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# Implementation, Compliance and Enforcement: The European Community Directive for the Legal Protection of Computer Software

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# **Implementation, Compliance and Enforcement: The European Community Directive for the Legal Protection of Computer Software**

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## I. INTRODUCTION

Further development of a computer software industry is crucial to the future development of the European Economic Community (the Community).<sup>1</sup> The basic concern in regard to software protection is related to the disparate treatment currently afforded software throughout the Community.<sup>2</sup> In an effort to address this concern and bring harmony to the protection of software throughout the Community, the Commission of the European Communities proposed a Directive on the Protection of Computer Software in 1989.<sup>3</sup> On May 14, 1991, after two years of heated debate, the Council of European Communities adopted the Directive on the Legal Protection of Computer Software.<sup>4</sup> In final form, the Directive brings to computer programs the copyright protection afforded literary works under the Berne Convention of 1886 and subsequent amendments.<sup>5</sup> The goal of the Directive is to standardize the protections afforded computer software in order to promote and preserve the free movement of goods and services throughout the Community in accordance with the Treaty of Rome.<sup>6</sup>

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1. Commission of the European Communities, Green Paper on Copyright and the Challenge of Technology: Copyright Issues Requiring Immediate Action, COM(88)172 final at 171-75 [hereinafter Green Paper].

2. *Id.*

3. See Commission Proposal for a Council Directive on the Legal Protection of Computer Programs, 1989 O.J. (C 91) 4; Commission Amended Proposal for a Council Directive on the Legal Protection of Computer Programs, 1990 O.J. (C 320) 22.

4. Council Directive of 14 May 1991 Concerning the Legal Protection of Computer Programs, 1991 O.J. (L 122) 42 [hereinafter The Directive].

5. *Id.* art. 1. See *infra* notes 80-96 and accompanying text (providing a discussion of the Berne Convention).

6. The Treaty Establishing the European Economic Community, Mar. 25, 1957, 1973 Gr. Brit. T.S. No. 1 (Cmd 5179 II) (official English version), 298 U.N.T.S. 11, 47-48 (1958) (unofficial English translation) (as amended by the Single European Act, O.J. (L 169) 1 (1987)) [hereinafter The Treaty of Rome].

Despite its goal, the Directive may never have the far reaching effect anticipated. For one, each member state creates its own implementing legislation.<sup>7</sup> Further, the Directive lacks strict definitions and uses ambiguous language, so each Member State is free to continue to use its existing definitions. Without strict definitions, deference to the spirit of the Directive, or greater enforcement powers in the Community governing structure, the Software Directive will be nothing more than a voluntary guideline as opposed to the efficient streamlining mechanism it was intended to be.

Part II of this comment examines the goals of the European Community and the accompanying decisions which led to the proposal and passage of the Directive. Part III discusses the requirements of the Directive, the current state of Member law, and the changes necessary to comply with the Directive. Finally, Part IV examines possible obstructions to and ramifications of the Directive's implementation.

## II. COMMUNITY HISTORY AND CHOICE OF COPYRIGHT PROTECTION

### A. Community Structure and Procedure

The European Economic Community (EEC) was established by the Treaty of Rome in 1957.<sup>8</sup> The European Community (EC)<sup>9</sup> now consists of twelve member states: France, the United Kingdom, the Federal Republic of Germany, Italy, Belgium, the Netherlands,

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7. The terms "State," "Member," and "Member State" refer to current Members of the European Community and will be used interchangeably throughout this comment.

8. Treaty of Rome, *supra* note 6; see INTERNATIONAL COPYRIGHT AND NEIGHBOURING RIGHTS 466 (S.M. Stewart ed., 1983) [hereinafter Stewart]; See also GARY C. HUFBAUER, EUROPE 1992, AN AMERICAN PERSPECTIVE (1990).

9. The European Community today, is the result of a merger in 1969 between the European Coal and Steel Community (ECSC), European Atomic Energy Commission (Euratom) and the original EEC. The original six members were Belgium, the Federal Republic of Germany, France, Italy, Luxembourg, and the Netherlands. The United Kingdom, Ireland and Denmark joined the Community in 1972.

Luxembourg, Denmark, Ireland, Greece, Spain, and Portugal.<sup>10</sup> The rule-making bodies of the Community are the Commission, the Council, the Parliament, and the Court of Justice. In short, the Commission<sup>11</sup> proposes legislation, the Parliament,<sup>12</sup> through committee, advises, and the Council<sup>13</sup> decides on the legislation.<sup>14</sup> The Court of Justice<sup>15</sup> reviews the acts of these bodies.<sup>16</sup>

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10. The German Democratic Republic (GDR) became a full member of the EEC on October 3, 1990 without formal enlargement of the Community. PENELOPE KENT, *EUROPEAN COMMUNITY LAW* 6 (1992). Greece became a member of the EC in 1975. Spain and Portugal became members in 1977. *Id.* Turkey, Malta, Austria and Cyprus have applied for membership in the EEC. Sweden will apply. Greenland left the EC in 1982. *Id.*

11. The Commission, the largest administrative body and first level enforcement body of the EC is the executive branch of the Community. KENT, *supra* note 10, at 16-17. See ANTHONY J.C. KERR, *THE COMMON MARKET AND HOW IT WORKS* 45-53 (1977) (commenting that the Court of Justice usually acts only against corporations while enforcement against Member States is usually dealt with at the Council level). It prepares policy proposals for the Council, and must investigate violations in order to enforce Community policy. *Id.* When Member States or corporations fail to comply, the Commission informs them of the non-compliance. *Id.* If they still fail to comply, the non-compliance is reported to the Court of Justice. *Id.* The actual Commission body specifically consists of only 17 members appointed by the governments of the Member States. *Id.*

12. The Parliament was originally known as the Assembly under the Treaty of Rome and was not democratically elected but made up of representatives of Community Members' national parliaments. KENT, *supra* note 10, at 11-12. With the adoption of the Single European Act (SEA), the Assembly became known as the Parliament. *Id.* Today there are 519 Members of the European Parliament. *Id.* Each Member State is represented according to its size and the members of parliament are elected for terms of 5 years. *Id.* Germany, France, the UK and Italy have 81 members, Spain has 60, the Netherlands 25, Belgium, Greece and Portugal have 24, Denmark has 16, Ireland has 15, and Luxembourg 6. *Id.* The Parliament offers opinions on proposed legislation and offers amendments to the Council. *Id.* Parliament has the power to question the Commission, censure the Commission and dismiss the entire Commission. *Id.*

13. The Council of Ministers is made up of representatives of the governments of the Community. KENT, *supra* note 10, at 12-16. The number of members varies with issues under discussion. *Id.* Yet, each state is allowed only one voting seat on the Council. *Id.* The main purpose of the Council is to carry out the objectives of the Treaty of Rome as required under article 145. *Id.* Although it usually must consult with the Parliament, final decisions on Commission proposals lie with the Council. *Id.* Any changes to Commission proposals must be by unanimous vote of the Council. *Id.*

14. KERR, *supra* note 11, at 53.

15. The European Court of Justice (ECJ) consists of a judge from each member state and one additional judge. KENT, *supra* note 10, at 18. There are a total of 13 today. *Id.* They are appointed for staggered terms of 6 years and may be removed only if the other judges decide that they are no longer fit to hold office. *Id.* Judgment is rendered by single opinion; no dissenting opinion is issued. *Id.* Problems with non-compliance by governments are usually satisfied at the Council level. *Id.* Over 90% of the cases in which the Court intervenes involve corporations as opposed to government authorities. *Id.*; see KERR, *supra* note 11, at 46 (noting that national courts will generally adhere to the decisions of the Court of Justice if the defendant is a firm).

16. KERR, *supra* note 11, at 53.

In 1986, in an effort to overcome impediments affecting complete freedom of the movement of goods and services throughout the Community by 1992, the Council signed an amendment to the Treaty of Rome, the Single European Act (SEA).<sup>17</sup> One of the programs of the Act was the issuance of directives to speed up the process of integration.<sup>18</sup>

### B. Council Directives

The European Council passes directives stating the goals of the Community. These directives require Member States to implement legislation which achieves these goals. However, directives are binding only as to the ends to be achieved, not as to the means.<sup>19</sup> Thus, each Member State may implement a directive in any fashion to achieve the required end.<sup>20</sup> Directives are not required to be adopted verbatim. Moreover, if a Member State's current legislation is consistent with the requirements of a Council Directive, no new action is necessary in order to comply.<sup>21</sup> The independent implementation of Community goals results in varying approaches which arguably do not completely achieve the goals set forth in a given directive.

Another problem is that directives are not completely enforceable until a Member State creates implementing legislation. A directive does not take effect until that implementing legislation is passed.<sup>22</sup> Although directives require implementation to have legal effect, the European Court of Justice (ECJ) has found directives to be directly

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17. Robert R. Devéza, Comment, *Legal Protection of Computer Software in Major Industrial Countries: A Survey of Copyright and Patent Protection for Computer Software*, 9 UCLA PAC. BASIN L.J. 166, 190 n. 123 (1991). The SEA took effect on July 1, 1987.

