

ARTICLE

LEGAL PROTECTION FOR COMPUTER PROGRAMS IN WEST GERMANY

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Table of Contents

I. INTRODUCTION	187
II. PROTECTION UNDER PATENT LAW	190
III. PROTECTION UNDER TRADEMARK AND UNFAIR COMPETITION LAW	195
1. Trademark Protection	196
2. Protection by Unfair Competition	198
IV. PROTECTION UNDER COPYRIGHT LAW	200
1. The West German Copyright Act	201
2. Basic Considerations on Copyrightability of Computer Programs	203
3. Judicial Application of Copyright Law to Computer Programs	205
4. Legislation	211
V. INTERNATIONAL DEVELOPMENTS	212
1. European Community	212
2. Protection under the Berne Convention	213
VI. CONCLUSIONS	214

I. INTRODUCTION

“One of the most controversial legal issues of our day” is whether industrial property and copyright law can provide adequate protection for computer programs.¹ In most industrialized countries the debate

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1. See Preface, *The Future of Software Protection*, 47 U. PITT. L. REV. 903 (1986).

over the appropriateness and efficacy of such protection has been developing over the last twenty years.² Computer programs are prototypical of the type of highly vulnerable intellectual property which industrial property and copyright law is designed to protect.³ While the development of software often requires large investments of time and money, modern copying techniques allow quick and inexpensive duplication. Therefore, the producers of original software can easily be deprived of the benefits of their labors. Competitors can copy another's software and market it at a price below that charged by the original producers. Due to the rapid expansion of the applications for, and commercial use of, computer programs, this has become a severe and worldwide problem. In many countries mail-order companies already exist which advertise and sell pirated copies of computer programs. Clearly the producers of computer programs must enjoy some form of legal protection.

What type of industrial property and copyright law should be available to protect computer programs is an intricate, yet crucial question. It is often difficult to incorporate new phenomena into fields of well-established law. The legal treatment of computer programs has so far been no exception. The exact nature of computer programs is difficult to determine. On the one hand, they are related to technological matters. On the other hand, they can hardly be compared to the usual type of inventions. They involve neither processes of a physical nature, nor physical products, but rather methods of organization and administration. They are thus reminiscent of literary works even though they are addressed to machines. Neither industrial property law nor copyright law in their traditional roles seems to be the appropriate instrument for the protection of programs, because both protections were designed for and used to protect very different types of creations. The unique nature of the computer program has led to broad support for the creation of *sui generis* legislation.⁴

Although the problem of what legal remedies should be available is far from being solved, the rapid increase in piracy and counterfeiting of computer programs demands prompt and practical solutions. For various reasons, in most legal systems, copyright law has become the

2. See generally the essays collected in RECHTSSCHUTZ UND VERWERTUNG VON COMPUTERPROGRAMMEN (M. Lehman ed. 1988).

3. See Haberstumpf, *Der urheberrechtliche Schutz von Computerprogrammen*, in RECHTSSCHUTZ UND VERWERTUNG VON COMPUTERPROGRAMMEN, *supra* note 2, at 8.

4. This was proposed not only in Germany, but in other countries as well. See Kindermann, *Special Protection on Systems for Computer Programs—A Comparative Study*, 7 INT'L REV. OF INDUS. PROP. & COPYRIGHT L. 301 (1976). Most significantly, the World Intellectual Property Organization [WIPO] initially proposed *sui generis* protection. See *Mustervorschriften für den Schutz von Computersoftware*, 1978 GEWERBLICHER RECHTSSCHUTZ UND URHEBERRECHT, AUSLANDS-UND INTERNATIONALER TEIL [GRUR INT.] 286.

dominant means used to protect computer programs. Patent law, if applied at all, has been restricted to a secondary role, and a legislation *sui generis* has been enacted only in related fields such as semiconductor chip protection.⁵ The more or less parallel development of national laws was not merely accidental. Computer programs enjoy a large international market. Consequently, complimentary protection in different countries creates distinct advantages for the producers of software. Moreover, strong connections among the international legal community within the areas of industrial property law and copyright law have fostered the implementation of similar protections.

However, the debate surrounding the protection of computer programs has not subsided. Too many questions have been left open, and too many problems still remain. West Germany's experience in this area is no exception. It is one of the countries where the dispute has given rise to discussions concerning the fundamental nature and scope of industrial property and copyright law.⁶

This article will review the evolution and the present status of the legal protection of computer programs in West Germany, as well as evaluate the advantages and disadvantages of such protection. This may be of special interest to American authors as the United States joined the Berne Convention on March 1, 1989, and therefore, American authors now enjoy copyright protection in West Germany according to West German copyright law.⁷

In section II protection of computer programs under West German patent law will be discussed. Section III deals with the protection of software afforded by trademark and unfair competition law. Section IV, the main part of the article, considers the protection of computer programs under copyright law. This section discusses the basic standards of copyright (IV 1), examines the appropriateness of applying copyright protection to computer programs in general (IV 2), reviews the West German court decisions implementing copyright protection (IV 3), and surveys the legislative response (IV 4). Section V briefly considers the implications that current international law, especially the Berne Convention, may have on the development of West German copyright law.

5. See national reports for various countries gathered in *AIJA (Association Internationale des Jeunes Avocats) - Congress of Lisbon: The Legal Protection of Computer Software*, 1 SOFTWARE L. J. 249 (1986). Countries providing special legislation for semiconductor chips include Denmark (1987), France (1987), West Germany (1987), Japan (1985), the Netherlands (1987), Spain (1988), Sweden (1986), the United Kingdom (1987) and the United States (1984).

6. See generally Loewenheim, *Geschützte Werke*, in URHEBERRECHT: KOMMENTAR § 2(73)-(81) (G. Schricker ed. 1987).

7. See *infra*, note 175 and accompanying text.

II. PROTECTION UNDER PATENT LAW

Under current West German law, computer programs cannot be patented. The West German Patent Act explicitly states that "the following in particular shall not be regarded as inventions[:] . . . programs for computers."⁸ This, however, must be read in conjunction with another provision of the Patent Act: "The provisions of subsection (2) shall exclude patentability only to the extent to which protection is sought for the above-mentioned elements or activities as such."⁹ Consequently, only computer programs "as such" are excluded from patentability. This language has raised some uncertainty as to the scope of patent protection for software. In order to understand the apparent ambiguity between the two provisions it is necessary to explain the requirements of German patent protection and to examine its historical background, including the judicial decisions which occurred prior to the statutory exclusion of computer programs from patentability.

According to West German patent law, patents are granted to inventions which are novel, involve an inventive step, and are susceptible of industrial application.¹⁰ The requirements of novelty, inventive step, and industrial application are explained in §§ 3-5 of the Patent Act. First, an invention shall be considered to be novel if it is not part of the state of the art.¹¹ The state of the art comprises everything that has been made available to the public by means of a written or oral description, by use, or in any other way, before the filing date of the patent application.¹² Second, an invention involves an inventive step if, with respect to the state of the art, it is not obvious to a person skilled in the art.¹³ The inventive step requirement corresponds with the requirement of non-obviousness in the United States Patent Act.¹⁴ Third, an invention shall be considered to be susceptible to industrial application if it can be made or used in any kind of industry, including agriculture.¹⁵

8. West German Patent Act (Patentgesetz) [hereinafter Patent Act] § 1(2.3), 1981 Bundesgesetzblatt [BGBl] I 1, translated in MAX PLANCK INSTITUTE FOR FOREIGN AND INTERNATIONAL PATENT, COPYRIGHT, AND COMPETITION LAW, STUDIES IN INDUSTRIAL PROPERTY AND COPYRIGHT LAW NO. 6, GERMAN INDUSTRIAL PROPERTY AND ANTITRUST LAWS 19-58 (2d ed. 1989) [hereinafter GERMAN INDUSTRIAL PROPERTY AND ANTITRUST LAWS]. Computer programs were excluded under an act of June 21, 1976, 1976 BGBl II 649 (effective Jan. 1, 1978), enacted in the course of the harmonization of national patent laws with the European Patent Convention [hereinafter EPC]. This act excluding computer programs from patentability is referred to as the 1978 Amendment.

9. Patent Act § 1(3). This provision was part of the 1978 Amendment, *supra* note 8.

10. Patent Act § 1(1).

11. Patent Act § 3(1).

12. Patent Act § 3(1).

13. Patent Act § 4.

14. 35 U.S.C. § 103 (1982 & Supp. 1985).

This requirement is intended to promote industrial development and to exclude mere theoretical methods. This is analogous to the requirement of usefulness in the U.S. Patent Act.¹⁶

Even if computer programs could meet the requirements of novelty, inventive step, and industrial application,¹⁷ this would not answer the crucial question of patentability, which is whether computer programs can properly be regarded as inventions. Although neither the West German Patent Act nor the European Patent Convention (EPC) define the term "invention," it has always been commonly understood that the purpose of patent law is to protect technical inventions only. Therefore, a technical nature is required for patentability.¹⁸ This understanding is confirmed by §§ 3 and 4 of the West German Patent Act which refer to the state of the "technical" art.¹⁹

The leading definition of the requisite "technical nature" of an invention was given in 1969 by the Bundesgerichtshof (German Federal Supreme Court).²⁰ In the *Rote Taube* case a pigeon breeder had applied for patent protection for the process of rearing pigeons with red feathers.²¹ The Bundesgerichtshof denied the application.²² The Court explained that breeding was merely a biological, rather than a technical process of production, and hence it did not guarantee the necessary reproducibility.²³ In this context, the Court described a "technical nature" as an "instruction to methodically utilize controllable natural forces to achieve a causally predictable result."²⁴ In other words, the key element which characterizes the technical nature of an invention is the control of natural forces to achieve a predicted result.

