

# UIC John Marshall Journal of Information Technology & Privacy Law

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Volume 8  
Issue 1 *Computer/Law Journal - Winter 1987*

Article 2

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Winter 1987

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### Recommended Citation

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# COPYRIGHT PROTECTION FOR COMPUTER SOFTWARE IN ISRAEL

*by* BARRY LEVENFELD\*

## I. INTRODUCTION\*\*

When, in 1924, King George V accepted the advice of his Privy Council and issued an order extending England's Copyright Act of 1911 (hereinafter the "1911 Act") to Palestine, he could not have had computer programs in mind.<sup>1</sup> And presumably the Right Honorable Sir Herbert Louis Samuel, the High Commissioner for Palestine, was not thinking of ROM chips or object code<sup>2</sup> when he proclaimed that the 1911 Act "shall come into operation and have effect in Palestine as of the 21st day of March, 1924."<sup>3</sup> However, since that day, with only minor

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\*\* A note on citations to Israeli law: "P.D." refers to Piskei Din, law reports of the Supreme Court, published in Hebrew by the Ministry of Justice; "P.M." refers to Psakim Mehoziim, law reports of the District Courts, published in Hebrew by the Israel Bar Association; "P.D.A." refers to Piskei Din Avoda, law reports of the Labor Courts, published in Hebrew by the Israel Bar Association; "L.S.I." refers to Laws of the State of Israel, the authorized English translation of the session laws of the Knesset published by the Ministry of Justice; "L.P." refers to Laws of Palestine, a 1933 English language compilation of British Mandatory laws; "K.T." refers to Kovetz Takanot, a Hebrew compilation of regulations and other subsidiary legislation.

1. Order-in-Council, Copyright Act, 1911 (Extension to Palestine) Order, 1924, 1 L.P. 29, The Copyright Act, 1911, 1 & 2 Geo. 5, ch. 46 (hereinafter "the 1911 Act").

2. "ROM (Read Only Memory) chips" are a means of permanently storing a program in a computer's memory on a semiconductor chip. ROM chips are sometimes referred to as "firmware" because they occupy the middle ground between "software" and "hardware." "Object code" is a machine-readable version of a program's "source code," generated by "compiling" the source code with the assistance of a computer. While source code resembles a written human language and can be understood by a properly trained computer expert, "object code" cannot be deciphered without the assistance of a computer by means of a process called "decompiling." See also 1 BENDER, COMPUTER LAW §§ 2.06 & 3.02 (1986) (for a useful explanation of computer technology relating to software).

3. Proclamation, Copyright Act, 1911 (Extension to Palestine) Order, 1924, 2 L.P. 412.

amendments,<sup>4</sup> the 1911 Act has continued to provide the exclusive legal basis for copyright protection in the former British dominion that today constitutes the independent State of Israel.

Israel, like most Western countries, is faced with the challenge of adapting time-honored and somewhat archaic legal categories to the fast-changing realities of modern science, including computer technology. In response to that challenge, England replaced its 1911 Act with the Copyright Act of 1956 and enacted legislation dealing specifically with the copyright protection of computer programs.<sup>5</sup> The United States also has revised its copyright laws and directly confronted the issue of granting copyright protection to computer programs.<sup>6</sup> Other countries have enacted or are considering similar legislation.<sup>7</sup> By contrast, Israel retains copyright legislation dating back to the turn of the century. The Israeli legislature, the Knesset, has not updated the law.