18. KENT, *supra* note 10, at 7.

19. The Treaty of Rome, *supra* note 6, art. 189.

20. EMILE NOEL, WORKING TOGETHER, THE INSTITUTIONS OF THE EUROPEAN COMMUNITY 6 (1977); See KENT, *supra* note 10, at 24. See also Alan Dashwood & Robin White, *Enforcement Actions Under Articles 169 and 170 EEC*, 14 EUR. L. REV. 388, 395 (1989) (noting the distinction between Regulations and Directives: Regulations apply with direct legal force and implementation which disguises the origin of the Regulation is in violation of the EEC Treaty).

21. Dashwood & White, *supra* note 20, at 394.

22. KENT, *supra* note 10, at 30.

European Court of Justice (ECJ) has found directives to be directly effective without such legislation, at least as against Member States.<sup>23</sup> In *Grad v. Finanzamt Traustein*,<sup>24</sup> the Court of Justice found that when the deadline for implementation has passed, a directive is directly effective against a member state.<sup>25</sup> This is termed vertical direct effect.<sup>26</sup> Vertical direct effect does not give rise to rights against anyone except government or public entities; moreover, there is no horizontal direct effect.<sup>27</sup> Individuals cannot be held responsible for acts that conflict with the prescriptions of a Directive unless their State has passed legislation implementing the Directive.<sup>28</sup> The Software Directive requires explicit implementing legislation only to the extent that that State affirmatively references compliance with the Directive in publication of its laws.<sup>29</sup>

### *C. The Goals of the Community and Software Protection*

The underlying policy of the European Community is to provide for the free movement of goods and services throughout the Community in order to create a single economic union.<sup>30</sup> The creation of a uniform law in the area of computer software provides another step toward the achievement of that Community objective.<sup>31</sup>

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23. *Id.* at 25.

24. Case 9/70, *Grad v. Finanzamt Traustein*, 1970 E.C.R. 825, as briefed in 8 COMMON MKT. L. REV. 380 (1971).

25. KENT, *supra* note 10, at 30-32.

26. *Id.* (citing *Marshall v. South West Hampshire Health Authority*, directives can be directly effective against state or public bodies, but not against private industry which relies on passage of national legislation); see also Geraint G. Howells, *European Directives - The Emerging Dilemmas*, 54 MOD. L. REV. 456, 457 (May 1991).

27. Howells, *supra* note 26, at 457 (noting that there have also been problems defining what constitutes a "public" entity).

28. See generally Dashwood & White, *supra* note 20 (discussing the procedures for bringing enforcement actions for non-compliance with obligations under the EEC Treaty).

29. The Directive, *supra* note 4, art. 10.

30. Dennis Cline, Comment, *Copyright Protection of Software in the EEC: The Competing Policies Underlying Community and National Law and the Case for Harmonization*, 75 CAL L. REV. 633, 636 (1988).

31. The Green Paper identifies three objectives of the Community. See Andre Lucas, *Copyright in the European Community: The Green Paper and the Proposal for a Directive Concerning Legal Protection of Computer Programs*, 29 COLUM. J. TRANSNAT'L L. 145, 148 (1991). The first, to encourage formation of the internal market. *Id.* The second, to create policies which promote the

Without such uniform protection, varying protection schemes of individual Member States and differences in the elements between such schemes will continue to encourage a concentration of software production in those Member States that provide the most protection, thereby hindering the achievement of the single market. Similarly, another impetus for the development of a proposal for the protection of computer software is the loss in revenues attributed to computer piracy throughout the Community.<sup>32</sup>

Disparate protections of computer software within Community States interferes with the free movement of goods and services throughout the Community as well as in the ability of European software producers to compete on a global scale.<sup>33</sup> Without uniform protection, software manufacturers concentrate in states with higher levels of protection, while States with lower levels of protection provide safe havens for software pirates. Software pirates thrive in states with low level protection. A State with little protection for software manufacturers will place its industry at an advantage, in the short run,<sup>34</sup> over States with higher levels of protection. Manufacturers in States with high level protection will eventually have difficulty protecting their investment both inside and outside that State because consumers will be willing to go to states with lower protection to get the less expensive copyright-infringing products.<sup>35</sup> In turn, investors will not find it profitable to invest in the development of software in the Community because their

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Community's economic competitiveness of cultural industries. *Id.* Third, to ensure successful returns for those who invest in such industries. *Id.*

32. See Dean Takahashi, *Interview with Stephen LaCount*, L.A. TIMES (Orange Co. Ed.), Jan. 7, 1991, at D6 [hereinafter *LaCount Interview*] (noting that approximately \$5.3 billion is lost in Europe each year due to illegal copying). In the United Kingdom, approximately 60% of the software being used is pirated, in Italy 90% and in Germany 80%. *Id.* See also, International Trade Reporter, December 19, 1990, (commenting that 7% of the roughly \$15 billion annual revenues generated by the European software market is lost to illegal copying); Lucas, *supra* note 31, at 148; *Software Protection: EEC Adopts Directive*, MONTHLY REP. ON EUR., June, 1991, at 7, available in LEXIS, Nexis Library, Omni File (confirming that \$4.5 billion dollars were lost to piracy during 1989).

33. Green Paper, *supra* note 1.

34. As a nation's software industry develops, in the long run, it will require greater protection in order to protect the flow of future capital investment.

35. Pirated versions of software tend to be less expensive because the distributors do not have to recoup the investment in both time and money which the original programmers must in order to maintain profitability.



investment will not be adequately protected. The resulting lack of investment funding will make it difficult for Community software developers to compete with foreign manufacturers who receive greater protection.<sup>36</sup>

In contrast, the Community is also concerned with providing too much protection for computer software which might give "foreign giants"<sup>37</sup> a further advantage while stifling domestic innovation and dampening the goal of attaining interoperable systems throughout Europe.<sup>38</sup> Along with the special provisions for interface specifications,<sup>39</sup> harmonization of software protection laws within the Community will create larger markets for each individual Member's software industry.<sup>40</sup> With an increased market, more firms will be encouraged to develop software products thereby taking a larger slice of the software market pie currently being served to American and Japanese firms.<sup>41</sup> The increased development and sales throughout the Community will encourage greater interoperability of Community produced software.<sup>42</sup> Further, along with greater interoperability will come easier transmission of goods and services throughout the community. Clearly, the benefits of implementing the Software Directive will far exceed the confines of the software industry and will benefit the Community as a whole.

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36. Infringing copyrights and pirating software is less expensive than developing the software from the ground up. The financial risk is less because a pirated program already has a successful track record, so there is no concern that the final product will not be achieved nor that it will be popularly accepted.

37. See *Software Protection: EEC Adopts Directive*, *supra* note 32 (noting that the Directive will allow European producers greater access to the markets monopolized by IBM and DEC); Keith A. Styracula, Comment, *The Adequacy of Copyright Protection for Computer Software in the European Community 1992: A Critical Analysis of the EC's Draft Directive*, 31 JURIMETRICS J. 329, 337 (1991) (commenting that the Commission is using copyright to control U.S. software manufacturers as opposed to protecting software property rights generally).

38. See *The Directive*, *supra* note 4, at pmbl. "Whereas the Community is fully committed to the promotion of international standardization." *Id.* The term "interoperable systems" refers to the Community goal of transborder access to goods and services throughout the Community through the use of a variety of software packages that, although having been created by different developers, still have the ability to exchange and use information with ease.

39. See text accompanying *infra* note 104 (discussing the interface specifications).

40. Cline, *supra* note 30, at 633-34.

41. *Id.* at 634.

42. *Id.* at 633-34.

Towards this end, in recent years the European Court of Justice has attempted to give the Community-wide goal dominance over national law without any express provisions.<sup>43</sup> In the *Deutsche Grammophon*<sup>44</sup> case, the Court held that Community policy prevails over application of national copyright law when that application will interfere with the Community's goals of free trade.<sup>45</sup> The 1989 Software Directive is an attempt to realize the goals of improving the transference of goods and services throughout the Community and increasing Member State market share in this growing industry.

#### D. The Proposed Directive

##### 1. Copyright Law as a Model

In April 1989, the Commission proposed a directive on Community-wide protection of computer software<sup>46</sup> as a literary work under copyright law.<sup>47</sup> The proposal marks the first time the Community has attempted to legislate in the area of copyright law.<sup>48</sup>

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43. *Id.*

44. Case 78/70, *Deutsche Grammophon Gesellschaft v. Metro-S.B.-Grossärkte*, 1970 E.C.R. 487, as briefed in 9 COMMON MKT. L. REV. 87 (1971).

45. Cline, *supra* note 30, at 636.

46. Computer software is the set of data or instructions which "run" the computer. DR. H.W.A.M. HANNEMAN, *THE PATENTABILITY OF COMPUTER SOFTWARE* 3 (1985). The words "software" and "program" are virtually interchangeable. *Id.* However, software is a more general term referring to instructions and supporting material while program refers to the specific set of instructions. *Id.* Computer "hardware" is the tangible processing equipment. See Cline, *supra* note 30, at 641 (discussing basic components of computer software). For a discussion regarding the distinction between operating and application programs as well as the distinction between "source" programs and "object" programs, see Todd Shuster, *Originality in Computer Programs and Expert Systems: Discerning the Limits of Protection Under Copyright Laws of France and the United States*, 5 TRANSNAT'L LAW. 1, 12 (1992).

