
Carol Ann Surrel
A "work made for hire is"—
(1) a work prepared by an employee within the scope of his or her employment; or
(2) a work specially ordered or commissioned for use as a contribution to a collective work, as a part of a motion picture or other audiovisual work, as a translation, as a supplementary work, as a compilation, as an instructional text, as a test, or as an atlas, if the parties expressly agree in a written instrument signed by them that the work shall be considered a work made for hire. For the purpose of the foregoing sentence, a "supplementary work" is a work prepared for publication as a secondary adjunct to a work by another author for the purpose of introducing, concluding, illustrating, explaining, revising, commenting upon, or assisting in the use of the other work, such as forewords, afterwords, pictorial illustrations, maps, charts, tables, editorial notes, musical arrangements, answer material for tests, bibliographies, appendixes, and indexes, and an "instructional text" is a literary, pictorial, or graphic work prepared for publication and with the purpose of use in systematic instructional activities.

an employee vested in the employer. There was also a judicial presumption that the copyright to all commissioned works vested in the party commissioning the work.\(^5\) In an attempt to diminish the superior bargaining position held by publishers under the old law, the drafters of the present work-made-for-hire provisions sought to achieve a "carefully balanced compromise"\(^6\) between the rights of the creator of the work and the person who commissioned and financed the work.

This Note analyzes the treatment of hired software creators under the Copyright Act of 1976. Part I describes the factors that support the balanced compromise Congress intended to implement in the new work-made-for-hire provisions. Part II analyzes the Copyright Act's treatment of commissioned software works made for hire. Part III examines the Copyright Act's treatment of employer-employee software works made for hire. Finally, part IV explores possible solutions to the present imbalance that exists in the Copyright Act's work-made-for-hire provisions.

I. THE BALANCED COMPROMISE: WORKS MADE FOR HIRE UNDER THE 1976 COPYRIGHT ACT

The 1976 Act's work-made-for-hire provisions are the result of the inherent tension between the rights of the creator of a work and the rights of the person who commissioned the work. Although the United States Constitution provides "authors and inventors" with "the exclusive Right to their respective Writings and Discoveries,"\(^7\) both case law\(^8\) and the 1909 Act\(^9\) established that an employer can be considered the "author" of his employee's work. The 1976 Act reaffirmed this principle on several grounds: "(1) the work is produced on behalf of the em-

\(^5\) See infra notes 35-39 and accompanying text.
\(^7\) U.S. CONST. art. I, § 8, cl. 8.
\(^8\) Traditionally, cases and commentators point to Bleistein v. Donaldson Lithographing Co., 188 U.S. 239 (1903) as the origin of the works-made-for-hire doctrine. But see Diehlman v. White, 102 F. 892, 894 (C.D. Mass. 1900) ("If a patron gives a commission to an artist, there appears to be a very strong implication that the work of art commissioned is to belong unreservedly and without limitation to the patron."); Collery Eng'r Co. v. United Correspondence Schools Co., 94 F. 152 (S.D.N.Y. 1899) (the literary product of a salaried employee, created in the course of his employment, becomes the property of the employer, who may copyright it); Little v. Gould, 15 F. Cas. 612 (N.D.N.Y. 1852) (No. 8395) (when reporter of state decisions is an officer of the state with an annual salary, the copyright in the reports vests in the secretary of state for the benefit of the public).
\(^9\) The 1909 Act contained only two provisions regarding works made for hire. Section 26 provided that "the word 'author' shall include an employer in the case of works made for hire;" and § 24 provided that in the case of "any work copyrighted . . . by an employer for whom such work is made for hire the proprietor of such copyright shall be entitled to a renewal."
employer and under his direction; (2) the employee is paid for the work; and (3) the employer, since he pays all the costs and bears all the risks of loss, should reap any gain.” The current dual definition of a work made for hire theoretically reflects these concerns by limiting the instances where an employer is considered to be a statutory author to those situations where the employer is the true creator, as well as the underwriter of the risk involved in its creation.

The designation of an employer or commissioning party as a statutory author has assumed increased importance due to the 1976 Act’s special treatment of works made for hire. Under section 201(b) the copyright in a work made for hire initially vests in the employer or commissioning party rather than the creator of the work. The parties may contractually transfer the ownership of various exclusive rights to exploit the work, but the employer’s status as “author” of the work, and the legal consequences that attach to this status, are unchanged. Consequently, the protection of a work made for hire under United States copyright law depends not on the creator’s nationality or domicile, but rather on those of the employer. Further, if a work made for hire is created by an employee of the United States Government, there can be no copyright protection for the work.

The classification of a work as one made for hire triggers other significant results. The duration of copyright protection for a work made for hire is either seventy-five years from the first publication or one hundred years from creation, whichever is shorter. The right to renew for an additional forty-seven years, the copyright in a work that was made for hire and that was still in its first term as of January 1, 1978 belongs to the proprietor of such a copyright, provided that the copyright was originally secured by the employer. The creator's statutory ability to terminate the grant of any license or transfer of his copy-


12. See supra note 2.

13. 1 M. Nimmer, Nimmer on Copyright § 5.03[D], at 5-27 (1984). Moreover, the parties may not contractually agree to regard a work as one made for hire, unless their relationship fits within one of the two statutory definitions of a work made for hire.


16. 17 U.S.C. § 302(c) (1982). In contrast, the term of copyright in a work not made for hire may be shorter or longer, since the copyright in such a work continues for the life of the author plus fifty years thereafter. 17 U.S.C. § 302(a) (1982).

17. 17 U.S.C. § 304(a) (1982). However, the renewal rights in most other subsisting copyrights belong to the creator or his successors-in-interest.
right thirty-five years after such a grant does not apply to a work made for hire. There are no termination rights in works made for hire subsisting in either their first or renewal term as of January 1, 1978. The requirement that an English language nondramatic literary work be manufactured in the United States or Canada does not apply to a work made for hire if "a substantial part of the work was prepared for an employer or other person who is not a national or domiciliary of the United States or a domestic corporation or enterprise." For these reasons, the classification of a work as one made for hire is crucial to the determination of the rights and the extent of protection afforded by the 1976 Act. It is, therefore, understandable that the work-made-for-hire provisions engendered considerable debate during the revision of the 1909 Copyright Act.