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4. Several months after introduction of the 1911 Act, the Copyright Ordinance of 1924, 1 L.P. 389 (hereinafter the "1924 Ordinance") was enacted to provide for the application of certain portions of the 1911 Act relating primarily to import regulations in Palestine. Subsequently, both the 1911 Act and the 1924 Ordinance have been amended on a number of occasions. See Copyright Ordinance (Amendment) Law, 5713-1953, No. 17, 7 L.S.I. 30 (inserting provisions dealing with anonymous and foreign works, and making amendments required by the termination of British control of Palestine; Copyright Ordinance (Amendment No. 2) Law, 5728-1968, No. 27, 22 L.S.I. 56 (inserting provisions permitting the use of copyrighted materials for purposes of instructional broadcasts); Copyright Ordinance Amendment No. 3) Law, 5731-1971, No. 58, 25 L.S.I. 157 (extending the term of copyright protection to life plus seventy years); Copyright Ordinance (Amendment No. 4) Law, 5741-1981, No. 109, 35 L.S.I. 368 (adding, *inter alia*, the concept of *droit moral*, or moral rights, to Israel's copyright law).

5. See, e.g., Copyright Act, 1956, 4 & 5 Eliz 2, ch. 74; Copyright (Computer Software) Amendment Act, 1985, ch. 1, § 1(1) (the statute grants the same protection to computer programs in the United Kingdom as it grants to literary works).

6. In the United States the 1909 Copyright Law was replaced by the Copyright Act of 1976, which did not expressly protect computer programs. Pub. L. No. 94-553, 90 Stat. 2541 (codified at 17 U.S.C. §§ 101-810 (1982)). In July of 1978, the National Commission on New Technological Uses of Copyrighted Works (CONTU) issued its Final Report, recommending specific protections for computer software. Congress adopted those recommendations in the Computer Software Amendment Act of 1980, which adds explicit protection for computer programs and enumerates certain non-infringing uses of computer programs. See generally, SCOTT, COMPUTER LAW §§ 3.1 to 3.11 (1984) (for a more in depth discussion of copyright legislation in the United States).

7. See, e.g., *Proposed Copyright Reform in Sweden: The Swedish Copyright Committee Report*, 5 SOFTWARE PROTECTION 13 (Dec. 1986); Racicot, *Copyright Reform in Canada as it Relates to Computer Programs*, 4 SOFTWARE PROTECTION 1 (Feb. 1986); Betten, *The Legal Protection of Computer Software in West Germany*, 5 SOFTWARE PROTECTION 1, 3 (July 1986); Sugiyama and Kosins, *The Japanese Solution to the Protection of Computer Programs*, 4 SOFTWARE PROTECTION 11, 15 (Sept. 1985); Crisp, *The Legal Protection of Computer Software: Recent Developments in Australia*, 1 SOFTWARE L.J. 289 (Spring-Summer 1986); Garby, *Software Protection Against Third Parties in France*, 1 SOFTWARE L.J. 333 (Spring-Summer 1986).

Considering the advanced development in Israel of highly technological industry, and of the software industry in particular,<sup>8</sup> the lack of progressive legislation has exasperated businessmen, academics, and judges.<sup>9</sup> An Israeli judge recently put the problem in perspective while wrestling with the application of the 1911 Act to the unauthorized reproduction of video cassettes:

I have no doubt that a lot of valuable effort and time would be saved if the legislature would update the 1911 Act in a timely manner and would avoid having this court embark upon the almost impossible task of attempting to apply concepts set forth in a law from 1911—when moving pictures were still in their infancy and television broadcasts and video recordings had not been dreamt of—a task which almost requires the skill of a juggler.<sup>10</sup>

Notwithstanding the judge's complaint, the almost impossible task of applying the 1911 Act to today's technologies continues to confront judges, lawyers and software companies.

The lack of legislative initiative, however, has not completely stifled copyright protection of computer software. The 1911 Act is very flexible, and courts can adapt, and have adopted, many of its provisions to the needs of new technology. The Israeli judiciary has demonstrated a willingness to interpret the 1911 Act in light of recent technological developments and has paid careful attention to the decisions of courts in other jurisdictions which share the common heritage of the British legal system. Also, certain groups, among them The Israeli Association of Software Houses, are urging the adoption of legislation dealing specifically with the problems posed by computer programs.<sup>11</sup>

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8. Comprised of over 65 independent companies, the Israeli Association of Software Houses represents the interests of its members and compiles data on the software industry. The Israeli software industry has experienced an annual growth rate of 30% since the mid-1970's. In addition, computers have been introduced in many schools, and all universities, and the Israeli public is growing increasingly computer literate. ISRAELI ASSOCIATION OF SOFTWARE HOUSES, ISRAELI SOFTWARE PRODUCTS (1987).

