs to the idea of the work, not to its expression. *Id.* at 1236-37.

137. *Id.* at 1238.

138. *Id.* Important to note is that the court was dealing with the overall or detailed structure of the claimant=s copyrighted computer program. Once a court recognizes that a computer program=s copyright may include nonliteral elements, however, it may be faced with judging the quantum or quality of the structure that is covered by the copyright. The court also would be doing so as part of the expression versus idea analysis.

The *Whelan* court, before reaching these conclusions, addressed explicitly the *Synercom* opinion. In doing so, it rejected the premise implicit in *Synercom* that a copyright in a computer program was limited to the program's literal elements.¹³⁹ Moreover, the *Whelan* court took care to respond to the critical question raised in *Synercom*: A "[I]f sequencing and ordering [are]

Indeed, perhaps a significant principle in *Whelan* appears in the portion of the opinion that deals with the defendant's challenge to the sufficiency of the evidence introduced by the copyright claimant to support the conclusion of infringement. *Id.* at 1246-48. The copyright claimant offered into evidence a quantitatively small portion of the structure of its computer program, namely, five subroutines, in aid of its position that defendants infringed the overall structure of the copyrighted computer program. *Id.* at 1245. The similarity of plaintiff's five subroutines to those of the defendant was found sufficient to support the district court's judgment in favor of the claimant. In reaching this result, the Court of Appeals for the Third Circuit recognized that it must make a qualitative, not quantitative, judgment about the character of the [copyrighted] work as a whole and the importance of the substantially similar portions of the work [found in the allegedly infringing work].@ *Id.* By employing a qualitative yardstick, the court found that the subroutines were the most Asignificant steps,@ apparently, in the preparation of the claimant's copyrighted computer program. *Id.* at 1245-46. Implicit was the court's recognition that the subroutines were covered by the claimant's copyright. *Whelan*, therefore, may very well take copyright coverage of nonliteral program elements beyond structure and into sub-structure.

In one recent case tried before a district court within the Second Circuit, the court appeared to have foreseen this natural progression from the *Whelan* court's reasoning. *Computer Associates International, Inc. v. Altai, Inc.*, 775 F. Supp. 544 (E.D.N.Y. 1991), was a case in which a programmer with one software company moved to another software company, took with him--in violation of an employment agreement--copies of the former employer's copyrighted source code to an operating system interface program, and used that code to develop a competing program for his new employer. When the new employer became aware, through an action for copyright infringement and trade secret violation brought against it, of the employee's use of a competitor's source code, it undertook a Aclean room@ rewrite of the competing program and shipped this version to all its customers that were using the earlier version. The court found that the earlier version was an infringement of the competitor's copyrighted source code. *Id.* at 560.

When considering the Asanitized@ rewrite of the defendant's competing interface program, the district court relied on the opinion of an independent expert who testified that: (1) a program is made up of subprograms and sub-subprograms, each of which contains at least one idea; (2) many subprograms are standard in the computer field; and (3) the order of subroutines in the text of the program code can vary greatly from the order in which those subroutines affect the behavior of the program. *Id.* at 559. In light of the expert's opinion, the court, however, did not apply the *Whelan* analysis to the defendant's Asanitized@ program's structure--even though, under *Whelan*, the structure apparently was dictated by the process it performed, was, therefore, part of its idea and so would not be an infringement of the competing copyrighted program's structure. *Id.* The district court judge chose, instead, to use the test applied historically in the Second Circuit in actions for infringement of literary works. *Id.* at 560. This test has been labeled as the Aabstractions@ test, first enunciated by Judge Learned Hand in *Nichols v. Universal Pictures*, 45 F.2d 119, 121 (2d Cir. 1930), *cert. denied*, 282 U.S. 902 (1931). As Judge Hand stated: [W]hen the plagiarist does not take out a block in situ, but an abstract of the whole, the decision is more troublesome. Upon any work, and especially upon a play, a great number of patterns of increasing generality will fit equally well, as more and more of the incident is left out. The last may perhaps be no more than the most general statement of what the play is about, and at times might consist only of its title; but there is a point in this series of abstractions where they are no longer protected, since otherwise the playwright could prevent the use of his Aideas,@ to which, apart from their expression, his property is never extended. Nobody has ever been able to fix that boundary, and nobody ever can. In some cases the question has been treated as though it were analogous to lifting a portion out of the copyrighted work; but the analogy is not a good one, because, though the skeleton is a part of the body, it pervades and supports the whole. In such cases we are rather concerned with the line between expression and what is expressed.

Id. (citations omitted). It remains to be seen, therefore, whether the rejection of *Whelan* by this district court is simply a distinction without a difference in so far as the Second Circuit is concerned.

139. *Whelan*, 797 F.2d at 1239-40.

expression, what separable idea is being expressed?=¹⁴⁰ For the *Whelan* court, that Aseparable idea@ was Athe efficient organization of a dental laboratory,@ which could be expressed through a variety of program structures, no one of which, including the claimant=s, was necessary to express the idea.¹⁴¹ Separability=s answer, therefore, was a lack of necessity as shown by a variety of available expressive structures.

Although the *Whelan* and *Synercom* opinions oppose each other on the issue of whether Congress intended to extend copyright coverage to include the nonliteral elements of a copyrighted computer program, it appears that the weight of authority considering these two decisions has embraced the *Whelan* view.¹⁴²

This trend toward recognizing congressional intent to treat a computer program copyright as the equal of any other copyright has been best analyzed to date in the decision of *Lotus Development Corp. v. Paperback Software International*.¹⁴³ In *Lotus*, the plaintiff argued that the defendants infringed its copyright claimed in the Lotus 1-2-3 computer spreadsheet program when defendants copied the program=s menu command structure, or Auser interface.@¹⁴⁴ In response, the defendants sought to convince the district court that a copyright in a computer program exists in its literal elements only, e.g., the written program code or a graphically depicted flow chart.¹⁴⁵ In this regard, the defendants contended that the 1976 Act=s objective,

140. *Id.* at 1240 (alteration in original).

141. *Id.* It is apparent from the *Whelan* court=s reasoning that the application of the necessity principle will not always lead to a result favorable to the copyright claimant. One example may be drawn from the *Synercom* opinion=s analogy to the familiar H-pattern of an automobile=s stick shift. *See supra* note 129 and accompanying text. Here, if the idea is an organization of a car=s shift lever familiar to stick users, the copyright claimant=s organization in the H-pattern may be the one and only way to express the idea. If so, the pattern is a necessary incident to the idea, and so the copyright claim must fail. It should be noted, however, that critical to the outcome of the necessity analysis is the choice of idea characterization. For a more detailed examination of the characterization issue, see *infra* notes 151-55 and accompanying text.

142. *See, e.g.,* Johnson Controls, Inc. v. Phoenix Control Sys., Inc., 886 F.2d 1173 (9th Cir. 1989) (expression of function or purpose copyrightable); Manufacturers Technologies, Inc. v. CAMS, Inc., 706 F. Supp. 984, (D. Conn. 1989) (user interface copyrightable); Broderbund Software, Inc. v. Unison World, Inc., 648 F. Supp. 1127 (N.D. Cal. 1986) (copyright protection may be claimed in overall program structure); Q-Co. Indus., Inc. v. Hoffman, 625 F. Supp. 608 (S.D.N.Y. 1985) (program arrangement may be infringed if not dictated by functional considerations); SAS Inst., Inc. v. S & H Computer Sys., Inc., 605 F. Supp. 816 (M.D. Tenn. 1985) (copying of organization prohibited). *See also* Apple Computer, Inc. v. Microsoft Corp., 759 F. Supp. 1444 (N.D. Cal. 1991) (affirmative defense of unprotected expression in copyright claimant=s visual displays in user interface dismissed on motion for partial summary judgment); Atari v. Nintendo, Nos. C-88-4805-FMS, C-89-0027-FMS, C-89-0824-FMS, 1991 WL 57304 (N.D. Cal. April 11, 1991) (court rejected defendant=s narrow conception of an unprotected idea and concluded it would Aeviscerate copyright protection for computer programs@; copyright claimant=s motion for a preliminary injunction granted). *But see supra* note 132 (the apparent position presently of the federal courts within the Fifth Circuit).

143. 740 F. Supp. 37 (D. Mass. 1990). *See also supra* notes 119-24 and accompanying text (the view taken by the *Lotus* court of the Auseful article@ analysis as only a corollary to the expression versus idea dichotomy).

144. *Lotus*, 740 F. Supp. at 63-68. The Lotus 1-2-3 user interface encompassed Athe choice of command terms, the structure and order of those terms, their presentation on the screen, and the long prompts@ as well as Athe menu structure, taken as a whole.@ *Id.* at 68.

policy, and precedent supported the conclusion that Congress intended for computer programs to receive a copyright more limited in coverage than the coverage extended to other works of authorship.¹⁴⁶

The *Lotus* court rejected this contention for three reasons: (1) section 102(b) of the 1976 Copyright Act manifests Congress's intent to use the expression-idea dichotomy to determine which elements of a computer program are covered by a copyright;¹⁴⁷ (2) historically, in applying the dichotomy to classes of works other than computer programs, federal courts have treated literal and nonliteral elements alike;¹⁴⁸ and (3) applying the expression-idea test to the nonliteral elements of computer programs will encourage the creation and dissemination of new ideas by protecting, for limited times, the specific way that an author has expressed those ideas.¹⁴⁹

The court, having rejected the position that a computer program's copyright covered its literal elements only, next applied the expression versus idea principle reflected in section 102 of the 1976 Act.¹⁵⁰ First, the application of the principle to the claimant's user interface (menu command structure, a nonliteral element) required the *Lotus* court to conceptualize and articulate the idea embodied within it. In this regard, the idea was stated by the court to be that of an electronic spreadsheet.¹⁵¹

145. *Id.* at 76. Judge Keeton made clear in his opinion that nowhere in the 1976 Act, as amended in 1980, did Congress explicitly limit the copyright in a computer program to its literal elements. *Id.* at 50-51. Moreover, he indicated that to read that limitation into the statute would be an abuse of the court's authority. See *infra* note 162 and accompanying text.

146. *Lotus*, 740 F. Supp. at 53.

147. *Id.* at 53-54. In neither the 1976 Act nor the 1980 amendments, which related to computer programs, did Congress indicate in the statutory text or through the text's history an intent to draw a different line. See *supra* notes 26-69 and accompanying text.

148. *Lotus*, 740 F. Supp. at 54.

149. *Id.* Judge Keeton was careful to note that it is the public's welfare which was Congress's ultimate goal in the 1976 Act. *Id.* at 53-54. In support of that objective, the Act encourages authors (broadly defined) to generate new ideas and disclose them to the public. *Id.* at 52. Generated and disclosed ideas, of course, are not covered by the copyright. The public, therefore, receives an immediate benefit. Also, by covering the author's expression, the Act provides, through its reward of a limited monopoly, the stimulus to engage in the process of idea generation and disclosure. *Id.* at 52-53.

150. *Id.* at 53. Judge Keeton, once again, cautioned that he was doing no more than discharging Congress's mandate to use this standard and to be sensitive to the object and policy of copyright law as manifested by Congress. *Id.*

151. *Id.* at 63. This finding by the court was very favorable to the copyright claimant. Before making the finding, the court examined correctly the user interface from the most detailed treatment given to it by the copyright claimant to the most generalized statement of what the copyrighted computer program was about. The interface's idea was limited to that most generalized statement and the balance of the treatment given the interface was expression which was covered by the copyright. This analysis of the expression versus idea distinction originated in *Nichols v. Universal Pictures Corp.*, 45 F.2d 119 (2d Cir. 1930), *cert. denied*, 282 U.S. 902 (1931), and several other landmark opinions authored by Judge Learned Hand dealing with this problem of copyright coverage. See *Lotus*, 740 F. Supp. at 65.

Next, the *Lotus* court determined whether the copyright claimant's user interface was essential to a user interface to an electronic spreadsheet.¹⁵² In doing so, the court noted that there were several individual aspects of the copyrighted computer program's interface that were either a functional, an obvious, or a limited as a factual matter by the idea of an electronic spreadsheet,¹⁵³ and, thus, were essential to that idea.¹⁵⁴ Although each of these elements taken individually would not be covered by the copyright, the *Lotus* court found that these elements, in combination, formed a structure for the menu command system that was non-essential to an electronic spreadsheet.¹⁵⁵ That structure, the court concluded, would be covered

152. The analogy here was to the Supreme Court's decision in *Baker v. Selden*, 101 U.S. 99 (1879), and its progeny. See *supra* note 128. As the Supreme Court in *Baker* concluded, expression that is necessary to the idea of a work is part of that idea and thus cannot be copyrighted. See *id.* The outcome of this analysis, which has also been called *merger*, is pivotal to most questions of copyright coverage for nonliteral elements of copyrighted computer programs. See, e.g., *supra* notes 126-42 and accompanying text (discussing *Synercom Tech., Inc. v. University Computing Co.*, 462 F. Supp. 1003 (N.D. Tex. 1978), and *Whelan Assocs., Inc. v. Jaslow Dental Lab., Inc.*, 797 F.2d 1222 (3d Cir. 1986), *cert. denied*, 497 U.S. 1031 (1987)).

153. Examples given included a two-line moving cursor used in a variety of programs, a basic spreadsheet screen display, and a designation of the key that would invoke the menu command system. *Lotus*, 740 F. Supp. at 66.

154. *Id.* at 67. Concluding that a functional nonliteral element is essential to an idea is merely another way of stating that the element is, or is part of, a useful article which is not covered by copyright. See *supra* notes 112-24 and accompanying text (the *Lotus* court's discussion of the useful article corollary to the expression versus idea distinction). Similarly, a finding that the element was obvious and thus essential also emanates from the principle that that part of a useful article is not covered by copyright. In the obvious element context, however, the design, because it is obvious, does not sufficiently benefit the public to justify the copyright claim. Cf. *In re Nalbandian*, 661 F.2d 1214 (C.C.P.A. 1981) (obviousness of an illuminated tweezers limited availability of a design patent). As to factual work limits referred to by Judge Keeton, this conclusion is similar to that reached by federal courts when dealing with literary works of nonfiction, e.g., biographies, which ordinarily will result in copyright coverage being confined to literal or near-literal elements. See, e.g., *Landsberg v. Scrabble Crossword Game Players, Inc.*, 736 F.2d 485 (9th Cir.), *cert. denied*, 469 U.S. 1037 (1984) (factual works admit of a narrow range of expression which limits the scope of copyright and instances of infringement); *Hoehling v. Universal City Studios, Inc.*, 618 F.2d 972 (9th Cir. 1980) (interpretation of historical events not copyrightable).

155. *Lotus*, 740 F. Supp. at 67. Judge Keeton added that the menu structure of the claimant's copyrighted computer program did not merge with the idea of a menu structure for an electronic spreadsheet because the latter, in all of its detail, could be expressed in a great many if not literally an unlimited number of ways. *Id.*

Note also that the court reinforced its conclusion when it relied upon ' 103(a) of the 1976 Act and the definition of a compilation in ' 101. Under ' 103(a), compilations are included expressly within the coverage of a copyright. The language of ' 103(a) states:

' 103. Subject matter of copyright: Compilations and derivative works

(a) 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) (1988).

