

1982

International Copyright Law Applied to Computer Programs in the United States and France

Marie Francoise Gilbert

Follow this and additional works at: <http://lawcommons.luc.edu/lucj>

 Part of the [Computer Law Commons](#), [Intellectual Property Law Commons](#), and the [International Law Commons](#)

Recommended Citation

Marie F. Gilbert, *International Copyright Law Applied to Computer Programs in the United States and France*, 14 Loy. U. Chi. L. J. 105 (1982).

Available at: <http://lawcommons.luc.edu/lucj/vol14/iss1/6>

This Note is brought to you for free and open access by LAW eCommons. It has been accepted for inclusion in Loyola University Chicago Law Journal by an authorized administrator of LAW eCommons. For more information, please contact law-library@luc.edu.

International Copyright Law Applied to Computer Programs in the United States and France

INTRODUCTION

Computers have been in use internationally for more than thirty years.¹ During this period, computer technology and its applications have rapidly and continuously changed and expanded. Although technological advances in hardware have dominated the progress of the industry in the past, software² now surpasses hardware in dollar volume and draws most of the research atten-

1. In fact, the concept of computing is probably as old as numeration itself. Stonehenge, a stone computer which is a calculator of time, was built in England during the neolithic period. The Chinese invented the abacus *circa* 500 B.C.

In 1642, the French mathematician, Blaise Pascal, created the *machine arithmetique*, a geared box that added and subtracted. In 1770, Hahn, a German, developed the first computing machine that performed the four operations. In 1812, in England, Charles Babbage drafted the general principles of electronic calculators. In 1880-1890, the American, Herman Hollerith invented a punched card tabulating system which is the direct lineal ancestor of today's computer cards.

During the present century, the outbreak of World War II intensified efforts in Europe to develop highly efficient computing equipment. In the United States, John Atanasoff and Clifford Berry invented electronic logic circuits to create a digital calculating machine. Then, in 1947, John Mauchly and J.P. Eckert created the electronic numerical integrator and computer, a huge device, weighing 30 tons, using 18,000 vacuum tubes and requiring considerable air conditioning. Soon after, they developed *Univac I* which was marketed in 1951. *Univac I* thus marked the beginning of the computer industry. See Lautsch, *Computers and the University Attorney: An Overview of Computer Law on Campus*, 5 J.C.U.L. 217, 217-22 (1978-1979).

2. Although this article presupposes a general familiarity with computers, some definitions need to be agreed upon. *Software* is a term "which generally comprises three classes of subject matter: computer programs, data bases and documentation." Bender, *Licensing Computer Software*, in CURRENT DEVELOPMENTS IN PATENT LAW 411 (P.L.I. 1982). A *computer program* is a set of statements and instructions to be used directly or indirectly by a computer to bring about a certain result. More simply, it is what is fed into the machine in order to operate it. McFarlane, *Legal Protection of Computer Programs*, 1970 J. BUS. L. 204, 204.

The first step in the creation of a program is the conception of an algorithm, generally expressed graphically by a flowchart. A *source program* is then written in a high level programming language, e.g., Algol, Cobol, or Pascal. While comprehensible to the programmer, it is not directly intelligible to the computer. Accordingly, the source program is translated into an *object code* which is unintelligible to the programmer and executable for the computer. Whereas a source program can be printed out in sequence to the *listing*, the object code is not written at all but is embodied in magnetic tapes, discs or other physical device.

tion. Computer software development, however, has proven costly because it relies primarily on human rather than machinal capabilities. As a result, many individuals and corporations in the computer industry have found original software development cost prohibitive and have been tempted instead to misappropriate proprietary software for their own marketing purposes.³

Without adequate protection, misappropriation of computer programs has a critical impact on both the producers and users of information goods and services.⁴ To assure maximum protection of its computer programs, a programmer or a company should restrict access to information by implementing physical and technical security measures.⁵ In addition, the law provides various possible protections through application of trade secrets, patent and copyright law.⁶

For a short description of computer operation, see generally Gotzen, *Copyright and the Computer*, 13 COPYRIGHT 15, 15 (1977); Schmidt, *Legal Proprietary Interests In Computer Programs: The American Experience*, 21 JURIMETRICS J. 345, 347 (1981) [hereinafter cited as Schmidt]; Stern, *The Legal Protection of Computer Software and Computer Related Innovations in the United States*, 21 INDUS. PROP. 152, 152 (1982). See also *Apple Computer, Inc. v. Franklin Computer Corp.*, No. 82-2107 (E.D. Pa. July 30, 1982); *Data Cash Sys., Inc. v. JS & A Group*, 480 F. Supp. 1063, 1065 (N.D. Ill. 1979), *aff'd*, 628 F.2d 1038, 1040 (7th Cir. 1980).

3. See Remer, *Legal Expert on Software Theft: The Piranhas Versus True Pirates*, INFO-WORLD, Mar. 22, 1982, at 40. According to Remer, two types of software thieves are now thriving: pirates and piranhas. The piranhas, amateur software thieves, bit for pleasure. They are talented hobbyists who will dedicate themselves to breaking into programs, analyzing and modifying them and proudly sharing their illicit trophies with a few friends. They cannot be completely stopped, as photocopying and tape recording cannot be stopped. On the other hand, pirates, professional software thieves, are only motivated by profit. They will forge programs and sell software that looks, smells and tastes like the original, steal codes and remanipulate them for use on other machines or into derivative programs for use on the same machine, or simply see a good idea and "borrow" it.

4. HOUSE COMM. ON SCIENCE AND TECHNOLOGY, SURVEY OF SCIENCE AND TECHNOLOGY ISSUES PRESENT AND FUTURE, STAFF REPORT, 97th Cong., 1st Sess. 69, reprinted in CURRENT DEVELOPMENTS IN COPYRIGHT LAW 535 (P.L.I. 1982).

5. For example, the programmer or the software house should make sure that programs are kept under lock and key with access limited to those who must see or use them in the business; all programs and documents relating to them should be stamped with legends such as "confidential;" and if programs must be loaned as part of the business to third persons such as customers or technicians, the outsider should execute a written agreement not to reveal the information to anyone else. See Wessel, *Legal Protection of Computer Programs*, 43 HARV. BUS. REV., Mar.-Apr. 1965, at 97, 100.

Other technical security measures which can be taken are rendering the program difficult to analyze and physically marking or identifying the program. The programmers can also remove any explanatory remarks and comments from the program. They can write some operating algorithms with a certain identifiable writing style or error so as to facilitate proof of the theft in judicial proceeding. See Schmidt, *supra* note 2, at 388.

6. The pros and cons of these methods have been commented on frequently in the past few years.

Reliance on the laws of one country, however, is not sufficient. Protection of computer programs, to be efficient, must be truly international.⁷ A computer system often spreads across frontiers. One computer can easily communicate with another through the ordinary international telephone system. Prohibiting a particular program from being run in just one country is futile because the machine can transmit the program to another country instantaneously.⁸

This article explores the need for international protection of computer software by examining the applicable laws of two countries: the United States and France. The discussion focuses on copyrights,⁹ now the preferred method of computer software pro-

On American law, see generally Bender, *Computer Software Licensing*, in 2A THE LAW AND BUSINESS OF LICENSING: LICENSING IN THE 1980's (Goldsheider ed. 1981); Root, *Protecting Computer Software in the 1980's: Practical Guidelines for Evolving Needs*, 8 RUTGERS J. COMPUTERS, TECH. & L. 205 (1981); Schmidt, *supra* note 2; Selinger, *Protection of Proprietary Software: Evolving Needs for Legal Protection in the Modern Day Business*, 45 TEXAS B.J. 11 (1982); Stern, *The Legal Protection of Computer Software and Computer Related Innovations in the United States*, 21 INDUS. PROP. 152 (1982); Tunick, *Computer Law: An Overview*, 13 LOY. L.A.L. REV. 315 (1980); Symposium - *Computer Law*, 30 EMORY L.J. 345 (1981).

On international law, see generally C. TAPPER, *COMPUTER LAW* (1978); Bull, *Legal Protection of Computer Programs*, in J. BING, *A DECADE OF COMPUTERS AND LAW* 410 (1980); Kindermann, *Special Protection Systems for Computer Programs—A Comparative Study*, 7 INT'L REV. INDUS. PROP. & COPYRIGHT L. 301 (1976); Salzman, *International Protection for Computer Software*, 12 L. COMPUTER TECH. 3 (1979).

Criminal law may provide legal redress against misappropriation of computer programs in some cases. See, e.g., *Ward v. Superior Court of Cal.*, 3 Computer L. Serv. Rep. (Callaghan) 206 (1972) (action against computer service company employee charging him with theft by remote access of programs from another computer company); *Hancock v. State*, 402 S.W.2d 906 (Tex. Crim. App. 1966) (employee convicted for theft of computer listings). A growing number of states have adopted criminal statutes which explicitly deal with computer related crimes. See generally Lautsch, *Digest and Analysis of State Legislation Relating to Computer Technology*, 20 JURIMETRICS J. 201 (1980). For a discussion of criminal law and theft of computer programs, see generally Schmidt, *supra* note 2, at 390. See also 2 COMPUTER/L.J. issues no. 2-3 (1980) (special issues dedicated to computer crime).

7. According to a principle of conflicts of laws, the protection available in each country for the copyright, patent or trade secret proprietor is derived from the laws of that country. These laws define the type of work covered and the nature and extent of the rights provided. Issues of copyright, patent or trade secret infringement are governed by the laws of the country in which the alleged violation has occurred. M. BOGUSLAVSKY, *COPYRIGHT IN INTERNATIONAL RELATIONS: INTERNATIONAL PROTECTION OF LITERARY AND SCIENTIFIC WORKS* 18 (1979).

8. Rumbelow, *Computer Law*, 8 INT'L BUS. LAW. 65, 65 (1980).

In 1980, the International Bar Association formed a new committee, Committee R, specifically to study the law relating to computers and electronic devices and the transfer of computer information. *Id.*

9. For a discussion of the international aspects of copyright protection, see generally A. DIETZ, *COPYRIGHT LAWS IN THE EUROPEAN COMMUNITY: A COMPARATIVE INVESTIGATION OF NATIONAL RIGHTS* 137 (1978); Kindermann, *Special Protection Systems for Computer*

tection in the United States, since the enactment of the 1976 Copyright Act and its 1980 amendment.¹⁰ After analysis of the international treaty binding the United States and France, this article will discuss the national laws of these countries and the protection each gives to foreign works. It will then examine the problem of insufficient international legal protection of computer programs. Finally, it will conclude that a special multinational treaty provides the only feasible method of effectively protecting the rights of computer program creators.

THE UNIVERSAL COPYRIGHT CONVENTION

Although there is no international copyright law as such, there are treaties¹¹ which provide for the application of local laws to foreign works and set forth certain minimum requirements to be

Programs—A Comparative Study, 7 INT'L REV. INDUS. PROP. & COPYRIGHT L. 301 (1976); Kiros, *Territoriality and International Copyright Infringement Actions*, 22 COPYRIGHT L. SYMP. 53 (1977) (ASCAP); Marvin, *The Author's Status in the United Kingdom and in France: Common Law and the Moral Right Doctrine*, 20 INT'L & COMP. L.Q. 675 (1971); Stewart, *International Copyright in the 1980s*, 28 BULL. COPYRIGHT SOC'Y 351 (1981); Ulmer, *La Protection par le Droit d'Auteur des Oeuvres Scientifiques en Général et des Programmes d'Ordinateur en Particulier*, 74 REVUE INTERNATIONALE DU DROIT D'AUTEUR [R.I.D.A.] 47 (1972) (in English and in French); Note, *Copyright Protection for Firmware: An International View*, 4 HASTINGS INT'L & COMP. L. REV. 473 (1981).

10. Act of Oct. 19, 1976, Pub. L. No. 94-553, 90 Stat. 2541 (codified as amended at 17 U.S.C. § 101-810 (1976 & Supp. IV 1980)). Act of Dec. 12, 1980, Pub. L. No. 96-517, § 10(a), 94 Stat. 3028, amending 17 U.S.C. § 101 (Supp. IV 1980) (adding definition of the term "computer program") and Pub. L. No. 96-517, § 10(b), 94 Stat. 3028, amending 17 U.S.C. § 117 (Supp. 1980). See *infra* notes 40-42 and accompanying text.