A. EMPLOYER-EMPLOYEE WORKS MADE FOR HIRE

The 1976 Act left intact the judicially established copyright principle that "a work prepared by an employee within the scope of his or her employment" is a work made for hire. The 1976 Act did, however, change prior law by requiring a written instrument signed by both parties when the employer grants any rights to the employee.

During the revision hearings, representatives of authors, screenwriters, and composer groups advocated the rejection of the automatic vesting of all rights in the employer. These groups urged the adoption of a varia-
tion of the "shop right" doctrine found in United States patent law: "with some exceptions, the employer would acquire the right to use the employee's work to the extent needed for purposes of his regular business, but the employee would retain all other rights as long as he or she refrained from the authorizing of competing uses." 25

These groups favored the "shop-right" doctrine approach to employer-employee works for two reasons. The first was based on the constitutional argument that "Science and Useful Arts" should be promoted by rewarding authors, rather than those who finance the works of authors. 26 The second reason flowed from the practical effect of giving employers all the rights to a work. The spokesmen for creators pointed out that "the blanket transfer by law of all rights to the employer places most rights in a dormant state, where they remain lifeless and unexploited, thereby depriving the composer of income sources normally his due." 27 Further, if the employer was a corporation, the dissolution of the corporation could leave the work vulnerable to exploitation without any legal recourse for the original creator. 28 The acquisition of all rights to a work was not then widely practiced (or apparently needed) by book publishers, stage show producers, or magazine editors. 29 Instead, such employers were content to obtain only those rights germane to their particular business. Only in the film industry was it a consistent practice for an employer to acquire all the rights to an author's work and a spokesman for the Composers and Lyricists Guild of America stated that this practice was more habit than necessity. 30

Despite the contentions of these spokesmen, Congress did not be-

25. H.R. REP. No. 1476, supra note 6, at 5737. It should be noted that the "shop right" doctrine of patent law provides for the limited assignment of the patent to the employer only when there is no contrary contract and the invention is made in the course of the employee's general employment or through the use of his employer's facilities. If the employee is hired specifically to create or work on an invention, the ownership of the patent vests in the employer and the employer may compel an assignment of the patent. Under the formal patent law approach most copyrightable employee works would vest in the employer, since the employee was hired to specifically create the work and the "shop right" doctrine would not be applicable. See P. ROSENBERG, 1 PATENT LAW FUNDAMENTALS § 104, at 11-12 (2d ed. 1984); Colby, supra note 21, at 6-7; Varmer, supra note 11, at 732.


28. Angel & Tannenbaum, supra note 11, at 212; see also 1965 Hearings, supra note 24, at 273.

29. 1967 Hearings, supra note 27, at 895.

30. Id. "In the film industry, the acquisition of all rights is not a necessity; it is a habit. Congress is now in a position to enable the industry to kick the habit."
lieve that the established employer-as-author concept should be replaced by a "shop right" doctrine.\textsuperscript{31} The legislature reasoned that the enforcement of the "shop-right" doctrine would be difficult and uncertain since such a doctrine would raise questions regarding the purpose and scope of the employer's regular business, and the extent to which a particular use would be competitive.\textsuperscript{32} Congress also reasoned that the "shop right" would be of dubious value for many employees since some employers would still be able to use their superior bargaining position to demand the assignment of all rights to the work as a condition of employment.\textsuperscript{33} Further, the proposal would be impractical where the work was the product of numerous employees (e.g., motion pictures and encyclopedias); and users would be discouraged from negotiating for the rights to multi-author works because of uncertainty as to true ownership.\textsuperscript{34} For these reasons the judicially established employer-employee works-for-hire provision was incorporated without change into the 1976 Act.

B. COMMISSIONED WORKS MADE FOR HIRE

In contrast to the employer-employee provisions, the commissioned work-made-for-hire provision underwent numerous changes before being enacted. Under the 1909 Copyright Act the distinction between an "employee" and a person commissioned to create a work was a "distinction without a difference."\textsuperscript{35} Since the 1909 Act contained no provision for commissioned works, the courts were free to develop the presumption that title to a copyrightable work belonged to the party who commissioned the work, unless there was evidence of a contrary agreement.\textsuperscript{36} Eventually the courts extrapolated from the employee works-for-hire doctrine to conclude that the commissioning party should also be considered the "author" of the work.\textsuperscript{37} This conclusion was first enunciated in \textit{Brattleboro Publishing Co. v. Winmill Publishing Corp.}\textsuperscript{38} The court stated that there was "no sound reason why

\textsuperscript{31} H.R. REP. NO. 1476, \textit{supra} note 6, at 5737.
\textsuperscript{32} Angel & Tannenbaum, \textit{supra} note 11, at 212.
\textsuperscript{33} Id. at 212 n.14.
\textsuperscript{34} See \textsc{Register's Report} (1961), \textit{supra} note 10, at 85.
\textsuperscript{35} O'Meara, "Works Made for Hire" Under the Copyright Act of 1976—Two Interpretations, 15 \textsc{Creighton L. Rev.} 523, 524 (1982).
\textsuperscript{36} See, e.g., Lin-Brook Builders Hardware v. Gertler, 352 F.2d 298 (9th Cir. 1965); Yardley v. Houghton Mifflin Co., 106 F.2d 28 (2d Cir. 1939); W.H. Anderson Co. v. Baldwin Law Pub. Co., 27 F.2d 82 (6th Cir. 1928).
\textsuperscript{38} 369 F.2d 565 (2d Cir. 1966).
these same principles [work-for-hire employer-as-author concepts] are not applicable when the parties bear the relationship of employer and independent contractor." 39 The 1976 Act explicitly rejects the Brattleboro doctrine and its blanket extension of the works-for-hire concept to all commissioned works.