The enactment of this section eliminated any argument that Congress intended not to include a compilation within the scope of copyright. The term *compilation* is defined as *a work formed by the collection and assembling of preexisting materials or of data that are selected, coordinated, or arranged in such a way that the resulting work as a whole constitutes an original work of authorship.* 17 U.S.C. ' 101 (1988). As the definition clearly indicates, the *whole* of the work produced is covered by the copyright.

by the copyright if found to be a substantial part of the computer program.¹⁵⁶ The *Lotus* court found the structure of the copyright claimant's computer program at issue to be covered by the copyright as the program's most unique element.¹⁵⁷

The *Lotus* opinion reflects most federal courts' current interpretation of the breadth of copyright coverage for computer programs under the 1976 Act.¹⁵⁸ Judge Keeton, in *Lotus*, and other federal judges who have examined the problem have construed the 1976 Act and the related 1980 amendments to afford copyrighted computer programs (literal and nonliteral elements) the kind of claimant-favored statutory coverage given to most other works of authorship.¹⁵⁹

In a postscript, the Keeton opinion recognized that Congress, in the 1976 Act, manifested an intention to encourage innovation in the computer programming field, and to do so through copyright law that explicitly gives substantial protection to innovative *expression* in intellectual works, including computer programs.¹⁶⁰ Judge Keeton stated that, in enacting the 1980 Amendments, Congress plainly went farther in protecting the interests of the creators of an original software product.¹⁶¹ Finally, in response to the problem of uncertainty in applying the expression versus idea test and the availability of coverage for nonliteral program elements, Judge Keeton added these thoughts:

Congress could have constitutionally drawn defendants' proposed bright-line--providing protection only to computer program code and not to nonliteral elements of computer programs--but Congress has not done so. Without a congressional mandate, it would be an abuse of authority for this court, in deciding this case, to use a bright-line test of copyrightability that makes the literal-nonliteral distinction decisive. Instead, the court must adjudicate within the area of protection mandated by Congress.¹⁶²

156. *Lotus*, 740 F. Supp. at 68. In reaching this conclusion, Judge Keeton recognized that Congress intended to provide copyright coverage even for only a portion of the copyrighted work. *Id.* at 67. Judge Keeton also recognized that the determination of what is a substantial part of a copyrighted computer program requires the court to make two distinct decisions: (1) the relative quantity of the part of the computer program at issue to the whole of the program; and (2) the quality or value of the part of the computer program at issue. *Id.*

As the *Lotus* court recognized, therefore, the structure at issue may be quantitatively small in relation to the copyrighted computer program as a whole but may nevertheless be found a substantial part of that whole. *Id.* at 67-68. See also *supra* note 138 and accompanying text (the *Whelan* court's discussion of this subject).

157. *Lotus*, 740 F. Supp. at 68.

158. But see *supra* note 132 (discussion of *Engineering Dynamics*).

159. There are exceptions in the 1976 Act to this policy of copyright coverage favorable to the copyright claimant. These exceptions, however, are made express by Congress in the Act, ordinarily, and are made applicable to specific settings. Illustrative is Congress's treatment of the copyright coverage for a sound recording. Although categorized as a work of authorship in ' 102(a), the copyright owner of a sound recording is not granted any right in ' 106(4) to control public performance of that recording. See 17 U.S.C. ' 102(a)(7), 106(4) (1988). Exceptions, of course, are also made express more generally in ' 102(b) of the Act. 17 U.S.C. ' 102(b) (1988) (e.g., a claim to copyright shall not be made in an idea).

160. *Lotus*, 740 F. Supp. at 76.

161. *Id.*

162. *Id.* at 73.

One may infer from Judge Keeton's opinion that, although Congress has not mandated the use of a bright-line test for purposes of limiting the scope of a copyright in a computer program, Congress may constitutionally mandate a bright-line test for limiting a statutory privilege to exercise one or more of the otherwise exclusive rights accorded the copyright claimant under the 1976 Act.¹⁶³

Apparently, Congress has chosen a bright-line method, found in amended section 117 of the Act, by which to limit the scope of the privilege to copy or adapt a copyrighted computer program.¹⁶⁴ That line was drawn when Congress used the word owner to designate the person entitled to exercise the privilege.

The following part of this Article examines how federal courts have construed the term owner in amended section 117. The relevant inquiries are: (1) Is the term owner a limitation upon the privilege which is to be construed in favor of the copyright claimant?; and (2) Should the term owner be interpreted in a manner favorable to the alleged infringer of the copyrighted computer program?

VI. THE FEDERAL COURTS' APPLICATION OF AMENDED SECTION 117: THE OWNER OF A COPY OF A COMPUTER PROGRAM

When analyzing federal court decisions addressing the issue of who is the owner of a copy of a computer program for the purpose of determining who may invoke the 1976 Act's privilege in section 117, as amended in 1980, it is important to remember several points:

- (1) Both before and at the time of the enactment of the 1976 Copyright Act, copyright protection was thought to exist in computer programs;¹⁶⁵
- (2) Following the 1976 Act's passage, a majority of the CONTU commissioners concluded that a copyright existed in computer programs;¹⁶⁶
- (3) The 1980 amendment of section 117 reinforced the conclusion of the copyright's existence;¹⁶⁷ and
- (4) Federal courts were given the job of shaping the limits of that existence.¹⁶⁸

Given the federal courts' responsibility to apply the 1976 Act's requirements to discrete cases, also recall that the decisions of the federal courts have ordinarily favored the claimant of the

163. The exclusive rights in ' 106 of the Act are explicitly made subordinate to privileges found in ' ' 107 through 120. 17 U.S.C. ' 106 (1988 & Supp. 1991).

164. See *infra* notes 181-277 and accompanying text.

165. See *supra* notes 36-38 and accompanying text.

166. See *supra* notes 45-49 and accompanying text.

167. See *supra* notes 61-66 and accompanying text.

168. See *supra* notes 86-89 and accompanying text.

copyright in the computer program.¹⁶⁹ This claimant-favored treatment has included not only the literal elements of programs,¹⁷⁰ but their nonliteral elements as well.¹⁷¹

Finally, consider that the applicable policy claimed by alleged infringers of copyrighted computer programs--that creativity is furthered by a view of copyright coverage which favors the alleged infringer--has been rejected by most federal courts. In doing so, the courts have found the alleged infringers' claims to be inconsistent with Congress's mandate and the role courts must play in discharging that mandate.¹⁷² Indeed, it has been recognized that a view of copyright coverage for all computer program elements that favors the copyright claimant encourages creativity and dissemination of new ideas and thereby benefits the public.¹⁷³ Also, most federal courts that have addressed the coverage issue have adopted a view that favors the computer program copyright claimant because that view is reflected by the policy, history, and text of the 1976 Act.¹⁷⁴

The phrase "owner of a copy of a computer program," which amended section 117 of the 1980 amendments to the 1976 Act requires a court to analyze before invoking the privilege of the section, is not defined in the statute. Neither does that phrase appear in any historical antecedent to amended section 117. The CONTU Final Report had recommended that "a rightful possessor of a copy" should be able to assert its proposed section 117 privilege.¹⁷⁵ The CONTU Final Report, however, neither defined the phrase "rightful possessor" nor otherwise made clear what the commissioners intended that phrase to mean.¹⁷⁶

The ambiguities still surrounding section 117's term "owner" because of a lack of judicial construction have been illustrated by the hypothetical situation referred to periodically in this Article.¹⁷⁷ A, the creator of the copyrighted computer programs, claims to be the owner of the copies it has turned over to B. The factual bases of A's claim are that it relinquished possession of the copies for limited purposes only and that it reserved all other rights.¹⁷⁸ B, who hired A to write the computer programs, claims that its payment to A included the purchase price of the

169. See *supra* notes 102-64 and accompanying text.

170. See *supra* note 102 and accompanying text.

171. See *supra* notes 119-64 and accompanying text.

172. See *supra* notes 146-60 and accompanying text.

173. See *supra* note 149 and accompanying text.

174. In particular, ' 102(a) and (b) appear to reflect the congressional position of claimant-favored treatment. See cases cited *supra* note 142.

175. See *supra* notes 67-68 and accompanying text.

176. See *supra* note 67 and accompanying text. In amending the phrase "rightful possessor" to "owner" before enacting the 1980 amendments, Congress most likely intended to borrow the meaning of "owner" from then ' 109(c) of the 1976 Act, which makes clear that the privileges granted by that section do not . . . extend to any person who has acquired possession of the copy . . . by rental, lease, loan, or otherwise, without acquiring ownership of it. 17 U.S.C. ' 109(c) (1976) (current version at 17 U.S.C. ' 109(d) (1988)). The dearth of legislative history for the substitution, however, has encouraged alleged infringers to raise amended ' 117 as a defense.

177. See *supra* notes 18-25, 68-69 and accompanying text.

178. See *supra* notes 19-20 and accompanying text.

copies of A=s copyrighted computer programs turned over by A to B. B, therefore, claims to have become the owner of the copies.¹⁷⁹ As to which party is the owner for purposes of amended section 117,¹⁸⁰ the decisions to date suggest some approaches to resolving this question, but no federal court has addressed this issue squarely.

One of the earliest decisions in which a United States district court interpreted the meaning of the phrase Aowner of a copy@ was *Hubco Data Products Corp. v. Management Assistance, Inc.*¹⁸¹ In *Hubco*, Management Assistance, Inc. (MAI) sought to enjoin the plaintiff, who was the provider of software that could be used to enhance the capabilities of MAI=s software.¹⁸² In *Hubco* there was no question but that Hubco copied a portion of MAI=s copyrighted computer program when making its software.¹⁸³ Also, Hubco had no ownership interest in any copy of MAI=s copyrighted computer program used in preparing its software.¹⁸⁴ Although the court recognized that amended section 117 creates an exemption from a finding of infringement for certain instances of copying or adapting programs, it concluded that because Hubco was not the Aowner= of the . . . copy contained in the software,@ it could not avail itself of the exemption.¹⁸⁵

179. See *supra* notes 23-24 and accompanying text.

180. Should A prevail on the Aowner of a copy@ issue, B may claim to have an additional defense based upon the fair use privilege of ' 107 of the 1976 Act. See *infra* notes 331-41 and accompanying text. Should B prevail on the owner issue, it may still fail to satisfy the other limitations that Congress has placed upon the availability of amended ' 117's privilege. See *supra* notes 20-22 and accompanying text. Once again, ' 107 may also be claimed to be an available privilege.

181. 219 U.S.P.Q. (BNA) 450 (D. Idaho 1983).

182. *Id.* at 451. When MAI sold its computers and its system software originally, it did so at less cost to the customer by placing governors, which restricted memory and peripheral capacity, at points throughout the software. *Id.* at 452. The customer paid for and received only the hardware and software requested at the time of purchase. MAI would modify or upgrade the system if needed by the customer in the future, at a certain dollar cost. *Id.* Hubco devised a program that could remove the governors and, thus, was able to effect the upgrade and do so for less money than MAI charged. *Id.* Although it was unstated in the opinion, it appears likely that MAI was charging more for the upgrade than was Hubco because MAI was passing on to its customers the research and development costs of its initial software.

183. *Id.* at 456. Earlier in this case the court ruled that Hubco had properly developed the method by which it could decipher MAI=s code that governed memory and peripheral capacities. *Id.* at 452. The court found, however, that Hubco had copied nonetheless because Hubco=s method of enhancement included portions of the Aobject code@ that MAI had written and copyrighted as part of its higher level versions. *Id.* at 455-56. The court also found that whether Hubco=s employee copied those portions at the customer=s site or instead the customer had done the copying did not affect Hubco=s liability. *Id.* at 452. In the latter case, Hubco would be found to have contributorily infringed the MAI copyright. *Id.* at 455-56.

184. MAI=s customers were apparently commercial licensees of its software. *Id.* at 456. There was no issue raised in the case concerning the application of the owner of a copy requirement of amended ' 117 or the application of the section generally to these customers. Hubco, therefore, did not take the position that, because MAI=s customers were exempt under amended ' 117, Hubco, too, was exempt vicariously. This argument has proven successful, but only in the United States Court of Appeal for the Fifth Circuit. See *infra* notes 221-30 and accompanying text.

185. *Hubco*, 219 U.S.P.Q. (BNA) at 456.

Hubco, of course, presents a rather simple setting within which a federal court found that amended section 117 was not applicable because the owner requirement was not met.¹⁸⁶ More importantly, when the court precluded *Hubco*'s practice by finding a non-exempt infringement, it would seem that the court was furthering the same policy that Congress has used in support of other parts of the 1976 Act.¹⁸⁷ In this regard, *Hubco* not only copied but also made certain changes to *MAI*'s copyrighted software.¹⁸⁸ These changes enabled the purchasers of *MAI*'s computers, who were also *MAI*'s computer program licensees, to enhance their computers' storage and hardware peripheral capacities at a dollar cost less than *MAI* would charge.¹⁸⁹

Had the court found the alleged infringement to be exempt, it would have forced *MAI* into two possible courses of action:

- (1) Sell its computers and the software needed with maximum storage and peripheral capacities, which would thereby eliminate the need for the later enhancement;¹⁹⁰ or
- (2) Sell the hardware and software with an additional security device which would attempt to defeat the ability of third-party enhancement.¹⁹¹

186. *Hubco* was found not to be an Aowner of a copy@ under amended ' 117. *Id.* at 456. *See* *ISC-Bunker Ramo Corp. v. Altech, Inc.*, 765 F. Supp. 1310, 1332 (N.D. Ill. 1990) (infringer, unauthorized possessor, not an amended ' 117 Aowner@). The question remains, just who is the Aowner of a copy@ entitled to invoke amended ' 117's privilege to copy and adapt. *See infra* notes 204-67 and accompanying text.

187. *See, e.g., supra* notes 150-59 and accompanying text.

188. *Hubco*, 219 U.S.P.Q. (BNA) at 452. The changes, it seems, occurred when *Hubco* substituted *MAI*'s higher level governing codes for lower level ones, which enabled the capacity Aenhancement@ to take place. The initial deciphering of the governing codes was found by the district court to be proper; the copying of those codes, however, was found to be a probable infringement. *See supra* note 183.

189. The harm to *MAI*, had *Hubco*'s copying continued, was found by the district court to be irreparable; the court therefore issued a preliminary injunction pending the outcome of the case. *Id.* at 457-58. Congress has authorized injunctive relief in the 1976 Act. *See* 17 U.S.C. ' 502(a) (1988). Furthermore, the injunction issued only after the district court found that there was Aa reasonable probability of successfully showing@ the infringement through copying. *Hubco*, 219 U.S.P.Q. (BNA) at 457.

Here, it seems that the court was viewing *MAI*'s harm as resulting from both the marketing by *Hubco* of its modifications and the conduct of *MAI*'s customers who sought to upgrade the copyrighted computer programs created by *MAI* initially and who could do it for less cost through *Hubco*. In one sense then, there is some detriment to a segment of the public in extending this relief to *MAI*, because *MAI* will be the exclusive source from which its customers can obtain an upgrade.

190. This alternative may be detrimental to that segment of the public interested in saving costs by not having to pay for the purchase of unnecessary capacities, e.g., small commercial users. The increased purchase price, which could result from the enlarged space provided initially, may also dissuade the customer from making any computer purchase. This result would be as detrimental to the customer (would-be software licensee-user) as it would be to the licensor-owner of the copyrighted computer program.

191. In *Hubco*, *MAI* had already incorporated the governors into its copyrighted computer program, which arguably saved some of its customers an unnecessary cost at the time of purchase. *See supra* note 182. The governors, however, did not prove successful against *Hubco*, who was able to decipher them and enhance *MAI*'s copyrighted computer program.

Had the district court, however, found neither probable infringement nor likely irreparable loss (amended ' 117 having perhaps been found applicable), thus forcing *MAI* to provide additional protection against third-party decoding in the future, it would have been encouraging and rewarding wasteful authorship or the needless diversion of creative efforts toward the goal of making computer programs Aenhancement proof@ except by *MAI*. Under

Either course of action would be detrimental to new computer buyers, who would be paying more for unneeded capacity or the added security device. This form of Apublic detriment@ was avoided and so the public was benefitted by the *Hubco* court=s decision to interpret the word owner in amended section 117 literally and so to apply it strictly in favor of the copyright owner of the computer program.¹⁹²

A somewhat more problematic setting than that of *Hubco* presents itself when the infringement claimed bears more directly upon the customers of the owner of the copyright in the computer program, in addition to the third person or persons sued for the infringement. This situation is exemplified by *Midway Manufacturing Co. v. Strohon*.¹⁹³ In that case, a copyright was claimed in the computer program of a video arcade game as a literary work. The game was marketed to arcade operators, one of whom was named as a defendant.¹⁹⁴ That defendant, in order to complicate and increase the pace of the game, as played in his arcade, bought a speed-up kit which was not produced by Midway.¹⁹⁵ The district court found the speed-up kit to be a wrongful reproduction and adaptation of the plaintiff=s copyrighted computer program¹⁹⁶ and concluded that the speed-up kit was an infringement of the plaintiff=s copyright.¹⁹⁷ The court

these circumstances, MAI=s customers would likely be asked to pay for the cost of that additional protection which is unrelated to their computer needs. If the customers chose not to pay, MAI=s primary creative efforts would go entirely unrewarded. If, as is also likely, any additional security device devised by MAI would be eventually deciphered, no one would be benefitted by the court=s decision, and the cycle might begin again. Congress could not have intended such a tug-of-war under the 1976 Act.