11. The earliest step towards a system governing the relations between the countries with respect to the protection of intellectual property was the International Convention for the Protection of Literary and Artistic Works, or Berne Convention, held in Berne, Switzerland, in 1886. The goal of the convention was for the participating countries to agree upon and enforce among themselves a standard of protection for any work published in a member country. The Berne Convention was revised in 1896 at Paris, in 1908 at Berlin, in 1928 at Rome, in 1948 at Brussels, in 1967 at Stockholm, and in 1971 at Paris. For a discussion of the last revision, see generally J. MASOUE, GUIDE TO THE BERNE CONVENTION FOR THE PROTECTION OF LITERARY AND ARTISTIC WORKS (PARIS ACT, 1971) (1978). As of January 1, 1982, 73 states, among them France, adhere to the Convention. Notable non-participants are the United States and the Soviet Union. See list of members of the Berne Convention at 18 COPYRIGHT 10 (1982).

The United States does not adhere to the Berne Convention, mainly because American copyright protection is subject to various formalities, e.g., registration, deposit, notice, and manufacturing requirements, whereas Berne protection is not subject to any formality. Furthermore, the Berne Convention offers protection not recognized by the United States, e.g., moral rights protection. N. BOORSTYN, COPYRIGHT LAW 330 (1981). The protection afforded by the Berne Convention may reach American authors and authors of other non-member countries if these authors publish their work for the first time in a member country. Berne Convention (Paris Act 1971), art. 3(a)(b). See generally BOORSTYN, *supra*,

adopted by member countries. The Universal Copyright Convention (U.C.C.),¹² of which the United States and France are both signatory, provides a common basis for the protection of programs in either country.

The U.C.C. protects the rights of authors and other copyright proprietors¹³ who are nationals¹⁴ of signatory nations, regardless of where their work was initially published. It also protects nationals of non-member countries whose works have been first published in a member country.¹⁵ The Convention deals with

at 333. The protection afforded by the Berne Convention to American computer programs in such circumstances will not be analyzed here.

The Berne Convention's success in Europe was not equaled on the American continents, where a separate series of conventions were held: Montevideo Convention of 1889; Mexico City Convention of 1902; Rio de Janeiro Convention of 1906; Buenos Aires Convention of 1910; Havana Convention of 1928; Washington Convention of 1946. Presently, the United States is a member of the Buenos Aires Convention. Convention on Literary and Artistic Copyrights, Buenos Aires, Aug. 11, 1910, 38 Stat. 1785, T.S. No. 593 (entered into force for the United States, Oct. 31, 1912).

After the Second World War, dissatisfaction with the existing treaties sparked efforts to unify international relations in the copyright field. A Universal Copyright Convention (U.C.C.), *infra* note 12, was formulated in 1952 at Geneva under the auspices of UNESCO. It was then revised at Paris in 1971. The purpose of the U.C.C. is to establish stable treaty relationships between the countries of the Berne Convention and those on the American continents. As of January 1, 1982, 74 countries adhere to the U.C.C. See list of members of the U.C.C., 18 COPYRIGHT 23 (1982). For a discussion of the international copyright conventions, see generally H. DESBOIS, LES CONVENTIONS INTERNATIONALES DU DROIT D'AUTEUR ET DES DROITS VOISINS (1976); Buck, *Copyright, Harmonization and Revision: International Conventions on Copyright Law*, 9 INT'L BUS. LAW 475 (1981); Colby, *International Copyright Protection*, 44 R.I.D.A. 99 (1964); Dock, *La Convention Universelle sur le Droit d'Auteur Révisée à Paris le 24 Juillet 1971*, in HOMMAGE À HENRI DESBOIS 3 (1974); Francon, *Les Actes de Paris Portant Révision des Conventions Internationales sur la Propriété Littéraire et Artistique*, 1976 JOURNAL DE DROIT INTERNATIONAL 29 (in English and in French); Ulmer, *The Revisions of the Copyright Conventions*, 2 INT'L REV. INDUS. PROP. & COPYRIGHT L. 345 (1971) (in English and in French).

12. Universal Copyright Convention of Geneva, Sept. 6, 1952, 6 U.S.T. 2731, T.I.A.S. No. 3324 (entered into force for the United States, Sept. 16, 1955); *as revised* in Paris, July 24, 1971, 25 U.S.T. 1341, T.I.A.S. No. 7868 (entered into force for the United States, July 10, 1974), *reprinted in* UNESCO, COPYRIGHT LAWS AND TREATIES OF THE WORLD [hereinafter cited as U.C.C.].

The U.C.C. was adopted in France by Decret No. 55-1540, Nov. 18, 1955, 1955 Journal Officiel de la République Française [J.O.] Nov. 30, and by Decret No. 74-842, Oct. 4, 1974, 1974 J.O. Oct. 10, 1974 Dalloz-Sirey, Législation [D.S.L.] 330.

13. U.C.C., *supra* note 12, at art. I.

14. At the 1952 Geneva Conference, it was noted that "national" may mean a legal entity as well as a physical person, depending upon the definition accorded the term by the individual country. BOGUSLAVSKY, *supra* note 7, at 92. In addition, every contracting state may by domestic legislation define "national" as including any person domiciled in that state, U.C.C., *supra* note 12, at art. II.

15. U.C.C., *supra* note 12, at art. II.

copyright protection of literary, scientific and artistic works.¹⁶ These include writings, musical, dramatic and cinematographic works, painting, engraving and sculpture.¹⁷ A writing "is a work of the human intellect expressed in language and fixed by means of conventional signs susceptible of being read."¹⁸ It may be in language, code or shorthand.¹⁹ Thus, computer programs are protected as scientific writings. Works are accorded the same protection in every member state as that state accords to its own nationals,²⁰ as well as the protection specially granted by the Convention.²¹

The U.C.C. recognizes the authors' exclusive rights to make, publish and authorize translations of their works.²² These rights are restricted by a system of compulsory translation licensing after seven years from the date of the first publication.²³ The license covers only the act of translation, it does not convey any right of adaptation and does not authorize the making of recordings.²⁴

16. *Id.* at art. I.

17. *Id.*

18. A. BOGSCH, *THE LAW OF COPYRIGHT UNDER THE UNIVERSAL CONVENTION* 8 (3d ed. 1968).

19. *Id.* It is irrelevant whether a work is directly perceivable by the senses or whether a technical intermediary must be employed to make it perceptible. Ulmer, *La Protection par le Droit d'Auteur des Oeuvres Scientifiques en Général et des Programmes d'Ordinateur en Particulier*, 74 R.I.D.A. 47, 67 (1972) (in English and in French). Writings can use the conventional characters or be coded and have meaning only for those possessing the code. *Id.*

Salzman asserts that the definition of "publication," *infra* note 22, would tend to eliminate magnetic tapes and possibly punched cards from the purview of the U.C.C. Salzman, *International Protection for Computer Software*, 12 L. COMPUTER TECH. 3, 4 (1979).

20. U.C.C., *supra* note 12, at art. II.

The fundamental principle of the U.C.C. is national treatment. Works published by nationals of any contracting state as well as works first published in that state by non-nationals enjoy in each other contracting state the same protection that state accords to works of its nationals which are first published in its territory. *Id.* at art. II (1). Unpublished works of nationals of each contracting state enjoy in each other contracting state the same protection as that state accords to unpublished works of its own nationals. *Id.* at art. II (2). See definition of "publication," *infra* note 22.

21. U.C.C., *supra* note 12, at art. II.

22. *Id.* at art. V (1). "Publication" in the U.C.C. "means the reproduction in a tangible form and the general distribution to the public of copies of a work from which it can be read or otherwise visually perceived." *Id.* at art. VI.

23. The U.C.C. provides that, if after the expiration of a period of seven years from the date of first publication of a writing, the copyright owner has not published or authorized the publication of a translation in a language in general use in the contracting state, any national of such state may obtain a non-exclusive license to translate the work and publish the translation. *Id.* at art. V (2)(a).

24. REPORT OF THE GENERAL RAPPORTEUR, in RECORDS ON THE CONFERENCE FOR REVISION

This provision is aimed at conventional literary works. Arguably, it does not apply to the translation of a computer program into another computer language, because the provision refers to translations in a "language in general use."²⁵

The 1971 revision of the U.C.C. explicitly requires²⁶ the protection of basic rights relating to the author's economic interests, including the right to authorize reproduction by any means, the right of public performance and the right of broadcasting.²⁷ The rights referred to are broad enough to cover reproduction or performance of the work whether it is used unchanged from its original form, or whether the use reproduces or performs it in any form recognizably derived from the original.²⁸ Applied to computers, this means that not only is the original source program protected, but also any program derived from it by translation into another computer language or into a machine language.

The exercise of copyright is subject to minimal formalities. Formalities under domestic law are regarded as satisfied with respect to all programs authored by non-nationals, and first published outside the state's territory, provided the works contain notice of copyright claim.²⁹ This notice consists of three inseparable elements: the symbol ©, the name of the copyright proprietor and the year of the first publication.³⁰ The duration of protection is governed by the law of the state in which protection is claimed.³¹ Nevertheless, the term of protection may not be less than twenty-five years after publication or the death of the author.³²

OF THE UNIVERSAL COPYRIGHT CONVENTION 78-79 (1973) [hereinafter cited as GENERAL RAPPORTEUR].

25. U.C.C., *supra* note 12, at art. V (2)(a).

26. *Id.* at art. IVbis (a). The U.C.C. in its original text of 1952 did not define the concept of reproduction.

27. See GENERAL RAPPORTEUR, *supra* note 24, at 65.

Article IVbis(2) also provides that any contracting state may, by its domestic legislation, make exceptions that do not conflict with the spirit and provisions of the Convention and accord a reasonable degree of effective protection to the rights to which exception has been made.

28. U.C.C., *supra* note 12, at art. IV bis (1).

29. *Id.* at art. III (1).

30. *Id.*

At the same time, each country may retain the operation of its own rules on formalities relating to works first published in its territory or to works of its nationals wherever published. *Id.* at art. III (2).

31. *Id.* at art. IV (1).

32. *Id.* at art. IV (2)(a).

This article provides that the term of protection shall not be less than the life of the author and 25 years after his death. It further provides that any contracting state, which, on the

The U.C.C. makes no reference to reciprocal protection between countries.³³ In cases where a work is given national treatment, but where the laws of the contracting country provide little protection for the foreign author, the U.C.C. does not shelter the author from having to accept the lower level of protection.³⁴ Thus, a foreign author cannot claim the level of protection from the country of origin in another contracting country.³⁵ This lack of reciprocity results in disparities,³⁶ but states are only required to provide "adequate and effective" protection.³⁷ Uniformity exists in few areas: translation and reproduction rights, formalities, and duration. Other rights such as right of publication and moral rights are not listed.³⁸ There is no provision for copyright infringement or penal sanctions for such infringement.³⁹

AMERICAN AND FRENCH COPYRIGHT LAWS

The requirements set forth in the U.C.C. serve as guidelines for the establishment of domestic laws. Each country is limited in the development of its legislation by its commitment to adhere to the articles of the Convention.

The United States has given great attention to computer soft-

effective date of the Convention in that state, has limited this term for certain classes of works to a period computed from the first publication of the work, is entitled to maintain these exceptions and to extend them to other classes of works. For all these classes, the term of protection must not be less than 25 years from the date of first publication.

33. M. BOGUSLAVSKY, *supra* note 7, at 28.

34. E. PLOMAN, COPYRIGHT 59 (1980).

35. *Id.*

36. Desbois, *Propriété Littéraire et Artistique*, in II REPERTOIRE DE DROIT INTERNATIONAL JUR. 402 note Lyon-Caen, 1959 Juris-Classeur Périodique, la Semaine Juridique [J.C.P.] II. See, e.g., Judgment of Apr. 29, 1959, Cour d'appel, Paris, 1959 Dalloz, *Jurisprudence* [D. JUR.] 402 note Lyon-Caen, 1959 Juris-Classeur Périodique, la Semaine Juridique [J.C.P.] II No. 1134 note Lavigne; 1959 Gazette du Palais I 264 note Avocat Général Combaldieu; 1960 Revue Trimestrielle de Droit Commercial 350 note Desbois.

37. U.C.C., *supra* note 12, at art. I.

38. The reason given by the General Rapporteur is that some parties to the U.C.C., including the United States, do not recognize moral rights under their statutory law. GENERAL RAPPORTEUR, *supra* note 24, at 65. For a discussion on moral rights in the U.C.C., see generally Diamond, *Legal Protection for the "Moral Rights" of Authors and Other Creators*, 68 TRADE-MARK REP. 244 (1978).

39. Dock, *La Sanction Pénale des Infractions au Droit d'Auteur Commises à l'Etranger*, 65 R.I.D.A. 3, 5 (1970) (in English and in French).