47. Herman Cohen Jehoram et al., *The Law of the E.E.C. and Copyright*, 1 INTERNATIONAL COPYRIGHT LAW AND PRACTICE EEC-51-52 (Melville B. Nimmer & Paul Edward Geller eds., 1992). See generally, Ian A. Staines, *The European Commission's Proposal for a Council Directive on the Legal Protection of Computer Programs*, 6 EUR. INTELL. PROP. REV. 183 (criticizing this decision).

48. *EC Ministers Agree to Grant Protection for 50 Years for Copyrights of Software*, INT'L TRADE REPORT., Dec. 19, 1990, at Vol. 7, No. 50, 1923. See Lucas, *supra* note 31, at \*8 LEXIS (criticizing the Directive for not addressing concerns which led the World Intellectual Property Organization (WIPO) to promote a *sui generis* approach to software protection). Unlike patent law, which protects the idea itself, copyright protects only the expression of the idea. HANNEMAN, *supra* note 46, at 4-5. The underlying concept can be used by anyone so long as the particular expression

The form of copyright protection requires the least drastic measures in Member States because the protection is automatic and most States currently have a body of law providing some form of copyright protection. The Commission ruled out patent protection<sup>49</sup> because few programs would meet the rigorous requirements of that form of protection.<sup>50</sup> Contract protection,<sup>51</sup> through either trade secret or licensing, would generally be unworkable considering the relationship between a software producer and user.<sup>52</sup> Although a trend in the U.S. points toward the patenting of computer software, the Commission considered patent law when drafting the Directive, but disregarded it because it encourages the domination of the market by larger producers.<sup>53</sup> Under copyright protection, large producers will not be as motivated to eliminate smaller producers by coming up with the idea first or by purchasing it outright. Unlike patent protection, copyright protects only the expression of the idea and not the idea itself; therefore, large producers will have less incentive to monopolize, but rather will be encouraged to compete through the development of more appealing products. Note, however, that the Directive excludes elements of the interface software from protection under copyright.

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is not duplicated. *Id.* This is why a combination of patent and copyright protection provides the most complete protection. *Id.*

49. Prior to the 1980's patent protection for computer software was not widely available. John P. Sumner & Dianne Plunkett, *Copyright, Patent and Trade Secret Protection for Computer Software in Western Europe*, 8 *COMPUTER L.J.* 327, 372-373 (1988). But in recent years, there has been a growing acceptance of patent protection for computer software throughout Western Europe and in the United States. *Id.* Patent protection ensures the broadest protection for computer software because it protects the idea, while copyright law protects only the expression of the idea. *Id.* See HANNEMAN, *supra* note 46, at 6 (providing a similar discussion).

50. *Debate Over Scope of Computer Software Protection*, MONTHLY REP. ON EUR., Feb. 1990, at 4.

51. Trade secret protection protects property interests when the subject matter is kept secret. Sumner & Plunkett, *supra* note 49, at 333. Secrecy is generally maintained through contractual provisions requiring confidentiality. *Id.* If the software is and can be kept secret both the underlying idea and the particular composition are protected under trade secret law. *Id.* See generally Jack E. Brown, *Protection of Software Involves Several Options for Computer Industry*, NAT'L L.J., June 17, 1991, at 17; HANNEMAN, *supra* note 46, at 7.

52. *Debate Over Scope of Computer Software Protection*, *supra* note 50, at 4. Today, most programs are designed for mass distribution. *Id.* The close contractual relationship between parties to a trade secret or a license of a particular product would be an impractical form of protection for the mass market. *Id.*

53. *Id.*

Article 9 of the Directive states that other protections given computer software in Member States will not be affected by this Directive, and will thus have continued application. Therefore, States may continue to provide alternative methods of software protection that give greater protection than is required by the Directive. Nevertheless, such national laws may have no effect outside that Member's jurisdiction and should not interfere with the rights afforded under the Directive.<sup>54</sup> Patent protection will still be effective where it provides that greater protection.

As noted, trade secret or unfair competition protection tends to have limited utility and so will only be effective in situations when such a law exceeds the copyright protections required by the Directive. The courts may wish to interpret the fact that the work is "published" as an indication that it is no longer "secret" and, therefore, may be incapable of protection as a secret work of trade.<sup>55</sup> In either case, copyright protection will usually exceed the protections of trade secret law and will be more readily applicable to most software products. Consequently, trade secret protection will have an extremely limited utility.

Copyright protection allows the most complete protection with a minimum of requirements.<sup>56</sup> It provides protection against unauthorized copying of an expression.<sup>57</sup> In protecting the expression of ideas, it allows for the adaptation of programming and new technologies. It also discourages market domination by not allowing the protection of the underlying ideas.<sup>58</sup> Competitors are free to use the underlying ideas to develop similar programs through a different mode of expression.<sup>59</sup>

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54. See *supra* notes 19-29 and accompanying text (discussing the interpretation of domestic law in the presence of conflicting European law).

55. HANNEMAN, *supra* note 46, at 13.

56. *Debate Over Scope of Computer Software Protection*, *supra* note 50, at 4.

57. *Id.*

58. *Id.* See Styrcula, *supra* note 37, at 338 (claiming copyright was chosen more to prevent foreign domination than to protect software manufacturers).

59. For example, if the original developer of the word processing program were allowed complete protection of the idea, there would be no competing programs, nor would there be incentive to improve the existing program.

On the other hand, copyright law protects only the expression of an idea. Therefore, underlying programming languages will not be protected while the expression using those languages will be protected.<sup>60</sup> In addition, in order to be protected under the proposal, the computer program will have to satisfy all the usual requirements of copyright law: authorship and originality.<sup>61</sup> The rights of the copyright holder will include all those associated with copyright, including additional rights specific to computer software, such as running, loading, transmission, and storage.<sup>62</sup>

Since all of the Member States are signatories to the Berne Convention, the form of copyright protection and its accompanying case law make it the logical choice in creating a standard form of software protection throughout the European Community. The approach followed under the World Intellectual Property Organization (WIPO) Treaty<sup>63</sup> may arguably be a more appropriate form of protection, because it takes into consideration all the differences that make computer software incompatible with copyright protection as a literary work. However, the approach taken in the Software Directive requires little change in the philosophy and structure of protection already afforded computer software in most Member States.<sup>64</sup>

## *2. The Debate*

The debate during the proposal stages of the Directive, centered around whether user interface<sup>65</sup> portions of software were to be

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60. Johoram, *supra* note 47, at EEC-49.

61. *Id.* See Lucas, *supra* note 31, at \*10 LEXIS (commenting that whether a program is an illegal copy depends upon the standard for originality). The proposal fails consider the varying definitions of originality and so the standards used by the various Members will continue to be important. *Id.*

62. Johoram, *supra* note 47, at EEC-49.

63. Lucas, *supra* note 31, at \*6 LEXIS. See generally, Staines, *supra* note 47 (discussing benefits of WIPO's *sui generis* approach).

64. See *infra* notes 113-184 and accompanying text.

65. Interface specifications can be defined as the portion of a computer program which is necessary in order for it to communicate with the hardware. See Thomas C. Vinje, *The Development of Interoperable Products Under the E.C. Software Directive*, COMPUTER L., Nov. 1991, at \*9 LEXIS (discussing the development of the IBM interface as the *de facto* standard for the PC computer

protected and whether reverse engineering would be allowed.<sup>66</sup> Interface specifications are those portions of the computer program which allow it to interact with the hardware. They are what the hardware requires. Reverse engineering is used to analyze and innovate, especially for the purposes of integration.<sup>67</sup> Reverse engineering of software is currently allowed in both Japan and the United States.<sup>68</sup> Understandably, the larger software producers lobbied for tight restrictions on reverse engineering, while the smaller manufacturers wanted access to the benefits of reverse engineering.<sup>69</sup> Two interest groups made up of European and foreign interests have led the battle for and against reverse engineering.<sup>70</sup> The Software Action Group for Europe (SAGE), which is made up of approximately 160 European and American software companies, argues that allowing reverse engineering will create an easy playground for software pirates.<sup>71</sup> A second organization is known as the European Committee for Interoperable Systems (ECIS).<sup>72</sup> ECIS is made up of approximately forty

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market and the emulation of the Basic Input-Output System (BIOS) in order to achieve compatibility). This part of the program will be the same for different programs even if they have different functions. See Shuster, *supra* note 46, at 68-69 (discussing whether interface specifications should be protected at all). It is the requirement of the hardware. *Id.* The reverse engineering provisions in the Directive allow only for the decompilation of the interface specifications so that the ultimate goal of interoperability is achieved. The Directive, *supra* note 4, art. 6(1).

66. *LaCount Interview*, *supra* note 32.