192. There remained, in *Hubco*, the issue of whether a copyright could properly be claimed by MAI in its program. *Hubco*, 219 U.S.P.Q. (BNA) at 454. If the court found ultimately that MAI=s computer program did not embody Aan original work of authorship,@ no copyright could be claimed in it, and the Aowner of a copy@ analysis of amended ' 117 would be rendered moot. Given the court=s order to issue the preliminary injunction against *Hubco*, MAI would likely prevail on the Aoriginal work of authorship@ issue (the MAI Aobject codes@ as Aliterary works@). *Id.* See also *supra* note 189.

193. 564 F. Supp. 741 (N.D. Ill. 1983).

194. Although unclear from the opinion, it does not seem that the arcade operator, Slayton, was charged with any infringement of plaintiff=s copyright in the computer program at issue. The plaintiff claimed that Slayton infringed the copyright claimed in the video game screen display as an audiovisual work. *Id.* at 746. As to this claim, however, the court found that there was no infringement. *Id.* at 746-48. See also *Atari, Inc. v. North Am. Philips Consumer Elecs. Corp.*, 672 F.2d 607 (7th Cir.), *cert. denied*, 459 U.S. 880 (1982) (a model case for judicial analysis of copyrights in video game screen displays as audiovisual works).

195. The reason for changing the game may not be clear to those of us who find our hand-eye coordination ill equipped to handle the simplest and slowest video game. These types of changes are made to challenge the masters of a particular video game who otherwise can monopolize it on a single token (\$.25 at the time of *Strohon* in 1983). Such continuous play would leave the game machine virtually tokenless and the arcade operator almost quarterless. *Strohon*, 564 F. Supp. at 744.

196. *Id.* at 749.

197. *Id.* More precisely, these findings were made on an incomplete record although it was sufficient to support the court=s preliminary injunction which precluded the defendant from selling its kit. *Id.*

noted that the 1980 amendments to the 1976 Act, including section 117, were applicable and that the copyright claimed in the program was valid.¹⁹⁸

The court, in dictum, alluding to the question of to whom the amended section 117 privilege would apply, concluded that it was the lawful owner who, within amended section 117's additional limits, could adapt or Acopy.¹⁹⁹ As to the meaning of the phrase Alawful owner,@ the court intimated, again in dictum, that a lawful owner was not the owner of the video game machine,²⁰⁰ nor was a lawful owner a mere licensee of the owner of the copyright in the computer program.²⁰¹ The court, however, made no determination of the defendant-operator=s status. Rather, the case turned ultimately on other issues resolved in favor of the copyright claimant of the computer program.²⁰²

The preceding judicial decisions considering amended section 117's term owner excluded from that word=s meaning persons in the business of enhancing computer programs: (1) who were not owners, in the literal sense, of the copies enhanced (*Hubco*); or (2) who may have been machine owners and licensees of the copyright claimant in the computer program used by the machine (*Strohon*). These cases suggest that an owner of a machine (video game or non-game computer), who is licensed to use the copyrighted computer program and who is in possession of a copy of that program, may not be an Aowner of a copy@ for purposes of the application of amended section 117. This conclusion was rejected, however, by the United States Court of Appeals for the Fifth Circuit in *Vault Corp. v. Quaid Software Ltd.*²⁰³

198. *Id.* In fact, the parties apparently agreed that the applicable law was the Computer Software Copyright Act of 1980. *Id.*

199. *Id.* The court=s choice of a paraphrase, Alawful owner,@ for the statutory term Aowner@ to describe the person to whom amended ' 117 applies is important. *See id.* Although redundant perhaps, the word Alawful@ used by Judge Will to gloss the statutory word Aowner@ seems to emphasize the nature of the property interest required for amended ' 117 to apply, i.e., Aownership@ as opposed to mere Ause@ or Apossession.@ In *Strohon*, however, the defendant, even if assumed to be a lawful owner, failed to copy or to adapt the claimant=s program as an *essential step* Afor use `in conjunction with a machine,@ or for Aarchival purposes.@ *Id.* at 749. *See* 17 U.S.C. ' 117 (1988). In this regard, the defendant copied and adapted to facilitate the sale of his speed-up kit, which was not essential to the operation of the arcade game machine. As such, the defendant could not qualify for the amended ' 117 privilege. *Strohon*, 564 F. Supp. at 749.

200. *Strohon*, 564 F. Supp. at 746. It was no defense to the infringement of the copyright claimed in the computer program that the copyright claimant of the computer program sold the video game machine containing the program.

201. *Id.* at 745-46 (citing with approval *Midway Mfg. Co. v. Artic Int'l, Inc.*, 704 F.2d 1009, 1013-14 (7th Cir.), *cert. denied*, 464 U.S. 823 (1983) (licensees of copyright owner, when installing game modification kit, are infringers of the copyright)). *See also* Nimmer & Krauthaus, *supra* note 17, at 57-60 (section 117 analysis of *Hubco*, *Strohon*, and *Artic*).

202. *Strohon*, 564 F. Supp. at 753. The court held that the copyright claimed covered the computer program even though it was stored on computer chips and that there was shown sufficient similarity in claimant=s and defendant=s programs to infer copying. *Id.*

203. 847 F.2d 255 (5th Cir. 1988). *But see* *S.O.S., Inc. v. Payday, Inc.*, 886 F.2d 1081 (9th Cir. 1989); *infra* notes 242-67 and accompanying text.

In *Vault*, the Fifth Circuit interpreted the term owner in amended section 117 in a manner favorable to the end-user of the copyrighted computer program.²⁰⁴ The plaintiff in *Vault* claimed an infringement of its copyrighted computer program. The Vault program embodied a protective device that enabled Vault's customers, who produced various kinds of software, to prevent the unauthorized reproduction of their computer programs.²⁰⁵ The defendant Quaid, after acquiring a copy of Vault's copyrighted computer program,²⁰⁶ defeated Vault's protective device and

204. 847 F.2d at 259 n.7, 260. By describing the court's interpretation as one that favored the defendant program user, the authors mean that the court, by implication, equated the term "owner" in amended ' 117 with "rightful possessor," the phrase used in the recommendation of the CONTU Final Report. *Id.* See *infra* notes 209-12 and accompanying text. The Fifth Circuit did this despite its recognition that the only change that Congress made to the CONTU recommendation regarding ' 117 was the substitution of the term "owner" for the phrase "rightful possessor" when enacting the amendment of ' 117 of the 1976 Act in 1980. *Vault*, 847 F.2d at 259 n.7. See *infra* notes 210-12 and accompanying text. Although the term "owner" was not defined in the amendment, nor was the purpose for the substitution made known in the legislative history of amended ' 117, the court chose to include the defendant in the case, Quaid, within the meaning of that term. *Id.* at 261. This choice, it has been shown, is inconsistent with the treatment generally given by federal courts to copyright coverage issues concerning computer programs in other contexts. See *supra* notes 94-164 and accompanying text.

The decision of the *Vault* court to include the defendant, Quaid, within the term "owner" was also unnecessary to achieve any privilege Congress may have had in mind for copyrighted computer program users like Quaid. See *infra* note 281 and accompanying text (beginning of discussion of fair use). The *Vault* court's interpretation renders Congress's choice of the word "owner" unnecessary and meaningless. Furthermore, the court's decision jeopardizes the legislative balance struck by Congress in the 1976 Act and the computer program-related amendments of 1980, which favor the copyright claimant in the computer program. The Fifth Circuit has also construed the issue of copyright coverage for the nonliteral aspects of a copyrighted computer program in a manner favorable to the alleged infringer. See *supra* note 132.

205. *Vault*, 847 F.2d at 256. The Vault copyrighted computer program was marketed through the medium of a diskette. Its customers, the producers of other software, would then place their programs on the Vault diskette. The customers' diskettes, when marketed, contained the "copy protect" Vault program. Their computer programs, therefore, could not be reproduced by those customers who sought to make one or more additional and fully functional copies of them. *Id.* at 256-57.

206. It appears that Quaid, like Vault's customers, acquired the copyrighted computer program under a license from Vault. *Id.* at 257. This agreement was probably a type of shrink-wrap licensing agreement that was not negotiated and probably contained boilerplate language that was unilaterally favorable to Vault. See, e.g., *id.* at 257 & n.2. The license contained the following provisions: "Title to the Licensed Software and all copyrights and proprietary rights in the Licensed Software shall remain with VAULT. You may not . . . copy . . . the Licensed Software for any purpose without VAULT's prior written consent." *Id.* at 257 n.2. The license, beginning with the last version of the Vault copyrighted computer program acquired by Quaid, also reflected the fact that state law governed only to the extent that "the laws of the United States of America [were] not applicable." *Id.* at 257 n.3. The Fifth Circuit, however, concluded that Quaid was an owner under ' 117 independent of this choice of law provision in the Vault-Quaid license. *Id.* at 258, 269-70. The license in which Vault purported to retain ownership of the copy was held unenforceable insofar as it conflicted with the amended ' 117 privilege to make "archival copies." *Id.* at 270. *Vault* is an example of the hard case scenario. See *supra* note 18. See also Thomas L. Hazen, *Contract Principles as a Guide for Protecting Intellectual Property Rights in Computer Software: The Limits of Copyright Protection, the Evolving Concept of Derivative Works, and the Proper Limits of Licensing Arrangements*, 20 U.C. DAVIS L. REV. 105 (1986); Richard H. Stern, *Shrink Wrap Licenses of Mass Marketed Software: Enforceable Contracts Or Whistling In The Dark?*, 11 RUTGERS COMPUTER & TECH. L.J. 51 (1985).

Had the court found Quaid to be a non-owner, holding amended ' 117 inapplicable, the result would have better followed the policies that support the results reached in other contexts that favored the computer program copyright claimants. See, e.g., *supra* notes 133-64 and accompanying text. Furthermore, on the *Vault* facts, such a

created a computer program that was marketed to facilitate the duplication of programs placed on the copy-protected diskettes.²⁰⁷ Among the infringements claimed were: (1) A copying [of] Vault=s program into [Quaid=s] computer=s memory for the purpose of developing a program . . . designed to defeat the function of Vault=s program; and (2) A contribut[ing] to the unauthorized copying of Vault=s program by users of the Quaid program.²⁰⁸ The defendant responded to these claims by asserting the amended section 117 privilege to copy.

The *Vault* court began its analysis of amended section 117 by indicating that the section permits A an owner of a computer program to make certain copies.²⁰⁹ Thereafter, the *Vault* court, in examining the history of the amendments to section 117, highlighted the recommendation of the CONTU Final Report, which permitted the A rightful possessor to assert the section 117 privilege.²¹⁰ The court recognized that, when amending section 117, Congress made one change only to the CONTU recommendation: A owners,= as opposed to `rightful possessors,=@ were granted A a limited right to copy.²¹¹

Without commenting on what Congress may have intended by that change, or finding explicitly that Quaid was an owner, the court considered the first of Vault=s infringement claims--that Quaid had copied Vault=s copyrighted computer program without its authority--and Quaid=s defense--that the copy made was privileged under amended section 117. Implicit, of necessity, in the court=s analysis thereafter is its conclusion that Quaid was an owner under the section.²¹²

After reaching the conclusion that Quaid satisfied the owner qualification without any analysis of why, the court addressed the next requirement in amended section 117, namely, whether the A copy . . . is created as an essential step in the utilization of the computer program in conjunction with a machine and . . . is used in no other manner.²¹³ Consistent with its

decision would not have precluded a finding of fair use. *See infra* note 281 and accompanying text (beginning of fair use analysis).

207. *Vault*, 847 F.2d at 258. Even the owner of Quaid Software Ltd. admitted that facilitation of duplication was the purpose of defendant=s computer program and that this was its sole commercial value. *Id.* at 258. It is odd, at best, to think that Congress, when enacting the 1980 amendments to the 1976 Act, intended, by ' 117, to privilege a party like Quaid who: (1) was a copyist without question; (2) whose sole motive and design was to profit by its copying; and, (3) whose computer program was created only to enable others to also copy copyrighted materials. This, however, seems to be the intent ascribed to Congress by the *Vault* court.

208. *Id.* at 258, 263. Vault also claimed that Quaid infringed by A preparing derivative works of Vault=s program. *Id.* at 259. Since this claim of infringement did not require the court to analyze the ownership issue of amended ' 117, it is given no further treatment by these authors in this context. *But see infra* notes 274-75 and accompanying text.

209. *Vault*, 847 F.2d at 259. Note that the court omitted the phrase A of a copy found in amended ' 117. *See id.* The omission appears insignificant, however, as the discussion of other aspects of the court=s analysis will reveal. *See infra* notes 239-41 and accompanying text.

210. *Vault*, 847 F.2d at 259-60. The privilege is that which enables the alleged infringer to copy or adapt within the other limits expressed in amended ' 117. *See supra* notes 20-21 and accompanying text; 17 U.S.C. ' 117 (1988).

211. *Vault*, 847 F.2d at 260 n.11.

212. *See supra* note 204 (initial criticism of that particular move in rhetoric made by the *Vault* court).

213. 17 U.S.C. ' 117(1) (1988). *See Vault*, 847 F.2d at 261.

conclusion that Quaid was an owner under amended section 117, the court also found that Quaid's use met the essential step requirement.²¹⁴ In part, the court's finding was based upon the fact that Quaid's initial copying was done when Quaid loaded the Vault copyrighted computer program into the memory of Quaid's computer.²¹⁵ Because loading a non-chip-based program into memory is necessary to using the program in the computer, this aspect of the court's finding appears sound.²¹⁶ The court, in order to complete its analysis, however, also found that the loading of the Vault copyrighted computer program into memory was an essential step even though done for the express purpose of devising a means of defeating its protective function.²¹⁷

The Fifth Circuit, in reaching this result, appears to have failed to apply the remaining portion of the essential step requirement, which states: "[I]n the utilization of the computer program in conjunction with a machine and that *it is used in no other manner . . .*"²¹⁸ Had the court applied the language of the requirement literally, it could have excluded the loading of a copy made for a purpose beyond and contrary to the purpose for which the copyrighted computer program was written. In applying this portion of the essential step qualification, however, the court chose, once again, to construe amended section 117 in a manner favorable to the defendant, stating only that "[s]ection 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."²¹⁹ The court could just as easily have found for the copyright owner by reasoning that amended section 117(1)'s wording "utilization . . . in no other manner" indicates that the copying could not be done for defendant Quaid's contrary purpose.²²⁰

214. *Vault*, 847 F.2d at 261. The requirement that the copy made be essential to the use of the copyrighted computer program with the computer has been construed by other federal courts to preclude the application of amended ' 117. See, e.g., *Micro-Sparc, Inc. v. Amtype Corp.*, 592 F. Supp. 33 (D. Mass. 1984) (commercial creation by a third party of a computer-loadable copy of a copyrighted computer program from a program listing in a magazine was not an essential step necessary to using that program in a computer); *Tandy Corp. v. Personal Micro Computers, Inc.*, 524 F. Supp. 171, 175 (N.D. Cal. 1981) (copying of computer chip on which a copyrighted computer program was encoded was not an essential step in using the program "in conjunction with" a computer).

215. *Vault*, 847 F.2d at 261.

216. *Id.* This conclusion does not mean that the court's decision to find Quaid an owner under amended ' 117 was sound. The court did not have to make that first finding in order to exempt the defendant from being found an infringer. The Fifth Circuit could have found Quaid a non-owner and amended ' 117 inapplicable, yet still have concluded that Quaid's copying was a fair use under ' 107. See *infra* note 281 and accompanying text (beginning of fair use discussion).

217. *Vault*, 847 F.2d at 261.

218. 17 U.S.C. ' 117(1) (1988) (emphasis added).

219. *Vault*, 847 F.2d at 261.