40. The first American Copyright Law was enacted by Congress in 1790 pursuant to the constitutional power "to promote the Progress of Science and useful Arts by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." U.S. CONST. art. I, § 8, cl. 8. Following two major revisions in 1831 and 1870, the

ware protection.⁴⁰ The American Copyright Act of 1976⁴¹ and its 1980 amendment⁴² extend copyright protection to computer programs.⁴³ In contrast, France has not yet acknowledged the importance of the problem, and the 1957 Law on Literary and Artistic Property⁴⁴ requires strained construction to protect computer programs.

Copyright Act of 1909 was enacted. Act of Mar. 4, 1909, ch. 320, 35 Stat. 1077. The 1909 Act is still controlling for all copyrighted works produced before January 1, 1978. For works produced after January 1, 1978, the Copyright Act of 1976, *infra* note 41, and its 1980 amendment, *infra* note 42, control.

41. Act of Oct. 19, 1976, Pub. L. No. 94-543, 90 Stat. 2541 (codified as amended at 17 U.S.C. § 101-810 (1976 & Supp. IV 1980)).

The new statute became effective January 1, 1978. The legislative history is contained in S. REP. NO. 473, 94th Cong., 1st Sess. (1975); H.R. REP. NO. 1476, 94th Cong., 2d Sess. (1976) [hereinafter cited as H.R. REP. NO. 1476]; H.R. REP. NO. 1733, 94th Cong., 2d Sess. (1976).

42. Act of Dec. 12, 1980, Pub. L. No. 96-517, § 10(a), 94 Stat. 3028, amending 17 U.S.C. § 101 (Supp. IV 1980) and Pub. L. No. 96-517, § 10(b), 94 Stat. 3028, amending 17 U.S.C. § 117 (Supp. IV 1980).

This act follows substantially the recommendations of the National Commission on New Technological Uses of Copyrighted Works (CONTU). The sections on software copyrights of the CONTU Final Report are reprinted in 3 COMPUTER/L.J. 53 (1981). For a comment on this report, see Koenig, *Software Copyright: The Conflict Within CONTU*, 27 BULL. COPY. RIGHT SOC'Y 340 (1980).

43. Since the new legislation would afford exclusive rights to the non-innovative part of machines - that which is not a genuine invention - public policy and constitutional issues are raised that ultimately will require resolution by the Supreme Court. Jacobs, *Proprietary Protection of Software, Hardware and Data*, in COMPUTERS AND THE LAW 202, 206 (Bigelow 3d ed. 1981).

For recent in depth analysis of the American Copyright Law as applied to computer programs, see generally Boorstyn, *Copyrights, Computers, and Confusion*, 63 J. PAT. OFF. SOC'Y. 276 (1981); Maggs, *Computer Programs as the Object of Intellectual Property in the United States of America*, 30 AM. J. COMP. L. 251 (1982); Reznick, *Synercom Technology, Inc. v. University Computing Co.: Copyright Protection for Computer Formats and the Idea/Expression Dichotomy*, 8 RUTGERS J. COMPUTERS TECH. & L. 65 (1980) (written before the 1980 amendment); Rose, *Protection of Intellectual Property Rights in Computers and Computer Programs, Recent Developments*, 9 PEPPERDINE L. REV. 547 (1982); Schmidt, *supra* note 2; Stern, *Another Look at Copyright Protection of Software: Did the 1980 Act do Anything for Object Code?*, 3 COMPUTER/L.J. 1 (1981); Comment, *Copyright Protection for Computer Programs*, 47 TENN. L. REV. 787 (1980) (written before the 1980 amendment).

This article will not analyze the preemption of state law by the Copyright Act as prescribed by § 301(b) of the Copyright Act. For an analysis of this question, see, e.g., Warrington Assoc. v. Real-Time Eng'g Sys., Inc., 522 F. Supp. 367, 369 (N.D. Ill. 1981). See also Luccarelli, *The Supremacy of Federal Copyright Law over State Trade Secret Law for Copyrightable Computer Programs Marked with a Copyright Notice*, 3 COMPUTER/L.J. 19 (1981).

44. Loi sur la Propriété Littéraire et Artistique (Law on Literary and Artistic Property) No. 57-296 of Mar. 11, 1957, 1957 J.O. 2723 (Mar. 14) and 1957 J.O. 4143 (Apr. 19), 1957 D.S.L. 102, translated in UNESCO, COPYRIGHT LAWS AND TREATIES OF THE WORLD (1978 Supp.) [hereinafter cited as 1957 Law].

For a comment on the 1957 Law, see generally 19 R.I.D.A. (1958) (special edition dedicated to the 1957 Law in French, English, German and Spanish).

*General Characteristics of American and French
Protection of Computer Programs*

The Work Protected

The American Copyright Act⁴⁵ encompasses all original works of authorship fixed in any tangible medium of expression.⁴⁶ Data bases and computer programs receive protection as literary works.⁴⁷ A program is copyrightable whether embodied in tapes, discs or cards.⁴⁸ The 1957 French Law protects the rights of authors of all intellectual works, regardless of their kind, form of

There is no study of the application of the 1957 Law to computer programs and no cases have yet been published. For general comments on the 1957 Law, see C. COLUMBET, *PROPRIÉTÉ LITTÉRAIRE ET ARTISTIQUE* (1976); H. DESBOIS, *LE DROIT D'AUTEUR EN FRANCE* (3d ed. 1978); Desbois, *Propriété Littéraire et Artistique*, *RÉPERTOIRE DE DROIT CIVIL* (1974 & Supp. 1980); Desbois, *RÉPERTOIRE INTERNATIONAL*; Parizot, *Le Droit d'Auteur dans la Jurisprudence Française Depuis la Mise en Vigueur de la Loi du 11 Mars 1957*, 49 *R.I.D.A.* 93 (1966) (in English and in French); Schmidt, *L'Application Jurisprudentielle de la Loi du 11 Mars 1957*, 84 *R.I.D.A.* 41 (1975) (in English and in French); Tournier, *La Loi du 11 Mars 1957 . . . Sept Ans Après*, 44 *R.I.D.A.* 3 (1964) (in English and in French).

45. "Copyright Act" designates the Copyright Act of 1976 as amended. See *supra* notes 41-42.

46. Under 17 U.S.C. § 102(a) (1976 & Supp. IV 1980), copyright protection is afforded to "original works of authorship fixed in any tangible medium of expression . . . from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device. . . ." A work is "'fixed' in a tangible medium of expression when its embodiment . . . is sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration." 17 U.S.C. § 101 (1976 & Supp. IV 1980).

[I]t makes no difference what the form, manner or medium of fixation may be - whether it is in words, numbers, . . . or any other graphic or symbolic indicia, whether embodied in a physical object in written, printed, . . . punched, magnetic, or any other stable form, and whether it is capable of perception directly or by means of any machine or device.

H.R. REP. NO. 1476, *supra* note 41, at 52.

47. "Works of authorship" include literary works. 17 U.S.C. § 102(a)(1) (1976 & Supp. IV 1980). Literary works are works expressed in words, numbers, or other verbal or numerical symbols regardless of the nature of the material objects, such as books, tapes, discs, or cards. *Id.* § 101. Literary works include "computer data bases, and computer programs to the extent that they incorporate authorship in the programmer's expression of original ideas, as distinguished from the ideas themselves." H.R. REP. NO. 1476, *supra* note 41, at 54. See, e.g., *Tandy Corp. v. Personal Micro Computers, Inc.*, 524 F. Supp. 171, 173 (N.D.Cal. 1981).

The Copyright Office has accepted source programs for deposit and registration as literary works since May 1954. See UNITED STATES COPYRIGHT OFFICE, *COPYRIGHT REGISTRATION FOR COMPUTER PROGRAMS* 31 (1964), reprinted in 11 *BULL. COPYRIGHT SOC'Y* 361 (1964).

48. 17 U.S.C. §§ 101, 102(a) (1976 & Supp. IV 1980). See N. BOORSTYN, *COPYRIGHT LAW* 66 (1981); Lawlor, *Infringement of Program Copyrights*, in *COMPUTERS AND THE LAW* 208, 208 (Bigelow 3d ed. 1981). See also *Atari v. Amusement World, Inc.*, 1982 *COPYRIGHT L. REP. (CCH)* ¶ 25,347, (D. Md. Nov. 27, 1981) (computer program embodied in a read only memory held copyrightable); *Midway Mfg. Co. v. Dirkschneider*, *COPYRIGHT L. REP. (CCH)* ¶ 25, 358

expression, merit or purpose.⁴⁹ Computer programs contain expressions in words of facts and ideas.⁵⁰ Those expressions are by their nature "intellectual works" and more specifically "scientific writings."⁵¹

Computer programs are protected by a copyright only if they are intellectual creations of sufficient originality. "Original," under the Copyright Act, means that the work was independently created and not copied from other works.⁵² The French Law recognizes a broader definition of the term and protects not only original works, but also works derived from an original work.⁵³ This difference is particularly interesting in the case of computer programs because they are an ever changing product. The French approach encourages both the original author to publish his work and other programmers to improve or adapt it. The subsequent author's rights are recognized, provided that he contributed enough creativity, but are of lesser status than his predecessor's rights.⁵⁴

Neither French nor American copyright extends to any idea, process, system, method of operation, concept or discovery em-

(D. Neb. July 15, 1981).

49. 1957 Law, *supra* note 44, at art. 2.

50. Colombet states that computer programs are protectable by the French copyright law. C. COLOMBET, *PROPRIÉTÉ LITTÉRAIRE ET ARTISTIQUE* § 40 (1976). He observes that since the creation of a program starts when the flowchart is conceived, the flowchart is protectable. *Id.* Colombet points out that a flowchart is an expression more than an idea; it is somewhat akin to a scenario, which is protected by copyright. *Id.* See also Jesjeux, *Le Droit d'Auteur dans la Vie Industrielle*, 85 R.I.D.A. 125, 135 (1975) (in English and in French).

51. 1957 Law, *supra* note 47, at art. 3. Article 3, which gives a non-exhaustive list of examples of intellectual works, does not mention computer programs.

52. M. NIMMER, 1 NIMMER ON COPYRIGHT § 10.1 (1982) (citing *Alfred Bell & Co. v. Catalda Fine Arts, Inc.*, 191 F.2d 99, 102 (2d Cir. 1951)). Originality is different from novelty. Copyright in a work not copied from other works is valid without regard to its novelty. N. BOORSTYN, *COPYRIGHT LAW* 23 (1981). See, e.g., *Stern Elec., Inc. v. Kaufman*, 523 F. Supp. 635, 637 (E.D.N.Y. 1981), *aff'd*, 669 F.2d 852, 856 (2d Cir. 1982).

53. As in the United States, the notion of originality is subjective and must be distinguished from novelty. Desbois, *Propriété Littéraire et Artistique*, in VI *RÉPERTOIRE CIVIL* § 7 (1974 & Supp. 1980) [hereinafter cited as Desbois, *RÉPERTOIRE CIVIL*].

A work can be either absolutely original or relatively original. It is absolutely original if the structure and the composition are original; it is relatively original if the structure or the composition is original. C. COLOMBET, *supra* note 50, § 31. An absolutely original work results only from the creativity of the author; a relatively original one is derived from an original work. A work created by derivation from a preexisting work is deemed original because the personality of the second author does not completely disappear. *Id.* § 29.

54. Article 4 of the French copyright law provides that authors of translations, adaptations, new versions, or arrangements of intellectual works are protected without prejudice to the rights of the author of the original work.

Authors of composite works have the same kind of rights and duties. 1957 Law, *supra* note 44, at art. 12. A composite work is a work which incorporates a preexisting work without the collaboration of the author of the latter. *Id.* at art. 9.

bodied in the computer program. The Copyright Act protects only the expression adopted by the programmer, that is, the instructions comprising the program.⁵⁵ It does not bar dissemination of the content or ideas of the copyrighted work nor any use of the work except copying.⁵⁶ The 1957 French Law does not contain any specific provision.⁵⁷ The idea of a scientific method may be used again provided it is given a new form resulting from the second author's creativity.⁵⁸ An author may borrow an idea, but not the structure or the expression of an original work. For scientific works, French courts compare the details of the structure and of the wording to determine whether the second work is original.⁵⁹ Programs written for the same kind of machine are easily comparable because they use the same language. For programs written in different languages, the flowcharts and the object programs are useful.⁶⁰

55. 17 U.S.C. § 102(b) (1976 & Supp. IV 1980). This statutory limitation on the exclusive rights afforded by copyright codified the traditional distinction between "ideas" and "expression." H.R. REP. NO. 1476, *supra* note 41, at 57.