67. Reverse engineering is the broad term covering processes whereby the functions of a computer program are analyzed in order to duplicate certain aspects of the program. See Vinje, *supra* note 65, at \*2 LEXIS n.6. These techniques include line traces, test runs, memory dumps and disassembly. *Id.* Decompilation is the particular process which reconstructs object code into source code in order to allow for copying of the program. *Id.* at \*6 LEXIS. See also *EC Ministers Agree to Grant Protection for 50 Years for Copyrights of Software*, 7 INT'L TRADE REP. 1923 (1990). This is often a time consuming and expensive process, but the financial rewards for success are great, albeit usually illegal. See *id.* at \*6 LEXIS (noting that the reverse analysis is both difficult and expensive). See also Mindy J. Weichselbaum, *The EEC Directive on the Legal Protection of Computer Programs and U.S. Copyright Law: Should Copyright Law Permit Reverse Engineering of Computer Programs?*, 14 FORDHAM INT'L L.J. 1027, \*4 LEXIS (outlining the competing views on the authorization of reverse engineering).

68. *Debate Over Scope of Computer Software Protection*, *supra* note 50, at 4.

69. See *Intellectual Property, European Parliament Gives Final Approval to EC Directive on Software Protection*, DAILY REP. FOR EXECUTIVES, April 18, 1991, at A13, available on LEXIS, LEGNEW library, ALLLEG file.

70. *Debate Over Scope of Computer Software Protection*, *supra* note 50, at 4.

71. *Id.*

72. *Id.*

American and European firms and one Japanese firm (Fujitsu).<sup>73</sup> ECIS believes that piracy is a minor concern since the process is slow and difficult and the watchful eye of competing firms will keep companies from risking litigation.<sup>74</sup> Furthermore, not allowing for reverse engineering will give American companies an advantage over European companies, since the American companies have already produced the major portion of software in existence.<sup>75</sup> Prohibiting this limited form of reverse engineering will allow American companies to maintain their virtual monopoly in proprietary systems.<sup>76</sup>

In the Directive's final form, the Commission reached a compromise which allows for reverse engineering but only for limited and specific purposes.<sup>77</sup> Reverse engineering will only be allowed for the purpose of making a program interoperable with other software systems.<sup>78</sup> This compromise keeps the Directive in line with the goal of attaining interoperability throughout the community. At the same time, it provides a mechanism for enforcing rights infringed upon for purposes of individual corporate gain.<sup>79</sup>

#### *E. The Berne Convention as a Guideline*

By way of background, this section briefly describes the history of the Berne Convention and the protections it affords copyrightable works. The Berne Convention for the Protection of Literary and

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73. *Id.*

74. *Id.*

75. *Id.* See Weichselbaum, *supra* note 67, at \*6 LEXIS (noting that without reverse engineering major software producers will create a monopoly at the expense of small producers).

76. *Debate Over Scope of Computer Software Protection*, *supra* note 50, at 4. See *Software Protection: Parliament Leaves Council's Common Position Intact*, EUR. REP., April 20, 1991, at 13, available in LEXIS, Europe Library, AllEur File.

77. The Directive, *supra* note 4, art. 6. See *EC Ministers Agree to Grant Protection for 50 years for Copyrights of Software*, *supra* note 67, at 1923 (discussing controversy surrounding reverse engineering decision). See also *infra* notes 97-110 (providing an overview of the protection available under the Software Directive).

78. The Directive, *supra* note 4, art. 6(2). See *EC Ministers Agree to Grant Protection for 50 years for Copyrights of Software*, *supra* note 67.

79. *EC Ministers Agree to Grant Protection for 50 years for Copyrights of Software*, *supra* note 67.

Artistic Works was first created in 1886.<sup>80</sup> It has subsequently been amended six times, the last being in 1979.<sup>81</sup> Each subsequent amendment to the Convention has strengthened the rights afforded to works coming under its protection.<sup>82</sup> Each state must independently “sign” or adhere to each amendment.<sup>83</sup> Consequently, it is important to determine to what “level” of the Convention a signatory state adheres.<sup>84</sup> The reciprocity requirement makes each signing state responsible to another signing state only to the extent that the latter state adheres.<sup>85</sup> In other words, the Convention will be enforceable to the highest level of protection that each signing state has in common.<sup>86</sup>

The three main principles of the Convention are automatic and independent protection and national treatment.<sup>87</sup> Protection is automatic in that there is no formal filing requirement for copyright protection.<sup>88</sup> The only prerequisite for claiming protection is the publication of a literary or artistic work in a state that is a signatory to the Convention.<sup>89</sup> The protection given to that work is independent of any protection afforded the work in the state of origin.<sup>90</sup> Finally, national treatment means that foreigners are afforded the same copyright protection that is given to nationals of the state.<sup>91</sup> States may afford greater protection than is required by the Berne Convention, but as signatories they may not afford less protection.

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80. Joseph Greenwald & Charles Levy, *Introduction & Bibliography to Protection of Intellectual Property Rights, Berne Convention of September 9, 1886 for the Protection of Literary and Artistic Works*, 1 B.D.I.E.L. 711 (1990), available in LEXIS, IntLaw Library, BDIEL File.

81. *Id.*

82. Paul Edward Geller, *International Copyright: An Introduction*, in 1 INTERNATIONAL COPYRIGHT LAW AND PRACTICE INT-62.1 to 62.2 (Melville B. Nimmer & Paul Edward Geller eds., 1992).

83. *Id.*

84. *Id.*

85. *Id.*

86. *Id.* at INT-62.1 to 62.2.

87. Greenwald & Levy, *supra* note 80.

88. *Id.*

89. *Id.*

90. *Id.*

91. *Id.*



The basic purpose of the Directive<sup>92</sup> is to bring to computer software the protections afforded literary works under the Berne Convention.<sup>93</sup> Under the Berne Convention, the protection of literary and artistic works is liberally interpreted and applies to any literary, scientific, or artistic work, "whatever may be the mode or form" of the expression.<sup>94</sup> The work need only be an expression of the mind of the author involving a measure of skill, labor, originality, and creative effort.<sup>95</sup> Under this definition, the Berne Convention appears aptly suited, albeit somewhat limited, to protect property interests in computer programs.<sup>96</sup>

### III. THE EC DIRECTIVE ON SOFTWARE PROTECTION

#### *A. Specific Protection under the Software Directive*

Under the Directive, protection shall be granted for the life of the author plus fifty years after his death, the term beginning on January 1 of the year following the author's death.<sup>97</sup> When the program is anonymous or pseudonymous, the term of protection shall extend fifty years beyond the date the program is first made available to the public.<sup>98</sup> The only requirement to qualify for protection under the Directive is that the program be the programmer's own original expression.<sup>99</sup> The courts will not conduct any qualitative or aesthetic tests to determine uniqueness.<sup>100</sup>

The author's rights under copyright cover the reproduction, loading, displaying, running, transmission, storage, translation, adaptation, arrangement, distribution, and rental of a computer

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92. The Directive, *supra* note 4, art. 1(1).

93. *Id.* All Member States are currently signatories to the Berne Convention.

94. Stewart, *supra* note 8, at 291.

95. *Id.*

96. *Id.*

97. The Directive, *supra* note 4, art. 8(1).

98. *Id.* The Directive does not contain a specific definition of computer program, but does note that preparatory design material will be included in the definition of computer program. *Id.* art. 1(1).

99. *Id.* art. 1(3).

100. *Id.*

program.<sup>101</sup> These exclusive rights of the author are limited to the extent necessary for the consumer to use the program for its intended purpose.<sup>102</sup> When required, the user will also have the right to correct errors in the program, as well as to make a backup of the program.<sup>103</sup> The Directive also allows for a limited use of reverse engineering for the purpose of determining interface specifications.<sup>104</sup> This will encourage the development of interoperable systems and thereby encourage greater freedom in competition against large foreign software developers.<sup>105</sup> This "decompilation" is limited to interface specifications; the information necessary to achieve interoperation of the software with the hardware or software of independently developed software products.<sup>106</sup> If the information is obtainable from another source, such as the manufacturer, no reverse engineering will be allowed.<sup>107</sup> In addition, the authorization is limited to those parts of the program that will provide the necessary information.<sup>108</sup> Article 9 of the Directive states that all other legal protection of computer software such as patent, trade mark, and unfair competition, shall have full effect despite institution of the Directive.<sup>109</sup> The Member States have until January 1, 1993 to pass legislation giving full effect to the goals of the Directive.<sup>110</sup>

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101. *Id.* art. 4.

102. *Id.* art. 5.

103. *Id.* art. 5(1)-(2).

104. *Id.* art. 6.

105. *Software Protection: EEC Adopts Directive*, *supra* note 32, at 7. See *The Directive*, *supra* note 4, at pmbl. (defining "interoperability" as "the ability to exchange information and to mutually use the information which has been exchanged").

106. *The Directive*, *supra* note 4, art. 6.

107. *Id.* art. 6(b).

108. *Id.* art. 6(c).

109. *Id.* art. 9.

110. *Id.* art. 10(1).