15. Patent Act § 5(1).

16. 35 U.S.C. § 101 (1982).

17. Novel programs generally meet these requirements. See Betten, *Patentschutz von Computerprogrammen*, 2 COMPUTER UND RECHT 311, 312 (1986).

18. See Kraßer, *Der Schutz von Computerprogrammen nach deutschem Patentrecht*, in RECHTSSCHUTZ UND VERWERTUNG VON COMPUTERPROGRAMMEN, *supra* note 2, at 109; G. BENKARD, PATENTGESETZ § 1(41) (7th ed. 1981).

19. While the EPC and English translations use the term "state of the art," the German term is "Stand der Technik" (state of the technical art).

20. Judgment of March 27, 1967, Bundesgerichtshof, 52 Bundesgerichtshof in Zivilsachen [BGHZ] 74 (*Rote Taube*), translated in 1 INT'L REV. OF INDUS. PROP. & COPYRIGHT L. 136 (1970).

21. 52 BGHZ at 75.

22. *Id.*

23. *Id.* at 81. For its part, Patent Act § 2(2) explicitly denies patent protection of plant or animal varieties or essentially biological processes for the production of plants or animals.

24. *Id.* at 79 ("Lehre zum planmäßigen Handeln unter Einsatz beherrschbarer Naturkräfte zur Erreichung eines kausal übersehbaren Erfolges.").

In 1976 the Bundesgerichtshof directly addressed the applicability of patent law to computer programs in the *Dispositionsprogramm* case.²⁵ The opinion offers little information about the nature of the program under consideration. Apparently, the program aided business decisions by calculating certain commercial results.²⁶ Referring to its former definition of the "technical nature" of an invention, the Court held that the *Dispositionsprogramm* program was merely a sequence of organization and lacked the requisite "technical nature" necessary for patentability.²⁷ The Court thus distinguished between the solution of purely mathematical and organizational problems by following certain logical rules and the utilization of natural laws such as those existing in the fields of physics or chemistry to control a physical process.²⁸

Later decisions clarified this distinction between the solution of mathematical problems and the control of natural forces. In 1980, the Bundesgerichtshof decided that an antilock brake system operated by a computer program could qualify for patent protection.²⁹ In that case, a program prevented the wheels of an automobile from locking by applying the appropriate brake pressure, which was calculated based on the angular velocity of the wheels.³⁰ The Court explicitly stated that not all computer programs lack a technical nature.³¹ The case shows that at least in the field of control engineering programs can utilize "natural forces" in order to regulate a technical process, and therefore can be protected by a patent.³²

In contrast, the Bundesgerichtshof in the same year denied the patentability of a program designed to cut rolled steel into pieces suitable for further processing.³³ In that case, the Bundesgerichtshof pointed out that the "nucleus of an invention" must be of a technical nature.³⁴ It

25. Judgment of June 22, 1976, Bundesgerichtshof, 67 BGHZ 22 (*Dispositionsprogramm*), translated in 8 INT'L REV. OF INDUS. PROP. & COPYRIGHT L. 558, 560 (1977). To date, the Bundesgerichtshof has decided seven cases concerning the patentability of computer programs. In addition to the *Dispositionsprogramm* case these decisions are: Judgment of April 21, 1977, 79 GEWERBLICHER RECHTSSCHUTZ UND URHEBERRECHT [GRUR] 657 (*Straken*); Judgment of June 7, 1977, 80 GRUR 102 (*Prüfverfahren*); Judgment of February 14, 1978, 80 GRUR 420 (*Fehlerortung*); Judgment of May 13, 1980, 82 GRUR 849 (*Antiblockiersystem*); Judgment of September 16, 1980, 83 GRUR 39 (*Walzstabteilung*); Judgment of March 11, 1986, 88 GRUR 531 (*Flugkostenminimierung*). The leading cases are discussed *infra*.

26. 67 BGHZ at 23.

27. *Id.* at 26.

28. *Id.*

29. Judgment of May 13, 1980, Bundesgerichtshof, 82 GRUR 849 (*Antiblockiersystem*).

30. *Id.* at 849.

31. *Id.* at 851.

32. *Id.* at 850.

33. Judgment of Sept. 16, 1980, 83 GRUR 39 (*Walzstabteilung*).

34. *Id.* at 41.

does not suffice that the invention "as a whole" has a technical nature.³⁵ Since the Bundesgerichtshof failed to find that the "nucleus" of the invention involved had a technical nature, patentability was not granted.³⁶ The Court elaborated on this analysis in another decision which concerned a computer program designed to minimize the fuel consumption of airplanes.³⁷ The program regulated the fuel flow of an airplane engine by adjusting the throttle.³⁸ Some of the factors determining the fuel flow were of a technical nature, such as distance, altitude, minimum speed, etc.³⁹ Greater emphasis, however, was placed on economic factors such as fuel price, cost of flight hours, availability of the airplane, etc.⁴⁰ The Court, noting the predominate influence of economic factors as opposed to technical factors, found that the program lacked a "technical nature" and, therefore denied patentability.⁴¹

Although the 1978 amendment to the Patent Act, which excludes patentability was effective when these decisions were handed down, the respective patent applications had been filed prior to Jan. 1, 1978.⁴² Therefore, the Bundesgerichtshof decided the cases without reference to either the statutory exclusion or the provision modifying exclusion from patent protection "as such."⁴³ Thus, the relationship between the judicial decisions emphasizing the requirement of a "technical nature" and the statutory exclusion of computer programs from patentability by the 1978 Amendment remains somewhat unclear. The confusion may be resolved by assuming that the cases mentioned above did not concern the protection of computer programs "as such," but rather concerned separate inventions that either contained a computer program or were applied by using a computer program.⁴⁴

35. *Id.* at 40-41. It remains unclear how the "nucleus of an invention" can be defined and distinguished from "the invention as a whole," but the term nonetheless conveys the highly restrictive approach of the Court.

36. *Id.* at 40.

37. Judgment of March 11, 1986, Bundesgerichtshof, 88 GRUR 531 (*Flugkostenminimierung*).

38. *Id.* at 532.

39. *Id.* at 533.

40. *Id.*

41. *Id.*

42. This is true even for the most recent case. See Judgment of March 11, 1986, Bundesgerichtshof, 88 GRUR 531 (*Flugkostenminimierung*).

43. No court has yet applied the statutory exclusion of computer programs under the Patent Act as amended in 1978. Act of June 21, 1976, 1976 BGBl II 649 (effective Jan. 1, 1978).

44. See the German National Report in 2 ANNUAIRE (l'Association Internationale pour la Protection de la Propriété Intellectuelle [AIPPI]) 6, 13 (1988), summarized in English at 23.

The decision to restrict the patentability of computer programs in West Germany paralleled a European and an even greater international trend.⁴⁵ While drafting the European Patent Convention (EPC) in the early 1970s, the patentability of computer programs became an important issue.⁴⁶ For reasons similar to those which concerned West German lawmakers, this question was very controversial.⁴⁷ However, the Convention's major goal was the enactment of a uniform set of guidelines, and it was generally agreed that this goal should not be endangered by a dispute over the patentability of computer programs.⁴⁸ This is the most likely reason why computer programs were included in the catalogue of non-patentable items in Article 52 EPC.⁴⁹ As discussed above, West Germany, in the course of the harmonization of its national laws with the EPC, also excluded computer programs from patentability in 1978.⁵⁰

From today's perspective, it is doubtful whether enough consideration was given to this enactment. In light of the need for protection of computer programs, as well as the problems involved in the application of copyright law to software, the strict exclusion of patent law appears to be rather precipitate. Other countries, such as the United States, grant patent law a far broader scope of application, even though they fail to secure general patent protection for computer programs.⁵¹

However, there appears to be a growing tendency to give the statutory exclusion a less strict interpretation, thus extending the scope of patent protection. In applying Article 52 EPC, which excludes computer programs from patent protection, the European Patent Office has taken a more liberal approach than the Bundesgerichtshof. It stresses that the technical nature of an "invention as a whole" rather than simply the "nucleus of an invention" may suffice for patentability. This view has been expressed both in the guidelines for examination in the European

45. See Gall, *Der Schutz von Computerprogrammen nach europäischem Patentrecht*, in RECHTSSCHUTZ UND VERWERTUNG VON COMPUTERPROGRAMMEN, *supra* note 2, at 142; see also Betten, *supra* note 17, at 312.