The decision to define and limit the term "commissioned works for hire" was fashioned from many concerns. Representatives of artists' guilds initially persuaded Congress that the judicial extension of the author-as-employer concept to independent contractors was not consistent with the Constitutional enabling clause. 40 Thus, an early draft of the provision defined a work for hire as: "a work prepared by an employee within the scope of the duties of his employment, but not including a work made on special order or commission." 41

This proposal drew heavy opposition from publishers who argued that it failed to protect their proprietary interests in works prepared at the "instance, direction, and the risk of the employer." 42 The arguments of publishers and producers closely tracked the analysis provided by Borge Varmer in his 1958 study for the Copyright Office:

Ownership in the employer seems most appropriate where the work is created by a more or less numerous team of employees, such as in the case of motion pictures, newspapers and other periodicals, and cyclopedic works (encyclopedias, dictionaries, directories, catalogs, etc.).

If copyright were vested in the numerous team members, third persons wishing to use the entire work would find it cumbersome to deal with all of the employee-authors. Moreover, it is with respect to such works that the contribution of the employer in assembling the group, furnishing the facilities and directing the project is especially significant. Hence, even if it is not provided generally that the initial ownership of copyright in works made for hire vests in the employer, consideration might be given to such a provision for specified kinds of works such as motion pictures, newspapers and other periodicals, and cyclopedic works. 43

The thrust of the publishers' argument was that in these works the employer was the true "creator." 44

The next draft of the provision sought a compromise between the divergent views of publishers and authors. It provided for the treatment of commissioned works as works for hire only "if the parties ex-

39. Id. at 568.
40. See supra note 26 and accompanying text.
41. HOUSE COMMITTEE ON THE JUDICIARY, 89TH CONG., 1ST SESS. (1964) Preliminary Draft for Revised U.S. Copyright Law and Discussions and Comments on the Draft 15 n.11 [hereinafter cited as 1964 Discussions and Comments].
42. Id. at 258-72.
43. Varmer, supra note 11, at 733.
44. 1964 Discussions and Comments, supra note 41, at 267.
pressly agree in writing that it shall be considered a work made for hire.\textsuperscript{45} Representatives of artists organizations, however, quickly objected to this draft on the ground that an author could easily be induced to sign a form contract stating that the work was made for hire.\textsuperscript{46} This argument led to a 1965 draft\textsuperscript{47} which was more solicitous of the author's lack of bargaining power. The draft limited the instances in which a commissioned work could be deemed a work for hire to the categories of works that publishers argued were legally and equitably indistinguishable from employer-employee works for hire.\textsuperscript{48}

The final draft reflected the approach of the 1965 draft, with several new categories added, and was endorsed by representatives of both groups.\textsuperscript{49} Thus, the 1976 Act's definition of commissioned works for hire attempts to draw a statutory line between those works written on special order or commission that should be considered as "works for hire" and those that should not. The definition now provided by the bill represents a compromise which, in effect, spells out those specific categories of commissioned works that can be considered "works for hire" under certain circumstances.\textsuperscript{50}

\textbf{II. COMMISSIONED SOFTWARE WORKS MADE FOR HIRE}

\textbf{A. SOFTWARE AS A COMMISSIONED WORK}

As the market for microcomputer software increases\textsuperscript{51} so does the demand for quality software developers such as programmers and manual writers.\textsuperscript{52} Independent programmers operate much like other au-

\textsuperscript{45} HOUSE COMMITTEE ON THE JUDICIARY, 89TH CONG., 1ST SESS. 1964 REVISION BILL WITH DISCUSSION AND COMMENTS 31 (Comm. Print 1965).

\textsuperscript{46} Id. at 147-48. See also Angel & Tannenbaum, supra note 11, at 231-32.

\textsuperscript{47} 1965 Hearings, supra note 24, at 3-4.

\textsuperscript{48} See supra text accompanying notes 42-44.

\textsuperscript{49} Angel & Tannenbaum, supra note 11, at 232.

\textsuperscript{50} H.R. REP. No. 1476, supra note 6, at 5737. \textit{But see} O'Meara, supra note 35, for the proposition that the only congressional change in the commissioned works-made-for-hire concept was that the listed nine categories of works required a signed written agreement. O'Meara argues that all other commissioned works can still be considered works for hire, and are governed by the principles established under the 1909 Act. It is evident, however, that the 1976 Act was intended to displace the prior 1909 Act, and that Congress intended "to draw a statutory line" between those works that could be made for hire and those that could not under any circumstances. \textit{See} M. NIMMER, supra note 13, § 5.03[B][2][a], at 5-18.

\textsuperscript{51} In 1984, an estimated $16.2 billion worth of programs will be either sold or leased. The sales from software for personal computers alone will approach $1.5 billion with 1989 revenues expected to exceed $6 billion. The current estimate of programs in existence is between 18,000 and 40,000. Taylor, \textit{The Wizard Inside the Machines}, TIME, April 16, 1984, at 56.

\textsuperscript{52} Most user manuals are written by professional manual writers on a work-for-hire basis. D. REMER, LEGAL CARE FOR YOUR SOFTWARE 66 (1982). The "work made for hire"
thors in that programmers sell their software to publishers either outright or in return for a percentage of the sales. Software, however, shares few similarities with literary works, despite a congressionally declared intent to treat computer programs as a form of literary work.

Computer software has by definition a dual nature—it is a symbolic utilitarian work capable of expressing an idea and it is a tool being used by a computer to bring about the implementation of the idea. A well-accepted definition of "software" lists three separate works that collectively and separately are called "software":

1. A "program description" which aids the programmer in writing the source code. This would include all source materials including flow charts, logic tables, and pseudocode.
2. The actual "computer program", i.e., a set of statements that are executed by a computer in order to achieve a certain result.
3. "Support materials" which aid the user in understanding the program, for example, user manuals and descriptions of the program.