"Copyright does not preclude others from using the ideas or information revealed by the author's work." *Id.* at 56. Some concern has been expressed over whether "copyright in computer program should extend protection to the methodology or processes adopted by the programmer, rather than merely to the 'writing' expressing his ideas." *Id.* at 57. Section 102(b), however, makes clear "that the expression . . . is the copyrightable element in a computer program, and that the actual processes or methods . . . are not within the scope of the copyright law." *Id.*

See also *Atari, Inc. v. North Am. Philips Consumer Elec. Corp.*, 672 F.2d 607, 615 (7th Cir. 1982); *Atari v. Amusement World*, 1982 COPYRIGHT L. REP. (CCH) ¶ 25,347, at 16,960 (D. Md. Nov. 27, 1981); *Warrington Assoc., Inc. v. Real-Time Eng'g Sys., Inc.*, 522 F. Supp. 367, 368 (N.D. Ill. 1981); *Data Cash Sys. Inc. v. JS & A Group, Inc.* 480 F. Supp. 1063, 1069 (N.D. Ill. 1979), *aff'd*, 628 F.2d 1038 (7th Cir. 1980); *Synercom Tech., Inc. v. University Computing Co.*, 462 F. Supp. 1003, 1013 (N.D. Tex. 1978).

56. Commercial use of concrete ideas set forth in literary works is not a copyright violation. *Baker v. Selden*, 101 U.S. 99 (1879). Under United States law, "it is not an infringement to bake a cake in accordance with the recipe printed in a cookbook, nor to knit and sell a sweater described in a knitting instruction book." Stern, *Another Look at Copyright Protection of Software: Did the 1980 Act do Anything For Object Code?*, 3 COMPUTER/L.J. 1, 7 n.22 (1981) [hereinafter cited as Stern].

Independent development of an idea is not an infringement. See *Synercom Tech., Inc. v. University Computing Co.*, 462 F. Supp. 1003 (N.D. Tex. 1978), discussed in Reznick, *Synercom Technology, Inc. v. University Computing Co.: Copyright Protection of Computer Formats and the Idea/Expression Dichotomy*, 8 RUTGERS J. COMPUTERS, TECH. & L. 65 (1980).

57. The silence of the Law must not be interpreted as acknowledging the protection of ideas through copyright. Desbois, *RÉPERTOIRE CIVIL*, *supra* note 53, § 13.

58. H. MAZEAUD, I *LEÇONS DE DROIT CIVIL* § 661 (5th ed. 1972).

59. Desbois, *RÉPERTOIRE CIVIL*, *supra* note 53, § 26. See, e.g., Judgment of May 13, 1973, Trib. gr. inst., Paris 82 R.I.D.A. 166 (1974), which requires similarities in composition, development and arrangement of the ideas.

60. See *supra* note 3 and accompanying text. Copying may be established indirectly by

The Author

In the United States, copyright in a computer program vests initially in its author or authors.⁶¹ Programs created by a team of programmers and analysts whose contributions are merged into inseparable and interdependent parts of the whole product are called joint works.⁶² Their authors are co-owners of the copyright in the work.⁶³ When a computer program is a work for hire,⁶⁴ its authors lose their rights. The software firm or the company for which the work was prepared is considered the author unless there is a written agreement to the contrary.⁶⁵

In France, authorship belongs to the person or legal entity under whose name a work is published.⁶⁶ When a computer program is

proof of defendant's access to the copyrighted work and of substantial similarities between the copyrighted work and defendant's work. *Nintendo of Am. v. Bay Coin Distrib., Inc.*, 1982 COPYRIGHT L. REP. (CCH) ¶ 25,409, at 17,377 (E.D.N.Y. May 28, 1982); *Warrington Assoc. v. Kellogg Citizens Nat'l Bank*, 1982 COPYRIGHT L. REP. (CCH) ¶ 25,345, at 16,941 (E.D.Wis. Dec. 3, 1981).

61. 17 U.S.C. § 201(a) (1976 & Supp. 1980). *See, e.g.*, *Atari v. Amusement World, Inc.*, 1982 COPYRIGHT L. REP. (CCH) ¶ 25,347, at 16,958 (D. Md. Nov. 27, 1981).

The situation of foreign authors or foreign programs is discussed below. *See infra* notes 165-79 and accompanying text.

62. 17 U.S.C. § 101 (1976 & Supp. 1980).

The House Report comments that a work is "joint" if the authors collaborated with each other or if each of the authors prepared his or her contribution with the knowledge and intention that it would be merged with other authors' contribution as an inseparable and interdependent part of a unitary whole. H.R. REP. NO. 1476, *supra* note 41, at 120. The touchstone is the intention at the time the writing is done that the parts be absorbed or combined into an integrated unit. *Id.* Compare with the definition of a collective work in France, *infra* note 67.

In contrast to joint work, the definition of "collective work" does not include the elements of merger and unity. H.R. REP. NO. 1476, *supra* note 41, at 120. 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. 17 U.S.C. § 101 (1976 & Supp. IV 1980). The American "collective work" is comparable to the French "work of collaboration," *see infra* note 67.

63. 17 U.S.C. § 201(a) (1976 & Supp. IV 1980).

64. A "work made for hire" is defined, *inter alia*, as a work prepared by an employee within the scope of his or her employment. *Id.* § 101. The right of an employer to direct and supervise the manner in which the work is performed is an essential element. *See M. NIMMER, 1 NIMMER ON COPYRIGHT* § 5.03[B][1][a] (1982). *See also* *BPI Sys., Inc. v. Leith*, 532 F. Supp. 208, 210 (W.D. Tex. 1981).

A "work made for hire" can also be a work specially ordered or commissioned for use, as a contribution to a collective work, a supplementary work, or a compilation, provided that there be a written agreement signed by both parties designating the work as such. 17 U.S.C. § 101 (1976 & Supp. IV 1980).

65. *Id.* § 201(b).

66. 1957 Law, *supra* note 44, at art. 8.

created on the initiative of a legal entity, and results from the collaboration of various authors, it is called a "collective work."⁶⁷ The legal entity has an original copyright of its own in the published program.⁶⁸ This is the only exception to the general rule limiting the right to claim copyright to natural persons.⁶⁹ The rights of the legal entity, however, are tributary to each employee's rights in his individual contribution.⁷⁰ Thus, the French collective work encompasses both American concepts of joint work and work for hire. The 1957 Law, however, is more protective of the individuals' rights because it specifically provides that a legal entity's contract to make a work in no way negates the employee-creator's rights.⁷¹

The Author's Rights

The rights of an author in the United States and in France follow the same general principles stated in the Universal Copyright Convention. Yet they differ in many respects. Under the French Copyright Law, the author's rights in his creation are thought of as dual rights:⁷² moral rights, which are personal to the author and cannot be transferred, disposed of or waived; and assignable, economic rights, associated with financial exploitation of a work.⁷³ In the United States, the authors' economic rights are

67. In the case of works created by several persons, the 1957 Law distinguishes works of collaboration, composite works, and collective works. A "work of collaboration" is a work to which several persons have contributed. *Id.* at art. 9. A "composite work" is a new work into which a preexisting work has been incorporated without the collaboration of the author of the latter. *Id.* A "collective work" is created by the initiative of a person or legal entity who edits, publishes and discloses it under his direction and name; the personal contribution of the various authors who participated in its development are merged in the whole so that it is impossible to attribute to each author a separate right in the work as realized. *Id.*

68. *Id.* at art. 13.

For information on authorship in collective works, see generally Judgment of May 24, 1976, Cass. civ., and Judgment of Mar. 1, 1977, Cass. Crim., 1978 Dalloz-Sirey, *Jurisprudence* [D.S. Jur.].

69. E. PLOMAN, COPYRIGHT 111 (1980). See, e.g., Judgment of May 27, 1975, Cour d'appel, Paris, 1976 D.S. Jur. 104 note Desbois.

70. Persons who contribute to a collective work are not deprived of their author's rights on their respective works. The legal entity which coordinated the writing of the program must acquire the rights of the programmers and analysts who were hired. 1957 Law, *supra* note 44, at art. 1, para. 3. The programmers and analysts are entitled to a lump sum. *Id.* at art. 35, para. 2. See generally Desbois, RÉPERTOIRE CIVIL, *supra* note 53, § 644.

71. 1957 Law, *supra* note 44, at art. 1.

72. *Id.*

73. E. PLOMAN, COPYRIGHT 108 (1980).

better adapted to the special case of computer programs; moral rights, however, are not protected.⁷⁴

1. Moral Rights

The 1957 French Law accords a preeminence to moral rights.⁷⁵ These rights attach not to the work but to the person who created it. They are inalienable and unassignable and remain in the author even after the computer program and the exploitation rights in it have been transferred.⁷⁶ Any contract by which an author waives his moral rights is void.⁷⁷ These rights are limited to natural persons;⁷⁸ a private corporation cannot claim moral rights. The 1957 Law, however, has created an exception for collective works⁷⁹ so that moral rights may vest in a legal entity.⁸⁰

There are four categories of moral rights: the right to paternity; the right to divulgation or disclosure; the right to respect of the work; and the right of retractation. Because authors inject creativity into their works, the 1957 Law vests them with the right to claim authorship of their works.⁸¹ The right to paternity is the right of an author to be acknowledged as the creator of his work and to disclaim authorship of works falsely attributed to him. This right protects a programmer when a pirate forges a program that looks like the original.⁸² A program obtained by adding some fea-

74. American copyright law, as presently written, does not recognize moral rights or provide a cause of action for their violation; the law seeks to vindicate the economic rather than the personal rights of authors. *Gilliam v. American Broadcasting Co.*, 538 F.2d 14, 24 (2d Cir. 1976). See also N. BOORSTYN, *COPYRIGHT LAW* 110 (1981); M. NIMMER, 2 NIMMER ON COPYRIGHT § 8.21 [B] (1982).

75. E. PLOMAN, *COPYRIGHT* 108 (1980). See also C. COLOMBET, *supra* note 50, § 125. See generally Tournier, *Le Droit Moral de l'Auteur*, 35 R.I.D.A. 3 (1962) (in English and in French).

76. 1957 Law, *supra* note 44, at arts. 6, 32, para.1.

Clauses requiring the transfer of moral rights are nevertheless often found in contracts and courts do enforce them in many situations. DaSilva, *Droit Moral and the Amoral Copyright: A Comparison of Artists' Rights in France and in the United States*, 28 BULL. COPYRIGHT SOC'Y 1, 15 (1980) [hereinafter cited as DaSilva]. See also Parisot, *L'Inalienabilité du Droit Moral de l'Auteur d'une Oeuvre Littéraire ou Artistique* 1972 Dalloz-Sirey Chronique [D.S. Chr.] 71.

77. H. MAZEAUD, *supra* note 58, § 669.

78. DaSilva, *supra* note 76, at 12. See also H. MAZEAUD, *supra* note 58, § 668.

79. 1957 Law, *supra* note 44, at art. 13. See *supra* notes 67-69 and accompanying text.

80. 1957 Law, *supra* note 44, at art. 13. See generally Lesourd, *Violation du Droit Moral de l'Auteur* 1967 *Juris-Classeur Périodique* [J.C.P.] I no. 2067.

81. 1957 Law, *supra* note 44, at art. 6. See generally DaSilva, *supra* note 76, at 26-30.

82. The right to paternity implies that the author's name must appear not only on the original work, but also on all copies. DaSilva, *supra* note 76, at 27. It also protects against

tures while keeping the general structure of the original or by a translation of the program into another computer language might also infringe the author's paternity right.⁸³ The right of paternity is an alternative to the economic rights of reproduction and adaptation⁸⁴ that should not be neglected in protecting computer programs. American courts generally have not recognized the author's right to be identified as the creator of his work,⁸⁵ but they have upheld his right to prevent others from claiming authorship.⁸⁶ The United States recognizes something akin to the right of paternity through its subscription to the Universal Copyright Convention which provides that the original title and the name of the author must be printed on all copies of the published translation.⁸⁷

The right to divulgation is the right of an author to determine the publication or non-publication of his work.⁸⁸ It applies where copies of a program have been distributed to several privileged users but the author wishes to avoid general publication. In the case of a work for hire, the author has the exclusive right to decide at what time the work is completed.⁸⁹ American law provides some protection to the right of divulgation. Because protection begins at the time of creation, the right of first publication belongs to the author so long as he has not transferred his copyright.⁹⁰ The author also has the exclusive right to distribute the copyrighted program to the public, which gives him the power to control the distribution of his work.⁹¹ Nevertheless, this is not intended to protect the intellectual and moral rights of the author, but rather his pecuniary interests.