9. See Shalgi, *Copyright in Software and Data*, 21 ISRAEL L. REV. 15 (1986) (attached to the article are excerpts from the panel discussion that followed presentation of his article); see Bar-Sela, *Computer Legislation in Israeli: A Proposal Being Developed by the Ministry of Justice*, 21 ISRAEL L. REV. 58 (1986).

10. *State of Israel v. Videotext*, Crim. Case No. 916/80, 1983 P.M. 45, 60 (Rehovot Magistrates Ct.).

11. Although lobbying for legislative reform, the Israeli Association of Software houses has not yet formally proposed an amendment. The Committee for the Revision of Copyright Law in Israel, meeting under the auspices of the Ministry of Justice, has also considered the issues raised by computer software. See Shalgi, *supra* note 9. The Ministry of Justice has circulated a draft of a "Computer Act" which directly addresses the issue of software protection in the context of a comprehensive law dealing with criminal and civil aspects of computer software and hardware. Although such comprehensive legislation may indeed be desirable, it is the author's opinion that the protection of software should begin by enacting a minor amendment to the existing copyright laws.

This Article will review Israeli statutory and case law relevant to the copyright protection of computer software, comparing Israeli law with the law of other jurisdictions where appropriate. In particular, this Article will examine works protected by copyright, the scope of protection afforded protected works, and copyright ownership. Also included is an outline of a proposed amendment to Israeli copyright law intended to clarify the extent of protection afforded computer programs.

## II. WORKS PROTECTED BY COPYRIGHT

Under Israeli law, copyright "subsists" in every "original literary dramatic musical and artistic work"<sup>12</sup> which, if published, was published in Israel, and if not published, was created by an author who was a national or a resident of Israel at the time of the making of the work.<sup>13</sup> Computer programs will be considered as "literary works," "designs," and protected foreign works.

### A. LITERARY WORKS

In the United States,<sup>14</sup> the United Kingdom<sup>15</sup> and Australia,<sup>16</sup> a computer program is protected as a form of "literary work." In Israel, the 1911 Act "includes maps, charts, plans, tables, and compilations" in the definition of literary work.<sup>17</sup> The courts have held that this list is

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12. 1911 Act, § 1(1).

13. *Id.*

14. *See* Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d 1240, 1249 (3d Cir. 1983) (where the court held that "a computer program, whether in object code or source code, is a 'literary work' and is protected from unauthorized copying. . . ." and went on to state that a program in object code constituted an appropriate "subject of copyright"). *See also* Tandy Corp. v. Personal Micro-Computers, Inc., 524 F. Supp. 171, 174-75 (N.D. Cal. 1981) (ROM Chips); Apple Computer, Inc. v. Formula International, Inc., 562 F. Supp. 775, 779-83 (C.D. Cal. 1983) (operating system program subject of copyright); SAS Institute Inc. v. S & H Computer Systems, Inc., 605 F. Supp. 816, 826-27 (M.D. Tenn. 1985).

15. *See* Copyright (Computer Software) Amendment Act, ch. 11 § 1(1) 1985 (which states that the Copyright Act (of) 1956 "shall apply in relation to a computer program . . . as it applies in relation to a literary work . . . .") Note that the United Kingdom amendment does not state that computer programs are literary works, only that they should be treated as such. Section 1(2) of the amendment protects, as "adaptations" of a program, all versions of the program "in which it is converted into or out of a computer language or code." Section 2 of the amendment states that "storage of that work (the program) in a computer" is to be considered a reproduction of the work. *See* Sega Enterprises Ltd. v. Richard, [1983] F.S.R. 73; Thrust Code Ltd. v. W.W. Computing Ltd., [1983] F.S.R. 502.