220. The court opened the door to amended ' 117(1), enabling alleged copyright infringers to argue that loading the copyrighted computer program for their diagnostic purposes is exempt. The Fifth Circuit, however, could just as easily have adopted the copyright owner's view of the ambiguous "essential step" language found in amended ' 117(1) and held that the exemption does not apply to copies made for diagnostic purposes. Had this finding been

Having found for the defendant on the direct copying issue, the Fifth Circuit then considered Vault=s claim of contributory infringement. Vault asserted that Quaid marketed a computer program with a device that defeated the protection from copying afforded by Vault=s copyrighted computer program. Quaid, therefore, enabled its customers to make unauthorized copies of the now unprotected copyrighted computer programs. As a consequence, Quaid was alleged to be a contributory infringer.²²¹ Quaid raised amended section 117(2) in response to Vault=s argument,²²² claiming that this paragraph extends the section=s exemption to persons who have made archival copies.²²³ Therefore, according to Quaid, if the court found that the copies made by Quaid=s customers were archival copies, those customers could not be held liable for an infringement. Quaid would then not have contributed to an infringement and thus would not be held vicariously liable.²²⁴

In a manner almost identical to its earlier findings, the court concluded that the Quaid computer program was capable of being put to a noninfringing use by its customers, namely, making a copy of Vault=s copyrighted computer program and those copyrighted programs of Vault=s customers for archival purposes.²²⁵ These copies would be noninfringing because they would be, according to the Fifth Circuit panel, exempt under amended section 117(2).²²⁶ The court found the exemption applicable to a copy of a program made Afor any reason so long as the owner uses the copy for archival purposes only and not for an unauthorized transfer. @²²⁷

made, the court would not have precluded Quaid, the defendant, from arguing fair use. See *infra* note 281 and accompanying text (beginning of fair use discussion).

221. *Vault*, 847 F.2d at 261. Vault claimed that unauthorized copies could be made of its copyrighted protective security computer program and also the copyrighted computer programs owned by its customers.

222. *Id.* at 262, 264.

223. *Id.* By its terms, the application of amended ' 117(2) is limited to a copy made Afor archival purposes only. @ 17 U.S.C. ' 117(2) (1988). Congress emphasized the limited nature of the archival copy exemption when it included the following language in amended ' 117(2): Aand that all archival copies are destroyed in the event that continued possession of the computer program should cease to be rightful. @ *Id.*

224. *Vault*, 847 F.2d at 266-67. The basis for the noninfringing use defense to a copyright infringement action is found in the United States Supreme Court=s decision in *Sony Corp. of America v. Universal City Studios, Inc.*, 464 U.S. 417 (1984). If a commercial product (a VCR in *Sony*), although capable of contributing to a copyright infringement when used (unauthorized off-the-air video taping of copyrighted programs for resale, for example), is also capable of a Acommercially significant noninfringing use @ (unauthorized off-the-air video taping by home television viewers for the purpose of time-shifting--a ' 107 fair use), *id.* at 442, the maker of that product is not a contributory infringer and is not to be held vicariously liable. *Id.* at 442-55; *Vault*, 847 F.2d at 264. It is to be emphasized that the privilege asserted by the defendants in *Sony* was that of fair use under ' 107 of the 1976 Act. *Sony*, 464 U.S. at 447. See also *infra* note 281 and accompanying text (beginning of fair use discussion).

225. *Vault*, 847 F.2d at 261.

226. 17 U.S.C. ' 117(2) (1988). Note, however, that the supposedly purely Aarchival @ copies were altered versions of the copies distributed by the copyright owners.

227. *Vault*, 847 F.2d at 266 (footnote omitted). In this part of the opinion, the court apparently assumed that any person in rightful possession of a copy of the Vault copyrighted computer program and the copyrighted programs of Vault=s customers owned that copy. The court, however, made no explicit findings in this regard. The premise of ownership was assumed by the court when applying amended ' 117(2). See *supra* note 212 and accompanying text. As with amended ' 117(1), the premise of rightful possession equating ownership is most suspect. See *infra* notes 263-77 and accompanying text.

In yet another interpretation of amended section 117(2) favorable to the alleged infringer, the *Vault* court rejected expressly what it characterized as the Anarrow construction of the archival exception, advanced by Vault.²²⁸ Vault argued that the exception was only intended to apply to an archival back-up copy of a copyrighted computer program that is susceptible to damage due to mechanical or electrical failure.²²⁹ Vault claimed that the copies of its and its customers' copyrighted computer programs, when marketed, were not susceptible to these types of damage; Therefore, Vault argued that amended section 117(2) was inapplicable and that Quaid's computer program facilitated infringing copying only.²³⁰

After rejecting Vault's position as narrow, the court concluded that Congress imposed no restrictions upon archival copying and that the court would not read any such intent into amended section 117(2).²³¹ The court's expansive view, which favors an alleged infringer, is as likely to have been intended by Congress as the Anarrow view, which favors the copyright owner's position. The phrase for Archival purposes only in amended section 117(2) does not by its wording limit the privilege to the example recited in the CONTU Final Report.²³²

The *Vault* court's expansive reading of the scope of section 117's archival privilege to cover all risks is sound, even though no other kind of copyrighted work receives such a privilege.²³³ Congress does not state anywhere else in the 1976 Act that every owner of a copy of a copyrighted mystery novel, phonorecord, video tape, or other copyrighted literary work may

228. *Vault*, 847 F.2d at 266.

229. *Id.* at 265-67. In support of this position, Vault relied on the CONTU Final Report, in which the commission's majority concluded that the exception was to be applicable to instances of mechanical or electrical failure. *Id.* at 265-67. See CONTU FINAL REPORT, *supra* note 20, at 13. Vault also relied on uncontroverted testimony at trial describing a mechanical failure as due to damage to a storage medium's recording surface and describing an electrical failure as a result from the erasure or reformatting of the program. *Vault*, 847 F.2d at 265 n.19. In addition, Vault's argument was supported by the only two decisions construing the limits of the exception. *Id.* at 265. See *Micro-Sparc, Inc. v. Amtype Corp.*, 592 F. Supp. 33 (D. Mass. 1984) (damage due to physical risks does not support archival copying exemption); *Atari, Inc. v. JS & A Group, Inc.*, 597 F. Supp. 5 (N.D. Ill. 1983) (archival copy of a computer program encoded on a ROM chip, not susceptible to mechanical or electrical failure, is not exempt).

230. *Vault*, 847 F.2d at 265-66.

231. *Id.* at 266. In reaching this result, the court suggested that Congress intended for the exemption to apply so that all types of risks, including physical and human mishap, would be guarded against. *Id.* at 267. Note that this privilege of copying to guard against the risk of damage or destruction to a copy of a computer program does not exist for any other kind of copyrighted work. For example, the purchaser of an audiotape is not entitled to copy that tape to guard against the danger that the purchased copy may be destroyed, whether by malfunction of the player or otherwise. A write-protected distribution diskette, such as was involved in *Vault*, is probably even less likely to be destroyed than an audiotape, at least through malfunction of the device in which it is inserted. Damage to a diskette due to mechanical or electrical failure of the diskette drive is, however, still possible. In its Final Report, CONTU emphasized the vulnerability of computer program users, presumably due to disruption of economically important operations because of damage to the author-provided copy. CONTU FINAL REPORT, *supra* note 20, at 13. Congress, in adopting CONTU's suggested privilege of making archival copies (by owners of an authorized copy), endorsed special treatment of this unique type of copyrighted work.

232. See 17 U.S.C. § 106(1) (1988); CONTU FINAL REPORT, *supra* note 20, at 13.

233. See *supra* note 231 and accompanying text.

copy it to safeguard against damage, destruction, theft, or any other kind of loss to the original.²³⁴ Rather, making such a copy, if unauthorized, violates the copyright owner=s exclusive right to reproduce.²³⁵ The privilege to copy a copyrighted computer program for archival purposes to safeguard against these same types of losses is, therefore, a treatment by Congress unique to this type of work. Amended section 117 also, however, safeguards the rights of the copyright by limiting the archival privilege to an owner of a copy of a copyrighted computer program.²³⁶ Non-owners of a copy, seeking a privilege to reproduce a copyrighted computer program, must, therefore, look to alternatives to amended section 117.²³⁷

The two explicit findings made by the *Vault* court sustained the position that amended section 117 was a defense to Vault=s claims of infringement by copying.²³⁸ Both findings appear vital to the court=s initial premise that Quaid was the owner of a copy under that section.²³⁹ In this regard, it appears that the court was engaging in reasoning along the lines of *post hoc ergo propter hoc*.²⁴⁰ The court found that Quaid=s copying was privileged under amended section 117(2) because it served an archival purpose. Before the privileged archival copy could be made, Quaid had to load the Vault program into its computer; and the court found that the loading was an Aessential step@ under amended section 117(1). According to the Fifth Circuit, because one copy was essential and another archival, Congress must have intended Quaid to be an owner and thus amended section 117 must apply.²⁴¹ Unfortunately, not only does

234. Only libraries and archives, within very narrow limits, are expressly given a right to copy a literary work under the 1976 Act. See 17 U.S.C. ' 108 (1988).

235. 17 U.S.C. ' 106(1) (1988) (subject to ' 107, fair use).

236. See *supra* notes 66-68 and accompanying text.

237. Nonowner licensees are typically given privileges similar to those of ' 117 under both mass-marketed and negotiated licenses. Moreover, the 1976 Act may provide a non-owner a privilege which could be raised in defense against an infringement action. See 17 U.S.C. ' 107 (1988); *infra* note 281 and accompanying text (beginning of fair use discussion).

238. See *supra* notes 209-15 and accompanying text.

239. Again, this premise was never stated explicitly by the court of appeals but was a necessary assumption before the court could reach the two remaining issues. The premise was also left unexplained by the court, although it was apparently considered. See *supra* notes 204-12 and accompanying text.

240. In other words, the court explicitly decided that the conduct of either Quaid or the actual users of the copyrighted programs qualified for the privilege to copy under amended ' 117 as (1) essential step copying and (2) copying for an archival purpose. That conduct, having satisfied both those requirements, sustained, in turn, the implicit premise that the actual copiers were Aowner[s] of a copy of a computer program@ under that section as well. 17 U.S.C. ' 117 (1988). See generally Pamela Samuelson, *Modifying Copyrighted Software: Adjusting Copyright Doctrine to Accommodate a Technology*, 28 JURIMETRICS J. 179 (1988) (criticizing amended ' 117 and advocating need for user rights); Richard H. Stern, *Section 117 of the Copyright Act: Charter of the Software Users= Rights or an Illusory Promise?*, 7 W. NEW ENG. L. REV. 459 (1985) (proposing amendments to ' 117 providing for user rights versus owners).

241. *Vault*, 847 F.2d at 261. Cf. *Hubco Data Prods. Corp. v. Management Assistance, Inc.*, 219 U.S.P.Q. (BNA) 450 (D. Idaho 1983); *supra* notes 181-92 and accompanying text. The authors know of no other case since *Vault* that has been brought against a vendor of Aunprotect@ software. Purchasers of (licensees to use) business software tend to prefer vendors who do not rely on copy protection but who instead seem content to rely on the willingness of business organizations to act in accordance with license terms. Copy protection is still employed

post hoc reasoning often beg the question, but it can also result in an erroneous construction of the privileges to copy found in amended section 117. After *Vault*, and the view of amended section 117's application taken by the United States Court of Appeals for the Fifth Circuit, the second decision to date that provides considerable insight into the meaning of the term "owner" found in amended section 117 is *S.O.S., Inc. v. Payday, Inc.*²⁴²

In that case, S.O.S. and Payday entered into an agreement by which S.O.S. would furnish Payday with computer programs adequate for Payday to service one of its business clients.²⁴³ In their agreement, S.O.S. would provide the copyrighted computer programs and modify them to meet Payday's needs in exchange for Payday's payment of a certain sum of money.²⁴⁴ The agreement also provided that "[t]his series of programs is the property of SOS, and Payday is acquiring the right of use, SOS retains all rights of ownership."²⁴⁵ After entering into this agreement, Payday decided to acquire its own computer and begin providing computer services to its clients without using S.O.S.'s computer, on which the programs were installed. Upon making this decision, Payday acquired unauthorized copies of the S.O.S. programs, which Payday then had installed on its own computer and modified to perform enhanced functions.²⁴⁶ Upon discovery of Payday's activities, S.O.S. brought an action for copyright infringement in addition to other claims.²⁴⁷ Following the district court's entry of summary judgment on the infringement claim in favor of Payday, S.O.S. took an appeal in which it claimed that Payday had copied S.O.S.'s validly copyrighted programs and did so "beyond the scope of Payday's license."²⁴⁸ When dealing with the issue of whether Payday was licensed (privileged) to have

extensively by vendors of game software, which is typically marketed to children, who do not make particularly good defendants in copyright infringement cases.

242. 886 F.2d 1081 (9th Cir. 1989).

243. *Id.* at 1083. S.O.S. was a specialist in providing hardware and software suitable to satisfy the needs of companies concerning payroll and financial matters. The S.O.S. software was available to any able customer. S.O.S., therefore, marketed its software directly to companies in need of payroll and financial software. It also marketed the software to companies like Payday, which provided payroll and financial services for any concern that hired Payday to do so.

244. *Id.*

245. *Id.* (emphasis omitted). The litigants had negotiated the contract. This fact, although not critical to that portion of the court's analysis which is related to the application of amended ' 117, may be significant to those settings in which fair use is raised as a defense. See *infra* note 281 and accompanying text (beginning of fair use discussion).

246. *S.O.S.*, 886 F.2d at 1084. Two former S.O.S. employee-programmers made the copies surreptitiously on Payday's behalf and performed the adaptation needed to set up the Payday computer system. *Id.* The adaptation was not authorized by S.O.S. *Id.* At the time of these activities, S.O.S. had offered to install copy-protected versions of its programs into Payday's computer, but Payday would have to pay for the preparation of these copy-protected versions. *Id.* Although unclear from the opinion, it appears that S.O.S. would have installed copies in object code, and so copies that would have been very difficult to adapt. In any event, Payday rejected the offer. *Id.*

247. S.O.S. also brought actions for breach of contract and tortious misappropriation of trade secrets. *Id.*

248. *Id.* at 1085. The license referred to is embodied in the agreement of the parties related in the presentation of the facts of the case. See *supra* note 245 and accompanying text. S.O.S.'s copying claim alleged infringements of the right of reproduction and the right to prepare derivative works found in ' 106(1)-(2) of the 1976 Act. See *supra* note 84 (text of 17 U.S.C. ' 106 (1988)); *S.O.S.*, 886 F.2d at 1085 n.3.

copies made and adapted for use in its computer, the Ninth Circuit was asked to determine a question akin to whether Payday was an owner of a copy of a computer program under section 117 of the 1980 amendments to the 1976 Act.²⁴⁹ The kinship between the two issues became apparent when the court stated that “[t]he license must be construed in accordance with the purposes underlying federal copyright law.”²⁵⁰

The Ninth Circuit, having reached this conclusion, took issue with the district court judge, who had reasoned that the S.O.S.-Payday agreement should be construed under California law and thus against S.O.S., the party who drafted the agreement.²⁵¹ Because S.O.S. failed to reserve expressly the rights to copy and adapt, as required by that state’s law, the district court judge found that both rights were transferred to Payday under the agreement.²⁵² The court concluded, therefore, that Payday had not infringed S.O.S.’s copyright.²⁵³

The court of appeals concluded, however, that both the district court’s reasoning and result were contrary to federal copyright policy,²⁵⁴ which requires that copyright licenses be assumed to prohibit any use not authorized.²⁵⁵ In light of this principle, the Ninth Circuit found that the language within the S.O.S.-Payday agreement in which S.O.S. retain[ed] all rights of ownership encompassed ownership of copies of the programs.²⁵⁶ Payday, therefore, could rightfully acquire nothing more than possession of copies,²⁵⁷ which would enable Payday to

249. See *S.O.S.*, 886 F.2d at 1088 n.9. Although the owner issue under amended ‘ 117 was not squarely raised by the parties in *S.O.S.*, the court indicated that, in the event of Payday’s acquisition of its own computer, both parties contemplated that Payday’s right to use the S.O.S. programs would include possession of copies. *Id.* Given rightful possession, the issue of ownership arises under amended ‘ 117 and under the terms of the license agreement between the parties. Both issues are matters of federal copyright law and policy. In fact, this conclusion relating to the application of federal law and policy to both issues was reached by the *S.O.S.* court. See *infra* notes 254-59 and accompanying text.