Further, the development of software has been conventionally divided into four phases: (1) The creation of the source materials, usually in the form of flowcharts, which represent the logic of the program; (2) The creation of the source code, i.e., the drafting of computer instructions in a specific programming language such as FORTRAN; (3) The translation of the source code into a lower level computer language (either first into assembly language or directly into machine lan-

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54. The Copyright Act lists seven categories of works of authorship. 17 U.S.C. § 102(a) (1982). It is clear that Congress intended computer programs to be subsumed under the category of a literary work: "The term 'literary work' does not connote any criterion of literary merit or qualitative value: . . . It also includes computer data bases, and computer programs to the extent that they incorporate authorship in the programmer's expression of original ideas, as distinguished from ideas themselves." H.R. REP. NO. 1476, supra note 6, at 54.
56. The Copyright Act now defines "computer program" as "a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result." 17 U.S.C. § 101 (added by Pub. L. No. 96-517, 94 Stat. 3028 (1980).
language) by separate programs called "assembler" or "compiler" programs. Assembly language consists of alphanumeric characters and is easier to read than machine language. However, the source code must ultimately be translated into machine language which is referred to as "object code." Object code is usually written in binary language (a series of "ones" and "zeros"). The last phase is the creation of the program as actually stored in the computer. Computers consist of numerous amounts of semi-conductor chips that control the flow of electricity. Thus, the computer program in its bare form tells the semi-conductor chips how to control the flow of electricity by using the binary language signals to represent high or low voltages. The final form of the computer program consists of electrical signals which are stored in the memory of the computer or on some mechanical media such as tapes, disks, or Read Only Memory (ROM) chips.

As complicated as the above description seems, it merely describes the creation of a single program. A large percentage of the software sold or leased for use in business organizations consists not of single programs but of groups of programs that function together as an integrated whole to achieve a desired result. These groups are called "software systems." For example, an accounting program typically is comprised of several programs which handle separate tasks: one program may determine accounts receivable while another determines payroll obligations.

Although a single programmer can create a highly successful program, the latest personal computer software is often written by more than one person so that the program can be published quickly in the

59. Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d 1240, 1243 (3d Cir. 1983), cert. dismissed, 104 S. Ct. 690 (1984). Before the creation of programming languages like FORTRAN which are very easy to read, all programs were written in assembly language and then translated into machine language. Thus, some programs are still written in assembly language or translated into assembly language depending on the programmer's preference.


61. The "ones" and "zeros" of the object code indicate high or low voltages, or positive or negative polarities of magnetization. Since the binary language is hard to understand, the object code can be written in decimal, octal or hexadecimal numbers for the convenience of the programmer and then converted into binary language. See Davidson, supra note 55, at 341-42.


63. See Data Cash Sys., Inc. v. JS&A, Inc., 628 F.2d 1038, 1040 (7th Cir. 1980).

64. See generally 1984 Programmer's Market, supra note 53.

rapidly changing software market. To this end, software publishers may either maintain an in-house staff of programmers or hire a team of programmers to develop a specific software concept into a marketable program. Additionally, manufacturers of computers usually hire freelance programmers or software publishing companies to create operating software or applications software that is compatible with their machines.

The final version of a computer program that reaches the consumer may thus be the result of the creative efforts of a number of independent programmers. This in turn makes the use of ownership and control rights to protect the software publisher's investment in the creation of software an issue of growing interest. Conversely, the free-lance programmer who has developed a program at the behest of a software publisher is also keenly interested in protecting the fruits of his or her creative efforts.

B. COMPUTER PROGRAMS AND THE INTERPRETATION OF THE COMMISSIONED WORKS-MADE-FOR-HIRE PROVISIONS

A commissioned work must meet three criteria before it is considered a work made for hire, vesting ownership in the commissioning party. First, the work must be specially ordered or commissioned. Second, the work must be included in one of the following nine categories of copyrightable works:

1. Contribution to a collective work,
2. Part of a motion picture or other audiovisual work,
3. Translation,
4. Supplementary work,
5. Compilation,
6. Instructional text,
7. Test,
8. Answer material for a test, or

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68. Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d 1240, 1243 (3rd Cir. 1983), cert. dismissed, 104 S. Ct. 690 (1984): "[O]perating system programs generally manage the internal functions of the computer or facilitate use of application programs." The court in Apple held that operating system programs are not per se precluded from copyright. Id. at 1253-54.
69. Id. "Application programs usually perform a specific task for the computer user, such as word processing, checkbook balancing, or playing a game."
70. See generally R. Hoffman, supra note 66; 1984 Programmer's Market, supra note 53.
Third, both the employer and the independent contractor must expressly agree in a signed writing that the work is made for hire.

Computer programs, as defined in the Computer Software Copyright Act of 1980, are not included in the nine enumerated categories. Thus, it would initially appear that commissioned software works can never be considered works made for hire under the 1976 Act. There is, however, no legislative history on this issue. This is not surprising, in view of the 1974 decision to avoid further delay in enacting the new copyright law by instituting the National Commission on New Technological Uses of Copyrighted Works (CONTU). This body was assigned the task of analyzing the problems which would arise from allowing computer programs to be copyrighted. In 1980, as a result of CONTU's recommendations, Congress enacted the Computer Software Copyright Act which explicitly provided for copyright protection of computer programs. However, the CONTU Report is silent on the question of whether computer programs are properly subsumed in the permissible nine categories.

There are several plausible reasons for CONTU's silence. Possibly, the CONTU commissioners may not have considered this question to be within the scope of their study. They might have reasoned, however, that the categories of software to be covered by the provisions would normally be treated as works made for hire. Just as plausibly, CONTU could have believed that the absence of computer works from the special list of commissioned works meant that software should not be considered a work made for hire.