The two other moral rights do not apply to computer programs. The right to respect for his work⁹² gives the creator the authority to preserve his work from alteration, mutilation, or even from

modification or addition to the program and against plagiarism. See also H. MAZEAUD, *supra* note 58, § 668.

83. *Id.* See, e.g., Judgment of July 10, 1946, Trib. civ., Seine, 1947 D. Jur. 98.

84. See *infra* notes 104-111 and accompanying text.

85. Diamond, *Legal Protection for the "Moral Rights" of Authors and Other Creators*, 68 TRADE-MARK REP. 244, 255 (1978).

86. For discussion and cases, see Comment, *An Artist's Personal Right in his Creative Works: Beyond the Human Cannonball and the Flying Circus*, 9 PAC L.J. 855, 867 (1978).

87. U.C.C., *supra* note 12, at art. V (2)(e).

88. 1957 Law, *supra* note 44, at art. 19. See generally DaSilva, *supra* note 76, at 17-23.

89. H. MAZEAUD, *supra* note 58, at § 668.

90. 17 U.S.C. § 201(a) (1976 & Supp. IV 1980).

91. *Id.* § 106(3). See *infra* notes 112-14 and accompanying text.

92. 1957 Law, *supra* note 44, at art. 6. See generally DaSilva, *supra* note 76, at 30-37.

excessive criticism. Alteration or mutilation of a program would only render its maintenance more cumbersome. The right of retraction⁹³ allows the author to withdraw or modify a work that already has been made public. It is difficult to evaluate this right for both its existence and application in the courts are disputable.⁹⁴ Few French cases have addressed the issue. One scholar has stated that an author can only use his right to withdraw a work for moral reasons and not to avoid a financially unrewarding contract.⁹⁵

2. Economic Rights

Apart from moral rights, the 1957 Law grants the author economic rights or rights of exploitation⁹⁶ which protects reproduction and performance.⁹⁷ In the United States, the copyright owners' five exclusive rights include reproduction, adaptation, dis-

93. 1957 Law, *supra* note 44, at art. 32. See generally DaSilva, *supra* note 76, at 23-26; Ionasco, *Le Droit de Repentir de l'Auteur*, 83 R.I.D.A. 21 (1975) (in English and in French).

94. DaSilva, *supra* note 76, at 23.

95. Desbois, *REPERTOIRE CIVIL*, *supra* note 53, § 373. See, e.g., Judgment of Apr. 7, 1978, Paris, 1978 D.S. Jur. Inf. Rap. 303.

The author can exercise the right of retraction only if he indemnifies the transferee beforehand for the loss that the correction or retraction may cause. If the author decides to put the work back in circulation, he must first offer the exploitation rights to the original transferee under the same conditions as originally determined. 1957 Law, *supra* note 44, at art. 32.

Article 37 gives the author the right to rescind a wrongful contract. The rescission right can be exercised when the rights transferred were more than seven-twelfths undervalued, but it is limited to a provision making it applicable only where the work was transferred for a lump sum payment.

96. 1957 Law, *supra* note 44, at art. 26. Only authors of graphic and plastic works enjoy the *droit de suite* which is the right of continued interest in subsequent sales of the work of art, *id.* at art. 42.

The 1957 Law defines the conditions of transferability of the economic rights, *id.* at arts. 30, 35, 48. The requirements for the contract are very protective of the author's rights, *id.* at arts. 30-31, 33-36. Other requirements include: the field of exploitation of the rights transferred must be delimited as to extent, purpose, duration and place, *id.* at art. 31; the transfer of one right does not imply the transfer of another, *id.* at art. 30; total transfer of future work is void, *id.* at art. 33.

The 1957 Law only mentions contracts for the transfer of performance or reproduction rights, and contains no provision dealing with licensing. Commentators state that they are included and that there is no distinction. Desbois, *REPERTOIRE CIVIL*, *supra* note 53, §§ 426-430. See also C. COLOMBET, *supra* note 50, § 278.

97. These two sets of rights must be combined with the right of adaptation, that is, the right to use a preexisting work in order to derive from it a new work eligible for protection. The owner of the reproduction and the performance rights in a particular work may invoke them not only against the exploitation of the work itself, but also against the exploitation of works derived from that work by adaptation, without prejudice to the right accruing to the author of the adaptation. See 1957 Law, *supra* note 44, at art. 4.

tribution, performance, and display.⁹⁸

Reproduction is defined in the 1975 Law as the fixation of the work by all methods that permit indirect communication to the public, including printing and magnetic recording.⁹⁹ The material used need not be the same as the original.¹⁰⁰ Thus the printing of a program originally fixed on a tape, or its recording on a disc is subject to the author's rights. Complete or partial reproduction by any method or process, made without the consent of the author, is an infringement.¹⁰¹ This provision is broad enough to cover not only copies, but also transformations made by a pirate to disguise his "borrowing" of a program. Reproduction is unlawful even if aimed at a gratuitous transfer or lending,¹⁰² if it is done pursuant to a professional activity for communication to the public.¹⁰³

The reproduction and adaptation rights provided by the Copyright Act correspond to the French reproduction right. These exclusive rights are infringed upon when a program is reproduced in whole or in substantial part, or is imitated.¹⁰⁴ Not only copies, but also programs derived from the original by imitation, are infringements. Plagiarism and translation are thus forbidden. Wide departures or variations from the copyrighted work are unlawful if the author's expression, rather than merely the ideas, are taken.¹⁰⁵ The medium used for the reproduction is not important, provided the work is fixed and can be perceived or communicated with or without the aid of a machine or device.¹⁰⁶ Thus, reproduction of a

98. 17 U.S.C. § 106 (1976 & Supp. IV 1980). Sections 107-118 provide limitations on the copyright owner's exclusive rights. For example, § 107 provides that fair use is permitted for purposes such as criticism, comment or research. See *infra* notes 120-30 and accompanying text.

The economic rights may be surrendered to a new owner. 17 U.S.C. § 201(d)(1976 & Supp. IV 1980). Cf. French law, *supra* notes 76-77, 96 and accompanying text.

99. 1957 Law, *supra* note 44, at art. 28.

100. C. COLOMBET, *supra* note 50, § 182.

101. 1957 Law, *supra* note 44, at art. 40. Translation, adaptation, new version, and arrangement are reproductions. *Id.*

102. C. COLOMBET, *supra* note 50, § 189. As in the United States, there are exceptions; they are listed in art. 41 of the 1957 Law and can be divided into public exceptions, characterized by the right of quotation and analysis, and private exceptions, restricted to the copier's private use.

103. Desbois, RÉPERTOIRE CIVIL, *supra* note 53, § 239.

See, e.g., Judgment of Aug. 31, 1973, Trib. gr. inst., Paris, 1974 J.C.P. II 17714 (unauthorized reproduction of the translation of an article published abroad violates the copyright of its author).

104. 17 U.S.C. § 106(1) (1976 & Supp. IV 1980); H.R. REP. NO. 1476, *supra* note 41, at 61.

105. See H.R. REP. NO. 1476, *supra* note 41, at 61.

106. 17 U.S.C. § 101 (1976 & Supp. IV 1980) (definitions of "fixed" and "copy"). See also

source or object program on tape, disc, punched cards, or punched tape,¹⁰⁷ are copies under the statute. The Copyright Office does not currently distinguish between source and object programs in registering copyrights for computer programs.¹⁰⁸ The reproduction right overlaps the adaptation right¹⁰⁹ to some extent, but the former requires fixation in copies, and the latter does not.¹¹⁰ To be an infringement, the derivative work must incorporate a portion of the copyrighted program in any form in which a work is recast, transformed or adapted.¹¹¹ Although this provision is very broad, its applicability is hampered by the difficulty of convincing judges and juries who are not experts in computer science that the challenged program is derived from one protected by copyright. For example, working from a detailed flowchart, a specialist can produce a program which could accomplish the same tasks as the original one. At some point, this derivative work will depart so far from the original as to arguably constitute an independent work. Where that point lies is a difficult question of fact for unsophisticated judges and juries.

The copyright owner in the United States also has exclusive right to distribute copies of the copyrighted program to the public by sale, conveyance, rental, lease, or loan.¹¹² This right is expressly

supra note 46.

107. The case of "Read Only Memory" (ROM) is at issue. Boorstyn, *Copyrights, Computers, and Confusion*, 63 J. PAT. OFF. SOC'Y 276, 284 (1981). See e.g., *Apple Computer, Inc. v. Franklin Computer Corp.*, No. 82-2107 (E.D. Pa. July 30, 1982); *GCA Corp. v. Chance*, No. C-82-1062 (N.D. Cal. July 12, 1982); *Tandy Corp. v. Personal Micro Computers, Inc.*, 524 F. Supp. 171, 173 (N.D. Cal. 1981); *Data Cash Sys., Inc. v. JS & A Group, Inc.*, 480 F. Supp. 1063, 1069-72 (N.D. Ill. 1979), *aff'd*, 628 F.2d 1038, 1043 (7th Cir. 1980). See generally Stern, *supra* note 56.

108. Jacobs, *Proprietary Protection of Software, Hardware and Data*, in *COMPUTERS AND THE LAW* 202, 206 (Bigelow 3d ed. 1981).

109. 17 U.S.C. § 106(2) (1976 & Supp. IV 1980).

110. H.R. REP. NO. 1476, *supra* note 41, at 62. Translations, abridgments and condensations are derivative works. 17 U.S.C. § 101 (1976 & Supp. IV 1980). See *American Intelligent Mach. Corp. v. Basic Computers, Inc.*, 1981 COPYRIGHT LAW REP. (CCH) ¶ 25,322 (E.D. Va. 1981).

Since the derivative work must be based upon and incorporated into the underlying preexisting work, the violation of the adaptation right will almost always violate the reproduction right as well, provided the work is fixed in a tangible form. N. BOORSTYN, *COPYRIGHT LAW* 100 (1981).

111. H.R. REP. NO. 1476, *supra* note 41, at 62.

112. 17 U.S.C. § 106(3) (1976 & Supp. IV 1980). The House Report designates this right as the right of publication. H.R. REP. NO. 1476, *supra* note 41, at 62. See, e.g., *Data Cash Sys., Inc. v. JS & A Group, Inc.*, 628 F.2d 1038, 1042-43 (7th Cir. 1980) (limited publication is no publication); *Clark Equip. Co. v. Harlan Corp.*, 539 F. Supp. 561, 568-69 (D. Kan. 1982). See also *Burke v. National Broadcasting Co.*, 598 F.2d 688, 691 (1st Cir. 1979) (distinction

limited so that the copyright owner's right ceases with respect to a particular copy once he has assigned it to another.¹¹³ It is not clear how this limitation applies to computer programs because it must be read together with the provision prohibiting the unauthorized transfer of program adaptations.¹¹⁴ The distribution right has no equivalent in the 1957 French Law, although the moral right of divulgation¹¹⁵ gives the author control over publication of his work.

Finally, the Copyright Act¹¹⁶ and the 1957 French Law¹¹⁷ provide exclusive rights of public performance and display. These rights apply to computer programs to the extent that they qualify as audiovisual works or musical compositions. Only video games and computer works of art seem to fit smoothly into this scheme.¹¹⁸ Until and unless the more fundamental problems of rights in reproduction, adaptation, and distribution with respect to computer programs are solved, rights in their performance and display

between limited and general publication).

A copyright in a computer program is infringed when the defendant reproduces, displays and publishes programs of the same name as the copyrighted work with the additional words "adapted by," *American Intelligent Mach. Corp. v. Basic Computers*, 1981 COPY. RIGHT L. REP. (CCH) ¶ 25,322 (E.D. Va. Aug 24, 1981).

113. 17 U.S.C. § 109(a) (1976 & Supp. IV 1980). Section 109(a) provides that notwithstanding the provisions of § 106(3), the owner of a particular copy lawfully made, or any person authorized by such owner, is entitled to sell or dispose of it without the authority of the copyright owner. *See also* H.R. REP. No. 1476, *supra* note 41, at 62.

114. 17 U.S.C. § 117 (1976 & Supp. IV 1980). *See also infra* notes 120-30 and accompanying text.

115. *See supra* notes 88-91 and accompanying text.

116. 17 U.S.C. § 106(4)-(5) (1976 & Supp. IV 1980). To "perform" 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 image in any sequence or to make the sounds accompanying it audible, *id.* § 101 (definition of "to perform").

To "display" a work means to show a copy of it, either directly or by means of a film, slide, television image or any other device or process; or in the case of a motion picture or other audiovisual work, it means to show individual images nonsequentially, *id.* (definition of "to display").