250. *S.O.S.*, 886 F.2d at 1088.

251. *Id.* at 1087.

252. *Id.* at 1088.

253. *Id.* at 1087.

254. *Id.* at 1088.

255. *Id.*

256. *Id.*

257. *Id.* Within a footnote to this portion of its opinion, the court of appeals referred to amended ‘ 117, recognizing that an owner, and not a mere possessor, of a copy is availed of the copying and adapting privilege found in the section. *Id.* at 1088 n.9. Presumably, the court was indicating that Payday, as a mere possessor, would not be qualified to assert the amended ‘ 117 privilege. See *id.* Any other conclusion would be contrary to the copyright policy sought to be furthered by the court. That policy, by analogy to the court’s conclusion on the license issue, prohibits any use of the copyrighted computer programs not authorized, by either Congress or the licensor. Because Congress has authorized only an owner of a copy to assert the amended ‘ 117 privilege, Payday, as a mere possessor, lacked the needed authority to claim its benefit.

exercise its right to use the copies.²⁵⁸ That right, however, would not include the right to make copies.²⁵⁹

The *S.O.S.* decision goes a long way toward providing a logical and policy-wise method of determining who is an owner of a copy²⁶⁰ under amended section 117 of the 1976 Act. First, a court must recognize that the term owner is to be viewed in light of the purposes of the 1976 Act.²⁶⁰ Second, state law contractual rules are relevant to analyzing the term owner only if they further those purposes.²⁶¹ Third, when contrary to those purposes, state rules must not be used. Finally, the rightful possessor must be found to be an owner of a copy before the court addresses the issues of whether the circumstances surrounding the copy made or the adaptation performed satisfy the other criteria of the section.²⁶²

The approach suggested by the Ninth Circuit in *S.O.S.* toward analyzing the owner of a copy²⁶³ question in amended section 117 is quite unlike that taken by the Fifth Circuit in *Vault v. Quaid Software Ltd.*²⁶³ While the *S.O.S.* court was concerned with the purposes of federal copyright law when analyzing the owner question,²⁶⁴ the *Vault* court acknowledged the issue but

258. *Id.* at 1088.

259. *Id.* at 1089. The Ninth Circuit did not hold that Payday was an infringer, but instead remanded this determination to the district court. *Id.* The court did so because copying may have been the only way for Payday to exercise its contractual rights. *Id.* at 1089 n.11. In this regard, it could be found that, if *S.O.S.* refused to give Payday a copy unless it paid for copy protection, *S.O.S.* would be in breach of contract. *Id.* The surreptitious copying, therefore, may have been justified. *Id.* Although the court did not elaborate any further on this last conclusion, one available statutory basis would, of course, be fair use. *See infra* note 281 and accompanying text (beginning of fair use discussion). The district court, on remand, was also to consider whether defendant's enhanced versions were (infringing) derivative works or (noninfringing) new works. *S.O.S.*, 886 F.2d at 1089 n.11.

260. As the *S.O.S.* court stated, A[c]hief among these purposes is the protection of the author's rights. *S.O.S.*, 886 F.2d at 1088. This purpose is but an aspect of the public benefit purpose pervading the 1976 Act. In the computer program context, federal courts almost uniformly have concluded that Congress has determined that the public is best served when the author, the copyright owner of the computer program, is protected. *See supra* notes 93-159 and accompanying text.

The Ninth Circuit's interpretation of congressional policy is sound. Protecting the copyright owner of the computer program stimulates that owner, through the economic benefits it receives, to undertake the research and development necessary to the preparation of further original computer programs. Potential users are benefitted by the availability of those additional original programs. Finally, competition in the creation of original computer programs is stimulated because of the copyright coverage afforded to the initial computer programs. The business competitors of the author of those computer programs must turn away from copying or adapting them, turning instead toward their own independent creative efforts when preparing computer programs intended to match those of the author. Such computer programs will provide alternatives to users that may function better, use fewer resources, or run faster, presumably in order to be competitive. The alternatives provided will have been authored instead of having been copied or adapted from the initial computer programs. The recognition of copyright coverage in the initial computer programs, therefore, has provided the stimulus for additional authorship and resulted in the production of competitive computer programs. Both, of course, work to benefit the public.

261. In effect, the state law principles in this context become a particular form of federal common law. This form of judicial decision-making is in keeping with Congress's intent to permit the court, when applying the terms of the 1976 Act, to furnish the relevant rules of decision. *See supra* note 86 and accompanying text.

262. *See supra* note 249.

263. 847 F.2d 255 (5th Cir. 1988).

264. *See S.O.S.*, 886 F.2d at 1088.

ignored it.²⁶⁵ Rather, the *Vault* court chose to rest its decision in favor of the alleged infringer on the application of amended section 117's other limitations in a manner favorable toward the defendant.²⁶⁶ That federal copyright law and policy may favor a defendant Aowner of a copy@ when copying and adapting under amended section 117 does not mean that a non-owner copier or adapter enjoys identical privileges. Congress may, as the *S.O.S.* decision suggests, have sought to advance the purpose of author (copyright owner) protection, or copyright coverage versus an applicable privilege for the licensee, by using the term Aowner@ instead of the phrase Arightful possessor@ found in the amendment=s history.²⁶⁷ It was only when Congress was assured that the author=s rights to copy and adapt were protected against a possessor-non-owner=s copying and adapting, therefore, that it chose in amended section 117 to limit those rights.

To assist in the understanding of this position, the authors return to our earlier hypothetical,²⁶⁸ in which both *A*, the author-copyright owner, and *B*, a rightful user with authorized possession, claim to be the owner of the copies.²⁶⁹ Squarely at issue is the owner limitation of amended section 117.

If a court chooses to follow the *Vault* analysis, it would resolve the issue of *B*=s status by turning to and applying amended section 117(1).²⁷⁰ Whether or not the new copy *B* had made was Acreated as an essential step in the utilization of the computer program in conjunction with a machine@ would be the question for the court in the hypothetical to resolve.²⁷¹ The court might reason that *C*=s adaptation is an essential step because it enables *B* to use *A*=s program in *B*=s computer in order to serve changes in its business which cannot be accommodated by *A*=s program.²⁷²

The *Vault* approach allows a court to find that both the copy made and the adaptation done are essential steps, thus qualifying *B* for the privilege under amended section 117(1).²⁷³ *B*

265. See *Vault*, 847 F.2d at 259.

266. See *supra* notes 238-41 and accompanying text.

267. See *supra* notes 250-59 and accompanying text.

268. See *supra* notes 18-25 and accompanying text.

269. See *supra* notes 22-25 and accompanying text. *B*, in the hypothetical, may claim, therefore, that *A*, in relinquishing the copy, implied that the copy was to be owned by *B*. The inference could also be drawn that *A* was merely making it more convenient for *B* to reload the programs into *B*=s computer should it become necessary to do so. Indeed, it is customary for the copyright owner to provide the user with such distribution copies.

270. See *supra* note 63 and accompanying text. In doing so, the court is aided by *B*=s argument that it paid *A* for the copies that were acquired by it. Therefore, *A*=s reservation of ownership rights arguably extended to the copyright only. See *supra* notes 23-24 and accompanying text.

271. 17 U.S.C. ' 117(1) (1988).

272. This interpretation of Aessential step@ adaptation is found in the CONTU Final Report, but is arguably precluded by CONTU=s own wording of the relevant part of amended ' 117. CONTU initially justified the adaptation privilege by reciting Aa lack of complete standardization among programming languages and hardware in the computer industry.@ See CONTU FINAL REPORT, *supra* note 20, at 12-13.

273. See *supra* notes 214-17 and accompanying text; see also *Vault*, 847 F.2d at 267. The court strangely concluded that, because *Vault*=s copyrighted computer program and *Quaid*=s adaptation served opposing functions, the adaptation did not contain a significant portion of the copyrighted computer program and so was not a

must still be found to be the owner of a copy under that section in order to meet all of the requirements for the privilege. Only thereafter is *B* not an infringer of *A*'s copyright. A court following *Vault*'s reasoning would find *B* an owner without analysis.²⁷⁴ The problem with such a finding is that this conclusion is based upon the application of the amended section 117(1) essential step criterion in favor of *B* and not upon an independent analysis of the owner criterion of the section.

Congress may have intended the essential step criterion to favor *B* in our hypothetical.²⁷⁵ Applying that criterion, however, fails to take into account the scope of author (copyright owner) protection or copyright coverage otherwise reflected throughout the 1976 Act.²⁷⁶ For amended section 117 to reflect the full scope of copyright coverage under that Act, the section's term *owner* must be construed separately from and independently of the *essential step* language of that section. Only when a court employs a separate and independent test on the owner issue will it have taken into account adequately Congress's intent on the question of the amended section 117 privilege and the question of the scope of the coverage to be afforded the copyright owner.

If a court recognizes the need to analyze the word *owner* in amended section 117, it will likely follow the approach reflected in *S.O.S.* when resolving an owner issue such as the one in the hypothetical problem. Congressional intent would be furthered by construing the agreement between *A* and *B* as prohibiting any use by *B* of a copy of *A*'s copyrighted programs not expressly provided for in their agreement. Because their agreement expressly provided that *B*'s right of use was limited to loading a copy of *A*'s computer programs into *B*'s computer and retaining a copy for safe keeping, with *A* retaining all rights of ownership, *A* remained *A*the owner of [the] copy under amended section 117. The amended section 117 privilege to make copies or adaptations, therefore, should not be available to *B* in defense of the infringement action brought against it by *A*.²⁷⁷

The *S.O.S.* approach to analyzing the owner issue may lead to the conclusion that the amended section 117 privilege to copy or adapt does not apply even when the essential step criterion of the section is clearly satisfied. Such copying or adapting may, however, be justified and therefore may be privileged elsewhere under the 1976 Act.

derivative work. *Id.* at 267-68. The court also concluded that *Quaid*'s altered version of the *Vault* copyrighted computer program was not a derivative work because the version did not contain a significant portion of that program. *Id.* at 268. Presumably, had the adaptation privilege been asserted by *Quaid*, the court would have reached a similar result. The court might have reasoned that the new adaptation was an essential step because it enabled *Quaid* to perform a function not otherwise performed by the *Vault* copyrighted computer program. Indeed, the function to be performed by the new adaptation was the opposite of the function of the copyrighted *Vault* program.

274. *See supra* notes 209-12 and accompanying text.

275. *See supra* note 273.

276. *See supra* notes 93-159 and accompanying text.

277. Note that, as the *S.O.S.* court recognized, and as may remain at issue in our hypothetical, *A* must be found ultimately to be the author (owner) of a valid copyright. *S.O.S.*, 886 F.2d at 1088-89. Otherwise, *A* is not entitled to the benefits of copyright ownership, or favorable treatment under amended ' 117, or, for that matter, to any claim of rights under the 1976 Act.

The next part of this Article considers the need for such an additional privilege under certain circumstances, and examines further the need and the privilege that may be available. This privilege for non-owners, who may be copying or adapting justifiably, is found in section 107 of the 1976 Act and the defense of fair use.

VII. SECTION 107 AND AFAIR USE@: THE PRIVILEGE OF REPRODUCTION AND ADAPTATION FOR NON-OWNERS OF COPIES UNDER SECTION 117

The immediately preceding part of this Article examined the question of who is an Aowner of a copy@ under section 117 of the 1976 Copyright Act. This examination revealed that no federal court, to date, has determined expressly whom Congress intended to include within the meaning of the phrase Aowner of a copy@ in the section.²⁷⁸

These authors have advanced the argument that the term Aowner@ should be construed in a manner favorable to the copyright claimant.²⁷⁹ This construction is in keeping with the intent of Congress as reflected throughout the 1976 Act and its subsequent amendments.²⁸⁰ In doing so, we recognize that circumstances may arise in which a non-owner who is alleged to be an infringer deserves the benefit of a privilege-based defense. Rather than providing a defense through an interpretation of the term Aowner@ in amended section 117 in a manner favorable to the alleged infringer, however, Congress provided federal courts the means to do so through section 107 of the Act. The privilege codified in that section is commonly referred to as fair use.²⁸¹

When Congress incorporated the fair use privilege into the 1976 Act, it recognized for the first time Aone of the most important and well-established limitations on the exclusive right of

278. Of the opinions surveyed during the discussion of amended ' 117 of the 1976 Act, the *Vault* court came close to, but did not conclude explicitly that the defendant, Quaid, was the owner of a copy. Finding Quaid an owner of a copy arose from the opinion by implication only. See *supra* notes 209-12 and accompanying text; *supra* notes 254-57 (the *S.O.S.* court found that the language of the *S.O.S.*-Payday license preserved in *S.O.S.* ownership of any copies and thus all rights in the copyright, including the right to make copies and adaptations, except Payday=s right to use the programs).

279. See, e.g., *supra* notes 260-77 and accompanying text.

280. See, e.g., *supra* notes 37-38 and accompanying text.

281. Section 107 provides:

' 107. Limitations on exclusive rights: Fair use

Notwithstanding the provisions of section 106 and 106A, the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified by that section, for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright. In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include--

(1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;

(2) the nature of the copyrighted work;

(3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and

(4) the effect of the use upon the potential market for or value of the copyrighted work.

17 U.S.C. ' 107 (1988).

copyright owners.²⁸² In describing the fair use limitation, the legislative history of section 107 suggests that it is an equitable rule of reason²⁸³ and that, as such, its application must depend upon the facts of each case in which it is asserted.²⁸⁴ In section 107, therefore, Congress attempted to state the basic doctrine and four criteria by which a court determines its application.²⁸⁴ Congress also has recognized, however, that during a period of rapid technological change . . . courts must be free to adapt the doctrine to particular situations on a case-by-case basis.²⁸⁵

This judicial freedom to adapt section 107 in light of technological change appears to extend to the copying or adaptation of copyrighted computer programs by persons who are found by federal courts to be non-owners under amended section 117.²⁸⁶ That courts have this freedom does not of course mean that any non-owner use is exempt as fair under section 107, as is illustrated by the district court opinion in *Allen-Myland, Inc. v. International Business Machines Corp.*²⁸⁷

In *Allen-Myland*, Allen-Myland, Inc. (AMI) was alleged to have infringed an IBM copyrighted computer operating system program. The alleged infringement resulted from the conduct of AMI that may be summarized as: (1) the making of program copies of IBM=s various operating systems, compiled and maintained as a library without IBM=s authorization;²⁸⁸ (2) the modification of IBM=s programs for AMI=s customers;²⁸⁹ and (3) the distribution of these programs to customers.²⁹⁰ Among AMI=s responses to IBM=s claim was that its conduct was permissible under amended section 117 and section 107 of the 1976 Act.²⁹¹

282. H.R. REP. NO. 1476, *supra* note 28, at 65, *reprinted in* 1976 U.S.C.C.A.N. at 5678.

283. *Id.*, *reprinted in* 1976 U.S.C.C.A.N. at 5679.

284. The House Report, however, makes clear that, in ' 107, Congress was restating the fair use doctrine. *Id.* at 65, *reprinted in* 1976 U.S.C.C.A.N. at 5678. Also, as the House Report reflects, Congress did not intend to sanction uses which were beyond fair use as determined by the federal courts historically. In addition, the House Report indicates plainly that Congress did not intend to extend preferential treatment to certain uses as opposed to others. *See id.* at 66, *reprinted in* 1976 U.S.C.C.A.N. at 5680. The Report also suggests that the four fair use criteria included in ' 107 are those which have evolved through judicial application. Finally, the House Report states that the criteria set out are intended to be in no case definitive or determinative, . . . [but do] provide some gauge for balancing the equities of the doctrine=s application. *Id.* at 65, *reprinted in* 1976 U.S.C.C.A.N. at 5679.

285. *Id.* at 66, *reprinted in* 1976 U.S.C.C.A.N. at 5680.

286. The statement in the text which is made by the authors would seem preferable to corrupting the interpretation of the term owner in amended ' 117, *see* *S.O.S., Inc. v. Payday, Inc.*, 886 F.2d 1081, 1088 & n.9 (9th Cir. 1989), and thus changing the application of that section intended by Congress. *See supra* notes 263-77.