*B. Software Protection in Member States*

How the Directive will effect Member States depends entirely on the current state of protection within each State.<sup>111</sup> States with extensive guarantees of copyright protection over computer software will require relatively few changes to existing law while states that provide no copyright protection will be required to make greater changes. Although the level of copyright protection varies from state to state, currently only Germany, Spain, the United Kingdom, France, and Denmark provide statutory copyright protection for computer software.<sup>112</sup>

In essence, there are three types of legal frameworks with which foreign software producers must currently contend when marketing software within the Community. The first type is evidenced by States that already provide statutory copyright protection for computer software. As will be shown, these States are by no means a cohesive group. In theory, the first group provides protection closely resembling that of the Software Directive, so little change is required to conform. However, each of these States provides copyright protection in a drastically different manner. The variety of elements among each of these States' statutes makes conformity with the Directive different for each state. Consequently, this group will probably have to make the most severe changes in order to comply with the Directive. Moreover, the weakness with which the Directive describes the prospective protections directly contrasts the strict definitions created in these States over years of statutory interpretation by national courts. Absolute compliance will necessarily require a voluntary shift in each State's developing

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111. See Stewart, *supra* note 8, at 6 (discussing the differences between continental European copyright systems or 'droit d'auteur' and the Anglo-Saxon copyright systems).

112. Copyright legislation is in the proposal stages in Belgium, Ireland and Italy. Greece, Italy and the Netherlands have already established some form of copyright protection through case law, while Belgium and Ireland have no specific law on the copyright protection of computer software. Sumner & Plunkett, *supra* note 49, at 329-30. See Fred M. Greguras, 1992 *Update: International Legal Protection for Software*, paper presented at State Bar of California, International Law Section, International Law and Technology Conference, (Jan. 31-Feb. 1, 1992), at 47-51 (chart) (copy on file in the office of *The Transnational Lawyer*).

common law — a nearly impossible undertaking without specific statutory mandates.

Second, some States provide copyright protection for computer software through case law interpretation of existing general copyright provisions. Because most of these provisions are already based on the Berne Convention, these States should have the least trouble adapting existing law to the requirements of the Directive, which are also based on the Berne Convention.

Finally, in other Member States the protection of computer software is unsettled. These States will have the least technical trouble in complying with the Directive's requirements because they currently provide little or no protection for computer software. Unfortunately, the States in this group face difficult philosophical challenges. The level of development of the domestic software industries and the histories of property right protection in these States pose the greatest threat to full compliance.

*1. States with Statutory Copyright Protection for Software.*

In all, five of the twelve European Community Members currently provide statutory copyright protection for computer software: Germany, France, The United Kingdom, Spain, and Denmark.<sup>113</sup> Although each of these States allows a copyright form of protection, each form of protection varies tremendously to the point that a program may be eligible for copyright protection in one and not another. Some of the differences include the following: 1) the requirements for originality; 2) the type of work protected, which may be either a literary work, a "logiciels,"<sup>114</sup> an artistic work, or scientific work; and 3) the rights of copyright holders. The rights of copyright holders can vary significantly between these States.

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113. Germany, France and the United Kingdom amended their copyright statutes in 1985 to expressly include protection for computer programs. *Id.* Spain amended its copyright statutes to include software in 1987 and Denmark added software in to its statute in 1989. *Id.*

114. "Logiciel" is the French word for "software" as it is commonly used, indicating the actual program, procedures, rules, and accompanying documentation. Shuster, *supra* note 46, at 10 n.23.

The Federal Republic of Germany's<sup>115</sup> Copyright Right Act of 1985<sup>116</sup> protects computer programs as literary works under copyright law.<sup>117</sup> Under the amended Act, a work is protected from the time it is created until 70 years after the death of the author.<sup>118</sup> There are no formal filing requirements.<sup>119</sup> The main factor distinguishing a German copyright from that of other Members is the extent of originality required to qualify for the protection.<sup>120</sup> Germany extends copyright protection on a case-by-case basis because they have no fixed formula for determining the overall creativity or originality.<sup>121</sup> In *Inkasoprogramm (Collection Program)*<sup>122</sup> the standard applied is an overall comparison of the current creative expression with all previous expressions.<sup>123</sup>

In that case, the court attempted to deny copyright protection for algorithms and other mathematical or technical theories which should be available for use by everyone.<sup>124</sup> The court required more than the linking of a series of algorithms to satisfy the originality requirement.<sup>125</sup> In attempting to maintain free usage of these theories and algorithms, the court put copyright protection out of the reach of most programmers.<sup>126</sup> If the level of copyright protection must be so unique that it is routinely impossible to attain, most programs would receive no copyright protection at all.<sup>127</sup> Although

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115. See *supra* note 10 (discussing the entrance of the German Democratic Republic into the Community); Dr. Adolf Dietz, *Germany, Federal Republic*, in 1 INTERNATIONAL COPYRIGHT LAW AND PRACTICE FRG-16 (Melville B. Nimmer & Paul Edward Geller eds., 1992). As of October 3, 1990, "the copyright law of the Federal Republic supersedes the copyright law of the Democratic Republic throughout what was East Germany." *Id.*

116. See Sumner & Plunkett, *supra* note 49, at 350-51 (discussing the Act).

117. Dietz, *supra* note 115, at FRG-26-30.

118. Sumner & Plunkett, *supra* note 49, at 350-51; Devéza, *supra* note 17, at 188.

119. Sumner & Plunkett, *supra* note 49, at 350-51.

120. Dietz, *supra* note 115, at FRG-26-30. There are additional concerns not addressed here regarding works stored in computers and works created by the programmed computer. *Id.*

121. Sumner & Plunkett, *supra* note 49, at 351-52.

122. Judgement of May 9, 1985 (BGH) (federal supreme court), 52 Entscheidungen des Bundesgerichtshofes in Zivilsachen [BGHZ] 83 (F.R.G.), *trans. in* 17 INT'L REV. INDUS. PROP. COPYRIGHT L. 681 (1986).

123. Sumner & Plunkett, *supra* note 49, at 351-52.

124. *Id.*

125. *Id.*

126. *Id.*

127. *Id.*; Cline, *supra* note 30, at 647.

the 1985 Act provides for copyright protection of computer programs, the strict requirements of originality have left it unclear whether copyright is a significant protection in Germany today.<sup>128</sup> The issue must often be settled in court.<sup>129</sup> Only an estimated one-third of the software is currently protected by copyright in Germany.<sup>130</sup> Under the Directive, as long as the work is the original creation of the author, it will be protected.<sup>131</sup> Compliance with the spirit of the Software Directive will require a loosening of these strict requirements of originality.

With regard to the rights of copyright holders, Germany gives traditional moral rights<sup>132</sup> to the authors of computer software because software is classified as a literary work.<sup>133</sup> Moral rights require authorization from the author before the program or important portions of the program can be copied.<sup>134</sup> France and the United Kingdom, on the other hand, do not provide moral rights for the authors of computer software.<sup>135</sup>

It appears that British copyright law specifications most closely resemble those of the Directive. It specifically includes computer programs as literary works and provides the requisite term of protection. In addition, there is no express definition for the term "computer program," so British courts will be free to interpret that definition in compliance with appropriate decisions by the Court of Justice.

Although British case law has found general copyright provisions for literary works to cover computer software, Parliament provided

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128. Dietz, *supra* note 115, at FRG-26-30; Cline, *supra* note 30, at 648.

129. Dietz, *supra* note 115, at FRG-26-30.

130. Alfred P. Meijboom, *Software Protection in "Europe 1992,"* 16 *RUTGERS COMPUTER & TECH. L.J.* 407, 431 (1990).

131. The Directive, *supra* note 4, art. 1(3).

132. Lucas, *supra* note 31, at \*10 LEXIS n. 90 "Moral rights essentially are comprised of the right of paternity and integrity rights. The paternity right is the author's right to have the work attributed to him. Integrity rights protect the work from being distorted or tampered with and generally adhere to the author even though the copyright to the intact work may have been sold." *Id.*

133. Mark P. Tellini, Comment, *Uniform Copyright Protections for Computer Software in the EEC*, 13 *B.C. INT'L & COMP. L. REV.* 483, 489 (1990). See Devéza, *supra* note 17, at 188.

134. Devéza, *supra* note 17, at 188.

135. Tellini, *supra* note 133, at 489.

specific coverage of software in 1985.<sup>136</sup> In the Copyright, Designs and Patents Act of 1988, all of British copyright law has been reaffirmed, taking into account various changes in case law and various amendments.<sup>137</sup> To be protected, the matter must be "fixated," expressed in permanent form, and it must be original.<sup>138</sup> The fixation requirement is satisfied by storage of the work in a computer.<sup>139</sup> The originality requirement is satisfied as long as the work originates from the author and as long as it is not a duplicate of another work.<sup>140</sup> The 1988 Act also formally includes computer programs within the definition of a literary work, as opposed to treating them as literary works as they were under the 1985 Act.<sup>141</sup> Protection is granted for the life of the author plus fifty years.<sup>142</sup> There are no formal filing requirements.<sup>143</sup>

France<sup>144</sup> provides copyright protection for computer software under the 1986 Amendment to the French Copyright Act of March 1957.<sup>145</sup> Notably different from the Directive, French law protects software under a special area of copyright known as "logiciels."<sup>146</sup> It does not grant copyright protection for software as a literary work, but is more akin to works of applied art under the Berne Convention.<sup>147</sup> For this reason, the duration of the protection is limited to twenty-five years after the creation of the work.<sup>148</sup> There is no extension for the life of the author. Works, other than computer

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136. James R. Warnot, Jr., *Software Copyright Protection in the European Community: Existing Law and an Analysis of the Proposed Directive*, 6 SANTA CLARA COMPUTER & HIGH TECH. L.J. 355, 366 (1991); Sumner & Plunkett, *supra* note 49, at 369-70; Cline, *supra* note 30, at 651; William R. Cornish, *United Kingdom*, in 2 INTERNATIONAL COPYRIGHT LAW AND PRACTICE U.King-22 (Melville B. Nimmer & Paul Edward Geller eds., 1992).