46. See Kolle, *Die patentfähige Erfindung im europäischen Patenterteilungsübereinkommen*, in MITARBEITERFESTSCHRIFT FÜR EUGEN ULMER 216 (1973); G. GALL, MITTEILUNGEN DER DEUTSCHEN PATENTANWÄLTE, 184 (1985).

47. See generally Kolle, *supra* note 46. Protection was similarly denied in Austria, Switzerland, the Netherlands and France.

48. *Id.*

49. *Id.*

50. Act of June 21, 1976, 1976 BGBI II 649 (effective Jan. 1, 1978).

51. See Nimmer & Franqui, *United States Protection of Computer Software Technology*, 1 SOFTWARE L. J. 417, 433-44 (1986).

Patent Office⁵² and in several decisions.⁵³ With a few caveats, it could be said that this has already effected the standards applied by the West German Patent Office. Although there are no explicit statements for that proposition, some scholars believe that in recent cases⁵⁴ the West German Patent Office has adopted a more liberal view.⁵⁵ However, the situation is still unclear.

In conclusion, one can only state that computer programs, as such, are not patentable. However, the decisions of the Bundesgerichtshof granting patent protection to computer programs, the apparent statutory limitation on strict exclusion of computer programs from patent protection, and the recent decisions of the West German Patent Office seem to indicate that the scope of patent protection as applied to computer software in West Germany may expand.

III. PROTECTION UNDER TRADEMARK AND UNFAIR COMPETITION LAW

Due to the limited protection afforded computer programs under patent law, protection by other legal means became all the more urgent. Because the technical nature of many programs could not be demonstrated, software producers turned to other legal doctrines applicable more generally to intellectual property and commercial transactions. Trademark law and unfair competition law have been considered as alternative means of protection. Protection, found lacking under patent law, was granted to computer programs by the courts under unfair competition and trademark law.⁵⁶

52. *Amendment to the Guidelines for Examination in the EPO*, 8 O.J. EUR. PAT. OFF. 173, 177 (1985).

53. See Judgment of July 15, 1986, EPO, 1987 GRUR INT. 173 (*Computerbezogene Erfindung/VICOM*); Decision of May 21, 1987, Judgment of the Board of Appeal of the EPO, 3 COMPUTER UND RECHT 671 (*Röntgeneinrichtung*); see also Payraudeau, *Neuere Entscheidungen der Technischen Beschwerdekammern des EPA*, 1989 GRUR INT. 478, 480.

54. Judgment of August 20, 1985, Bundespatentgericht, 88 GRUR 307 (*Digitale Signalverarbeitungsanordnung*); Judgment of July 22, 1986, Bundespatentgericht, 3 COMPUTER UND RECHT 366 (*Computertomograph*); Judgment of August 12, 1987, Bundespatentgericht, 89 GRUR 799 (*Elektronisches Stellwerk*); Judgment of July 25, 1988, Bundespatentgericht, 91 GRUR 42 (*Rolladen-Steuerung*).

55. See Betten, *Neue Entscheidungen des Bundespatentgerichts zum Patentschutz von softwarebezogenen Erfindungen*, 3 COMPUTER UND RECHT 347, 348 (1987); Betten, *Patentschutz für software-bezogene Erfindungen*, 90 GRUR 248 (1988); Brandi-Dohrn, *Der Schutz von Computersoftware in Rechtsprechung und Praxis*, 89 GRUR 1, 3 (1987); Loewenheim, *Möglichkeiten des Rechtsschutzes für Computerprogramme*, 4 COMPUTER UND RECHT 799, 804 (1988).

56. Unfair competition law can grant complementary protection where patent law does not apply, e.g., against the copying of unpatented items. This protection does not prevent mere copying as patent law would do, but rather targets unfair behavior in competition, e.g., deceiving the consumer as to the source of origin. See generally A. BAUMBACH & W. HEFERMEHL, *WETTBEWERBSRECHT*, § 1 UWG (407) (15th ed. 1988). Since pro-

1. Trademark Protection

In West Germany, as well as in other countries, trademarks perform an identification function. A trademark identifies the origin of goods or services by associating a product or service with a particular source.⁵⁷ Trademark protection can be acquired by registering the mark with the Patent Office.⁵⁸ The owner then has the exclusive right to commercially use the trademark.⁵⁹ Any person using the registered or a confusingly similar mark for the registered or for similar goods or services can be sued for infringement.⁶⁰ Therefore, trademark protection prevents other persons from using the mark but not from providing the same product or service. The distribution of a product can only be prohibited under trademark law if the trademark is attached to the product such that using the product simultaneously displays the trademark.⁶¹

Trademarks can prevent the unauthorized distribution of computer programs if the disk, the cover, the manual, etc. carry the mark. In most cases, trademark protection can neither prevent the unauthorized copying of the program itself nor the sale of such unauthorized copies. However, in some special cases, a trademark may be installed in a computer program in such a way that the trademark becomes visible on the screen when the program is being used. West German courts have held that the commercial use of such programs could be an unauthorized use of the trademark.⁶² For example, in the *Pengo* case, the plaintiff was

tection by patent law and unfair competition law is given on different grounds, an erosion of unfair competition protection would not be likely were the scope of patent law to be increased.

57. For further reference, see A. BAUMBACH & W. HEFERMEHL, *WARENZEICHENRECHT*, Einl. WZG, no. 10 (12th ed. 1985).

58. West German Trademark Act (*Warenzeichengesetz*) [hereinafter Trademark Act] § 2(1), 1968 BGBl I 29, translated in *GERMAN INDUSTRIAL PROPERTY AND ANTITRUST LAWS*, *supra* note 8, 111-23.

59. Trademark Act § 15(1).

60. Trademark Act §§ 24, 31.

61. This follows from § 15 of the Trademark Act, which grants the trademark owner the exclusive right to use the mark but does not grant the exclusive right to use a product or service that does not bear the mark.

62. See Judgment of June 13, 1983, Oberlandesgericht [hereinafter OLG] Frankfurt (appellate court), 85 GRUR 753, 756 (*Pengo*); Judgment of Aug. 4, 1983, OLG Frankfurt, 1984 WETTBEWERB IN RECHT UND PRAXIS [WRP], 79 (*Donkey Kong Junior II*). For further discussion of trademark protection for computer programs, see Bohlig, *Warenzeichen: Eine alternative Schutzmöglichkeit für Computerprogramme?*, 2 COMPUTER UND RECHT 126 (1986); Gravenreuth, *Juristische relevante technische Fragen zur Beurteilung von Computer-Programmen*, 88 GRUR 720, 725 (1986); Loewenheim, *Urheberrechtlicher Schutz von Videospielen*, in *BEITRÄGE ZUM SCHUTZ DER PERSÖNLICHKEIT UND IHRER SCHOPFERISCHEN LEISTUNGEN: FESTSCHRIFT FÜR HEINRICH HUBMANN* 307, 308 (1985); Schweyer, *Der warenzeichenrechtliche Schutz von Computerprogrammen*, in *RECHTSSCHUTZ UND VERWERTUNG VON COMPUTERPROGRAMMEN*, *supra* note 2, at 204.

exclusively licensed to manufacture and distribute a Japanese videogame under the trademark "Pengo."⁶³ This trademark was also registered in West Germany.⁶⁴ When played, the game would first present the characters involved in the game.⁶⁵ Among them was the main character, "Pengo," whose name appeared on the screen.⁶⁶ The defendant acquired pirated copies of the game which were nearly identical with the original game.⁶⁷ The most significant difference between the originals and the pirated copies was that the main figure's name had been changed from "Pengo" to "Pento."⁶⁸ The defendant owned video arcades where he used these pirated copies.⁶⁹ The Oberlandesgericht Frankfurt held that the videogame did not meet the standards for copyright protection,⁷⁰ but that playing the game in public amusement centers was an unauthorized use of a confusingly similar trademark which infringed the trademark owner's rights.⁷¹

This is not to say that trademark protection is sufficient to protect all computer programs. As discussed above, such protection can only be helpful where, in addition to copying and distributing the program, the items which carry the mark, such as the disk, the cover, and the manual, are also distributed. However, this is not always the case. Often the program alone is copied and distributed.⁷² Furthermore, as the videogame cases show, merely running the program in public (i.e. without making use of a marked disk or the manuals) can severely violate the owner's rights. In such cases, only the installation of the trademark within the program itself would result in trademark infringement.⁷³ However, not every program is susceptible to installation of a trademark,⁷⁴ and even if the program contained such a safeguard, in most cases the trademark could be easily removed. In conclusion, trademark protection is of limited effectiveness.

63. 85 GRUR at 754 (*Pengo*).

64. *Id.*

65. *Id.*

66. *Id.*

67. *Id.*

68. *Id.*

69. *Id.*

70. *Id.*

71. *Id.* at 756.

72. Such a copy can be made on an unmarked disk. The unauthorized user could then use the program without a manual or could copy a borrowed manual. In addition, handbooks that explain popular programs are often available, obviating the need for the original manual.

73. See Bohlig, *supra* note 62, at 129.

74. Trademarks are more likely to be installed in application programs, such as games or word processing programs, than in operation programs, such as a utility program.