287. 746 F. Supp. 520 (E.D. Pa. 1990), *recons. denied*, 770 F. Supp. 1004 (E.D. Pa. 1991).

288. *Id.* at 529-30.

289. *Id.* at 530.

290. *Id.*

291. *Id.* AMI also contested the copyrightability of certain materials contained within the copied IBM copyrighted computer program. *Id.* at 531. In this regard, AMI first took the position that this material consisted of parts lists that were not original works of authorship as required by ' 102(a) of the 1976 Act. *Id.* The court answered this contention by rejecting AMI=s characterization of the computer program contents as parts lists. *Id.* at 531. Instead, the district court concluded that the contents of the IBM copyrighted computer program were

Without deciding if AMI was an owner under amended section 117, the district court found that exemption inapplicable.²⁹² First, it reasoned that AMI's copying was for two purposes: (1) building a library of IBM's existing copyrighted computer programs; and (2) supplying customers with an IBM program other than the program furnished by IBM with the customer's computer. Neither of these purposes resulted in copying performed as "essential step" in the use of the [computer program] with the [customer's computer].²⁹³ Second, the court found that the modifications AMI made did not qualify as adaptations falling within the essential step limitation of the section.²⁹⁴ The court reached this conclusion because the computer programs distributed by AMI were produced by: (1) combining portions from AMI's library of IBM's copyrighted computer programs; or (2) making changes in the customer's IBM-supplied operating system programs to produce a "partial duplicate" of another IBM copyrighted program.²⁹⁵ Finally, the court concluded that the copies made by AMI were not used for archival purposes only, that is, in order to replace the originals in the event of their loss.²⁹⁶

tables, instructions, and data. *Id.* The court, thereafter, took the position that whether the contents it described were sufficiently original was determined by viewing them in relation to the remaining portion of the copied computer program. *Id.* Because the balance of the copyrighted computer program could not operate properly without the tables, instructions, and data, the court concluded that they were a substantial part of the entire copyrighted computer program. *Id.* They qualified, therefore, as original under ' 102(a). *Id.* The court, therefore, rejected AMI's argument.

The court also rejected the related argument that the contents were ideas rather than expression and thus not covered by the copyright under ' 102(b) of the 1976 Act. The *Allen-Myland* court joined the ranks of most federal courts in giving a reading to ' 102(a) favorable to the claimant of the copyright in the computer program and a reading of ' 102(b) unfavorable to the alleged infringer. Each reading, of course, appears to be in keeping with Congress's intent. See *supra* notes 72-102 and accompanying text.

More recently, the *Allen-Myland* court was asked to reconsider its decision on the "original work of authorship" issue. See *Allen-Myland, Inc. v. International Business Machines Corp.*, 770 F. Supp. 1004 (E.D. Pa. 1991). AMI's motion was based on the decision of the United States Supreme Court in *Feist Publications, Inc. v. Rural Telephone Service Co.*, 111 S. Ct. 1282 (1991) (alphabetical, nonselective arrangement of names, towns, and phone numbers in phone directory was not sufficiently original).

The *Allen-Myland* court questioned the applicability of *Feist* to IBM's copyright claim in its computer programs copied by AMI because *Feist* concerned "a publication which divides naturally into separate constituent sections" in contrast to "a substantial, necessary portion[ing]" of the IBM copyrighted computer program. *Allen-Myland*, 770 F. Supp. at 1006. The *Allen-Myland* court also found that, even when applying *Feist*, the IBM computer program was sufficiently original to sustain the claim of copyright. *Id.* at 1010.

292. *Allen-Myland*, 746 F. Supp. at 535-37.

293. *Id.* at 536. In reaching this conclusion, the district court joined those other federal courts construing the essential step requirement of ' 117 in a manner favorable to the copyright claimant. See *supra* notes 181-99 and accompanying text.

294. *Allen-Myland*, 746 F. Supp. at 536-37.

295. *Id.* at 537. Implicit in the court's holding is that amended ' 117's adaptation privilege does not excuse the infringement of other copyrighted works, in this case, IBM's operating system code versions. *Id.* at 536-37.

296. *Id.* Once again, the court interpreted this part of the amended ' 117 exemption in a manner favorable to the copyright claimant. *Id.* In part, the court's construction was in keeping with the recommendation of the CONTU Commission in its Final Report. See *supra* note 20 and accompanying text. The court agreed with the position of one CONTU commissioner, Professor Arthur Miller, whose testimony at trial indicated that the phrase

Before the court addressed AMI=s amended section 117 defense, it examined the application of the section 107 defense of fair use to AMI=s alleged infringement.²⁹⁷ In doing so, the court considered the four relevant criteria set out by Congress in section 107. First, the court found that there was little doubt that AMI=s use of the IBM copyrighted computer program was for a commercial purpose.²⁹⁸ This purpose, the court concluded, rendered AMI=s uses presumptively unfair.²⁹⁹ Second, the court viewed the nature of the IBM copyrighted computer program.³⁰⁰ The *Allen-Myland* court construed the phrase Nature of the copyrighted work@ found among the criteria of section 107 to require an examination into whether the IBM copyrighted computer program was more informational than creative@ in nature.³⁰¹ The court concluded that, because of the substantial creative effort IBM made in anticipation of financial return,@ the program was creative; therefore, the court applied this criterion in favor of IBM.³⁰²

Archival copies@ was not intended to include second copies active in a computer or copies librated in order to make other copies for use in other computers. *Id.*

297. *Id.* at 533-35. After the district court determined whether ' 107 applied, it also rejected AMI=s defense that ' 109 of the 1976 Act and its doctrine of exhaustion@ (single distribution or first sale right) permitted AMI=s copying and adapting. *Id.* at 537-38. Not only is there nothing in ' 109 to suggest this result, but also the last paragraph of amended ' 117 appears to preclude any such reading of ' 109 (exact copies may be transferred only with the original and all rights in the program; adaptations permitted A may be transferred only with the authorization of the copyright owner@). 17 U.S.C. ' 117 (1988). Moreover, the Computer Software Rental Amendments to the 1976 Act in 1990 appear to confirm this result. 17 U.S.C. ' 109(b)(1)(A) (1990) (copyright owner of a computer program must authorize transfer of a copy A for the purposes of direct or indirect commercial advantage@).

298. *Allen-Myland*, 746 F. Supp. at 534. AMI argued that it made the copies for two purposes: (1) to build a library of those copies; and (2) to analyze the original IBM copyrighted computer program. *Id.* AMI contended that these purposes were educational in nature. *Id.* The court found, however, that these two reasons were means to achieving a commercial end and thus not themselves educational. *Id.*

299. *Id.* at 534. See 17 U.S.C. ' 107(1) (1988). The language of ' 107(1), in which the commercial purpose criterion is found, is silent on the effect (presumptive or otherwise) of that purpose to the application of the ' 107 privilege. The United States Supreme Court, however, has interpreted ' 107(1) as implying the presumption of unfair exploitation when the purpose is found to be commercial. See *Sony Corp. of America v. Universal City Studios, Inc.*, 464 U.S. 417, 451 (1984). This presumption, however, is rebuttable. *Id.*

300. *Allen-Myland*, 746 F. Supp. at 534.

301. *Id.* See also 17 U.S.C. ' 107 (1988). The distinction drawn by the *Allen-Myland* court between an informational work versus one that is creative reflects a judicial recognition that the public will benefit more from the wider dissemination of a factual work than it will from a work of fiction. *Allen-Myland*, 746 F. Supp. at 534. See *Harper & Row Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 563 (1985). Subsequent uses, such as making a copy or an adaptation of the copyrighted factual work, may more likely receive favorable treatment by a court under this criterion of section 107.

302. *Allen-Myland*, 746 F. Supp. at 534. The method by which the *Allen-Myland* court applied the distinction implicit within this fair use criterion should not escape the reader=s attention. Generally, the difference between an informational work and a creative one may be determined by the factual as opposed to fictional content of the work. For example, a biography may be characterized as an informational work because of that genre=s need for factual content and accuracy of presentation. On the other hand, a novel, of the spy genre for example, depends upon its author=s insights and ability to incite readers to escape from their reality and to enter the author=s imagined reality.@ The *Allen-Myland* court made its determination of the creative nature of the IBM computer program based upon IBM=s substantial creative effort in expectation of financial reward. See *id.* By focusing upon IBM=s

Third, the court examined the amount and substantiality of the portion of IBM's program used by AMI.³⁰³ Quantitatively, AMI had made a complete copy in certain instances.³⁰⁴ This finding favored IBM.³⁰⁵ Qualitatively, AMI copied an essential portion of the IBM program.³⁰⁶ For that reason, the court reached a conclusion favorable to IBM.³⁰⁷ Finally, in applying the fourth criterion of section 107, the *Allen-Myland* court concluded that AMI's uses would adversely affect the potential market for IBM's copyrighted computer program³⁰⁸ and that IBM had introduced evidence of lost profits caused by AMI's use.³⁰⁹ Thus, the court applied this final criterion in favor of IBM. All of the section 107 factors, when viewed by the *Allen-Myland* court, pointed in one direction only--AMI's uses of IBM's copyrighted computer program were not a fair use.

The *Allen-Myland* decision is significant because it indicates the potential availability of the fair use defense under section 107 to an alleged computer copyright infringer. The decision is especially significant to the alleged infringer when the amended section 117 privilege is found inapplicable to the uses made of the copyrighted computer program. Although the outcome in *Allen-Myland* favored the copyright claimant, it was reached only after the court had examined all relevant fair use criteria.³¹⁰ The fair use doctrine does not examine copy ownership. Moreover, unlike the ownership limitation to the application of the amended section 117 privilege, no single criterion in section 107 is considered determinative of the defense's outcome.³¹¹

creativity, the court recognized that there are imaginative qualities within the computer program that make it more like the novel than the biography.

The *Allen-Myland* court reached the correct result, therefore, and for the right reason. The qualities that make a given computer program highly creative are found within the imagination of the computer program's author. The creative process begins with the author's insight into the imagined needs of the user. The computer program's author must be able to successfully move the user from the author's imagination into reality (or at least, in the case of video games, a virtual reality) through the use of the authored computer program. This creative ability exercised by the program's author provides the strongest reason in support of the court's conclusion, because the public's benefit from an author's creativeness is the fundamental purpose of copyright law.

303. *Id.* at 534-35; 17 U.S.C. § 107(3) (1988).

304. *Allen-Myland*, 746 F. Supp. at 534-35.

305. *Id.* Although favoring IBM, this finding did not preclude AMI's use from being adjudged to be fair. No single finding is dispositive in determining when the defense is available. *See, e.g.,* Harper & Row Publishers, Inc. v. Nation Enters., 471 U.S. 539, 554 (1985); Basic Books, Inc. v. Kinko's Graphics Corp., 758 F. Supp. 1522, 1533 (S.D.N.Y. 1991).

306. *Allen-Myland*, 746 F. Supp. at 534.

307. *Id.* at 534-35.

308. *Id.* at 535. In a case such as *Allen-Myland*, when the uses are found to be commercial in nature, a court will presume an adverse effect on the copyright owner's potential market for its work. *Id.* *See Sony*, 464 U.S. at 451.

309. *Allen-Myland*, 746 F. Supp. at 535.

310. *Id.* at 533-35.

311. *See supra* note 305.

That the defense is a flexible one and can serve to exempt certain uses of copyrighted computer programs is demonstrated by the decision in *Lewis Galoob Toys, Inc. v. Nintendo of America, Inc.*³¹² Here the plaintiff, Nintendo, claimed that the defendant, Galoob, contributed to the infringement of Nintendo=s copyrights in the audiovisual aspects of its copyrighted video games by marketing a video game enhancer.³¹³ Because this device enabled a game player to alter or modify the game=s characteristics, Nintendo claimed that an infringing derivative audiovisual work was created through the use of Galoob=s enhancer.³¹⁴ Galoob, in defense, claimed fair use under section 107.³¹⁵

312. No. C-90-1440, 1991 U.S. Dist. LEXIS 9887 (N.D. Cal. July 12, 1991). In this case, Galoob, the defendant, raised, briefed, and argued the ' 117 defense before the district court. The court, however, chose to decide the case on grounds other than ' 117. See Letter from Jerome B. Falk, Jr., Howard, Rice, Nemerovski, Canady, Robertson & Falk, to Daniel E. Wanat, Memphis State University School of Law 1 (Mar. 9, 1992). Also, *Galoob* is distinguishable from those cases dealing with copying of the copyrighted computer program code itself. Nintendo, the copyright owner, claimed an infringement of its video game as a form of Audiovisual work@. *Id.* at *4. Audiovisual works@ are defined in the 1976 Act as follows:

Audiovisual works@ are works that consist of a series of related images which are intrinsically intended to be shown by the use of machines, or devices such as projectors, viewers, or electronic equipment, together with accompanying sounds, if any, regardless of the nature of the material objects, such as films or tapes, in which the works are embodied.

17 U.S.C. ' 101 (1988).

Finally, and of particular importance, is the fact that the infringement claimed was held by the district court not to have resulted from copying any of either the copyrighted computer code or Nintendo=s copyrighted audiovisual work. *Galoob*, No. C-90-1440, 1991 U.S. Dist LEXIS 9887, at *13. See also *infra* notes 313-20 and accompanying text.

313. This device enables the person playing the video game to change the game=s characteristics, e.g., speed up the game or change its rules. *Galoob*, No. C-90-1440, 1991 U.S. Dist. LEXIS 9887, at *12-13.

314. *Id.* at *15-21. See also 17 U.S.C. ' 106(2) (1988) (copyright owner is accorded the exclusive right to prepare derivative works, subject to the fair use privilege codified in ' 107 or the privileges otherwise found in the 1976 Act). Congress has defined a Derivative work@ in ' 101 of the 1976 Act as follows:

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, represent an original work of authorship, is a Derivative work@.

17 U.S.C. ' 101 (1988).

For a copyright to subsist in a claimed derivative work, it must be An original work[] of authorship fixed in any tangible medium of expression . . . @ 17 U.S.C. ' 102(a) (1988). It is crucial to note that a derivative work need not be fixed in order to be infringing. Consider a public performance of a copyrighted play during which the playwright=s script was changed without the copyright owner=s authorization. No one would seriously claim that the altered performance did not infringe, merely because that performance was not fixed by simultaneous recording. See 17 U.S.C. ' 101 (1988) (definition of Afixed@).

The performance aspect of copyrighted computer programs is only beginning to be recognized in copyright law. Performing a work can be seen as one kind of making of a derivative work. For example, the script of a play is Arecast, transformed, or adapted@ when it is performed on stage. While these authors are aware of no case which has thoroughly dealt with the performance right in copyrighted computer programs, Congress in its most recent computer related legislation has recognized the right=s significance. Congress has stated in ' 109(e) the following:

Notwithstanding the provisions of sections 106(4) and 106(5), in the case of an electronic audiovisual game intended for use in coin-operated equipment, the owner of a particular copy of such a game lawfully made under this title, is entitled, without the authority of the copyright owner of the game, to publicly perform or display that

In viewing the fair use question, the court pointed out that Nintendo claimed that Galoob was a contributory infringer.³¹⁶ Nintendo claimed that the actual infringer was any person who

game in coin-operated equipment, except that this subsection shall not apply to any work of authorship embodied in the audiovisual game if the copyright owner of the electronic audiovisual game is not also the copyright owner of the work of authorship.

Software Rental Amendments Act of 1990, Pub. L. No. 101-650, tit. 8, 104 Stat. 5089 ' 803 (1990) (codified at 17 U.S.C. ' 109(e) (Supp. 1991).

The public-private Congressional distinction, while codified in ' 109 (Afirst sale@), may be useful in ' 107 (fair use) analysis. Congress has provided that private performance is not an infringement. Congress has defined performance as follows:

To Aperform@ a work means to recite, render, play, dance, or act it, either directly or by means of any device or process or, in the case of a motion picture or other audiovisual work, to show its images in any sequence or to make the sounds accompanying it audible.