In accord with this last interpretation of CONTU's silence, the courts have found that architectural drawings and photographs cannot be commissioned works for hire because they do not fall within one

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75. Meltzer v. Zoller, 520 F. Supp. 847 (D.N.J. 1981). The Meltzer case considered the question of whether the client or the architect owns the plans to a private home. The plans were created in 1977, and subsequently used in 1979 by the architect to build a second house for another client. The first client then brought suit alleging that under the 1909 Act he was the statutory author of the plans. The court applied the 1976 Act and found that, since the work was an architectural plan and there was no signed writing, the architect was the copyright owner. However, the court could have ended its analysis upon finding that architectural plans were not within the nine categories. It should be noted that this case has been criticized as improperly applying the 1976 Act in Latman, Annual Review of Copyright Cases, 29 J. OF THE COPYRIGHT SOC'Y OF THE U.S.A. 465, 469-70 (1982). However, Professor Latman concurs with the court's opinion that architectural plans cannot be commissioned works made for hire under the 1976 act.
of the nine categories. One of the courts, however, felt constrained to support this finding by resorting to canons of construction: "As a rule, [a statutory] definition which declares what a term 'means' . . . excludes any meaning that is not stated . . . . In this regard, it is a well-known canon of construction that the language of the statute is the best indication of legislative intent." The reported cases that have considered the 1976 Act's commissioned works-for-hire provisions have indicated that works made for hire by independent contractors are limited to the prescribed categories. In one of those cases, however, the court based its decision on the finding of a joint work; in other cases, the absence of a written agreement ended the court's analysis of the new commissioned works-for-hire doctrine. Thus, there has been no judicial attempt to analyze the precise scope of the nine categories.

The only reported case that fully applies the works-made-for-hire doctrine to computer software is *BPI Systems, Inc. v. Leith.* In this case, the Commodore Computer Company (a computer manufacturer) had requested BPI (a software publisher) to develop an accounts receivable system. BPI then hired Leith (an independent programmer) to produce twelve programs for this system. The final system was copyrighted and registered (apparently by BPI) with the Copyright Office. Subsequently, Leith began marketing a virtually identical accounts receivable system. BPI then filed suit against Leith and requested a preliminary injunction to prevent Leith from continuing to market the system.

Supp. 1374 (S.D.N.Y. 1983) (copyright in photographs taken by commissioned photographer belongs to photographer not to commissioning magazine).
78. M. NIMMER, supra note 13, § 5.03[B][2][a], at 5-18 to 5-20.
81. 532 F. Supp. 208 (W.D. Tex. 1981). In Freedman v. Select Info. Sys., Inc., 1983 COPYRIGHT L. REP. (CCH) ¶ 25,520 (N.D. Cal. 1983), the court rejected the corporation's contention that Freedman developed a computer program as an employee, since no evidence had been introduced to defeat the presumption of plaintiff's ownership in a work that he had registered with the Copyright Office. 17 U.S.C. § 140(c) (1982). Additionally, Freedman owned half of the corporation which had been formed by himself and defendants to distribute the program in question.
The preliminary injunction was denied on the basis of the court's construction of the work-for-hire provisions. First, the court found that Leith was not an employee. It then considered whether the relationship of the parties fell within the commissioned works provision. Upon finding that there was no written agreement that the programs be treated as works made for hire, the court dismissed the application without further analysis of the provision. Thus, the question of whether computer programs are totally excluded from the categories of commissioned works made for hire has yet to be addressed judicially or legislatively.

C. ANALYSIS OF THE PERMISSIBLE NINE CATEGORIES OF COMMISSIONED WORKS MADE FOR HIRE AS APPLIED TO COMPUTER PROGRAMS

If computer programs are not intentionally excluded from the subject matter of the nine categories, many could be brought within one or more of those categories. The following is an analysis by category of the commissioned software works that could be considered works made for hire.

1. Contribution to a Collective Work

A collective work is a work "in which a number of contributions, constituting separate and independent works in themselves, are assembled into a collective whole." The Act lists, by way of example, not limitation, works such as periodicals, anthologies and encyclopedias. The interpretation of the word "number" has been generally accepted to be two or more works, but the definition of "collective work" in section 101 contains no requirement that the contributions be authored by more than one person. A collection of independently copyrightable programs authored by the same person and arranged into a software system would appear to be within the Act's definition of collective works. This would also bring the system into the "compilation category" of permissible commissioned works made for hire. For example, in *BPI Systems Inc. v. Leith*, Leith was hired to write twelve programs for use in an accounts receivable system. His work could be regarded as "commissioned for use as a contribution to a collective work" if the parties had signed an agreement stating that his work was made for hire.

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84. H.R. REP. No. 1476, *supra* note 6, at 5737.
2. Part of a Motion Picture or Other Audiovisual Work

A videogame display falls squarely within the section 101 definition of an audiovisual work because the "nature of the material object" in which the "series of related images" appears is not limited to films or tapes. A programmer commissioned to write a videogame program is arguably creating part of an audiovisual work. A programmer may also write a program that produces a special effect, a musical work or an animated sequence that will be used as part of a motion picture.

3. Translation

Under the 1976 Act, a translation is a derivative work. Congress may have intended the word "translation" to refer to the translation of a work from one language to another. However, the Act provides no definition or qualifying language to explain the meaning of this term.

If courts apply this category literally, many programs may be considered commissioned works made for hire. For example, programmers are often hired to "translate" a program written for one type of computer into a form suitable for another computer. Programmers may also be hired to translate a program from one programming language to another (e.g., from FORTRAN to BASIC).

Even more troublesome is the fact that all programs written in source code must be translated into object code by assembler or compiler programs before a computer can use them. The object code version may be considered a translation of the source code version. A programmer hired to change a source code program into object code might be deemed the creator of a work made for hire. However, some courts consider the object code a "copy" of the source code, despite the

86. Id.
87. Id.
89. See Angel & Tannenbaum, supra note 11, at 234.
90. 1984 PROGRAMMER'S MARKET, supra note 53, at 16.
91. Id.
92. See supra notes 58-63 and accompanying text.
use of phrases such as "translated into object code" or "source code version."  