117. 1957 Law, *supra* note 44, at art. 26. Performance consists of the direct communication of a work to the public, especially by means of public recitation, musical or dramatic performance, public presentation, dissemination of words, sounds or images by any method, public projection or transmission of a broadcast work by means of a loudspeaker or television screen. *Id.*

Like the reproduction right, the performance right cannot be opposed to free private performance. *Id.* at art. 41. The performance right is aimed only at dramatic and/or musical works, since, according to the definition of a performance contract, one of the parties to the contract must be a show producer. *Id.* at art. 43.

118. Schmidt, *supra* note 2, at 376. *See, e.g., Stern Elec., Inc. v. Kaufman*, 669 F.2d 852, 857 (2d Cir. 1982).

are not likely to present any serious problem.¹¹⁹

3. Limitations

The Copyright Act includes specific provisions limiting the copyright owner's exclusive rights.¹²⁰ One limitation delineates specific rules regarding computer programs.¹²¹ It provides that it is not an infringement for the owner¹²² of a copy of a computer program to make or authorize the making of another copy or adaptation of that program. The new copy or adaptation, however, must be made either for archival purposes only or as an essential step in the utilization of the computer program in conjunction with a machine.¹²³ For example, a copy may be recopied to safeguard against its potential damage or destruction by mechanical or electrical failure. It also may be recopied or adapted to facilitate its loading into a particular computer.¹²⁴ The Act provides that archival copies must be destroyed if continued possession of the computer program would be unlawful.¹²⁵ This provision seems to imply that only the archival copies and not the use copy need be destroyed.¹²⁶ A distinction is made between copies and adaptations.¹²⁷ Adaptations may be transferred, but only with the authorization of the copyright owner. Transfer of copies may be

119. Schmidt, *supra* note 2, at 376.

120. 17 U.S.C. §§ 107-118 (1976 & Supp. IV 1980). Section 107 involves certain kinds of uses such as fair use and library use, which might concern computer programs, but do not constitute misappropriation of programs for the purpose of making a profit.

121. *Id.* § 117. Section 117 was modified by the 1980 amendment to the Copyright Act, *supra* note 45. The new § 117 has not yet been tested.

According to Sidney Diamond, "the repeal of the original section 117 means that the placement of a copyrighted work into a computer is an infringement." Diamond, *Developments in Copyright Law*, 26th Annual Conference J. Marshall Law School 14 (Feb. 18, 1982) (typed copy of Diamond's intervention) [hereinafter cited as Diamond, Conference].

122. The right to make a copy or adaptation for use or archival purposes extends only to the owner of a copy of the program and not to someone else who merely acquires possession of the copy by rental, lease, or otherwise without ownership. N. BOORSTYN, *COPYRIGHT LAW* 70 (1981).

123. 17 U.S.C. § 117(1)-(2) (1976 & Supp. IV 1980). Express statutory authorization for the making of such copies was necessary because owners of copyrighted work are not permitted to make additional copies. N. BOORSTYN, *COPYRIGHT LAW* 70 (1981).

124. *Id.*

125. 17 U.S.C. § 117(2) (1976 & Supp. IV 1980).

126. Diamond, Conference, *supra* note 121, at 15. Diamond, pointing out the ambiguity of § 117, asks whether there is a difference between "another copy," a "new copy" and an "exact copy." *Id.* See also N. BOORSTYN, *COPYRIGHT LAW* 70 (1981).

127. 17 U.S.C. § 117 (1976 & Supp. IV 1980) (last clause).

made only as part of the transfer of all rights in the program.¹²⁸ This restriction is intended to prevent the sale of some copies and the retention of others for further use.¹²⁹ To the extent that the restriction is applicable to the owned copyright as well as to copies made therefrom, it is in apparent conflict with the provision which authorizes the owner of a copy of a work to sell it or otherwise dispose of it.¹³⁰ Nonetheless, despite some ambiguity, these provisions¹³¹ solve certain aspects of computer software piracy.

The limitations established in the Copyright Act predictably have no equivalent in the 1957 French Law because they protect the software users rather than the authors, contrary to the philosophy of the French Law.¹³² The nature and extent of the author's rights in a computer program constitute the principal difference between the Copyright Act and the 1957 Law; moral rights do not exist in the United States, but the provisions of the Copyright Act are better adapted to computer programs. Still, the rights provided in both countries do not yet cover all the needs of the software industry. For example, although translation and adaptation are forbidden, the author cannot prevent any person from using a description of his program to develop a corresponding program. Furthermore, nothing prohibits the use of a program in a machine. The right of performance only protects entertaining, literary and artistic works and applies to their communication to the public through artists' exhibitions or other material means; it has not been construed to prevent running a program in a computer.

Duration of the Rights

The period of protection granted by American and French copyright law extends past the average ten to fifteen year lifespan of a computer program. The lengths of these periods differ so that a

128. It must be assumed that the phrase "all rights in the program" refers to all rights in the copies of the program and not to rights in the program itself. N. BOORSTYN, COPYRIGHT LAW 71 (1981). Indeed, under the opening portion of § 117, it is not necessary for a person to be the owner of a program, but only the owner of a copy of the program in order to prepare additional copies. *Id.*

129. *Id.*

130. See 17 U.S.C. § 109(a) (1976 & Supp. IV 1980); N. BOORSTYN, COPYRIGHT LAW 71 (1981). It is uncertain whether the owner of a copy of a computer program may make "exact copies" and then sell the owned copy while retaining the exact copies, although it seems that these acts would be impermissible despite the provision of § 109(a). *Id.*

131. See *supra* notes 120-30 and accompanying text.

132. See *infra* notes 182-85 and accompanying text.

copyright registered in both countries would not expire concurrently, resulting, at some point, in protection in one country and not in the other. For works created after January 1, 1978, the Copyright Act confers protection from the time when a program is expressed in a form sufficiently permanent to be communicated.¹³³ Whether the program is published or not, the protection endures for the life of the author plus fifty years after the author's death.¹³⁴ Copyright in works for hire endures for seventy-five years from the year of first publication or one hundred years from the year of creation, whichever occurs first.¹³⁵

In France, the term of exclusive economic right depends on whether the author is a natural person or a legal entity. In the case of an individual, the right exists for the lifetime of the author plus fifty years.¹³⁶ In the case of a legal entity publishing a collective work, the exclusive right exists for fifty years after publication.¹³⁷ Each of the moral rights has a specific duration. The right to paternity and the right to respect for an author's work are perpetual.¹³⁸ The right of divulgation may be exercised by the author's successors,¹³⁹ but, in case of abuse, the courts have the power to order appropriate measures.¹⁴⁰

Notice, Registration and Deposit

Under the Copyright Act, whenever a program is published in the United States or elsewhere by authority of the copyright

133. 17 U.S.C. §§ 101 (definitions of "created" and "fixed"), 302(a) (1976 & Supp. IV 1980).

134. See H.R. REP. NO. 1476, *supra* note 41, at 136. In the case of a joint work the term is measured from the death of the last surviving author. 17 U.S.C. § 302(b) (1976 & Supp. IV 1980).

135. 17 U.S.C. § 302(c) (1976 & Supp. IV 1980). For an explanation of the method of computation, see generally H.R. REP. NO. 1476, *supra* note 41, at 137.

136. 1957 Law, *supra* note 44, at art. 21. The exclusive rights last during the author's lifetime and after the author's death continue to the benefit of the heirs during that calendar year and for 50 years thereafter. *Id.*

137. *Id.* at art. 22. The first paragraph of this article provides that in the case of a collective work, the term of the exclusive rights is 50 years beginning with January 1st of the calendar year following the year of publication. The date of publication is determined mainly by legal deposit. The second paragraph includes provisions relative to collective works published in installments. If publication is completed within 20 years after the first installment, the term of exclusive right of the work as a whole ends with the expiration of the fiftieth year following the year of publication. Otherwise, the term runs from January 1st of the calendar year following the publication of each installment.

138. *Id.* at art. 6.

139. *Id.* at art. 19.

140. *Id.* at art. 20. See also DaSilva, *supra* note 76, at 15.

owner, a notice of copyright must be placed on all publicly distributed copies.¹⁴¹ Only copies from which the program can be visually perceived require copyright notice.¹⁴² The three components of a notice are the symbol © or the word "Copyright" or the abbreviation "Copr," the year of the first publication and the name of the copyright owner.¹⁴³ Registration is not mandatory and is not a condition of copyright protection.¹⁴⁴ It is, however, a prerequisite to an infringement suit¹⁴⁵ and to certain remedies for infringement.¹⁴⁶ The material deposited for registration consists of one complete copy of an unpublished program or of a program published outside the United States, and two copies of the best edition of a published program.¹⁴⁷ A special form of deposit is permitted where a program is only available in the form of machine readable copies, such as magnetic tapes or discs, or punched cards, from which it cannot be perceived without the aid of a machine or device. This form consists of one copy of the first and the last twenty-five pages of a program either on paper or in microform, together with the page containing the copyright notice.¹⁴⁸

141. 17 U.S.C. § 401(a) (1976 & Supp. IV 1980). See, e.g., *Midway Mfg. Co. v. Dirkschneider*, 1981 COPYRIGHT L. REP. (CCH) ¶ 25,358 (D. Neb. July 15, 1981).

Public distribution is the distribution of copies of the program to the public by sale or other transfer of ownership, or by rental, lease or loan. 17 U.S.C. § 101 (1976 & Supp. IV 1980) (definition of "publication"). Trade secrets leased or licensed on a confidential basis to selected customers are not considered as published. See, e.g., *Data Gen. Corp. v. Digital Computer Controls, Inc.*, 357 A.2d 105, 112 (Del. Ch. 1975). Omission of a copyrighted notice does not automatically forfeit protection. 17 U.S.C. § 405 (1976 & Supp. 1980).

142. 17 U.S.C. § 401(a) (1976 & Supp. IV 1980). Infringing copies, however, are not limited to those which can be visually perceived. N. BOORSTYN, COPYRIGHT LAW 243 (1981).

143. 17 U.S.C. § 401(b) (1976 & Supp. IV 1980). Cf. notice in the U.C.C., *supra* note 12, at art. III(1). The U.C.C. is silent as to the alternative forms "Copyright" and "Copr."

144. 17 U.S.C. § 408(a) (1976 & Supp. IV 1980).

145. *Id.* § 411. See, e.g., *Midway Mfg. Co. v. Dirkschneider*, 1981 COPYRIGHT L. REP. (CCH) ¶ 25,358 (D. Neb. July 15, 1981).

146. Statutory damages and attorney's fees are not awarded when copyright infringement commenced before the effective date of registration, unless the work is published and registration is made within three months after its first publication. 17 U.S.C. § 412 (1976 & Supp. IV 1980).

147. *Id.* § 408(b)(1)-(3). To register, one must deposit copies with the Copyright Office, *id.* 705(b). Pursuant to the authority that 17 U.S.C. § 408 (c)(1) gives to the Register of Copyright, 37 C.F.R. § 202.20 (1981) sets forth the rules pertaining to the deposit of copies of published and unpublished works for the purpose of registration, and 37 C.F.R. § 202.21 (1981 & Supp. 1982) describes the identifying material that may be deposited instead of copies.

The "best edition" of the work is the edition published in the United States at any time before the date of deposit that the Library of Congress determines to be the most suitable for its purpose. 17 U.S.C. § 101 (1976 & Supp. IV 1980); 37 C.F.R. § 202.19 (b)(1)(i) (1981).

148. 37 C.F.R. § 202.20 (c)(vii)(A) (1981).

In contrast, the 1957 French Law does not require notice, registration or deposit.¹⁴⁹ A work is protected solely by virtue of its creation.¹⁵⁰ This approach is especially interesting for computer programs where the existence of formalities poses problems because programs are frequently updated. Nevertheless, a program first published in France must comply with the Copyright Act notice requirement in order to be protected in the United States.

Infringements and Remedies

Infringement of computer program copyright occurs through its reproduction by any means whatsoever in violation of the rights of the copyright owner. In France, unlawful reproduction¹⁵¹ requires both a material and a moral element. The material element consists of the total or partial reproduction of the program without the author's permission,¹⁵² or the use of a licit reproduction for an illicit purpose.¹⁵³ It could be, for example, the use of a licensed program in an unauthorized area. The moral element is criminal intent, which is generally presumed.¹⁵⁴ In the United States, a plaintiff must prove only that he owns the copyright in issue, that the copyright was infringed,¹⁵⁵ and that as a result he has been

149. See, e.g., Judgment of Jan. 20, 1969, Cass. civ. 1re, 1969 Gazette du Palais I 217.

150. 1957 Law, *supra* note 44, at art. 1. A work is considered created independently of any public divulgation by the mere fact that the author's concept is being realized, even if incompletely. *Id.* at art. 7.