17 U.S.C. ' 101 (1988). Congress has separately defined a public performance:

To perform or display a work Apublicly@ means-

(1) to perform or display it at a place open to the public or at any place where a substantial number of persons outside of a normal circle of a family and its social acquaintances is gathered; or

(2) to transmit or otherwise communicate a performance or display of the work to a place specified by clause (1) or to the public, by means of any device or process, whether the members of the public capable of receiving the performance or display receive it in the same place or in separate places and at the same time or at different times.

17 U.S.C. ' 101 (1988).

By giving the copyright owner the exclusive right Ato do and to authorize@ only a public performance or display, 17 U.S.C. ' 106(4)(5) (1988), Congress has made a policy choice to disregard any potential harm to the market arising from *private* performances or displays.

However, alterations of a copyrighted work, such as a video game (audiovisual work), implicate the copyright owner=s exclusive right Ato do and to authorize@ the preparation of derivative works based upon the copyrighted work.@ 17 U.S.C. ' 106(2) (1988). The 1976 Act appears to have not resolved this problem except in the amended ' 117 privilege when providing a limited adaptation privilege. See *supra* notes 165-277 and accompanying text (discussion of amended ' 117).

315. *Galoob*, No. C-90-1440, 1991 U.S. Dist. LEXIS 9887, at *21-24. Before reaching the merits of the fair use claim, the court concluded, as an alternative to its fair use holding, that a person who was playing a Nintendo copyrighted video game, while using Galoob=s enhancer to alter the game, was not creating a derivative work under the 1976 Act. *Id.* at *21. As a result, the district court concluded that, by using the Galoob enhancer, the game player would not be guilty of an infringement of the Nintendo video game. *Id.* at *18-21. Galoob, therefore, was not guilty of contributory infringement. *Id.* The fair use analysis of the court also to a conclusion favorable to Galoob. *Id.* at *21. See *infra* note 316.

In reaching the decision that the video game player when using the Galoob enhancer is not creating a derivative work, the court did so because A[the] use neither generates a fixed transferable copy of the work, nor exhibits or performs the work for commercial gain.@ *Id.* at *21. Both grounds for the holding reflects the court=s concern for the unfixed, transitory, and private nature of performing when playing a video game. But see *supra* note 314 (discussion of performance, fixation, and Aderivative work@). See also *Galoob Toys, Inc. V. Nintendo of America, Inc.*, 923 F.2d 682 1991 (Unpublished Disposition; text in WESTLAW⁷); Copyright L. Dec. (CCH) & 26,682 (9th Cir. 1991) (affirming preliminary injunction) (ANintendo raises substantial questions . . . whether use of [Galoob=s device] creates unauthorized derivative works . . . @).

316. *Id.* at *1-2. Nintendo has taken an appeal to the United States Court of Appeals for the Ninth Circuit. The case was set for oral arguments heard on March 12, 1992. Should Nintendo prevail on the infringing derivative work issue, Judge Smith=s determination of the fair use issue becomes paramount to the final disposition of the case. The authors, therefore, undertake an analysis of her reasoning in support of her conclusion that use of the Galoob device was fair. The district court held that, had the court found that the [Galoob device] was a derivative work, Galoob would still be exempt from liability under the fair use doctrine. *Galoob*, No. C-90-1440, 1991 U.S. Dist. LEXIS 9887, at *14, *appeal docketed*, No. 91-16205 (9th Cir. 1991).

altered Nintendo's game by playing it while using the Galoob enhancer.³¹⁷ If the player, while using the enhancer, made an alteration of the game which was exempt under section 107 as a fair use of the Nintendo game, Galoob could not be held to have contributed to any infringement and thus could not be held liable.³¹⁸

The court recognized that the fair use defense must be applied to the Nintendo game player who actually uses the Galoob device to alter the play of the video game.³¹⁹ That use, the court concluded, was noncommercial and, thus, presumptively fair.³²⁰ The fact that the Nintendo video games were published (as opposed to unpublished works) also favored a finding of fair use.³²¹

317. *Id.* at *23.

318. *Id.*

319. *Id.* In doing so, the court relied upon the United States Supreme Court's decision in *Sony Corp. of America v. Universal City Studios, Inc.*, 464 U.S. 417 (1984). In this regard, the court analogized the Galoob device user to a home user of a video recorder. *Galoob*, No. C-90-1440, 1991 U.S. Dist. LEXIS 9887, at *22-23. The balance of the court's fair use examination followed from this analogy.

320. *Id.* at *25. *Cf. Sony*, 464 U.S. at 449. Because both cases involved a personal use being made of the copyrighted works, the *Sony* conclusion that this type of use was noncommercial was found applicable by the *Galoob* court. *Galoob*, at *25. In *Sony*, the personal use was copying a televised program to be viewed at a time other than when the program aired originally. In *Galoob*, the personal use was the home player performing privately the Nintendo video game using the Galoob enhancer but with alternatives. The *Galoob* court also distinguished this private home use of a video game from commercial use in a video arcade. *Id. Cf. Midway Mfg. Co. v. Artic Int'l, Inc.*, 704 F.2d 1009 (7th Cir. 1983), cert. denied, 464 U.S. 823 (1983) (infringer commercial user); *supra* note 314 (recent legislation regarding arcade video games). As to noncommercial use, the Supreme Court in *Sony* had been careful to point out that the presumption it found appropriate under this first use factor is not conclusive in any fair use decision. *See Sony* 464 U.S. at 449-50.

321. *Galoob*, No. C-90-1440, 1991 U.S. Dist. LEXIS 9887, at *27-28. Publication is defined in the 1976 Act as follows:

A publication is the distribution of copies or phonorecords of a work to the public by sale or other transfer of ownership, or by rental, lease, or lending. The offering to distribute copies or phonorecords to a group of persons for purposes of further distribution, public performance, or public display, constitutes publication. A public performance or display of a work does not of itself constitute publication. 17 U.S.C. § 101 (1988).

Initially, the *Galoob* court relied upon the interpretation of § 107(2) by the United States Supreme Court in *Harper & Row Publishers, Inc. v. Nation Enterprises*, 471 U.S. 539 (1985). In *Harper & Row*, the Supreme Court found that the unpublished nature of a copyrighted work was a fair use factor that weighed in favor of the copyright claimant. *Harper & Row*, 471 U.S. at 564. The *Galoob* court was correct in this reading of *Harper & Row*.

Thereafter, however, the *Galoob* court inferred from *Harper & Row* that the published nature of the Nintendo video game must favor the game player and therefore the defendant, Galoob, ultimately. This reasoning of the *Galoob* court is flawed.

In *Harper & Row*, the unpublished nature of a work favored the copyright claimant because that person ordinarily is entitled to determine whether and when to publish. *Id.* at 551-52. In reaching this result, the Supreme Court made clear that the author (copyright owner) was given these choices by Congress so as not to discourage him from creating the work (or, conversely, in order to provide him with an additional incentive to create the work). *Id.* at 552-53.

Substantially similar kinds of choices and public detriment (or benefit) also exist upon the publication of the work. Ordinarily, the copyright owner should be given the choices of determining: (1) whether to continue to publish; and (2) when to continue to publish. To conclude otherwise would discourage the creative activity (or fail to provide an incentive to be creative) initially. The public would suffer the loss of that activity without a gain in creativity.

The *Galoob* court next analyzed the third fair use factor: the amount and substantiality of the portion used.³²² The court concluded that because a Nintendo game player has paid for the game and is entitled to use it entirely, this factor did not favor Nintendo.³²³

Finally, the court examined the application of the fourth factor of section 107, the effect . . . upon the potential market for or value of the copyrighted work,³²⁴ and concluded that Nintendo failed to sustain its burden of showing that this factor, when applied, favored Nintendo.³²⁵ The court found significant the fact that Nintendo, at best, had shown a potential suppression of the market for its games resulting from use of the *Galoob* enhancer. The court said that Nintendo's claim is that the [*Galoob* enhancer] will indirectly harm its overall market because it will make people enjoy their games less, and thereby generally reduce demand for Nintendo's copyrighted games.³²⁶ The court found this potential result to Nintendo was not the kind of market effect Congress intended to be considered under the final section 107 factor.³²⁷ In making this decision, however, the court used the test for adverse market effect ordinarily confined to cases involving criticism or parody: criticism or parody, to be effective, must use the copyrighted work, but both may be fair uses when they do not supplant the demand for the copyrighted work.³²⁸ Finally, the court concluded that Nintendo failed in its burden to show injury to an actual or likely market or diminution in demand for its games.³²⁹

The fact that there may be less fair use of an unpublished work versus a published one does not justify a presumption that the use of a published work is fair. It is this presumption that the *Galoob* court appeared to be making when it stated that: 'The work's published nature supports the fairness of the use.' That the copyright owner's choices may differ when the work is unpublished as opposed to published does not alter in degree or kind the public detriment or benefit. As such, the published nature of the work is not a factor that should favor the user or Nintendo video game player. *Galoob*, No. C-90-1440, 1991 U.S. Dist. LEXIS 9887, at *27-28.

322. *Galoob*, No. C-90-1440, 1991 U.S. Dist. LEXIS 9887, at *27-28.

323. *Id.* at *28. The *Galoob* court relied on *Sony* to support the application of this third factor in favor of the game player and so the defendant, *Galoob*. *Id.* The privilege to copy recognized in *Sony* under ' 107 allowed viewing, in its entirety, a free broadcast of television performance in a private home at a time other than when the program aired. The *Galoob* court concluded that the users of the *Galoob* device had a similar right to use Nintendo's entire copyrighted computer game in conjunction with the device *a fortiori* because the user had presumably purchased Nintendo's copyrighted work rather than receiving it free off the air as in *Sony*. *Id.* at *28. Nowhere in ' 107, however, does Congress direct federal courts to consider whether or not the copyrighted work has been purchased. Moreover, nowhere in *Sony* does the Court state that the fair user has a right to *alter* the copyrighted work during use.

324. 17 U.S.C. ' 107(4) (1988).

325. *Galoob*, No. C-90-1440, 1991 U.S. Dist. LEXIS 9887, at *40-41.

326. *Id.* at *30. The court noted that Nintendo did not argue that its market for new games would be adversely affected because use of the *Galoob* device held the player's interest in old games.

327. *Id.* at *32. In light of the position on the market effect taken by Nintendo, it appears that the court concluded that Congress did not intend that suppression of the market would favor the copyright owner. Nintendo also argued that it suffered a loss of reputation from the use of the *Galoob* device. According to the court the right to preserve such good will was not found among the rights Congress has granted in ' 106 (1)-(5). *But cf.* 17 U.S.C. ' 106A, Pub.L. 101-650, 104 Stat. 5089 (1990) (author of a work of visual art appears granted a right to reputation under limited circumstances).

328. *Id.* at *30-31. The court failed to note that there are first amendment issues underlying criticism and parody which are not present in video game cases (at least none have been found to date). *See Fisher v. Dees*, 794

The *Galoob* opinion illustrates how the fair use privilege of section 107 of the 1976 Act can be applied by federal courts to uses similar to those surrounding a copyrighted computer program. The privilege, if found applicable, can preserve the appropriate coverage for the copyright claimed and further those equities favoring a particular non-owner user. To make this point clearer, the authors return one last time to the hypothetical situation related earlier in this article.³³⁰

Suppose A, the author of the copyright claimed in the computer programs, brings an infringement action in a United States District Court against B, who retained A to write those programs, and against C, who copied and adapted them. Suppose further that the district court reached the following conclusions favorable to A: (1) A owned the copyright claimed in the computer programs and that copyright was valid;³³¹ (2) the copyright covers the copies made and

F.2d 432, 437-38 (9th Cir. 1986) (A Copyright law is not designed to stifle critics Accordingly, the economic effect of a parody with which we are concerned is not its potential to destroy or diminish the market for the original--any bad review can have that effect--but rather whether it *fulfills the demand* for the original.) (emphasis in original). *But see* Walt Disney Prods. v. Air Pirates, 581 F.2d 751 (9th Cir. 1978), *cert. denied*, 439 U.S. 1132 (1979) (a parody need not Afill[] the demand for the original@ to be infringing and may not include Aexcessive copying@ beyond that Anecessary to `conjure up=@ the original work).

The district court in *Galoob* believed it had found the proper test for market effect in a 1967 House Report (accompanying a copyright revision bill which did not become law), concluding: AThe fourth fair use factor looks primarily to whether a use `supplants any part of the normal market for a copyrighted work.=@ *Galoob*, No. C-90-1440, U.S. Dist. LEXIS 9887, at *30 (citation omitted). The word Asupplants@ appears in the Senate Report to the 1976 Act as follows: Aa use that supplants any part of the normal market for a copyrighted work would ordinarily be considered an infringement.@ S. REP. NO. 473, *supra* note 34, at 65 (the Senate=s fair use discussion focused on classroom copying). Again, it does not follow that a work must so supplant in order to infringe. The actual wording of the statute, Athe effect of the use upon the potential market for or value of the copyrighted work,@ must of course be respected in formulating any test.

329. *Galoob*, No. C-90-1440, U.S. Dist. LEXIS 9887, at *34-37. In reaching this conclusion, Judge Smith accepted Nintendo=s argument that its copyright entitled Nintendo to control the Asequel@ market for its games. The judge, however, determined that Nintendo failed to prove a Areasonable likelihood of such market.@ *Id.* In reaching this conclusion, the market the court viewed was only that for slight variations of an existing copyrighted video game. As to that market, its existence in the future is highly speculative; but *Galoob*=s device appeared to be targeted at such a market. The court never expressly addressed the reasonable likelihood of a market for Asequels@ (copyrighted derivative works), as distinct from slightly altered versions of Nintendo=s existing games. If the court=s conclusion on the slightly altered market issue was intended to cover copyrighted game Asequels,@ a phone call to a local video game store inquiring into the Nintendo video game AMario@ would prove the conclusion incorrect in that respect. *Supra* note 316.

330. *See supra* notes 18-25 and accompanying text. *See generally* Leo J. Raskind, *The Uncertain Case For Special Legislation Protecting Computer Software*, 47 U. PITT. L. REV. 1131, 1181-82 (1986) (author explores another hypothetical variant reflecting the application of section 107).

331. *See supra* notes 94-162 and accompanying text. The court in the hypothetical in finding that A owned the copyright, has made it clear that the computer programs were not Awork[s] made for hire,@ that class of works in which an employer owns the copyright. *See* 17 U.S.C. ' 101, 201(b) (1988). The court in the hypothetical has also reached the conclusions that A=s computer programs are sufficiently original works of authorship and that they are included within the category of literary works. *See* 17 U.S.C. ' 102(a) (1988). No federal court to date has implied any new category of works of authorship in section 102(a) from either the language of amended ' 117 or ' 109(d).

the adaptation done by *C* on behalf of *B*;³³² and (3) neither *B* nor *C* was an owner of a copy of [the] computer program under amended section 117 of the 1976 Act.³³³

With *A*'s action against *B* and *C* in this posture, these defendants may claim fair use of *A*'s copyrighted computer programs. The court, in light of the arguments presented, will analyze them within the framework of section 107.

(1) The purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes.³³⁴

Here the district court may analogize *B* and *C*'s relationship to the one between IBM's customers and AMI found in *Allen-Myland* and so may conclude that the copying and adaptation done within that relationship was commercial and presumptively unfair.³³⁵ Should *B* claim good faith and the court sustain the claim, this finding would weigh in favor of *B* and *C*.³³⁶

(2) The nature of the copyrighted work.

Here the district court may be asked by *B* and *C* to consider *A*'s copyrighted computer programs as having been published when they were distributed by *A* to *B*. The alleged infringers might argue that this factor weighs in their favor and might attempt to use the *Galoob* decision as support.³³⁷ The court may distinguish *Galoob* on the basis that *A*, when distributing its copyrighted computer programs to *B* published them to *B* only. In fact, quite unlike the Nintendo video games which were mass marketed, *A*'s copyrighted computer programs were

332. See *supra* notes 94-162 and accompanying text. The court concluded, in effect, that *C* copied those elements covered by *A*'s copyright and that *C*'s adaptation was a derivation covered by *A*'s copyright. Unless *C* and *B* had a privilege available to them, both are liable to *A* for the claimed infringement.

333. 17 U.S.C. § 117 (1988). See *supra* notes 165-277 and accompanying text. The district court might also have found that the essential step requirement of § 117(1) was not met. With these findings, *B* and *C* have only the fair use privilege of § 107 left as a defense to the claimed infringement.