137. See Cornish, *supra* note 136, at U.King-14 (Part I of the 1988 Act).

138. *Id.* at U.King-15.

139. J.A.L. STERLING & M.C.L. CARPENTER, COPYRIGHT LAW IN THE UNITED KINGDOM § 226(1) (Supp. 1987).

140. Cornish, *supra* note 136, at U.King-16.

141. *Id.* at U.King-17 (noting that the distinction may be more semantic than real).

142. Sumner & Plunkett, *supra* note 49, at 369-70.

143. *Id.* at 369.

144. For a more thorough analysis of French copyright law, see generally Shuster, *supra* note 46.

145. Sumner & Plunkett, *supra* note 49, at 346-48.

146. Meijboom, *supra* note 130, at 426.

147. The Directive, *supra* note 4, art. 1(1); Devéza, *supra* note 17, at 191.

148. Sumner & Plunkett, *supra* note 49, at 346.

software,<sup>149</sup> are covered by copyright protection for the full term of fifty years after first publication.<sup>150</sup> No formalities are required for an author to gain protection under the Act.<sup>151</sup>

The requirements for originality under France's copyright laws are similar to the strict requirements in Germany.<sup>152</sup> Under French case law,<sup>153</sup> there must be more than a linking together of unprotectable algorithms or theories; a program must be demonstrable of "independent effort."<sup>154</sup> However, unlike Germany, the exercise of choice in arranging the presentation of unprotectable formulas has been found to provide the appropriate level of individual creativity to satisfy the originality requirement.<sup>155</sup> The result is that the originality requirement is met nearly each time.<sup>156</sup> However, it can be problematic to use this analysis for determining originality. Often, it fails to consider the distinction between an idea and the expression of that idea.<sup>157</sup> The result is the protecting of an idea, much like patent law, under the cloak of copyright.<sup>158</sup> Expression in the form of computer programming is required to meet a higher standard usually reserved to protect patentable ideas. Therefore, the standard for copyright protection of computer programs in France may be as difficult to meet as patent protection is in other countries.

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149. For example, literary, artistic, or architectural works.

150. Sumner & Plunkett, *supra* note 49, at 346.

151. *Id.*

152. Cline, *supra* note 30, at 650.

153. Judgement of Mar. 7, 1986 (BMW v. Pachot), Cass. ass. plén., 1986 Bulletin des arrêts de la Cour de cassation, chambres civiles, Cinquième Partie [Bull. Civ. V] 5 (reported fully at 129 RIDA 130 (1986)) as cited in Cline, *supra* note 30, at 649 n.80.

154. Cline, *supra* note 30, at 650; Shuster, *supra* note 46, at 55-56.

155. Shuster, *supra* note 46, at 57-58 (citing Judgment of Mar. 7, 1986 (Société Babolat Maillot Witt v. Pachot), Cass. ass. plén., 1986 J.C.P. II, No. 83-10.477, 20631, note Mousseruo, Teyssié, and Vivant, 1986, J.C.P. II, No. 1, obs. Vivant and Lucas, D. 1986, 405, concl. Cabannes and note Edelman); cf. Cline, *supra* note 30, at 650 (offering an opposing interpretation).

156. Devéza, *supra* note 17, at 187.

157. See Shuster, *supra* note 46, at 63 (citing Judgment of Jan. 15, 1990 (Chavanel v. Société des Editions Plon et autres), Paris Cour D'appel 1er ch. A, 1990 D.S., I.R., 67-68, where the Paris Court of Appeals did take into consideration the distinction between idea and the expression of ideas).

158. *Id.* at 56.



Like the Directive, French law already provides the protection for computer software under the guise of copyright. However, France must change its protection to that allowed for literary works as opposed to a distinct form for "logiciels."<sup>159</sup> Consequently, France's term of twenty-five years from creation for computer programs will have to be increased to the life of the author plus 50 years. The major change that will be required is the standardization of the requirements of originality. The Directive requires only that the work be the original creation of the author. Considering France's varied history on defining originality, the lack of guidance in the Directive may mean that France will be free to continue its current method of determining originality. Additionally, the Directive will require France to distinguish between idea and expression as a norm. Consequently, France may need to lower the originality standard authors must meet to be eligible for copyright protection.

Spain provides for the express copyright protection of computer software under the Intellectual Property Law of November 1987.<sup>160</sup> The duration of the protection is fifty years from the date of creation, and protection is obtained whether or not the work is fixed.<sup>161</sup> The only requirement is that the work originate from the author's personal creativity.<sup>162</sup> There are no formal filing requirements for claiming protection.<sup>163</sup> However, like Italy, Spain allows software to be voluntarily registered with the Industrial Property Registry.<sup>164</sup> Unlike the Directive, however, Spanish law defines what constitutes computer software, but its definition is not difficult to satisfy.<sup>165</sup> Spanish copyright protection for software is similar to the protections

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159. Meijboom, *supra* note 130, at 426. *See supra* notes 114, 146 (discussing the term "logiciels").

160. Sumner & Plunkett, *supra* note 49, at 362-63.

161. *Id.* at 363. *See* Milagros del Corral, *Spain*, in 2 INTERNATIONAL COPYRIGHT LAW AND PRACTICE SPA-13, SPA-22 (Melville B. Nimmer & Paul Edward Geller eds., 1992) (noting that all other works protected for sixty years after the death of the author).

162. Corral, *supra* note 161, at SPA-13.

163. *Id.*

164. Sumner & Plunkett, *supra* note 49, at 363; Corral, *supra* note 161, at SPA-19.

165. Sumner & Plunkett, *supra* note 49, at 362-63. *See* Corral, *supra* note 161, at SPA-18 (defining computer software as any sequence of instructions or data intended for either direct or indirect use in a data-processing system to perform a function or a task or to obtain a specific result, irrespective of its form of expression and recording).

called for under the Directive. The loose definition of "program" is consequently unlikely to cause differences in application between Member States which would hinder full implementation of the Directive. Spain does not provide patent protection for computer programs.<sup>166</sup>

Denmark expressly added copyright protection for computer software under the Copyright Amendment Act of 1989.<sup>167</sup> "Electronic data processing programs" are protected as literary works under the 1989 Act.<sup>168</sup> Little case law has been forthcoming since the passage of the Act and, therefore it has yet to be seen how Danish courts will read the statute.<sup>169</sup> Complete compliance with the Directive will hinge on how Danish courts interpret the statute. The statute is essentially an extension of the copyright protection afforded literary works to computer software and so should fall squarely into line with future decisions of the Court of Justice on that issue.

## 2. States Providing Copyright Protection through Case Law

States that provide copyright protection for computer software through case law are in a similar dilemma as those that provide it by statute. Each nation's courts have put an independent gloss on the protection. Currently, Italy, the Netherlands, and Greece provide copyright protection of computer programs through case law. However, because the extension of the protection has been based on the copyright principles applied to literary works, they will not have to come as far as the States in the previous section in order to conform with the Directive. These States will not have to undo years of interpretation of specific software protection statutes. They will only have to add the parts of the Directive that vary from the Berne Convention protections afforded literary works. In explaining how these States have little to do in order to comply with the Directive,

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166. Corral, *supra* note 161, at SPA-18.

167. Warnot, *supra* note 136, at 363.

168. *Id.*

169. *Id.*

the following paragraphs discuss the current state of the law in Italy, the Netherlands, and Greece.

Although the Italian legislature has introduced legislation which provides for the express protection of computer software, Italy currently provides protection for computer software only through case law.<sup>170</sup> Legal scholars claim that software is protected as "original solutions of technical problems."<sup>171</sup> A work is protected if it is sufficiently creative so that it constitutes a "work pertaining to the sciences."<sup>172</sup> Under the Copyright Act, works are protected for fifty years after the death of the author.<sup>173</sup> There are no formal filing requirements for computer software, however there exists an office, the *Societa Italiana Autori ed Editori (SIAE)*, for the registering of computer programs which gives a tremendous advantage for proving the date at which a program was created.<sup>174</sup> To comply with the Directive, Italy must shift its current protection to a form under literary works as opposed to works "pertaining to the sciences." In addition, the Directive requires express compliance with its provisions in each state's implementing legislation.<sup>175</sup>

A proposal for the express protection of computer software in the Netherlands was postponed pending adoption of Community legislation.<sup>176</sup> The current copyright law of the Netherlands does not expressly protect computer software as a literary work.<sup>177</sup> However, the Dutch Copyright Act protects any work which satisfies its requirements for originality.<sup>178</sup> Article 10, section 3 of the Netherlands Copyright Act of 1912 provides protection for a literary or scientific work "whatever may be the mode or form of

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170. Dr. Mario Fabiani, *Italy*, in 2 INTERNATIONAL COPYRIGHT LAW AND PRACTICE ITA-23 (Melville B. Nimmer & Paul Edward Geller eds., 1992); Sumner & Plunkett, *supra* note 49, at 356-57.