16. *See* Copyright Amendment Act, § 3(f)(b) 1984 (which provides that a "literary work" includes "a computer program or compilation of computer programs . . . .") *See e.g.*, Stern, *Computer Software Protection After the 1984 Copyright Statutory Amendments*, 60 AUSTRALIAN L.J. 333; Crisp, *supra* note 7.

17. 1911 Act § 35(a).

not exhaustive.<sup>18</sup> In the first case to consider the issue, *Apple Computer Inc. v. New-Com Technologies*,<sup>19</sup> the court held that "literary works" included computer programs. In that case<sup>20</sup> the creators and importers of Apple computers brought an action against the importer of certain Apple twins, computers with the same appearance and identical function as the Apple, marketed under the names Apollo, Com 100 and New Com.<sup>21</sup> The Apple twins functioned like Apple originals because the twins contained integrated circuits with unauthorized copies of certain Apple programs known as Apple Soft and Autostart. In addition, the twins contained unauthorized copies of a printed circuit called a Mother Board.<sup>22</sup>

The court examined the language of the 1911 Act and considered decisions of courts in England, Canada, the United States and Australia.<sup>23</sup> The court concluded that the act should be construed liberally and its definitions should not be treated as exhaustive. The court decided to expand the definition of "literary act" in order to protect works which, although suitable and appropriate objects of protection, were not considered by the legislature at the adoption of the 1911 Act.

In deciding that a computer program deserved protection as a literary work, the court applied the following reasoning:<sup>24</sup>

A computer program, which is the product of the mind of the man who creates and writes it, is a literary work according to the definition in the Act, by virtue of having the characteristics and criteria of a literary work, and a computer program, whether in source code or object code,

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18. See *Strosky Ltd. v. Whitman Ice Cream Ltd.*, Civ. Appeal No. 360/83, 40 [III] P.D. 340, 349 (1985) ("Under our definition, there is no escaping the holding that an architectural plan or series of electronic printed circuits are 'literary works'") See also, *State of Israel v. Ahimon*, Civ. Appeal No. 136/71, 26 [II] P.D. 259, 261 (1972) (dictum stating that booklet prepared by an accountant containing schedules indicating amount of income tax and other amounts which employers must deduct from employees' salaries is a "literary work"); *S.B.L. Fiberglass Engineering Ltd. v. Leisher*, Civ. Appeal No. 606.76, 31 [III] P.D. 333, 335 (1977) (architectural plans); *Kotelidsky v. Elkalai*, Civ. File No. 557/79, 1982 [A] P.M. 387, 392 (Dist. Ct. Tel Aviv-Jaffa) (master layout for printed circuit).

19. Civil File No. 3021/84, 1987 [A] P.M. 397 (Tel Aviv-Jaffa Dist. Ct.).

20. *Id.*

21. *Id.* at 400.

22. *Id.*

23. Among other decisions, the *Apple v. New-Com* court relied on the decision of the Federal Court of Australia in *Apple Computer Inc. v. Computer Edge, Pty. Ltd.*, 53 Aust. L.R. 225 (1984). That case was subsequently reversed by the High Court under the name *Computer Edge v. Apple Computer*, reported in 60 AUSTRALIAN L.J. at 313 (June, 1986), in a decision which applied the version of Australia's Copyright Act 1968 that was in force before the 1984 amendment that specifically extended protection to computer programs. The court also discussed the United Kingdom case of *Sega v. Richards*, the Canadian Case of *Space File Ltd. v. Smart Computing*; and the United States case of *Apple v. Franklin*.

24. *Apple*, [A] P.M. at 405 (1987).

whether written and printed on disks or fixed in ROM, is a literary work protected by the Act.