151. *Id.* at arts. 70-71. On unlawful reproduction, see generally, COLOMBET, *supra* note 50, at §§ 353-368; Foulon-Piganiol, *Propriété Littéraire et Artistique*, IV Répertoire Dalloz de Droit Pénal (1969 & Supp. 1980).

The disputes relative to the infringement of a copyright are within the jurisdiction of the civil courts without prejudice to the injured party's right to institute criminal proceedings. 1957 Law, *supra* note 44, at art. 64. The Law is silent as to the rules applicable in a civil action. Scholars state that the rules relating to delictual responsibility, C. Civ., art. 1382, are applicable. See COLOMBET, *supra* note 50, at § 363, citing Desbois and Plaisant. See generally Gavin, *Vers une Sanction Pénale du Droit Moral*, 31 R.I.D.A. 3 (1965) (in English and in French); Rochiccioli, *La Saisie-Contrefaçon*, *Institution Juridique Autonome*, 47 R.I.D.A. 79 (1965) (in English and in French).

152. See, e.g., Judgment of Mar. 19, 1980, Trib. gr. inst., Paris, 1980 R.I.D.A. 132 (unauthorized reproduction and sale of pirated cassettes).

153. C. COLOMBET, *supra* note 50, § 355.

154. *Id.* § 356. See, e.g., Judgment of Feb. 1, 1972, Cass. crim., 1972 Gazette du Palais I 438.

155. Infringement is either the violation of the exclusive rights of the copyright owner or the importation of unauthorized copies into the United States. See 17 U.S.C. § 501(a) (1976 & Supp. IV 1980).

Only the legal or beneficial owner of an exclusive right is entitled to institute an action for infringement, *id.* § 501(b). Exclusive licensees of a program have standing to sue in their own name with respect to infringement of the particular licensed right, *id.* § 501(b). See

damaged.¹⁵⁶ All infringement actions require a showing of substantial similarity, and the appropriate test is whether the ordinary observer would recognize a copy as having been taken or appropriated from the copyrighted program.¹⁵⁷ Problems of proof are especially difficult because of the various forms that a single algorithm can take. Two programs written in the same computer language may appear different to an "ordinary observer" although they are in fact similar.¹⁵⁸

The American and the French systems offer analogous remedies for infringement. Under the 1957 Law, upon demand of the author of a protected program, the legal authorities are required to seize the copies constituting an unlawful reproduction.¹⁵⁹ They are also empowered to suspend further unlawful reproduction of the work.¹⁶⁰ The offender is punishable by a fine, the confiscation of sums equal to the amount of the receipts proceeding from unlawful reproduction, and damages.¹⁶¹ In addition, a court may order publication of the conviction in designated newspapers and the posting of sentences in designated places, especially the offender's places of business.¹⁶² The Copyright Act similarly provides injunctions, impounding and disposition of infringing programs, damages, attorneys' fees, and even fine and imprisonment.¹⁶³

Injunction and seizure, which are granted while an action is pending, certainly constitute efficient remedies because they stop

generally H.R. REP. NO. 1476, *supra* note 41, at 158-60.

156. N. BOORSTYN, COPYRIGHT LAW 288 (1981). *See, e.g.*, Atari, Inc. v. North Am. Philips Consumer Elec. Corp., 672 F.2d 607, 614 (7th Cir. 1982).

157. N. BOORSTYN, COPYRIGHT LAW 291-93 (1981). *See, e.g.*, Atari v. Amusement World, Inc., 1981 COPYRIGHT L. REP. (CCH) ¶ 25,347, at 16,960 (D. Md. Nov. 27, 1981). *See also* M.NIMMER, 3 NIMMER ON COPYRIGHT § 13.03[A] (1982) for a discussion of the comprehensive non-literal similarity and the fragmented literal similarity.

158. *See, e.g.*, Atari, Inc. v. North Am. Philips Consumer Elec. Corp., 672 F.2d 607, 614 (7th Cir. 1982); Stern Elec. v. Kaufman, 669 F.2d 852, 855 (2d Cir. 1982).

159. 1957 Law, *supra* note 44, at art. 66, para. 1.

160. *Id.* at art. 66, para. 4.

161. *Id.* at arts. 70, 73. Under art. 72 the offender faces a greater fine and imprisonment if he habitually engaged in unlawful reproduction, *id.* at art. 72. Under art. 74 the receipts confiscated pursuant to art. 73 and the material seized pursuant to art. 66 are handed over to the author, *id.* at art. 74. *See also* C. COLOMBET, *supra* note 50, § 363.

162. 1957 Law, *supra* note 44, at art. 73. This practice is very common in France. It will damage the reputation of the offender and compromise his business, thus serving as a deterrent.

163. 17 U.S.C. §§ 502-506 (1976 & Supp. IV 1980).

See Nintendo of Am. v. Bay Coin Distrib., Inc., 1982 COPYRIGHT L. REP. (CCH) ¶ 25,409, at 17,377 (E.D.N.Y. May 28, 1982); Clark Equip. Co. v. Harlan Corp., 539 F. Supp. 561, 567-70 (D. Kan. 1982); BPI Sys., Inc. v. Leith, 532 F. Supp. 208, 210 (W.D. Tex. 1981); Stern Elec., Inc. v. Kaufman, 523 F. Supp. 635, 638 (E.D.N.Y. 1981), *aff'd*, 669 F.2d 852 (2d Cir. 1982).

the dissemination of infringing programs. However, they are only granted when the infringement is evident and seldom apply to the more subtle frauds perpetrated today. Neither the Copyright Act nor the 1957 Law cover the case of a good faith purchase from a person pretending to be the copyright owner. The buyer may have invested large sums of money in preparation for this purchase, for example, by buying a computer. In such case, the court should have the power to grant him a compulsory license if the true owner were unwilling to grant a license himself.¹⁶⁴

INTERNATIONAL ASPECTS OF THE COPYRIGHT ACT AND THE 1957 LAW

Legal Protection in the United States and in France of Programs Created by Foreign Authors or Published in a Foreign Country

Foreign works are covered by special provisions of French and American copyright statutes. Computer programs written or first published in the United States or in France enjoy in the other country the full protection of its domestic laws. This privilege results from both countries' membership in the Universal Copyright Convention which protects computer programs and provides that the works protected will receive national treatment in each member country.¹⁶⁵

Thus, published French computer programs are protected in the United States because their authors or their places of first publication are privileged.¹⁶⁶ Either the French program was first published in France, or at the time of first publication, one or more of its authors were a national or domiciliary of France.¹⁶⁷ Unpub-

164. This remedy would be analogous to the protection provided to bona fide purchasers in other areas of American and French law. See, e.g., the United States Uniform Commercial Code § 9-307 (1978) (bona fide purchaser of goods) and the French Civil Code arts. 2265-2270 (bona fide purchaser of real estate), 549-550 (bona fide possessor).

165. See *supra* note 12 and accompanying text.

166. 17 U.S.C. § 104 (1976 & Supp. IV 1980). Among the situations described in § 104, two are applicable to French authors. A work is protected (1) if the author is a national or domiciliary of the United States or of a foreign nation that is a party to a copyright treaty ratified by the United States and (2) if it was first published in the United States or in a foreign country that is a party to the Universal Copyright Convention.

To acquire domicile, there must be residence with intent to remain in the United States, which may be inferred from various circumstances such as payment of taxes, bank account, establishment of a home, etc. See *Ricordi & Co. v. Columbia Graphophone Co.*, 258 F. 72 (S.D.N.Y. 1919).

In determining the identity of an author for nationality or domicile requirements, a work for hire will have a special status because of the provision that makes the company, for

lished French programs are protected because the United States provides protection to all unpublished material, irrespective of the nationality or domicile of the author.¹⁶⁸ Similarly, computer programs written or first published in the United States or by United States nationals enjoy full protection of the French Law.¹⁶⁹

The Copyright Act demands reciprocity for the extension of the copyright privilege to nationals of any foreign state who are not domiciled in the United States.¹⁷⁰ The 1957 Law does not contain any restriction concerning its applicability to foreign works but the conditions of its application to foreign works were defined by a subsequent law enacted in 1964.¹⁷¹ According to the 1964 Law, France does not protect the economic rights¹⁷² of authors if their programs were originally published in countries that do not offer

which the program has been prepared, the author of that program. 17 U.S.C. § 201 (1976 & Supp. IV 1980).

167. *Id.* § 104(b)(1)(b), -(b)(2).

168. *Id.* § 104(a).

169. *See, e.g.*, Judgment of Nov. 13, 1975, Trib. gr. inst., Paris, 1976 D.S. Somm. 59.

170. 17 U.S.C. § 104 (1976 & Supp. IV 1980).

171. *Loi sur l'Application du Principe de Réciprocité en Matière de Protection de Droit d'Auteur* (Law on Application of the Principle of Reciprocity in the Field of Copyright) No. 64-689 du 8 Juillet 1964, 1964 J.O. July 9, *translated in* UNESCO, COPYRIGHT LAWS AND TREATIES OF THE WORLD (1978) [hereinafter cited as 1964 Law]; supplemented in 1967 by Decret Pris pour l'Execution de la Loi No. 64-689 du 8 Juillet 1964 sur l'Application du Principe de Réciprocité en Matière de Protection du Droit d'Auteur (Order Implementing the Law on the Application of the Principle of Reciprocity in the Field of Copyright Protection) No. 67-181 du 10 Mars 1967, 1967 J.O. Mar. 10, *translated in* UNESCO, COPYRIGHT LAWS AND TREATIES OF THE WORLD (1978).

For an analysis of the 1964 Law, see Desbois, *La Loi Française du 8 Juillet 1964*, 45 R.I.D.A. 23 (1965) (in English and in French); Francon, *La Loi du 8 Juillet 1964 sur l'Application du Principe de Réciprocité en Matière de Droit d'Auteur*, 1965 REVUE CRITIQUE DE DROIT INTERNATIONAL PRIVÉ [R.C.D.I.P.] 279 (in English and in French).

For an analysis of the 1967 Order, see Francon, *Le Décret d'Application de la Loi du 8 Juillet 1964 en Matière de Droit d'Auteur*, 1967 R.C.D.I.P. 667 (in English and in French).

172. The 1964 Law retains the moral rights for the benefit of the foreign author. 1964 Law, *supra* note 171, at art. 1. *See generally* Desbois, RÉPERTOIRE INTERNATIONAL, *supra* note 36, § 31.

The 1964 Law does not set the conditions of validity for the acquisition of the rights to be protected. Whereas lump sum payment is generally not permitted in France, 1957 Law, *supra* note 44, at art. 35, lump sum payments for the transfer of rights by or to a person or organization established abroad is permissible. 1957 Law, *supra* note 44, at art. 36. Desbois asserts that this provision takes into account existing foreign laws. Desbois, RÉPERTOIRE INTERNATIONAL, *supra* note 36, § 44. According to a decision of the French Supreme Court, all contracts made in France by American companies dealing with foreign companies can be drawn up in accordance with the conditions of form and substance of American contract law. Judgment of May 28, 1963, Cass. civ. 1re, 41 R.I.D.A. 134 (1963). For a discussion of conflicts of laws relative to exploitation contracts, see generally Desbois, RÉPERTOIRE INTERNATIONAL, *supra* note 36, §§ 43-68. *See also* C. COLOMBET, *supra* note 50, § 384.

sufficient and effective protection to French works, except if the programs are protected by an international convention. The 1964 Law does not cover unpublished works which therefore implies that these works are still protected under any circumstance. According to some scholars, the existence and nature of the rights in an unpublished work are governed by the national law of its author.¹⁷³

Legal Protection Against Importations and Exportations of Infringing Programs

The Copyright Act only prohibits importation of infringing programs,¹⁷⁴ whereas the 1957 Law deals with both importation and exportation. Subject to some exceptions, the unauthorized importation into the United States of copies acquired outside the United States infringes the author's distribution right.¹⁷⁵ This provision is important for protecting computer programs and preventing their uncontrolled dissemination because programs are very easily transferable from one country to another.¹⁷⁶ For example, it might apply in the case of a company licensed to use a program in one country, and wanting to use it also for its operations in the United States. The importation of "piratical" copies that infringe a copyright is prohibited.¹⁷⁷ Thus, the Customs Service would exclude copies of computer programs that were unlawful in the country where they were made. It also could exclude copies that, although made lawfully under the domestic law of that country, would have been unlawful if the American law could have been applied.¹⁷⁸ Programs imported in violation of the importation restriction are

173. C. COLOMBET, *supra* note 50, § 381; Desbois, *RÉPERTOIRE INTERNATIONAL*, *supra* note 36, § 42.

174. 17 U.S.C. § 602 (1976 & Supp. IV 1980); *see also id.* § 408(b)(3) and 37 C.F.R. §§ 201-208 (1981).