2. Protection by Unfair Competition Law

Courts have repeatedly protected computer programs under unfair competition law.⁷⁵ The statutory basis for this doctrine is § 1 of the UWG⁷⁶ which grants an injunction or damages in cases of unfair competition. Most of the law under this general clause is of judicial creation and development. One judicial doctrine that has developed holds that misappropriation of the results of another's work violates unfair competition law, especially where another's products have been copied or imitated.⁷⁷ Under certain conditions, this doctrine may fill in some gaps where industrial property and copyright protection do not apply to computer programs.⁷⁸

Courts have granted protection to computer programs under unfair competition law, most often in cases where, for various reasons, they held that the requirements for protection under patent or copyright law were not met. For example, in the *Donkey Kong Junior* cases, which involved pirated video game programs, the Oberlandesgericht Frankfurt granted protection on the basis of unfair competition law after denying copyright protection.⁷⁹ In *Donkey Kong Junior I*, the plaintiff sold a Japanese videogame named "Donkey Kong Junior".⁸⁰ The defendant sold videogames under the name "Junior King" which were identical to the "Donkey Kong Junior" game, except that the copyright notice was

75. See, e.g., Judgment of July 21, 1983, OLG Frankfurt, 85 GRUR 757 (*Donkey Kong Junior I*) and Judgment of Aug. 4, 1983, OLG Frankfurt, 1984 WRP 79 (*Donkey Kong Junior II*), both discussed *supra*, note 62 and accompanying text. See also Judgment of June 12, 1983, Landgericht [hereinafter LG], München I (court of first instance), 2 COMPUTER UND RECHT 332. For the protection of computer programs under unfair competition law, see generally Lehmann, *Der wettbewerbsrechtliche Schutz von Computerprogrammen gem. § 1 UWG – sklavische Nachahmung und unmittelbare Leistungsübernahme*, in RECHTSSCHUTZ UND VERWERTUNG VON COMPUTERPROGRAMMEN, *supra* note 2, at 230; Loewenheim, *supra* note 62, at 307, 308; Loewenheim, *supra* note 55, at 801.

76. West German Unfair Competition Act (Gesetz gegen den unlauteren Wettbewerb (UWG)) [hereinafter Unfair Competition Act], BGBl III 43-1, translated in GERMAN INDUSTRIAL PROPERTY AND ANTITRUST LAWS, *supra* note 8, 124-34.

77. This doctrine was originally developed by the Reichsgericht (the former German Supreme Court). See Judgment of April 7, 1910, Reichsgericht, 73 Reichsgericht in Zivilsachen [RGZ] 294; Judgment of October 3, 1926, Reichsgericht, 115 RGZ 180. The doctrine was revived by the Bundesgerichtshof. See, e.g., Judgment of January 22, 1952, Bundesgerichtshof, 5 BGHZ 1 (*Hummelfiguren I*). For further references and a detailed discussion, see A. BAUMBACH & W. HEFERMEHL, WETTBEWERBSRECHT, § 1 UWG (411)-(413) (15th ed. 1988).

78. Unfair competition applies if the duplication is unfair behavior in competition (e.g., deceiving the consumer as to the source of origin); for a detailed discussion see A. BAUMBACH & W. HEFERMEHL, WETTBEWERBSRECHT, § 1 UWG (407) (15th ed. 1988).

79. Judgment of July 21, 1983, OLG Frankfurt (appellate court), 85 GRUR 757 (*Donkey Kong Junior I*); Judgment of Aug. 4, 1983, OLG Frankfurt, 1984 WRP 79 (*Donkey Kong Junior II*).

80. 85 GRUR at 757.

removed.⁸¹ The Court held that the standards for copyright protection were not met by the game, but that the use of identical unauthorized copies was an unlawful misappropriation of the results of another's work.⁸²

However, the protection granted by unfair competition law is not as effective as that afforded by patent or copyright law. The purpose of unfair competition law is not to protect a personal creation, but rather to prevent unfair behavior in the market.⁸³ The limited nature of this goal has several consequences. The mere reproduction of computer programs can be prohibited under patent and copyright law.⁸⁴ In contrast, unfair competition law only prevents the *distribution* of another's product, but not its unauthorized reproduction.⁸⁵ Furthermore, under unfair competition law the injured party does not have recourse against a person who acquires a pirated copy of a computer program in good faith (i.e. without knowing about the piracy), while under patent and copyright law the use of a protected item obtained in good faith can be prohibited. Moreover, under copyright law the owner of the copyright is entitled to have the unauthorized copies destroyed,⁸⁶ which is not possible under unfair competition law. The market protection rationale also explains why unfair competition law provides no assignable right of distribution, whereas copyright law provides an assignable right of distribution⁸⁷ which can be

81. *Id.*

82. *Id.* at 758. The same decision was rendered in Judgment of Aug. 4, 1983, OLG Frankfurt, 1984 WRP 79 (*Donkey Kong Junior II*).

83. See A. BAUMBACH & W. HEFERMEHL, *WETTBEWERBSRECHT*, § 1 UWG (407) (15th ed. 1988).

84. Patent Act § 9 grants the proprietor of the patent the exclusive rights to control the use of the patented invention. The Copyright Act § 15 grants the exclusive right of reproduction of the copyrighted material. West German Copyright Act (Gesetz über Urheberrecht und verwandte Schutzrechte) [hereinafter Copyright Act], 1965 BGBl I 1273, translated in GERMAN INDUSTRIAL PROPERTY AND ANTITRUST LAWS, *supra* note 8, 148-80 (2d ed. 1989).

85. The reason that unauthorized reproduction is not prevented by unfair competition law is best explained by comparing the different goals of copyright and patent law as opposed to unfair competition law. The former two protect personal works, e.g., creations or inventions, while the latter aims at preventing unfair behavior in the market. The mere reproduction of another's work without distribution of the copies is not regarded as behavior in the market. This principle has been stated repeatedly as a general rule by the Bundesgerichtshof in cases that did not involve the protection of computer programs. See Judgment of May 3, 1968, 50 BGHZ 125, 129 (*Pulverbehälter*); Judgment of May 15, 1968, 70 GRUR 698, 701 (*Rekordspritzen*); Judgment of October 23, 1981, 84 GRUR 305, 308 (*Büromöbelprogramm*). It is unlikely that German courts will change this principle, which has broad commercial applicability, in order to provide better protection for computer programs.

86. Copyright Act § 98.

87. Copyright Act § 17.

limited to certain areas or products.⁸⁸ Finally, protection under unfair competition law is available for a far shorter period of time than protection under patent and copyright law.⁸⁹

Therefore, in West Germany, unfair competition law can be useful as an additional means of protecting computer programs. The Bundesgerichtshof indicated its preference for unfair competition law as a means to protect computer programs after setting high standards for copyright protection in its *Inkasso-Programm* decision.⁹⁰ Indeed, most cases to date have protected computer programs on the basis of unfair competition law rather than copyright law. However, reliance primarily on unfair competition law is ill advised, as it cannot be regarded as a sufficient means of protection. As pointed out above, in comparison to other types of protection and especially to copyright, it is less effective both in its requirements and in its scope of application.

IV. PROTECTION UNDER COPYRIGHT LAW

Since neither patent nor trademark nor unfair competition law could provide sufficient protection for computer software, copyright appeared to be the appropriate solution.⁹¹ The legal debate began to focus on copyright law with the recognition that computer programs could meet the requirements of copyrightability even prior to their explicit inclusion in the list of copyrightable items.⁹² At the same time, copyright

88. See generally Loewenheim, *Verbreitungsrecht*, in URHEBERRECHT: KOMMENTAR, *supra* note 6, § 17(8)-(14).

89. Under unfair competition law, the statute of limitations period is far shorter than under copyright and patent law. Section 21(1) of the Unfair Competition Act provides that the statute of limitations period for an unfair competition action is six months, commencing with notice of the infringement. Absent such notice, the statute of limitations period is three years from the moment of infringement. Unfair Competition Act § 21(1). Section 102 of the Copyright Act provides that the statute of limitations period for an action for damages is three years commencing with notice of the infringement and, absent such notice, thirty years. For actions other than damages, the regular period of three years applies. BÜRGERLICHES GESETZBUCH [BGB] § 195. See generally Wild, *Verjährung*, in URHEBERRECHT: KOMMENTAR, *supra* note 6, § 102(2). The right to claim destruction of unauthorized copies is not subject to any statute of limitations. Copyright Act § 98, 102(2). Under patent law, the statute of limitations period is three years commencing with notice of the infringement. Absent such notice, the statute of limitations period is thirty years from the date of the infringement itself. Patent Act § 141.

90. Judgment of May 9, 1985, Bundesgerichtshof, 87 GRUR 1041 *translated in* 17 INT'L REV. OF INDUS. PROP. & COPYRIGHT L. 81 (1986). For a discussion of this case, see *infra* notes 126-133 and accompanying text.

91. West German copyright law focuses on "author's rights," in contrast to the focus on unauthorized reproduction ("copyright") in the United States. Hence, resort to copyright protection was only considered because of the incomplete protection afforded software by patent and unfair competition law.