The *Apple v. New-Com* court went on to hold that Apple Soft and Autostart were protected as literary works under the 1911 Act.<sup>25</sup> Although the Supreme Court of Israel has yet to consider the issue, it is likely that the *Apple v. New-Com* holding, which reflects the emerging international legal consensus,<sup>26</sup> will remain an influential statement of the law on this issue for some time.<sup>27</sup> To eliminate any residual uncertainty, the *Apple v. New-Com* holding can and should be codified by an appropriate amendment to the 1911 Act or to the 1924 Ordinance.

#### B. EXCLUSION OF REGISTRABLE DESIGNS

The 1911 Act does not apply to designs "capable of being registered under the Patents and Designs Act, 1907."<sup>28</sup> The 1911 Act, however, retains copyright protection for certain registrable designs. Designs which "are not used or intended to be used as models or patterns to be multiplied by any industrial process," continue to be protected.<sup>29</sup> The question has arisen whether the 1911 Act denies copyright protection to both

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25. *Id.*

26. In addition to the United States, United Kingdom and Australia, other countries, including possibly Canada, also appear to be joining the consensus. See *Space File v. Smart Computing*, 74 C.P.R. (2d) 281 (1981) (Ontario Trial Court); *IBM Corp. v. Spirales*, 80 C.P.R. (2d) 187 (1984) (Federal Court of Canada-Trial Division); *La Societe d'Informatique R.D.G. Inc. v. Dynabec*, 6 C.P.R. (3d) 299 (1985) (Quebec Trial Court), 322 (Quebec Court of Appeal). See also Gordon, *Copyrightability of Object Code and ROM in Japan, Australia and Germany: Surpassing Traditional Copyright Limits* 6 COMPUTER L.J. 513 (1986).

27. There have been a number of unreported cases dealing inconclusively with the issue of protection of computer software. The issue of copyright protection for computer software was briefed in *Ahitov v. Harpaz*, Civ. File No. 20495/82 (Tel Aviv Dist. Ct.) (unpublished), but the court ruled without addressing the issue of copyright. Similarly, the question arose in *Apple Computer Inc. v. M.C.L. Computers, Ltd.*, Civ. File No. 4662/86 (Tel Aviv Dist. Ct.) (unpublished), but a compromise between the parties prevented adjudication of the issue. In *Ashton-Tate Ltd. v. Annani Systems Ltd.*, Civ. File No. 1130/87 (Tel Aviv Dist. Ct.) (unpublished), Ashton-Tate and its local Israeli distributor obtained a permanent injunction against an Israeli systems house preventing the importing and selling of programs copied from Ashton Tate's widely used "dBase III Plus." Since the injunction issued as a result of a compromise reached between the parties, there is no decision on the merits of the case.

28. 1911 Act, § 22(1). Section 2 of the Patents and Design Ordinance, 1925, defines "design" as "... only the features of shape, configuration, pattern or ornament applied to any article by any industrial process or means ... which in the finished article appeal to, and are judged solely by, the eye, but does not include any mode or principle of construction or anything which is in substance a mere mechanical device." 2 L.P. 1076.

29. The Design Rules applicable to the Patents and Design Ordinance specifically provide in Rule 72 that:

A design shall be deemed to be used as a model of pattern to be multiplied by any industrial process within the meaning of section 22 [of the 1911 Act]:—

master layouts for printed circuits and to the actual printed circuits which under certain circumstances contain computer programs.

The case of *Kotelidsky v. Elkalai*<sup>30</sup> presented the Tel Aviv District Court with the question of whether copyright protection should be applied to a master layout for a printed circuit. The court found that "the master layout under discussion is a chart or plan as meant by [Section 35(a) of the 1911] Act, and therefore constitutes a 'literary work' according to the definition in the Act."<sup>31</sup> The court then considered the defendant's argument that section 22 precluded copyright protection for the master layout. Reasoning that the object on which a design appears is purchased not because of the attributes of the design per se, but because of the utility of the object itself, the court rejected this argument. The court noted that a printed circuit board is purchased precisely because of the design, and in fact has no use or function whatsoever before being imprinted with the design. Accordingly, the master layout is not a design, and section 22 of the 1911 Act does not preclude copyright protection.<sup>32</sup>