171. Fabiani, *supra* note 170, at ITA-25.

172. Tellini, *supra* note 133, at 488.

173. Fabiana, *supra* note 170, at ITA-27.

174. Sumner & Plunkett, *supra* note 49, at 356-57.

175. The Directive, *supra* note 4, art. 10.

176. Warnot, *supra* note 136, at 367.

177. Sumner & Plunkett, *supra* note 49, at 359; Herman Cohen Jehoram, *Netherlands*, in 2 INTERNATIONAL COPYRIGHT LAW AND PRACTICE NETH-16-17 (Melville B. Nimmer & Paul Edward Geller eds., 1992).

178. Sumner & Plunkett, *supra* note 49, at 359. See Jehoram, *supra* note 177, at NETH-9.

expression.”<sup>179</sup> Decisions in Dutch courts have confirmed the extension of general copyright law to cover computer software.<sup>180</sup> Dutch copyright law protects works for a term ending fifty years after the death of the author.<sup>181</sup> No formalities are required to gain protection.<sup>182</sup> Compliance will require only express statutory conformance to the dictates of the Directive.

Greece provides copyright protection for literary works, but has been traditionally indifferent to enforcing property rights under copyright law.<sup>183</sup> Although computer software is not expressly protected under copyright law, software is generally considered to fall within the protection of copyright when it manifests the details required for other works which qualify for copyright protection.<sup>184</sup>

In sum, Italy, the Netherlands, and Greece will have relatively little technical difficulty in conforming to the requirements of the Directive. Their courts have already been able to interpret current copyright provisions as extending to computer programs. Since they have accepted the form of protection, all that is necessary is a formal compliance with the Directive and continued support for its goal.

### 3. *States where the Protection of Software is Unsettled*

The state of computer software protection is unsettled in Luxembourg, Belgium, Ireland, and Portugal.<sup>185</sup> Although scholars from these Members claim that existing copyright law protecting scientific and literary works should apply equally to computer software, there has been no case law defending this claim.<sup>186</sup>

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179. Warnot, *supra* note 136, at 367.

180. Greguras, *supra* note 112, at 47-51 (chart).

181. Sumner & Plunkett, *supra* note 49, at 359; Jehoram, *supra* note 177, at NETH-27.

182. Sumner & Plunkett, *supra* note 49, at 359; Jehoram, *supra* note 177, at NETH-27.

183. Cline, *supra* note 30, at 656.

184. Georges Koumantos, *Greece*, in 1 INTERNATIONAL COPYRIGHT LAW AND PRACTICE GRE-11-12 (Melville B. Nimmer & Paul Edward Geller eds., 1992) (noting that Greek penal law provides extensive protections for computer software).

185. Warnot, *supra* note 136, at 363.

186. *Id.*

There is little information available regarding copyright protection of computer software in Luxembourg.<sup>187</sup> In the past, Luxembourg has generally accepted the practices of France, Germany, or the Netherlands in such matters.<sup>188</sup> Because both Germany and France provide express protection by statute, and the Netherlands has provided it under case law, Luxembourg will most likely provide protection for software. However, after the Directive deadline, it is unclear how this protection will manifest itself.

Belgium copyright law does not expressly mention computer software as a copyrightable work.<sup>189</sup> However, most commentators agree that the Belgian courts will follow the lead of French courts and protect software as the "original works of authorship."<sup>190</sup> Belgium copyright law protects works for the life of the author plus fifty years, and there are no filing requirements to gain coverage.<sup>191</sup>

The Irish Copyright Act, revised in 1987, contains no express inclusion of computer software as a copyrightable work.<sup>192</sup> Most commentators claim, however, that the original 1963 Act, defining a literary work as "any written table or compilation," should include computer programs.<sup>193</sup> Although no case law exists granting copyright protection to computer software, the delegation from Ireland to the 1985 WIPO meeting attributed the lack of express protection of software to the fact that the copyright law was already considered to include computer software.<sup>194</sup> Literary works are protected for fifty years after the death of the author and no formal notice or filing procedures are required.<sup>195</sup>

There is not much information on the extent of Portugal's protection of copyrightable materials in general, and, therefore, even less is available on its protection of software. Portugal's socialist past

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187. Cline, *supra* note 30 at 657.

188. *Id.*

189. Sumner & Plunkett, *supra* note 49, at 342-43.

190. *Id.*; Jan Corbet, *Belgium*, in 1 INTERNATIONAL COPYRIGHT LAW AND PRACTICE BEL-14 (Melville B. Nimmer & Paul Edward Geller eds., 1992).

191. *Id.*

192. Sumner & Plunkett, *supra* note 49, at 355-56.

193. *Id.*

194. Cline, *supra* note 30, at 655.

195. Sumner & Plunkett, *supra* note 49, at 354.

generally prohibited such monopolies on information. Therefore, there is little historical protection of such individual expression.<sup>196</sup> Portugal's Code of Copyright, issued in 1985, does not explicitly grant copyright protection to computer software, although a draft of that Code did include software protection.<sup>197</sup> The changes Portugal must make to conform to the Directive may be significant. If it has not already done so, it must provide for the copyright protection of computer software for the duration prescribed by the Directive. There is little case law on software protection, so the courts will not need to change any patterns of interpreting originality or what types of software can be protected.

As a whole, Luxembourg, Belgium, Ireland and Portugal will have the least technical difficulty in conforming to the requirements of the Software Directive. The little case law that exists protects computer programs under existing copyright provisions and the States that guarantee no protection need only adopt the Directive verbatim. The difficulty these States may face in implementing and enforcing the Directive depends both on the state of development of each State's domestic software industry and the philosophical heritage of each State. The States with the least developed software industry have the least incentive to protect products developed largely outside the State. Greater short term benefits are to be gained by allowing pirating of software to continue.

#### IV. THE REALITY OF SOFTWARE PROTECTION UNDER THE DIRECTIVE

Although the Directive requires copyright protection of computer software as a literary work throughout the Community, the future of that protection is not entirely clear. First, there is the question of whether or not Community members will comply with the Directive. Compliance will be effected by the motivations and incentives of each Member State. Lesser developed States, with consequently lesser developed software industries, may not find it in their interest

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196. Cline, *supra* note 30, at 656.

197. *Id.*

to comply fully with the relatively extensive protections.<sup>198</sup> In addition, delays in complete implementation and interim developments in the domestic software industry will affect the incentives to comply. Individual Member State incentives will not remain constant.

Second, the Directive explicitly allows for the continued use of alternative forms of protection.<sup>199</sup> The differences between the types of protection recognized in each Member State could pose prelitigation difficulties in determining how much protection a given work of software will get. Firms anticipating protection under a patent method may still be surprised to find that only the copyright protections will apply. Moreover, the one form of protection they should be able to rely on, copyright, may vary among Community Members depending upon how strictly domestic courts interpret the underlying elements of copyright protection.

Third, how each State implements the requirements of the Directive will have serious effects on the harmonization of protection. Even if States comply, varying interpretations of originality may severely interfere with standardization of protection throughout the Community.

Finally, unequal application of the Directive may affect the concerns of foreign software manufacturers. If the Directive ultimately brings harmony, foreign producers will find it easier to enter the market. But, if implementation or interpretation varies from State to State, little will have been accomplished with the passage of the Directive.

#### *A. Compliance*

Although the European Economic Community is based on a theory of mutuality, in that it is in the best interest of Members to implement legislation, the history of adherence to Community

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198. Member states have a stake in the economic union which gives them a general incentive to comply with the directives of the Commission. However, how they implement the Directive is at their discretion and they remain free to interpret the requirements liberally or strictly and this may depend upon where they sit in the overall level of technical development.

199. The Directive, *supra* note 4, art. 9.

directives over the years has been much less than a complete success. Spain, Italy, and Portugal have enacted implementing legislation in less than thirty-five of the nearly ninety directives that were designed to be put into action by the beginning of 1990.<sup>200</sup> The United Kingdom, France, Denmark, and the Netherlands, while implementing more directives, have had an equally abysmal compliance record, by implementing little over fifty of the required directives.<sup>201</sup> This lack of compliance and reluctance to adhere to Community-wide legislation is further emphasized by the number of the European Court of Justice decisions that have essentially been ignored over the years.<sup>202</sup> As of January 1990, forty-four rulings of the Court of Justice have been ignored.<sup>203</sup> Italy, alone, is responsible for violating twenty of the forty-four rulings.<sup>204</sup>

Why do states not comply with EC Directives? States fail to comply when they deem that compliance is not in their best interest. In the past, in order to bring European computer industries into parity with large foreign developers, the EC used high tariffs to keep out foreign giants.<sup>205</sup> However, these protectionist policies failed because they provided no incentive for European firms to progress technologically. In limiting the competition to European firms, the policies guaranteed markets, but manufacturers were not required to compete as vigorously as they would have had foreign giants been allowed to compete along with them.<sup>206</sup>

The policy followed in the current Directive avoids the traps of earlier policies by keeping the competition present to spur the growth of Community software developers while still providing an advantage to the weaker Community computer industry.<sup>207</sup> However, once European companies attain the success of their American or Japanese counterparts, they may want to compete and be protected on a global

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200. HUFBAUER, *supra* note 8, at 13.