92. 1985 amendment of Copyright Act § 2, 1985 BGBl I 1137.

protection was gaining popularity internationally. However, the appropriateness of copyright protection did not go unquestioned. In West Germany in particular, scholars feared that the traditional nature of copyright might be endangered and even ruined by extending protection to computer programs. Additionally, a certain degree of tension between the courts and the legislature has added some uncertainty to the scope of copyright protection.

To explain the current state of West German copyright law, the basic standards of copyright law will first be described. Second, the appropriateness of copyright protection as applied to computer programs will be discussed. Third, the judicial decisions applying copyright to computer programs will be reviewed and critiqued. Finally, the 1985 amendment which explicitly includes computer programs in the catalogue of protectable works will be discussed.

1. The West German Copyright Act

West German copyright law is codified in the Copyright Act of 1965⁹³ which replaced earlier legislation dating from the beginning of the century.⁹⁴ Section 1 of the Copyright Act appears to extend copyright protection to all authors: "Authors of literary, scientific and artistic works shall enjoy protection for their works in the manner prescribed by this Act."⁹⁵ However, section 2 of the Copyright Act qualifies the types of authorship that deserve protection: "Works within the meaning of this Act include only personal intellectual creations."⁹⁶ This means that only original works are copyrightable.

The standards of originality are higher than they are in U.S. copyright law. Under West German law, it does not suffice that the work owes its origin to the author, i.e. that the author did not copy the expression contained in the work from someone else.⁹⁷ Rather, the work must be the product of the author's personality and a certain degree of creativity is essential; trivial and commonplace works are not protected.⁹⁸ On the other hand, in contrast to U.S. law,⁹⁹ fixation in a

93. West German Copyright Act (Gesetz über Urheberrecht und verwandte Schutzrechte) 1965 BGBl I 1273, translated in GERMAN INDUSTRIAL PROPERTY AND ANTI-TRUST LAWS, *supra* note 8, 148-80.

94. Literatururhebergesetz, 1901 Reichsgesetzblatt [RGB1] 227, Kunsturhebergesetz, 1907 RGB1 7.

95. Copyright Act § 1.

96. Copyright Act § 2(2). Copyright Act § 2(1) provides the catalogue of protectable works.

97. In the United States, originality is distinguished from novelty. Originality simply means independent creation. See, e.g., *L. Batlin & Son, Inc. v. Snyder*, 536 F.2d 486, 490 (2d Cir. 1976), *cert. denied*, 429 U.S. 857 (1976).

98. See Loewenheim, *Geschützte Werke*, in URHEBERRECHT: KOMMENTAR, *supra* note 6, § 2(12).

tangible medium of expression is not required.¹⁰⁰ Nevertheless, the work must be expressed in such a way that the work may be perceived by human senses.¹⁰¹

The author acquires a copyright by the creation of the work. No formalities are required.¹⁰² The author has the exclusive right to exploit his work in material and non-material form.¹⁰³ The right of material exploitation includes the right of reproduction¹⁰⁴ and the right of distribution.¹⁰⁵ The right of non-material exploitation includes the rights of performance,¹⁰⁶ broadcasting,¹⁰⁷ etc. In cases of infringement, an injured party may seek injunctive relief, as well as damages or the profits which resulted from the infringement.¹⁰⁸ The duration of the copyright is the life of the author plus seventy years.¹⁰⁹

A West German copyright must not be regarded as a mere property right. It has a strong personal component which is mainly manifested in the moral rights provided by West German copyright law.¹¹⁰

99. 17 U.S.C. § 102 (1982).

100. Judgment of May 9, 1985, Bundesgerichtshof, 87 GRUR 1041, 1047, (1985) (*Inkasso-Programm*), translated in 17 INT'L REV. OF INDUS. PROP. & COPYRIGHT L. 81 (1986).

101. Therefore, an author can copyright an improvised speech, but not pure thought; the work must be expressed in a perceptible medium.

102. In accordance with the Berne Convention for the Protection of Literary and Artistic Works of Sept. 9, 1886, as amended in Stockholm July 14, 1967 and in Paris July 14, 1971, 828 U.N.T.S. 221, the West German Copyright Act does not set up any formal requirements as prerequisites for copyright protection.

103. Copyright Act § 15.

104. Copyright Act § 16.

105. Copyright Act § 17.

106. Copyright Act § 19.

107. Copyright Act § 20.

108. Copyright Act § 97(1) provides:

"As against any person who infringes a copyright or any other right protected by this Act, the injured party may bring an action for injunctive relief requiring the wrongdoer to cease and desist if there is a danger of repetition of the acts of infringement as well as an action for damages if the infringement was intentional or the result of negligence. In lieu of damages the injured party may recover the profits derived by the infringer from the acts of infringement together with a detailed accounting reflecting such profits."

109. Copyright Act § 64(1).

110. Among other things the author is protected against distortion and mutilation of his work (Copyright Act § 14), has the right to determine whether and how his work is to be published (Copyright Act § 12), and has the right of recognition of authorship (Copyright Act § 13).

Other manifestations of this are that the *author* is always the owner of the copyright¹¹¹ even if it is a work made for hire,¹¹² and that the copyright as such is basically not assignable.¹¹³

In addition, the West German Copyright Act provides not only copyright but also "related rights" or "neighboring rights."¹¹⁴ These rights protect works which are not original creations as defined by copyright law, but which are in some way related to copyrightable works. For example, performing artists cannot acquire a copyright for their performance because a performance is not the creation of a work, but rather an interpretation of another's work. Instead, performers are protected by a "neighboring right."¹¹⁵ Similarly, sound recordings are protected by a neighboring right.¹¹⁶ Although the recordings are not original works of authorship, the legislature has provided recording artists with this limited form of protection.

2. Basic Considerations on Copyrightability of Computer Programs

The legal requirements for copyright protection, as described above, can be met by computer programs. Such programs are, in the sense of § 1 of the Copyright Act, of a scientific character.¹¹⁷ Provided they reach the requisite level of originality, computer programs comply with the other conditions of §§ 1 and 2 of the Copyright Act.

Nevertheless, a controversy has arisen as to whether the fundamental nature of copyright allows it to be applied to computer programs.

111. Copyright Act § 7.

112. Because copyright as such is not assignable, an employer must obtain a license from the employee to reproduce the work. In general, the grant of such a license is implicitly contained in the employment contract.

113. Copyright Act § 29.

114. The concept of "related rights" or "neighboring rights" is based on the assumption that there are types of works which, while not creative enough to deserve copyright protection, are related to a creative activity to such a degree that it seems appropriate to provide an approximate form of protection. In West German law the provisions covering related rights form the second part of the Copyright Act, §§ 70-95. Very different types of activities are protected by related rights, *e.g.*, live performances and sound recordings. The scope of protection varies according to the type of activity protected; as a consequence no general standard exists. As computer programs are not addressed under the related rights provisions of the Copyright Act, the kind and scope of protection that the related rights doctrine could offer to computer programs is not known. Because related rights are created by statute, protection through related rights must be determined by the legislature. For further details of the concept of related rights, see E. ULMER, URHEBER- UND VERLAGSRECHT 15-18 (3d ed. 1980).

115. Copyright Act §§ 73-84.

116. Copyright Act §§ 85-86.

117. Judgment of May 9, 1985, Bundesgerichtshof, 87 GRUR 1041, 1046 (*Inkasso-Programm*), translated in 17 INT'L REV. OF INDUS. PROP. & COPYRIGHT L. 81 (1986).

It has been argued that such an application would extend copyright law beyond its intended scope and change its true nature.¹¹⁸ Copyright law, so the argument goes, would become "diluted" and "converted into a technical property right."¹¹⁹ Ironically, the technical nature of computer programs, which was regarded as being insufficient to allow patent protection, was brought forward as an argument against copyright protection.¹²⁰ Furthermore, the duration of copyright protection, namely the author's life plus seventy years, was regarded as absolutely inappropriate for computer programs.¹²¹ As a consequence, it was recommended that computer programs should not be protected by copyright law, but rather by *sui generis* legislation specifically adapted to the special needs of computer software.¹²²

Admittedly, the traditional role of copyright approached these rather idealistic standards. Originally, copyright was designed primarily to protect works of literature and the fine arts. In the world of ideas, the copyright served the noble purpose of protecting an author from plagiarism and intellectual theft. However, in an increasingly industrialized and technical world, the use and exploitation of copyrights has evolved into a commercial marketing process pitting large, well-financed corporations against individual authors with relatively scant resources. Therefore, copyright is necessary to protect the author's intellectual rights as well as to provide him with the equitable remuneration he deserves. Consequently, in the modern economic world, copyright law can no longer be regarded as a pure matter of aesthetics limited to literature and the fine arts.

Moreover, the West German Copyright Act explicitly includes works of applied art in its scope of protection as well as illustrations of a scientific or technical nature, such as drawings, maps, charts, models, etc.¹²³ This demonstrates that copyright is not limited to literature and the fine arts and that works of a technical nature need not necessarily be excluded from protection. Finally, the argument that computer programs do not need protection seventy years after the author's death does not mean that programs fail to meet the requirements for copyright. True,

118. See Dietz, *Das Problem des Rechtsschutzes von Computerprogrammen in Deutschland und Frankreich, (Die kategoriale Herausforderung des Urheberrechts)*, 11 *BIJBLAD INDUSTRIËLE EIGENDOM* [B.I.E.] 305, 310 (1983); see also Dietz, *Entwickelt sich das Urheberrecht zu einem gewerblichen Schutzrecht?*, in *GEDENKSCHRIFT FÜR FRITZ SCHÖNHERR* 111 (1986).