4. Supplementary Work

A supplementary work is defined in the section 101 work-for-hire definitions as:

- a work prepared for publication as a secondary adjunct to a work by another author for the purpose of introducing, concluding, illustrating, explaining, revising, commenting upon, or assisting in the use of the other work, such as forewords, afterwords, pictorial illustrations, maps, charts, tables, editorial notes, musical arrangements, answer material for tests, bibliographies, appendixes, and indexes.

This is a catch-all category for virtually all routine contributions to a literary work made by someone other than the principal author. This category could embrace some of the programs already included in other categories. For example, the "attract mode" program of a video game is used to introduce, illustrate and explain the copyrightable game. A program written to give instructions or comments to the user as to the operation of another author's program could also fall into this category. Any supplementary program, however, would have to be "prepared for publication," limiting the use an employer could make of this category.

5. Compilation

A compilation is a work formed by the collection of pre-existing materials or data, arranged and selected so as to constitute an original work of authorship. A programmer can reorganize subroutines to change a mathematical calculation or the manipulation of textual, graphic or stored material. These changes are frequently done in order to "debug" the program, increase its speed, or expand its capacity to handle heavy workloads. A programmer hired to debug a program cannot claim ownership in the resulting program if the result is considered a compilation and a signed writing indicates that the programmer's work is made for hire.

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95. Williams Elec., Inc. v. Artic Int'l, Inc., 685 F.2d 870, 877 (3d Cir. 1982).
97. Id.
98. "Subroutines" are discrete sections of a program that solve a specific task to be performed by the program. For example, in a program which bills clients, the part of the program that calculates the client's previous balance and prints it on the bill is a subroutine.
100. The removal of errors from a program is called "debugging."
Moreover, a programmer commissioned to create a data base management system creates a program that manipulates a collection of pre-existing items (e.g., the results of public surveys or business records). Such a creation is a compilation and might be treated as a work for hire.

6. **Instructional Text**

This newly created category was designed to include “textbook material” whether in the form of books or text matter. The basic requirements of this category are that the work be prepared for publication and “use in systematic instructional activities.” Educational software (“courseware”) created for use in computer-assisted learning programs in schools could thus be works made for hire.

7. **Test**

Arguably this term could cover those tests which evaluate people as well as those which evaluate mechanical devices. Thus programs that create tests used in computer-assisted learning programs and programs which perform quality control tests could both be commissioned works for hire.

8. **Answer Material for a Test**

This category was specifically listed among the examples illustrating the definition of a supplementary work. The category is redundant unless the “prepared-for-publication” requirement of supplementary works does not apply to it. A computer program could be created to generate answers to any type of test covered by the “test” category.

9. **Atlas**

A computer program commissioned for use as an atlas includes a program that stores and retrieves all the data contained in an atlas.

104. The word “test” is not defined in the 1976 Act.
105. See supra text accompanying note 96. This category is also undefined in the 1976 Act.
106. The word “atlas” is not defined by the 1976 Act. It is therefore not necessarily a bound collection of maps.
III. SOFTWARE EMPLOYER-EMPLOYEE
WORKS MADE FOR HIRE

A. THE BALANCING OF FACTORS

The absence of legislative definitions of the terms "employer," "employee," and "scope of employment" implies an acceptance of the judicially created indicia used to determine the existence of an employer-employee relationship under the 1909 Act. The development of the factors indicative of employment for hire has occurred largely through cases in which musical works and works of art were allegedly made for hire. Moreover, the factors stressed by the courts vary among jurisdictions, and the weight given each factor varies from case to case. It is, however, possible to subdivide these factors into several broad categories:

1. Responsibility for Creation of the Work

The threshold consideration in determining if an employer-employee relationship exists is whether the employer was responsible for the creation of the work. If the author created the work of his own volition and then entered into an employment relationship, clearly the work is not made for hire.

2. Contract of Employment

The existence of an express contract for hire is highly suggestive of an employer-employee relationship. However, the exclusivity of the employment relationship must be established before a court will be influenced by the language of a written contract. Even if the employment contract expressly uses terms such as "we engage and employ you" or "during . . . your employment," a court is not bound by this language unless exclusivity is established.

107. M. Nimmer, supra note 13, § 5.03[B][1], at 5-11 to 5-12.
3. **Scope of Employment**

The requirement that "a work be prepared . . . within the scope of his or her employment" was not expressly stated in the 1909 Act. Its presence in the 1976 Act results from the judicial determination that a work created outside the scope of employment is not a work made for hire. Most of the factors developed to gauge whether or not a work is made for hire revolve around the issue of scope of employment.

4. **Employer's Right to Control**

The one factor applied by all courts in determining whether a work was prepared by an employee is the employer's right to direct and supervise the manner in which the work is performed. This criterion, considered crucial, is satisfied where the employer has the right to edit or control the style and content of the work, even if the employer does not actually exercise this right. Although the control factor determines whether the work was created in the scope of employment, courts have not consistently applied this "hallmark of 'an employment for hire' relationship." The fact that the employer has approval power over the finished product does not of itself indicate control. Similarly the exercise of creative freedom by the author in developing the work will not of itself prevent classification of the work as one "made for hire."

5. **Expense of the Employer**

Where an employer provides supplies, equipment, research facilities, assistants, or a workplace on the employer's premises, the implication is that the work was done at the employer's expense, and thus in an employer-employee relationship. It appears that courts consider evidence that the employer defrayed expenses as supporting the conclusion that the work was created at the instance of the employer.