The manufacturing clause, 17 U.S.C. § 601 (1976 & Supp. IV 1980), is only applicable to literary material written in the English language. Computer languages, although they use many English words, are not English language.

175. 17 U.S.C. §§ 501(a), 602(a) (1976 & Supp. IV 1980). Section 602(a) enumerates three specific exceptions: importation under the authority or for the use of a governmental body but not including material for use in school; importation for the private use of the importer of no more than one copy of a work at a time; and importation by non-profit organizations. *Id.* § 602(a).

176. *See supra* text accompanying notes 7-8.

177. 17 U.S.C. § 602(b) (1976 & Supp. IV 1980). H.R. REP. NO. 1476, *supra* note 41, at 170. By this token, the United States extends abroad the application of the Copyright Act.

178. H.R. REP. NO. 1476, *supra* note 41, at 170.

subject to seizure.¹⁷⁹

The 1957 Law punishes infringing reproduction on French territory of works published in France or abroad.¹⁸⁰ This provision applies to programs first published abroad, not only by French citizens, but also by foreigners. The sale, exportation and importation of illegal reproductions of programs are subject to the same penalties.¹⁸¹

ANALYSIS OF COMPUTER PROGRAM PROTECTION IN THE UNITED STATES AND IN FRANCE

The United States and France offer computer program copyright protection that follows the general scheme stated in the Universal Copyright Convention. Nevertheless, each country accords to the works a national treatment, and the author's rights differ because of the specificities of each domestic law. In the American system, economic protection is granted through copyright to encourage further creation, while moral rights are protected outside the copyright system through the application of unfair competition laws.¹⁸² The Copyright Act defends the *work* and seeks to protect pecuniary and exploitative interests.¹⁸³ The French system also defends the *author*, attempting to protect his intellectual and moral interests as well as his financial interests,¹⁸⁴ the division into economic and moral rights is based upon the theory that an author's copyright is a property right and an extension of his

179. 17 U.S.C. § 603(c) (1976 & Supp. IV 1980).

180. 1957 Law, *supra* note 44, at art. 70. *See, e.g.*, Judgment of Aug. 31, 1973, Trib. gr. inst., Paris, 1974 J.C.P. II 17714 (unauthorized reproduction of the translation of an article published abroad violates author's copyright).

181. 1957 Law, *supra* note 44, at art. 70. The law applicable to determine whether reproduction was unlawful is not precise. Unlawful reproduction is defined as reproduction by any means in violation of the author's rights "as defined and regulated by law." *Id.* at art. 71.

Scholars disagree as to whether the French Law or another law must be applied. *See* C. COLOMBET, *supra* note 50, § 313; Desbois, RÉPERTOIRE INTERNATIONAL, *supra* note 36, §§ 41-42. *See also* Judgment of Apr. 24, 1980, Trib. gr. inst., Paris, 106 R.I.D.A. 135 (1980) (French Law applied to importation of illicit reproduction of copyrighted work produced in the United States).

182. COPYRIGHT AND DESIGN LAW: REPORT OF THE COMMITTEE TO CONSIDER THE LAW ON COPYRIGHTS AND DESIGNS CMND 6732, 17 (1977) (in England).

183. DaSilva, *supra* note 76, at 3.

184. The French Law provides: "This right bears attribute of a moral and intellectual order, as well as attribute of a patrimonial order . . ." 1957 Law, *supra* note 44, at art. 1.

For DaSilva, the French Law proceeds from "a romantic idea" of the author and his work and treats authors as "a special class of laborers;" in comparison, "the American tradition

personality.¹⁸⁵

The very concept of "author" has differing meanings in France and in the United States. In France, the title of author belongs primarily to persons.¹⁸⁶ A legal entity can be an author only if it initiated the development of a work such as a computer program. Even there, programmers and analysts retain rights in their respective works. In the United States, absent a special agreement, they lose all rights in the program they wrote or contributed to, if they were hired specifically for that purpose.¹⁸⁷ This disposition, although frustrating for the programmer or analyst, is not illogical. The company that ordered or initiated the production is the original creator of the program. It has only delegated its authority to an expert for the realization of the product.

Because the 1957 Law seeks to preserve the integrity of intellectual works and the personality of the authors, it defines a special set of rights, the moral rights,¹⁸⁸ ignored by the Copyright Act. The American statute does not purport to protect the author's rights of personality; indeed, a code of moral rights has been unsuccessfully proposed in Congress on at least two occasions.¹⁸⁹

The differences between the two systems are emphasized when they are applied to modern technology such as computer programs. The French Law dates back a quarter of a century. Technology has progressed so rapidly in this age that the 1957 Law is outdated in certain of its provisions.¹⁹⁰ The American Copyright Act, written during the dramatic expansion of the computer industry, gives more attention to modern problems.

Both the American and the French system contain original features, but at the same time are incomplete. The Copyright Act gives special attention to computer programs, but the nature and extent of the protection could be improved.¹⁹¹ The 1957 Law gives an extended protection to the authors but does not take into account the particular case of computer programs. The laws of

seems mechanical and uncompassionate." DaSilva, *supra* note 76, at 53, 55.

185. COPYRIGHT AND DESIGN LAW: REPORT OF THE COMMITTEE TO CONSIDER THE LAW ON COPYRIGHTS AND DESIGNS CMND 6732, 16 (1977) (in English).

186. See *supra* notes 66-71 and accompanying text.

187. See *supra* notes 61-65 and accompanying text.

188. See *supra* notes 75-95 and accompanying text.

189. DaSilva, *supra* note 76, at 39.

190. Francon, *Réflexions d'un Juriste Français à Propos de la Loi Américaine de 1976 sur le Droit d'Auteur*, 96 R.I.D.A. 22 (1978) (in English and in French).

191. See *infra* note 196 and accompanying text.

other countries are generally not adapted to the problem either.¹⁹²

PROPOSAL FOR AN INTERNATIONAL PROTECTION OF COMPUTER SOFTWARE

Automatic data processing confronts us with new products that do not seem capable of adequate protection under the present system. The United Nations has requested the International Bureau of the World Intellectual Property Organization (W.I.P.O.) to study the appropriate form of legal protection for computer programs.¹⁹³ W.I.P.O. has introduced a number of proposals and has elaborated the Model Provisions.¹⁹⁴

The Model Provisions define the eight rights of the program proprietor.¹⁹⁵ The most innovative is the right to forbid the use of a

192. See Schmidt, *supra* note 2, at 399; Stewart, *International Copyright in the 1980's*, 28 BULL. COPYRIGHT SOC'Y 351, 354 (1981).

193. Report of the United Nations Secretary-General on the Application of Computer Technology for Development at § 202, U.N. Doc. E/4800 (1970).

194. World Intellectual Property Organization, *Model Provisions on the Protection of Computer Software*, 14 COPYRIGHT 6 (1978), reprinted in 11 L. COMPUTER TECH. 2 (1978) [hereinafter cited as W.I.P.O.].

Some of the proposals are similar to the provisions of the Copyright Act. Authorship belongs to the "proprietor" of the rights. The proprietor is either the person who created the program, or the employer if the work was created by an employee in the course of his duties. *Id.* at 12, § 2. Originality is defined in very general terms. The computer program must be the "result of its creator's own intellectual effort." *Id.* at 12, § 3. As in the United States and in France, ideas are not protected. *Id.* at 12, § 4. The rights afforded to the author expire at the end of a period of 20 years, *id.* at 13, § 7(2)(a), which is sufficient. Injunction before infringement of the rights, *id.* at 13, § 8(1), and damages after infringement, *id.* at 13, § 8(2), are the two possible remedies. There is no requirement for registration or deposit of the program.

For a comment on W.I.P.O. Model Provisions, see generally Abel, *World-wide Protection of Computer Software: An Analysis of the W.I.P.O. Proposal*, 2 N.Y.L. SCH. J. INT'L COMP. L. 276 (1981).

195. W.I.P.O., *supra* note 194, at 12, § 5.

Section 5 provides:

Rights of the Proprietor

The Proprietor shall have the right to prevent any person from:

- (i) disclosing the computer software or facilitating its disclosure to any person before it is made accessible to the public with the consent of the proprietor;
- (ii) allowing or facilitating access by any person to any object storing or reproducing the computer software, before the computer software is made accessible to the public with the consent of the proprietor;
- (iii) copying by any means or in any form the computer software;
- (iv) using the computer program to produce the same or a substantially similar computer program or a program description of the computer program or of substantially similar computer program;
- (v) using the program description to produce the same or a substantially similar program description or to produce a corresponding computer program;

program in a machine.¹⁹⁶ The proprietor may prevent any person from using in a computer a program or copy of it in any form, or a substantially similar program. It thus grants to computer programs an essential protection that is not provided by existing copyright law.

Two other rights¹⁹⁷ appear inspired by the trade secrets law requirement of confidentiality. Both deal with situations occurring prior to publication of the program. The proprietor may prevent any person from disclosing the program and from allowing or facilitating access to any object storing or reproducing the program. For example, it would be an infringement for an employee to deliver a magnetic tape embodying a computer program without the consent of his employer, the proprietor.

Finally, the five other rights are similar to those obtainable through strained interpretation of American or French copyright law. They appear to protect computer programs better because they cover various situations in very general terms. Three provisions deal with all types of program reproduction. The program cannot be copied by any means or in any form.¹⁹⁸ This should cover both source and object programs, and all supports used by the computer industry, including "Read Only Memory."¹⁹⁹ Translation, adaptation, alteration and transformation of the program are forbidden. The proprietor can prevent any person from using the program to produce the same or a substantially similar program or program description.²⁰⁰ He can also prevent the use of the description of his program to develop a corresponding program.²⁰¹ Thus, the rights in a program description extend to programs which can be developed from it in a relatively straightforward manner. This is the first step towards bridging the gap between

(vi) using the computer program or a computer program produced as described in (iii), (iv) or (v) to control the operation of a machine having information-processing capabilities, or storing it in such a machine;

(vii) offering or stocking for the purpose of sale, hire or license, selling, importing, exporting, leasing or licensing the computer software or computer software produced as described in (iii), (iv) or (v);

(viii) doing any of the acts described in (vii) in respect of objects storing or reproducing the computer software or computer software produced as described in (iii), (iv) or (v).

196. W.I.P.O., *supra* note 194, at 12, § 5(vi).

197. *Id.* at 12, § 5(i)-(ii).

198. *Id.* at 12, § 5(iii).

199. E. PLOMAN, COPYRIGHT 108 (1980).

200. W.I.P.O., *supra* note 194, at 12, § 5(iv).

201. *Id.* at 12, § 5(v).

protection of ideas and protection of expression, which is one of the main revendications of the software industry. Two provisions cover the commercial use of a program. Sale, lease, license, export, and import of a program or of any object storing or reproducing a program infringe the rights of the proprietor.²⁰² This interdiction, however, is limited to the sale, license, or commercial use of the computer program *itself*. It does not prevent the buyer, licensee or lessee from selling the *service* provided by the program. Most computer programs are conceived to perform a service, such as payroll or inventory management. With the expansion of the packaged software industry, programs are written to fulfill the needs of a class of customers, and their proprietors expect to sell, license or lease multiple versions of the same program. If a company buys or leases a payroll program and then sells to another company a payroll service, it does not infringe any of the rights defined in the Model Provisions, although it is a competitor of the proprietor.²⁰³ Apart from this minor exception, the Model Provisions meet the specific needs of the computer software industry.

CONCLUSION

The creation of computer networks among nations, aided by sophisticated telecommunication systems, highlights the need for international protection of computer programs. The Universal Copyright Convention sets forth minimum requirements that are not specifically adapted to the problems posed by computer technology. In a few countries, such as the United States, computer programs may be adequately protected without important changes in existing laws because their specificity has been recognized; but as is true in France, the copyright laws of most countries do not address the new problem of computer software and must be strainfully interpreted to provide some protection. This results in disparities because each state applies its local law to foreign works. An international convention should be held to implement the Model Provisions proposed by W.I.P.O.

MARIE FRANCOISE GILBERT

202. *Id.* at 12, § 5(vii)-(viii).

203. In order that the proprietor's rights be protected, the contract for the sale or lease of the program must contain appropriate clauses.