119. Dietz, 11 B.I.E. at 310.

120. *Id.*

121. *Id.* Dietz states that computer programs neither need nor deserve such duration of protection.

122. *Id.*

123. Copyright Act § 2(1.4) and (1.7), respectively.

most programs are obsolete after a far shorter period. There are many instances where copyrighted materials do not need the protection for the full amount of time allotted by statute. Maps and charts, for example, are often out of date far earlier. No one, so far, has drawn the conclusion on the basis of the length of needed protection that such works are not copyrightable. Thus, the nature and scope of copyright do not prevent its application to computer programs.

3. Judicial Application of Copyright Law to Computer Programs

This fundamental and partly scholarly dispute was accompanied by a growing number of court decisions applying copyright law to computer programs. The first case to be decided concerned a debt collection program.¹²⁴ The defendant, a programmer, designed a program for the plaintiff and granted him an exclusive license.¹²⁵ Nevertheless, the defendant made copies of the program which he subsequently sold to a third party.¹²⁶ The plaintiff claimed he was protected by the Copyright Act and filed suit based on the infringement of his exclusive license.¹²⁷ The court of first instance, the District Court of Mannheim, denied that computer programs were eligible for copyright protection.¹²⁸ The Court stated that copyrightability requires a certain "intellectual-aesthetic substance" in the work which, as a matter of course, did not exist in computer programs.¹²⁹

However, this ruling misinterpreted the requirements of copyright protection. As discussed above, the primary requirement is that of originality. This does not involve any aesthetic component. Such a component may exist in some categories of works, such as those of fine art or music, but an aesthetic component is not essential to copyright protection. Certain categories of explicitly protected works, such as technical drawings or scientific literature, lack any aesthetic component at all.

The Appellate Court of Karlsruhe reversed the District Court's decision, and held that no aesthetic component is required in order for a

124. Judgment of June 12, 1981, LG Mannheim, 1981 BETRIEBSBERATER [BB], 1543; Judgment of Feb. 9, 1983, OLG Karlsruhe (appellate court), 85 GRUR 300; Judgment of May 9, 1985, Bundesgerichtshof (Supreme Court), 87 GRUR 1041 (*Inkasso-Programm*), translated in 17 INT'L REV. OF INDUS. PROP. & COPYRIGHT L. 81 (1986).

125. Judgment of May 9, 1985, Bundesgerichtshof, 87 GRUR 1041.

126. *Id.* at 1042.

127. *Id.*

128. Judgment of June 12, 1981, LG Mannheim, 1981 BB 1543.

129. *Id.* For a more detailed discussion of this case, see Röttinger, *The Legal Protection of Computer Programs in Germany: Renunciation of Copyrights?*, 4 COMPUTER LAW & PRACTICE 34, 34-36 (1987).

work to be eligible for copyright protection.¹³⁰ According to the Appellate Court, computer programs can be original and creative works and, therefore, may qualify for copyright protection.¹³¹ Although scientific methods and algebraic formulas, especially algorithms, are not copyrightable,¹³² many individual decisions must be made while programming and numerous conflicting objectives must be weighed against each other.¹³³ These decision-making factors apparently satisfied the creative element necessary for copyright protection.¹³⁴

Gradually, more courts affirmed, as a general principle, the copyrightability of computer programs. The Oberlandesgericht Frankfurt held in the *Pengo* and *Donkey Kong Junior* cases¹³⁵ that computer programs as a matter of principle can be copyrightable. While algorithms, which are mathematical rules, are excluded from protection, a program's organization, as well as the selection and arrangement of material, may demonstrate the requisite level of originality and creativity.¹³⁶ Nevertheless, in the *Pengo* and *Donkey Kong Junior* cases copyright protection was denied because, in the Court's view, the plaintiffs had offered no evidence to prove that the programs at issue reached the required level of creativity and originality.¹³⁷

130. Judgment of Feb. 9, 1983, OLG Karlsruhe, 85 GRUR 300, 306 (*Inkasso-Programm*).

131. *Id.* at 305. For a detailed analysis of originality in programming, see Ulmer and Kolle, *Copyright Protection of Computer Programs*, 14 INT'L REV. OF INDUS. PROP. COPYRIGHT L. 159, 172-80 (1983).

132. 85 GRUR at 305. The rationale for the exclusion of algorithms from copyright protection is that the use of scientific methods and algebraic formulas should be unrestricted and not monopolized for individual profit. See generally Loewenheim, *Geschützte Werke*, in URHEBERRECHT: KOMMENTAR, *supra* note 6, § 2(31), (32), (77).

133. 85 GRUR at 306.

134. *Id.* at 307.

135. Judgment of June 13, 1983, OLG Frankfurt, 85 GRUR 753 (*Pengo*); Judgment of July 21, 1983, OLG Frankfurt, 85 GRUR 757 (*Donkey Kong Junior I*); Judgment of Aug. 4, 1983, OLG Frankfurt, 1984 WRP 79 (*Donkey Kong Junior II*). For a discussion of these cases, see *supra* notes 62-82 and accompanying text.

136. See 85 GRUR 755 (*Pengo*); 85 GRUR 757 (*Donkey Kong Junior I*); 1984 WRP 79 (*Donkey Kong Junior II*).

137. 85 GRUR 755 (*Pengo*); 85 GRUR 757 (*Donkey Kong Junior I*); 1984 WRP 79 (*Donkey Kong Junior II*). The Oberlandesgericht Frankfurt did not evaluate the creativity and originality of the underlying game and the graphic presentation. Games as such are not protected under West German copyright law. See 85 GRUR at 756 (*Pengo*); Judgment of March 31, 1983, Hanseatisches Oberlandesgericht, Hamburg, 85 GRUR 437 (*Puckman*); see generally Loewenheim, *Geschützte Werke*, in URHEBERRECHT: KOMMENTAR, *supra* note 6, § 2 (2). The Oberlandesgericht Frankfurt considered instead that videogames might be protected as motion pictures. The court denied such protection because the "action" of the game and the order of pictures were determined by the player and not by a producer or art director. See 85 GRUR 755 (*Pengo*); 85 GRUR 757 (*Donkey Kong Junior I*); 1984 WRP 79 (*Donkey Kong Junior II*). This reasoning may be criticized on the grounds that the producer and art director of a videogame predetermine the different possible actions and the order of pictures and that the player only makes a choice from among

In a case decided by the Bundesarbeitsgericht (Federal Labor Court),¹³⁸ the plaintiff was employed as a structural engineer by the defendant.¹³⁹ The plaintiff designed several computer programs for structural calculations which were used in the defendant's enterprise.¹⁴⁰ When the employment contract ended, the defendant refused to return the programs to the plaintiff.¹⁴¹ The plaintiff brought an action against the defendant on grounds of copyright infringement.¹⁴² The Court held that computer programs can in principle be copyrightable.¹⁴³ However, the Court did not address the question of whether the plaintiff had acquired a copyright. Even if he had, the plaintiff was held to have granted a license to the defendant as part of his employment contract which entitled the defendant to retain the programs.¹⁴⁴ Other decisions also affirmed that computer programs may at least in principle enjoy copyright protection.¹⁴⁵

Finally, in 1985, the Bundesgerichtshof delivered its *Inkasso-Programm* decision,¹⁴⁶ which directly addressed the issue of originality. The Bundesgerichtshof affirmed as a matter of principle the copyrightability of computer programs. However, it set the standards for originality so high that most computer programs appear to be excluded from protection. The Court stated that the level of originality shall be

those predetermined possibilities. See Loewenheim, *supra* note 62, at 318; Nordemann, *Das Computerprogramm als urheberrechtlich geschütztes Werk*, in *FESTSCHRIFT FÜR ROEBER*, 310 (1982). For these reasons, the Oberlandesgericht Hamburg granted protection to a videogame as a motion picture, but not to the underlying computer program. 85 GRUR at 436 (*Puckman*). The facts of that case are not published, but from the reasoning it can be assumed that the case involved the use of pirated copies of videogames at video arcades. *Id.* at 437.

138. Judgment of Sept. 13, 1983, Bundesarbeitsgericht, 86 GRUR 429 (*Statikprogramme*).

139. *Id.* at 430.

140. *Id.*

141. *Id.*

142. *Id.*

143. *Id.* at 431.