201. *Id.*

202. *Id.* at 13 n.26 (citing *The Dark Side of 1992*, FORBES, Jan. 22, 1990, at 88).

203. *Id.*

204. *Id.*

205. HUFBAUER, *supra* note 8, at 232-33 (speaking specifically about computer development programs in the 1960's).

206. *Id.* at 232-33.

207. *Id.* at 235.



scale. Consequently, the Community may be forced to provide greater or more specific protection within the Community both to these foreign giants, as well as to emerging European giants. Note, of course, that the rapid developments that occur within software engineering may render many cases moot. Protection of obsolete works will be a nonissue. In addition, the United States and Japan may follow suit in allowing similar protection for certain types of programs in order to stimulate growth or to alleviate the problems which complex disputes bring because of interference with future development. It might be better for the industry as a whole to allow limited decompiling and relaxed originality requirements than it would be to provide protection for nearly every work. The key will be to balance the need for innovative, competitive products with the need to encourage investment in such products.

### *B. Implementation and Enforcement*

Considering the slow pace of implementation, direct effect<sup>208</sup> will likely play an important part in the future enforcement of this Directive.<sup>209</sup> In *Van Colson v. Nordrhein-Westfalen*,<sup>210</sup> the Court of Justice asserted that the EC Treaty<sup>211</sup> requires member government bodies to implement the objectives of Community directives, whether or not the legislatures of those members have expressly adopted a directive.<sup>212</sup> This duty also falls upon the national courts.<sup>213</sup> This duty is, however, limited to applying the directive to state or government bodies.<sup>214</sup> An unimplemented directive cannot be enforced against individuals.<sup>215</sup> Without direct implementation against private parties, individuals may not be able to rely on Community law when relevant state law conflicts or when domestic courts interpret a national law as counter to Community

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208. See *supra* notes 19-29 and accompanying text (discussing direct effect of EC directives).

209. See Howells, *supra* note 26, at 460.

210. Case 18/83, *Van Colson v. Nordrhein-Westfalen*, 1984 E.C.R. 1891 (1984).

211. The Treaty of Rome, *supra* note 6, art. 5.

212. Howells, *supra* note 26, at 460.

213. *Id.*

214. See *id.* at 459 (noting that the concept of what constitutes the state is interpreted broadly).

215. See *id.* at 460.

law.<sup>216</sup> Because the Software Directive will have its greatest effect upon private persons, the inevitable result will be that the Directive will not be enforceable without express implementing legislation in each Member State.

Actions to enforce compliance with Community directives may be taken to the Commission under article 169, and by any Member State under article 170 of the Treaty of Rome.<sup>217</sup> The Commission first issues a statement of noncompliance in an attempt to gain compliance by a Member State without resort to litigation. If this fails, the Commission files an action with the Court of Justice.<sup>218</sup> If the suit is successful, the Court will issue a specific declaration regarding the obligation breached and the manner in which it was breached.<sup>219</sup> The violating Member State is bound by article 171 of the Treaty of Rome to comply with the judgment of the Court of Justice.<sup>220</sup> Although it appears that Member States generally wish to avoid adverse judgments<sup>221</sup> by the Court of Justice, more than half of the enforcement actions taken to the Court regard failures of Member States to implement directives.<sup>222</sup>

### C. Lack of Definition

Even if all Member States comply and implement the Directive, the most difficult task will be to harmonize the elements of the protection among the States. The Directive provides little in the way of express definitions. Therefore, without voluntary concessions or harmonization of the elements, national courts will continue to construe the requirements as they have always done.<sup>223</sup> The

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216. *Id.* at 456 (citing *Finnegan v. Clowney Youth Training Programme* 2 All ER 546 (H.C. 1990) which fails to give support to the idea of the supremacy of European law).

217. *Dashwood & White*, *supra* note 20, at 388-89 (noting that individuals are required to either file a complaint with the Commission which may lead to proceedings under article 169 or they can file suit directly in the courts of that Member's jurisdiction).

218. *Id.*

219. *Id.* at 389.

220. *Id.*

221. *See id.* at 411 (acknowledging that only six out of every 100 instances of infringement reach the level where the Court of Justice passes judgment).

222. *See id.*

223. *Devéza*, *supra* note 17, at 192 (noting that varying interpretations are likely to remain).

idea/expression dichotomy may be a source of unequal application of copyright protection even after the Directive is implemented. Varying interpretations of eligibility requirements and the rights of copyright holders will continue to play a role in the disharmony of protections throughout the Community. For instance, the lack of definition for originality will create the most severe problems in the application of the Directive. Without clear cut definitions of originality, the varying approaches currently used may still be applied, defeating the goal of harmonizing protection.<sup>224</sup> The Directive provides no specific definitions for what exactly "software" is, or the requirements of originality. The ambiguity will thus require individual Member States to apply existing domestic rules for each of these elements, without regard to whether they differ from other Member States. For example, as discussed above, Germany needs to loosen its standards for originality.<sup>225</sup> However, without a strict definitional scheme it will be possible for German courts to continue to review originality as they always have. This will continue the disharmony of protection that the Council is attempting to alleviate.<sup>226</sup> The result will be differing interpretations of what was intended to be a standardized form.

The Directive's lingering problem of lack of definition and ambiguity will haunt producers of software, whether they are producing in states which currently provide express copyright protection by statute or case law, or in states where protection is unsettled. Parties looking for review and definition will ultimately have to turn to the Court of Justice. Accordingly, future decisions of the European Court of Justice will play a major role in completing the harmonization that the Directive is designed to achieve.

#### *D. Effect on Foreign Software Producers*

The harmonization of software protection laws throughout the European Community can benefit foreign interests because of the

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224. Lucas, *supra* note 31, at \*7 LEXIS.

225. See *supra* notes 115-135 and accompanying text.

226. Lucas, *supra* note 31, at \*13 LEXIS.

regularity and certainty as to what will be protected and, when and where it will be protected.<sup>227</sup> The extent of the protection, however, may concern U.S. and Japanese companies that formerly had an advantage. The Directive may allow European developers opportunity to catch up with their American counterparts, especially in regard to interface specifications which may be legally reverse engineered under the Directive.<sup>228</sup> This was precisely the portion of software which foreign companies were able to monopolize thereby gaining a substantial advantage over their European counterparts.<sup>229</sup>

The problem in achieving this goal of harmonization is that the Directive lacks the specific means to achieve that end. The Directive will be implemented so that varying definitions for originality will be allowed to continue. The Directive will change little. It will still be necessary for foreign software producers to be aware of the differences in national implementation of the Directive. There may be, as written in the Directive, a single law but varying application and implementing legislation will make this a nullity. Without a distinct definition of originality and without the power to enforce compliance, disharmony will continue.

## VI. CONCLUSION

Prior to the Software Directive, if any State's legislation provides less protection than that of another, the less protective State's jurisdiction was a potential safe haven for software pirates. Such variation interfered with the free movement of goods and services throughout the Community. Seeking a remedy, the Commission of European Communities proposed, and the Council adopted, the Software Directive. Given the history of partial compliance with Council directives by Community Members and the inability of the Court of Justice to completely enforce its decisions, the likelihood of this Directive taking full effect by the deadline will most certainly

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227. *La Count Interview*, *supra* note 32.

228. *Id.*

229. *Id.*

depend on the extent of change each Member State is willing to make and the development level of the Member State's software industry. Those States with relatively more advanced industries will have greater incentive for compliance, whereas States with less advanced industries will wish to achieve greater parity before complying.<sup>230</sup>

It is also possible that if complete implementation is seriously delayed to the point in which a Member State attains parity with the foreign giants, that State may not find compliance to be in its own best interest. The delay of taking corrective measures to the Council and the Court of Justice will provide additional time in which the motivations of the players can be altered. However, it may be in the best interest of Members to comply with this particular Directive because the area of computer software is an area in which the Community as a whole stands to benefit by working together against the common enemy of American and Japanese giants. In order for this Directive to be successful, Member States must view the governing bodies of the Community as representing their individual best interests and the goals of the Community as the best course for each individual state. In the coming years, it will be necessary for the Court of Justice to establish strict definitions for the elements of the copyright protection in order to alleviate the current ambiguity in the text of the Directive.

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230. Those with computer software industries that rival American or Japanese may also have an incentive not to comply and to fight for greater protection. This may be an important factor if full implementation of this directive is delayed to a point where some of the Community Members have achieved a level of parity with these foreign giants.