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113. See supra note 9.
116. M. Nimmer, supra note 13, § 5.03[B][1][a], at 5-12 to 5-13.
120. Murray v. Gelderman, 566 F.2d 1307, 1311 (5th Cir. 1978).
121. See Simon, supra note 108, at 488.
connection with this factor, courts have looked to the time of perform-
ance to decide whether the work was created as part of the employee's 
regular duties. However, the recent trend regards the presence of regu-
lar working hours as a non-essential element of the employment rela-
tionship. The reasoning is that artists do not and are not expected to 
work regular hours.123

6. Payment of Wages or Other Remuneration

Although a fixed regular salary indicates an employer-employee re-
lationship,124 the absence of a regular salary is not determinative. For 
example, an employer-employee relationship has been found when the 
putative employee was paid by the piece,125 and even when the payment 
was in the form of advances against future royalties.126 It is generally 
agreed that the form and amount of compensation appears to have no 
predictive value as to whether a court will find an employment rela-
tionship.127 However, the court in BPI Systems, Inc. v. Leith128 used the 
fact that the payment was made on a per program basis to find that no 
employer-employee relationship existed. BPI was also the first case to 
consider the absence of tax or social security deductions as bearing on 
the existence of an employer-employee relationship.

B. Ramifications for Software Employer-Employee
   Relationships

A staff programmer who is paid a regular salary to create programs 
at the request and expense of his employer is clearly an employee 
under the employee work-for-hire definition. Even a free-lance 
programmer may be considered an “employee,” however, if a court 
finds the hiring party caused the work to be created and had the right 
to direct and supervise its creation.129 The crucial distinction between a 
commissioned program and an employee-created program is therefore 
the hiring party’s ability to control the creation of the work.

In many employer-employee relationships concerning computer 
software the employer’s right to control the manner in which the work

127. M. NIMMER, supra note 13, § 5.03[B][1][a], at 5-12. See Town of Clarkstown v. 
    Reeder, 566 F. Supp. 137 (S.D.N.Y. 1983) (manual written by an unpaid volunteer held to 
    be a work made for hire).
129. Aldon Accessories Ltd. v. Spiegel, Inc., 28 PAT., TRADEMARK & COPYRIGHT J. 
    (BNA) 295 (2d Cir., June 22, 1984).
is performed is missing. Many employers of computer personnel and consultants do not have the ability or knowledge to control the style and content of the programmer's work. The employer often cares little about how the work is done, as long as the resultant program is error-free and performs its task. Although the employer has the ability to approve or disapprove of the completed program, this should not make the program an employee work for hire under prior case law.

It is arguable that the employer has the right to control the programmer's work, but it is unrealistic to conclude that an employer unfamiliar with computers could supervise the programmer in the way that a book publisher can supervise the creation of a book. Therefore, in the absence of a written exclusive employment contract or other evidence that the programmer was an employee, a program created at the employer's insistence and expense is not necessarily created in an employee work-for-hire relationship.

Other traditional indicia used to determine if a work was created by an employee are also difficult to apply to an industry characterized by special working arrangements. For example, the task of software development often necessitates that the programmer (free-lancer or employee) work at the employer's place of business on his computer system. Under prior case law, this suggests that the work was created in an employment relationship. Conversely, many programmers can and do work irregular hours at home using their own computers. This working arrangement typically indicates that the work was not created in the scope of employment.

Since programming is labor intensive, there is usually little evidence of the employer bearing the expense of supplying materials or other equipment. The usual expense borne by the employer is the compensation paid to the programmer. Although a regular salary is a strong indication of an employment relationship, a programmer could be paid per program, or on a payment schedule linking payment to progress, and still be considered an employee. For these reasons, the application of the judicially-developed factors to software employment

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130. See S. Mandell, supra note 67, at 62-85.
131. See supra note 119 and accompanying text.
134. See generally S. Mandell supra note 67.
136. See supra notes 124-27 and accompanying text.
relationships permits neither employers nor employees to clearly anticipate the ownership of programs developed in such relationships.

IV. SOLUTIONS FOR THE DISRUPTION OF THE BALANCED COMPROMISE

A. EMPLOYER-EMPLOYEE WORKS MADE FOR HIRE

When Congress reaffirmed the work-made-for-hire copyright principle, it explicitly rejected the "shop right" proposal because of the uncertainties this would create.\(^{137}\) However, the lack of clarity in the present works-made-for-hire provisions as applied to employers and employees creates its own set of uncertainties and inequities. Under the 1909 Act the distinction between commissioned works and employee works was nugatory. The 1976 Act treats the two types of works very differently. The treatment of works for hire is now potentially more favorable to the employer but subject to considerable uncertainty.\(^{138}\) Therefore, it is in the interest of both employers and employees to obtain a definition of employee works made for hire that is both certain and equitable.

A recently proposed amendment to the 1976 Act, S. 2138,\(^{139}\) attempts to provide a definite standard for determining an employee work made for hire by defining the term "employer" as one who withholds taxes from wages as required by the Internal Revenue Code. Software employers would benefit from the definiteness of such a standard due to their current inability to control the manner and style of the programmer's work. Furthermore, the result-oriented nature of computer programs militates against judicial decisions that do not regard the approval right of an employer as equivalent to a control right. Establishment of a standard by which to judge employment status would alleviate the uncertainties resulting from the application of prior case law to software employment relationships.

Such an amendment would also improve the position of programmers by ensuring them federally (and perhaps state\(^{140}\)) mandated employee benefits in exchange for the Act's divestment of copyright ownership and statutory termination rights. Further, such an amend-

\(^{137}\) See supra notes 25-34 and accompanying text.

\(^{138}\) See supra notes 12-20 and accompanying text.