144. *Id.*

145. See Judgment of Nov. 1984, OLG Frankfurt (appellate court), 87 GRUR 1049 (*Baustatikprogramm*); Judgment of Aug. 13, 1981, OLG Koblenz, 1983 BB 992 (*Bauwerks-Informationssystem*); Judgment of May 5, 1984, OLG Nürnberg (appellate court), 1984 BB 1252 (*Glasverschnittprogramm*); Judgment of June 24, 1981, LAG Schleswig-Holstein (labor court), 1983 BB 994; Judgment of May 21, 1981, LG Kassel, 1983 BB 992; Judgment of July 13, 1982, LG Mosbach, 1982 BB 1443; Judgment of Dec. 21, 1982, LG München I, 1983 BB 273; Judgment of Aug. 29, 1985, LG München I, 2 COMPUTER UND RECHT 384 (1986); Judgment of Oct. 24, 1984, LG Düsseldorf, 2 COMPUTER UND RECHT 133 (1986); Judgment of June 26, 1987, Amtsgericht Düsseldorf (court of first instance), 3 INFORMATIK UND RECHT 153 (1988).

146. Judgment of May 9, 1985, Bundesgerichtshof, 87 GRUR 1041 (*Inkasso-Programm*), translated in 17 INT'L REV. OF INDUS. PROP. & COPYRIGHT L. 681 (1986).

examined in two steps.¹⁴⁷ In the first step, the program at issue is compared with all relevant pre-existing programs in order to determine whether it possesses creative components which are absent from those other pre-existing works.¹⁴⁸ All components which are similar to components already used in existing programs cannot be used to establish originality.¹⁴⁹

If the program contains creative components which are original, the analysis proceeds to the second step.¹⁵⁰ The creative components of the program are compared with the work of an average programmer.¹⁵¹ Originality exists only if these creative components "clearly exceed" an average programmer's skills.¹⁵² The key test then is as follows:

The know-how of the average programmer, the mere craftsmanship, the mechanical/technical linking and assembly of the material, do not fall within the subject matter of copyright. The minimum requirements of copyrightability are met only at a somewhat higher level; they presuppose a significant amount of creativity with respect to selection, accumulation, arrangement and organization, as compared to the general, average ability.¹⁵³

This test developed by the Bundesgerichtshof has been severely criticized.¹⁵⁴ There are three main objections:

(1) The Court's test appears to be similar to the standards applied to determine patentability rather than those used to determine copyrightability. Comparing the program at issue with pre-existing programs is,

147. *Id.* at 1047; see also Erdmann, *Möglichkeiten und Grenzen des Urheberrechts*, 2 COMPUTER UND RECHT 249, 253 (1986) (Erdmann is the member of the Bundesgerichtshof who drafted the *Inkasso-Programm* decision).

148. 87 GRUR at 1047 (*Inkasso-Programm*).

149. *Id.*

150. *Id.*

151. *Id.*

152. *Id.* at 1047, 1048.

153. *Id.* See generally Röttinger, *supra* note 129.

Applying the two-step analysis, the Bundesgerichtshof reversed the appellate court's decision. 87 GRUR at 1048. The appellate court had found originality in the operational steps of the program's code. *Id.* at 1048. As the Bundesgerichtshof pointed out, the selection, collection, arrangement and organization of these steps did not reach the level of originality as required by the Bundesgerichtshof, and what was expressed by the code is, as a general rule, not copyrightable. *Id.*

154. See Bauer, *Rechtsschutz von Computerprogrammen in der Bundesrepublik Deutschland — eine Bestandsaufnahme nach dem Urteil des Bundesgerichtshofs von 9. Mai 1985*, 1 COMPUTER UND RECHT 9 (1985); Haberstumpf, *Grundsätzliches zum Urheberrechtsschutz von Computerprogrammen nach dem Urteil des Bundesgerichtshofs vom 9. Mai 1985*, 88 GRUR 222 (1986); Haberstumpf, *supra* note 3, at 26; Röttinger, *Abkehr vom Urheberrechts (em Schutz für Computerprogramme?*, 1 INFORMATIK UND RECHT 12 (1986); Herberger, *Einführung in die Programmiersprache "BASIC" (Teil 3)*, 1 INFORMATIK UND RECHT 229, 235 (1986); H. MORITZ & B. TYBUSSECK, *COMPUTERSOFTWARE, RECHTSSCHUTZ UND VERTRAGSGESTALTUNG*, §§ 134-146 (1986); Loewenheim, *Geschützte Werke*, in URHEBERRECHT: KOMMENTAR, *supra* note 6, § 2 (80).

in truth, a test for novelty, even though the Court explicitly denies this.¹⁵⁵ The question of whether or not "certain components are already contained in pre-existing works" is identical to the question of whether or not they are novel. Novelty, however, is a requirement of patentability, but is not essential to copyrightability.¹⁵⁶ As in the United States, under West German copyright law a work can be original, and therefore copyrightable, even if it is identical with a pre-existing work, provided that it was not copied from the pre-existing work but was instead created by the individual efforts of its author. For this reason, originality and hence copyrightability can be found even if a comparison with pre-existing works does not reveal any creative component not yet contained in such pre-existing works.

In addition, under § 1 of the West German Patent Act, patentability requires that an invention involve an inventive step, and this is not present if the inventive activity does not exceed average skills. In contrast, the test for copyrightability does not consider the skill level of the author. Instead the true test is whether or not a work is original. No one will contest that the works of an average author, an average composer or an average artist are copyrightable. Therefore, no reason exists for the assumption that computer programs must clearly exceed the average in order to be copyrightable.

(2) This decision places severe limitations on the protectability of computer programs. Originality will not be found unless the program contains elements which an average programmer's skills could not create, and as a consequence, average programs are not copyrightable.¹⁵⁷ This result, of course, does not adequately protect computer programs. Average programs, as well as highly sophisticated programs, need protection against piracy and counterfeiting. Indeed, the "average" program designed by an individual may require greater protection than one designed by a sophisticated producer which may employ additional alternative forms of protection. It is also doubtful whether the Supreme Court's ruling follows the legislative intent behind the 1985 Amendment. Certainly, this amendment was written with the goal of protecting average computer programs as well as above-average ones.¹⁵⁸

155. The Court states: "This comparison contains no examination of novelty which would be irrelevant to copyrightability." 87 GRUR at 1047.

156. See Loewenheim, *Geschützte Werke*, in *URHEBERRECHT: KOMMENTAR*, *supra* note 6, § 2(20).

157. Indeed *v. Gamm*, chairman of the Senate which delivered the *Inkasso-Programm* decision, stated that in his view copyrightability of computer programs would play nearly no role in practice and that at most five percent of all computer programs in the market are copyrightable. See *Mitteilungen aus der Deutschen Vereinigung für gewerblichen Rechtsschutz und Urheberrecht*, 88 GRUR 729, 731 (1986).

158. For this amendment, see note 92.

(3) Finally, the Court's analysis requires a highly theoretical approach and raises immense problems in its practical application. Many questions implicit in the Court's test are difficult to answer. What is the level of an average programmer's skills?¹⁵⁹ When does a program "clearly exceed"¹⁶⁰ that level? Which elements of a program must exceed the average level? Who decides these questions? No one has answered these questions yet. It has been proposed that the extent and complexity of programs should be considered as an indication of originality.¹⁶¹ This, eventually, might be an easier way to determine originality but it contradicts the basic doctrine of copyright law that originality cannot be brought about by the extent of a work.¹⁶²

The high standard set by the Bundesgerichtshof may be explained by the underlying belief that, as discussed above, copyright protection should be confined to matters of literature and the fine arts, and should not extend too far into the field of industry and commerce. Thus, although in West German law computer programs are copyrightable in principle, the Supreme Court has set very high standards for copyrightability.¹⁶³ It is possible that the Court will not maintain such a strict posture and that future decisions will lower the standards for copyrightability. For now, however, authors of computer programs have become reluctant to seek copyright protection in court, presumably because they do not want a valuable program to be declared to lack originality and creativity. Since the Supreme Court's ruling, only a few cases have been decided, nearly all of them by lower courts. None of those decisions discuss in detail the issue of copyrightability, its standards or the necessary requirements. These decisions instead refer to testimony offered by expert witnesses.¹⁶⁴ So far, West Germany, unlike the United States, has not developed standards to evaluate the originality and creativity of computer programs.¹⁶⁵

In conclusion, copyright is only theoretically the major source of protection for computer programs in West Germany. At present, few

159. See 87 GRUR at 1047 (*Inkasso-Programm*).

160. *Id.* at 1048.

161. See Gravenreuth, *supra* note 62, at 721. The Bundesgerichtshof, however, stated that length should not be a consideration. 87 GRUR 1041, 1048 (*Inkasso-Programm*).

162. See Loewenheim, *Geschützte Werke*, in URHEBERRECHT: KOMMENTAR, *supra* note 6, § 2(23). Such a doctrine would also tend to encourage lengthy, complicated programs as opposed to short, elegant ones.

163. 87 GRUR 1041 (*Inkasso-Programm*).

164. See Judgment of June 26, 1987, Amtsgericht, Düsseldorf, 3 INFORMATIK UND RECHT 153 (1988). Most of these decisions are not published.

165. See *Whelan Associates v. Jaslow Dental Laboratory*, 797 F.2d 1222 (3d Cir. 1986), *cert. denied*, 479 U.S. 1031 (1987).

programs reach the required level of originality. The majority of programs can only be protected, if at all, by other means, namely patent, trademark or unfair competition law.