334. 17 U.S.C. § 107(1) (1988).

335. See *Allen-Myland*, 746 F. Supp. at 534; *supra* note 299 and accompanying text. In the hypothetical, *C* is in the business of modifying computer programs and so its conduct is squarely a use . . . of a commercial nature. *B* derives a business benefit as well because *B* was able to hire *C* at a lower cost than *A* was going to charge. *B*'s savings in this setting may now be used otherwise in the course of its business. *B* also will use the programs in its business, rather than for noncommercial use such as home entertainment.

336. See 17 U.S.C. § 107(1) (1988) (character of use is a relevant consideration). The good faith character of an alleged infringer may be seen in a variety of settings: (1) the unavailability of the copyright owner for negotiation; (2) the copyright owner's refusal to adapt the software; (3) the copyright owner's bad faith negotiating position with a licensee who has highly invested in the software and is dependent on the program. See generally 17 U.S.C. § 113(d)(2)(A)-(B) (1988) (good faith recognized in the visual arts act); *Allen-Myland, Inc. v. International Business Machines Corp.* 746 F. Supp. 520, 546 (E.D. Pa. 1990) *recons. denied*, 770 F. Supp. 1004 (E.D. Pa. 1991); *Lotus Dev. Corp. v. Paperback Software Int'l*, 740 F. Supp. 37, 106 (D. Mass. 1990).

337. See *supra* note 321 and accompanying text (discussing *Harper & Row* and the effect of publication in *Galoob*).

tailor made for *B*. That *A*'s copyrighted computer programs were distributed to only *B* should weigh in *A*'s favor on the application of this factor.³³⁸

A(3) [T]he amount and substantiality of the portion used in relation to the copyrighted work as a whole.®

Under the facts of the hypothetical *B* and *C* have joined to copy *A*'s copyrighted computer programs in their entirety. Such wholesale copying militates against a finding of fair use,®³³⁹ and so this factor may be weighted heavily in *A*'s favor.

A(4) [T]he effect of the use upon the potential market for or value of the copyright work.®

The analysis of this fourth fair use factor may be best done by positing four settings reflecting the flexibility and fact-specific nature of the market problem:

(1) If *B* was *A*'s only customer, the conduct of *B* and *C* deprives *A* of the entire aftermarket for copying and modifying its copyrighted software. Because the market loss to *A* is so damaging to the value of *A*'s copyright, a court may weigh this factor heavily in *A*'s favor.

(2) If *B* was one of 1,000 of *A*'s customers, the conduct of *B* and *C* would have little market impact. The application of the fourth factor by a court may therefore favor *B* and *C*.

(3) If the relationship between *C* and *B* is not an isolated instance, but *C* begins to provide like services to a large customer base, e.g., *B* is one of 500 customers *C* begins to service, from *A*'s base of 1,000 customers, a court may favor *A* when applying the fourth factor.

(4) If *B* begins selling *C*'s version, or the use of *C*'s version, of *A*'s copyrighted computer programs, *A* would likely be deprived of new customers. A potential market, therefore, has been taken from *A*. The court may weigh this factor in *A*'s favor.³⁴⁰

338. See *supra* note 18 and accompanying text.

339. *Allen-Myland, Inc. v. International Business Machines Corp.*, 746 F. Supp. 520, 534 (E.D. Pa. 1990). Also, if it was found that the adaptation done by *C* of *A*'s copyrighted computer programs created derivative works under ' 103 of the 1976 Act, there appears to be little question but that the substantiality of the use® factor would favor *A*. 17 U.S.C. ' 103 (1988). Analogous here is the decision in *Harper & Row Publishers, Inc. v. Nation Enterprises*, 471 U.S. 539, 565 (1985) (Aheart of the book® metaphor). It is only because *C* copied and used enough key portions of *A*'s copyrighted computer programs that it created a derivative work.

340. Each of the scenarios raised as part of ' 107(4) has its counterpart in decisions analyzed earlier in this article. In *S.O.S.*, the defendant-infringer may have deprived the author of the entire aftermarket for its copyrighted software. See *supra* notes 242-262 and accompanying text. In *Galoob*, the impact upon Nintendo's mass market was on the record held to be slight. See *supra* notes 312-329 and accompanying text. In *Allen-Myland*, the alleged infringer began to provide modified copies to a large segment of IBM's customers needing that service. *Allen-Myland*, 746 F. Supp. at 529-531; S. REP. NO. 473, *supra* note 34, at 65 (AIolated instances of minor infringements, when multiplied many times, become in the aggregate a major inroad on copyright that must be prevented®); see *supra* notes 287-310 and accompanying text. Finally, as may have been the case in *S.O.S.*,

The fair use defense, as shown by its application to our hypothetical, is flexible enough to provide a privilege for otherwise infringing conduct.³⁴¹ Most importantly, the fair use defense, if found applicable to a given alleged infringement of a copyright in a computer program, would tend to absolve the infringers in that case only, without using a bright line test.³⁴² The court would therefore be resolving the issue--of when non-owners of a copy of a copyrighted program may be justified in making a copy and an adaptation--as intended by Congress.³⁴³ Section 107 of the 1976 Act, rather than amended section 117 of that Act, therefore embodies the legislative vehicle through which a federal court can provide relief from Acopyright abuse@ by copyright owners toward non-owners of a copy, without considering (or, of course, being precluded from considering) defenses beyond the scope of the Copyright Act, notably, antitrust doctrines.

VIII. CONCLUSION

The advent of the new technology of computer programming has brought about a co-evolution of intellectual property law and industry practices in the United States. After the Register of Copyrights began accepting computer programs for registration in 1964, federal courts began considering issues surrounding the new technology under the framework of the copyright laws. Congress ultimately felt the need to address limitations upon the copyright coverage for this new form of intellectual product and in 1980 amended the 1976 Act and made explicit those limitations. Congress, however, did not attach its own legislative history to the 1980 amendments to reconcile differences between the CONTU Commission=s *Final Report*, CONTU=S proposed section 117, and Congress=s version of section 117.

In retrospect, in proposing its special privileges of backup and adaptation, CONTU focused on the vulnerabilities of the user of utilitarian software distributed on tapes and diskettes to be used in non-standardized hardware. CONTU did not anticipate the growth of non-utilitarian (e.g., entertainment) software, distribution on less destructible media such as ROM chips, or the level of hardware standardization in the now huge personal computer market.

Congress, in restricting CONTU=s proposed section 117 to Aowner[s] of a copy,@ allowed software companies the option, through licensing copies rather than transferring ownership of them, to avoid the application of section 117. Most software companies have exercised this option, to be freer to evolve business dealings with customers in a climate of rapid change in the technology of computing. Given the success of United States software companies, both within this country and worldwide, it is hard to argue that the evolution of license terms designed by a variety of companies to apply to a variety of products in a variety of settings,

reselling by Payday of use of infringing versions of S.O.S.=s copyrighted software could have been destructive of A=s market for those new customers.

341.

See supra notes 281-286 and accompanying text.

342. *See supra* notes 281-86 and accompanying text. *See generally* Lotus Dev. Corp. v. Paperback Software Int=l, 740 F. Supp. 37, 49, 51-51, 81-83 (D. Mass. 1990).

343. *See supra* notes 278-329 and accompanying text (discussion of ' 107).

while not interfering unduly with those products= acceptance by customers, should be scrapped.³⁴⁴

As case law has developed under the 1980 amendments, important differences in interpretation have arisen that have not yet been resolved by the Supreme Court or by Congress. This Article has tried to analyze these issues by using traditional and time-proven copyright doctrines, rather than by taking a more *sui generis* approach based on an expansive interpretation of the privileges of 17 U.S.C. ' 117 or by inviting wider application of antitrust doctrines to the 1976 Copyright Act, a constitutionally and statutorily authorized limited monopoly system of great public benefit. The court-made and congressionally approved doctrine of fair use provides a flexible framework for applying an equitable rule of reason³⁴⁵ to hard cases, for allowing case law to develop without distorting future developments in the computing industry, and for bringing into focus policy matters that Congress may want to address using the legislative process.

The lack of clarity under the 1980 amendments, particularly as to the application of sections 117 and 109 in relation to the other provisions of the 1976 Act, has seemingly led computer software companies to avoid the courts and to seek instead legislation to encounter specific threats. This development is demonstrated by the Computer Software Rental Amendments Act of 1990,³⁴⁵ which focused on the narrow issue of the role of rental of computer

344. Senate Report 265, which accompanied Senate Bill 198, an earlier version of the Computer Software Rental Amendments Act passed by the Senate but not acted upon by the House, stated: "The committee understands that nothing in this act restricts the ability of copyright owners and users to enter into license agreements regarding the use of computer programs." S. REP. NO. 265, 101st Cong., 2d Sess. (1990).

345. Pub. L. No. 101-650, tit. 8, 104 Stat. 5089, 5134 (1990) (codified at 17 U.S.C. ' 109(b)(1)(A), (b)(2)(A)-(B), (b)(4), (d)-(e) (Supp. 1991)). Amended ' 109 now reads as follows:

' 109. Limitations on exclusive rights: Effect of transfer of particular copy or phonorecord

(a) Notwithstanding the provisions of section 106(3), the owner of a particular copy or phonorecord lawfully made under this title, or any person authorized by such owner, is entitled, without the authority of the copyright owner, to sell or otherwise dispose of the possession of that copy or phonorecord.

(b)(1)(A) Notwithstanding the provisions of subsection (a), unless authorized by the owners of copyright in the sound recording or the owner of copyright in a computer program (including any tape, disk, or other medium embodying such program), and in the case of a sound recording in the musical works embodied therein, neither the owner of a particular phonorecord nor any person in possession of a particular copy of a computer program (including any tape, disk, or other medium embodying such program), may, for the purposes of direct or indirect commercial advantage, dispose of, or authorize the disposal of, the possession of that phonorecord or computer program (including any tape, disk, or other medium embodying such program) by rental, lease, or lending, or by any other act or practice in the nature of rental, lease, or lending. Nothing in the preceding sentence shall apply to the rental, lease, or lending of a phonorecord for nonprofit purposes by a nonprofit library or nonprofit educational institution. The transfer of possession of a lawfully made copy of a computer program by a nonprofit educational institution to another nonprofit educational institution or to faculty, staff, and students does not constitute rental, lease, or lending for direct or indirect commercial purposes under this subsection.

(B) This subsection does not apply to--

(i) a computer program which is embodied in a machine or product and which cannot be copied during the ordinary operation or use of the machine or product; or

(ii) a computer program embodied in or used in conjunction with a limited purpose computer that is designed for playing video games and may be designed for other purposes.

(C) Nothing in this subsection affects any provision of chapter 9 of this title.

(2)(A) Nothing in this subsection shall apply to the lending of a computer program for nonprofit purposes by a nonprofit library, if each copy of a computer program which is lent by such library has affixed to the packaging containing the program a warning of copyright in accordance with requirements that the Register of Copyrights shall prescribe by regulation.

programs in promoting infringing copying. Such rental, if it was in violation of a license under which a program was distributed, could have been found to be an infringement under pre-existing law. The 1990 amendments specifically prohibit such rental; but amending the first sale rights section of the Copyright Act to accomplish this result encourages an inference that that section might previously have permitted such rental.³⁴⁶

Although the obvious thrust of the 1990 amendments is to limit application of the first sale doctrine to computer programs, Congress could also settle the longstanding debate over the validity of mass-marketed licenses by adding *Alicense@* to section 109(d)'s categories of non-ownership -- *Arental, lease, loan, or otherwise@* -- and by making its intention explicit in the legislative history. This approach would continue the favorable treatment afforded copyright owners. It would also eliminate the dispute surrounding the phrase *Aowner of a copy@* found in

(B) Not later than three years after the date of the enactment of the Computer Software Rental Amendments Act of 1990, and at such times thereafter as the Register of Copyright considers appropriate, the Register of Copyrights, after consultation with representatives of copyright owners and librarians, shall submit to the Congress a report stating whether this paragraph has achieved its intended purpose of maintaining the integrity of the copyright system while providing nonprofit libraries the capability to fulfill their function. Such report shall advise the Congress as to any information or recommendations that the Register of Copyrights considers necessary to carry out the purposes of this subsection.

(3) Nothing in this subsection shall affect any provision of the antitrust laws. For purposes of the preceding sentence, *Aantitrust laws@* has the meaning given that term in the first section of the Clayton Act and includes section 5 of the Federal Trade Commission Act to the extent that section relates to unfair methods of competition.

(4) Any person who distributes a phonorecord or a copy of a computer program (including any tape, disk, or other medium embodying such program) in violation of paragraph (1) is an infringer of copyright under section 501 of this title and is subject to the remedies set forth in sections 502, 503, 504, 505, and 509. Such violation shall not be a criminal offense under section 506 or cause such person to be subject to the criminal penalties set forth in section 2319 of title 18.

(c) Notwithstanding the provisions of section 106(5), the owner of a particular copy lawfully made under this title, or any person authorized by such owner, is entitled, without the authority of the copyright owner, to display that copy publicly, either directly or by the projection of no more than one image at a time, to viewers present at the place where the copy is located.

(d) The privileges prescribed by subsections (a) and (c) do not, unless authorized by the copyright owner, extend to any person who has acquired possession of the copy or phonorecord from the copyright owner, by rental, lease, loan, or otherwise, without acquiring ownership of it.

(e) Notwithstanding the provisions of sections 106(4) and 106(5), in the case of an electronic audiovisual game intended for use in coin-operated equipment, the owner of a particular copy of such a game lawfully made under this title, is entitled, without the authority of the copyright owner of the game, to publicly perform or display that game in coin-operated equipment, except that this subsection shall not apply to any work of authorship embodied in the audiovisual game if the copyright owner of the electronic audiovisual game is not also the copyright owner of the work of authorship.

17 U.S.C. ' 109 (Supp. 1991).

Contrast the phrase in paragraph (b)(1)(A), *Aowner of a particular phonorecord,@* with the wording *Aany person in possession of a particular copy of a computer program@* in the same context. Congress evidently intended to make the exception to the privilege under subsection (a) as inclusive as possible regarding computer programs. *See generally* H.R. REP. NO. 1015, 101st Cong., 2d Sess. (1990), *reprinted in* 1990 U.S.C.C.A.N. 5134.

346. Section 802 of the Computer Software Rental Amendments Act of 1990 contained an uncodified *Agrandfather clause@* providing for prospective application of the amendments, leaving the courts to decide whether disposition of copies acquired before December 1, 1990, is privileged under the law in effect before that date. 17 U.S.C.A. ' 109 note b (West Supp. 1991).

section 117. It would not, however, preclude application of the principle of fair use to hard cases or affect the proper application of antitrust doctrines.

Congress could also make clear in such a legislative history that certain licensing provisions might be preempted under federal copyright statutes or policy. For example, the common license provision prohibiting reverse engineering might be preempted as unduly interfering with the dissemination of ideas, a prime purpose of copyright.

Congress could afford recognition to the common industry practice of mass-marketed licensing and yet still choose to deal with issues inherent in computer technology which have been important in litigation since the 1980 amendments to the 1976 Copyright Act. For example, the archival privilege, although possibly best worked out in the marketplace, might be made universal. If Congress does so, however, it should focus not on the destructibility of the particular medium on which the program is distributed but rather on the business impact of potential destruction of the copy. Therefore, rightful possessors of copies of business software may be afforded the privilege, whereas rightful possessors of entertainment software may not.

Another section 117 privilege which Congress may choose to clarify is that of essential step adaptation. Congress should confine this privilege to minor adjustments needed to insure compatibility of the computer program with variant hardware and operating system software so that the program will run as intended by the author. Congress should reject the CONTU Final Report's suggestion that enhancement of software is covered by the privilege.

Additional distinctions upon which a privilege to modify might be found are those of: (1) private versus public performance or use; and (2) ephemeral versus permanent modification of the original work. Defenses based on these distinctions may generally be dealt with under the fair use doctrine, with the effect of the use upon the potential market for or value of the copyrighted work⁴ being the paramount consideration, until such time as sufficient experience accumulates to justify congressional action regarding specific situations.