\(^{140}\) See M. NIMMER, supra note 13, § 5.03[B][1][a], at 5-19 fn. 53, for a list of California laws that use the work-for-hire provisions to determine the employer of an author for purposes of workers' compensation, unemployment, and disability insurance.
ment would underscore the difference between a salaried employee-programmer and a free-lance programmer. As it now stands, a software publisher is able to classify a programmer as an “employee” for copyright purposes, while simultaneously avoiding the payment of the employment benefits that accrue to an employee.141

B. COMMISSIONED WORKS MADE FOR HIRE

Congress intended to draw a statutory line between works in which the commissioning party is the true creative force and those works which result from the author’s creative efforts.142 However, the statutory categories of “contributions to collective works” and “supplementary works” have provided publishers and producers with an alternate means of obtaining the copyright to a created work. Using their superior bargaining power, publishers and producers can require authors to provide written agreements needed to convert their creative works into works made for hire.143 Thus, publishers and producers become the statutory authors of such works as the sound recording of a two-sided single record (a collective work),144 or the artwork used in a magazine (a supplementary work).145

Recognizing the abuses of these categories, at least one author has suggested that these categories be removed from the list of permissible commissioned works made for hire.146 Senator Cochran (R.-Miss.) introduced two bills that would eliminate these categories as well as the categories pertaining to “as a part of an audiovisual work” and “an instructional text.”147 The effect these amendments would have on

142. See supra notes 40-50 and accompanying text.
143. See generally Comment, supra note 141, which asserts that the nine specific categories of commissioned works have not insulated artists from standard work for hire contracts. In a letter to the author of the above-cited Comment, Tad Crawford, the General Counsel to the Graphic Artists Guild stated that:

[T]he work-for-hire problem is widespread and substantial. Almost every artist is confronted with such contracts. While empirical studies have not been done to document what percentage of billings are done under work-for-hire contracts I can assure you that it is a significant amount. Moreover, artists in certain fields find that work-for-hire contracts have become the norm; these artists rarely are given the opportunity to negotiate a limited rights contract. Those who try this are simply not used anymore. Here again, I speak from personal experience as General Counsel to the Guild.

Id. at 714 n.54. Letter from Tad Crawford to Walter Sadler (Mar. 30, 1981).
144. Horsnell, supra note 114.
146. Id. at 719-21.
147. S. 2044 and S. 2138, 97th Cong., 2d Sess. (1982). See supra note 139. See Colby, supra note 21. Colby argues that no amendments should be considered by Congress until the 1976 Act is given a chance to prove itself workable. Colby also strongly urges that the
software works for hire is evident; currently computer programs can be subsumed under each of the "offensive" categories, and software publishers are as capable as other publishers of flexing their superior-bargaining muscles in order to obtain works-for-hire agreements.148

However, one must remember that computer programs may be properly included in each of the nine categories because of their unique nature as utilitarian works of authorship.149 As such, they can be used to create the specific works categorized as "part of a motion picture or other audiovisual work," "an instructional text," "a test," "answer material for a test," and "an atlas."150 Moreover, the complex tasks performed by modern computer programs often necessitate the use of more than one program in order to obtain a desired result. Additionally, since software can quickly become obsolete, it is frequently necessary to modify or convert software into a form that can be used by newer microcomputers.151 Thus, software could disrupt the "balanced compromise" inherent in the commissioned works-for-hire definition.

The balanced compromise Congress sought to achieve centered on the definition of categories of works that were truly created at the "instance, direction and risk of the employer."152 These works were thought to be the product of numerous employees and thus incapable of being created without the supervision and financial resources of an employer. Congress, in creating a list of categories, implicitly acknowledged that these works of authorship are best promoted by providing the employer with the incentives inherent in the favorable "work made for hire" treatment of the Act.

The balanced scheme Congress devised might best be served by the deletion of "a contribution to a collective work," "a supplementary work," "as part of an audiovisual work," and "an instructional text" as part of a motion picture" category be kept as part of the work-made-for-hire provisions.

148. An example of a standard work-for-hire agreement that could be routinely included in a programmer's contract is the following:

All programs and documentation developed by X under this Agreement, are to be considered works made for hire as that term is defined in Section 101 of the Copyright Act (17 U.S.C. § 101) and are the sole and exclusive property of Company. Any and all patent and copyright rights to the programs and documentation developed hereunder to the extent they are available, are the sole and exclusive property of Company.


152. See supra notes 40-44 and accompanying text.
from the list of commissioned works for hire. The broad language of these categories harms many creators and does particular harm to computer programs. Computer programs, like other works subsumed under each of these categories, can be created with minimal expense and little or no supervision. They may also be created by a single individual. Hence the argument that these types of works would remain unexploited because third persons find it "cumbersome to deal with all of the employee-authors" is unpersuasive. Additionally, as the use of software systems increases, the category of a "contribution to a collective work" will become a particularly fertile category of abuse for freelance programmers.

The computer works likely to fall within the scope of the remaining categories would normally not be created but for the motivation, supervision, and financing of the commissioning party. Although each of these works may be created at the instigation and expense of an individual programmer, their creation will more often be at the behest of an employer. The Copyright Act's goal of promoting the creation of new and beneficial works will be best served by giving the employer the economic incentive of commissioning these works as works made for hire.

CONCLUSION

The judicial definition of an "employer-employee work made for hire" has been fashioned on a case-by-case basis. Thus, it has resulted in a set of factors that provide neither certainty nor equitable consequences for software creators and employers. It is therefore urged that Congress amend the 1976 Act to provide a definitive standard for determining the existence of an employer-employee relationship.

It has been demonstrated that computer programs may be included in each of the nine categories listed in the 1976 Act's new definition of "commissioned works made for hire." The overall balancing scheme of the "commissioned works-made-for-hire" provision is disrupted by the inclusion of computer programs in some of these categories. Moreover, manipulation of these categories has enabled employers to label as works made for hire certain works that were not envisioned as such by Congress. Therefore, Congress should amend the 1976 Act to exclude certain categories from the list of commissioned works-made-for-hire. Only prompt action of this kind will head off the problems certain to arise when authors' termination rights become a routine subject of copyright litigation.

Carol Ann Surrel
The Ohio State University College of Law

153. See supra text accompanying note 43.