4. Legislation

In a parallel development, the national legislature decided the dispute between *sui generis* protection and copyright protection in favor of the latter. In early 1985, after an amendment to the Copyright Act had already been drafted, a provision was added at the last moment which explicitly declared that computer programs were copyrightable works. Section 2(1) of the Copyright Act now reads:

"The literary, scientific and artistic works protected hereunder include, in particular:

1. Literary works, such as writings and speeches, and programs for data processing; . . ."

The parliament's report explicitly stated that the standard of protection for programs as established by the courts was not being changed but was only being confirmed in the statutory law.¹⁶⁶ A major reason for this enactment was the legislature's intent to include West Germany as a member of the growing international family of countries which protect computer programs by copyright law. This would ensure that the international copyright conventions such as the Berne Convention and the Universal Copyright Convention would apply to West Germans. As noted above, piracy of computer programs is an international problem which requires international protection. Such protection is provided by the international copyright conventions which extend copyright protection to authors who are citizens of foreign countries on the basis of the host country's national treatment.¹⁶⁷ However, this protection only applies to copyrightable works. If computer programs were not protected by copyright but instead by *sui generis* law, the international conventions would be inapplicable and, as previous experience has shown, it might have taken years or even longer to establish new conventions.

The current state of West German law, which grants only limited protection to computer programs, once again raises the question of whether *sui generis* legislation should be enacted. As discussed above,

166. BUNDESTAGSDRUCKSACHE 10/3360 S.18. It is doubtful, however, that the "standard of protectability of programs as established by the courts" to which the report alludes included the Bundesgerichtshof's decision in the *Inkasso-Programm* case, which was rendered only eight days earlier.

167. See *infra* notes 176-183 and accompanying text.

West German copyright law already provides protection for related (neighboring) rights for performing artists, motion picture producers and for photographs not reaching the level of originality required for "pure" copyright. It has been proposed that similar legislation be drafted for computer programs which do not meet the standards of originality.¹⁶⁸ This would result in two types of protection: full copyright protection for original programs; and a reduced protection for programs lacking sufficient originality. While in recent years this seemed to be limited to a rather theoretical discussion, the West German government has recently stated that the enactment of such a related right for computer programs could be within the scope of possibility.¹⁶⁹ Such a legislative scheme has not been endorsed by a majority of the legislature and the competent authorities have not taken steps towards enactment of such a scheme. Even if *sui generis* legislation were enacted, West Germany would remain a member of the international community which protects computer programs mainly by copyright.

V. INTERNATIONAL DEVELOPMENTS

1. European Community

In contrast to the West German experience, granting copyright protection for computer programs has found strong support in the developing European Community law. In September 1988, the Commission of the European Community delivered its *Green Paper on Copyright and the Challenge of Technology*¹⁷⁰ which, among other things, dealt with computer programs. The paper aimed at initiating a discussion on relevant copyright issues with the further goal of proposing a directive for the harmonization of national copyright laws. In early 1989, the Commission delivered its *Proposal for a Council Directive on the Legal Protection of Computer Programs*.¹⁷¹ The directive proposes that computer programs be protected as literary works under national copyright law. Standards of originality would be the same as for other literary works. The term of

168. Schulze, *Urheberrechtsschutz von Computerprogrammen — geklärte Rechtsfrage oder bloße Illusion?*, 87 GRUR 997, 1006 (1985); Schulze, *Der Schutz der kleinen Münze im Urheberrecht*, 89 GRUR 769, 778 (1987). This opinion is often expressed at conferences, e.g., at the September 1989 meeting of the Association Internationale Littéraire et Artistique (ALAI) in Quebec.

169. *Report on the Results of the 1985 Copyright Amendment*, BUNDESTAGSDRUCKSACHE 11/4929 at 43.

170. COMMUNICATION FROM THE COMMISSION OF THE EUROPEAN COMMUNITIES (88) 172 final (1988).

171. COMMUNICATION FROM THE COMMISSION OF THE EUROPEAN COMMUNITIES (88) 816 revision final (1989), also published in 91 GRUR INT. 564 (1989).

protection would be for fifty years from the date of creation. The directive is being discussed by the various member states, and it is likely to take some time before it takes its final shape.

Given these discussions in the European Community as well as the worldwide trend toward copyright protection for computer programs, it is unlikely that West Germany will pursue a radically different approach.¹⁷² Even if additional protection through related rights were established, such rights would not enjoy international protection under the Berne Convention as this convention applies only to copyright.¹⁷³ Therefore, one can predict that copyright will become the major means for protection of computer programs, supported by patent and unfair competition law protection. It seems desirable, if not imperative, that in West Germany standards for copyright protection of computer programs be lowered and adapted to the general standards of copyright as applied to other types of works. The harmonization of national laws under the EEC directive will certainly influence this process, especially since Article 1(4a) of the directive explicitly states that the standards of originality for computer programs shall be the same as for other literary works.¹⁷⁴

2. Protection under the Berne Convention

Because the United States joined the Berne Convention¹⁷⁵ on March 1, 1989,¹⁷⁶ U.S. authors are entitled to enjoy copyright protection in West Germany according to West German copyright law.¹⁷⁷ The Berne Convention extends copyright protection to authors of member countries on the basis of national treatment. A member country must accord works by foreign authors which are covered by the Berne Convention the same protection as it grants to works of domestic authors.¹⁷⁸ The Berne Convention provides a minimum protection to authors, which includes protection, without the necessity of complying with any formal-

172. See Treaty Establishing the European Economic Community, March 25, 1957, art. 189, para. 3, 298 U.N.T.S. 3, 79.

173. "Related rights" are included in the German Copyright Act, but this does not mean that they form part of copyright. Therefore, the Berne Convention does not apply to them.

174. *Supra* note 171.

175. Berne Convention for the Protection of Literary and Artistic Works of Sept. 9, 1886, as amended in Stockholm July 14, 1967, and in Paris July 24, 1971, 828 U.N.T.S. 221 [hereinafter Berne Convention].

176. Berne Convention Implementation Act of 1988, Pub. L. No. 100-568, 102 Stat. 2853 (codified as amended in scattered sections of 17 U.S.C.).

177. For the definition of a work covered by the Berne Convention, see 17 U.S.C.S. § 101 (Law. Co-op. Supp. 1989).

178. Berne Convention, art. 5, para. 1.

ities,¹⁷⁹ a term of protection for the life of the author plus fifty years,¹⁸⁰ and the protection of moral rights of authors in order to prevent distortions, mutilations or other changes to the work that might damage the author's reputation or honor.¹⁸¹

Therefore, American authors do not have to comply with any formalities to enjoy copyright protection in West Germany. If they design a copyrightable program and an act of infringement occurs in West Germany, they can bring suit before a West German court. However, copyrightability would be determined according to West German law and, therefore, according to the standards as set by the Bundesgerichtshof. The lower standards of U.S. copyright law would not apply. Consequently most of the protection provided to U.S. computer programs by West Germany would be accomplished by unfair competition law.

VI. CONCLUSIONS

The effort to apply copyright law to computer programs has brought about a discussion of the fundamental problems of copyright law, its true nature, as well as its scope of application. The experience in West Germany illustrates the extent of debate that has occurred. The discussion has proven quite fruitful, deepening the understanding and the analysis of the subject matter of copyright and industrial property law. Certainly, issues remain to be resolved. Nevertheless, the increasing amount of piracy and counterfeiting demands a quick, comprehensive and effective solution. The law cannot stand by and idly engage in philosophical debates while endangered rights go unprotected.

Allowing computer programs to have copyright protection appears to be the best solution. Copyright protects the expression but not the idea, and therefore, does not grant a monopoly which would hinder the development of other programs which contain the same idea but utilize a different form of expression.¹⁸² Furthermore, copyright protection is generally easy to acquire, at least within member states of the Berne Convention, because no prerequisite formalities exist. Copyright law also has the advantage of being an established body of law which guarantees a certain uniformity of protection among the various national legal systems. In contrast, *sui generis* legislation would create a patchwork system in which the degree of protection would depend on national boundaries. Above all, the international conventions favor the use

179. *Id.* art. 5, para. 2.

180. *Id.* art. 7.

181. *Id.* art. 6 bis.

182. This argument is stressed in the European Commission's *Proposal for a Council Directive on the legal protection of computer programs*, *supra* note 171, § 3.6.

of copyright law by upholding its application between member states. This international protection is essential for computer programs which are widely traded and therefore exposed to international piracy.¹⁸³ Objections to the appropriateness of copyright protection should not be overvalued. Copyright law is certainly broad enough to protect objects related to commerce and industry, as well as works of literature and the fine arts.

As this article demonstrates, it is desirable that copyright be the major instrument of protection for computer programs. Nevertheless, it should be supplemented by other rights, i.e., patent, trademark and unfair competition law. In West Germany, where the present standards for copyright are quite high, it is especially advisable to explore the protection available under unfair competition law. By combining these different forms of protection, it should be possible to guarantee that computer programs receive the protection they deserve. The law is continually undergoing further development. This is especially so in industrial property and copyright law, which must keep abreast with the rapid technical and commercial changes occurring in the world today.

183. See also the report on Question 57 (protection of computer software) of the German National Group, 4 ANNUAIRE (AIPPI) 27 (1988), where a similar opinion has been expressed.