In the subsequent case of *Apple Computer v. New-Com Technologies*,<sup>33</sup> Apple Computer, Inc. claimed copyright protection for a printed circuit called a Mother Board which had been copied without authorization and inserted into the Apple twins. Stating that the Mother Board may be "a design intended to be multiplied and one which apparently . . . was indeed multiplied in many editions," the court denied copyright protection to the Mother Board. The court offered no discussion or reasoning in support of the position that a printed circuit board is a design, and seemed to be unaware of the earlier contrary decision in *Kotelid-*

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(a) when the design is reproduced or is intended to be reproduced in more than fifty single articles [unless forming a single set];

(b) where the design is to be applied to—

(i) printed paper hangings;

(ii) carpets, floor clothes or oil clothes. . .

(iii) textile piece goods. . .

(iv) lace not made by hand 2 L.P. 1910 (adopted January 1, 1925).

It appears that if a particular version of a computer program is deemed a "design," and if that version is reproduced in fifty or more articles, including, presumably, diskettes, then that "design" would not qualify for copyright protection.

30. *Kotelidsky*, 1982 [A] P.M. at 392.

31. *Id.* But see, *Strosky v. Whitman*, 40 [III] P.D. at 349, (where the Supreme Court of Israel confirms the *Kotelidsky* holding but warns that the inclusion of diagrams, maps, charts and plants, all of which lack any written text, as "literary works" is an "anomaly" which should not be extended beyond what the definition requires).

32. *Kotelidsky*, 1982 [A] P.M. at 393. See also Henry, *Legal Protection of Printed Circuit Boards and Semiconductor Chips under Australia's Copyright and Design Act*, 2 Int'l Computer Law Advisor 14 (Oct. 1987) (Analysing a similar provision in Australia's British-Based Copyright Law).

33. *Apple*, 1987 [A] P.M. at 400.



sky.<sup>34</sup> In any event, finding that the printed circuit board constituted a design within the meaning of the statute was apparently not the primary basis for the decision to deny copyright protection to the Mother Board.<sup>35</sup> This author submits that in light of other recent decisions<sup>36</sup> the reasoning of the *Kotelidsky* case remains a better statement of the law.

### C. FOREIGN WORKS

Where Israel is party to a convention relating to copyright protection, the Minister of Justice may issue an order extending copyright protection to foreign works as required by the terms of the convention.<sup>37</sup> A protection order shall grant the same protection to works created by foreign nations or published in foreign countries as would be granted to such works had they been created by Israeli nationals or published in Israel. In an unusual provision, the 1924 Ordinance states explicitly that wider protection can be granted to such works if the convention contains an agreement to that effect.<sup>38</sup>

To date the Minister of Justice has exercised the power to grant such orders on four occasions.<sup>39</sup> For example, Copyright Order (United

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34. *Id.* at 407.

35. The *Apple* court placed great emphasis on the fact that the evidence did not show that the printed circuit had been registered or published in the United States, or that it had been created by a U.S. resident. 1987 [A] P.M. at 407. Thus, the provisions of the Copyright Order applicable to the United States did not confer Israeli protection on the "foreign" circuit boards. Copyright Order (United States) 5713-1953, 1953 K.T. 1117. Given the record before it, this conclusion appears correct, although strictly speaking, the matter of registration of a foreign work is irrelevant. 1987 [A] P.M. at 397. See *infra* text accompanying notes 38-46.

The *Apple* court also stated that the printed circuit did not fit neatly into any of the regular categories in the definition of "literary work" contained in section 35(a) of the 1911 Act, a conclusion that contradicts of the decisions previously cited. See, *supra* note 18. The *Apple* court also speculated that the printed circuit may be a candidate for patent protection. This conclusion regarding printed circuits is of dubious persuasiveness.

36. In *Strosky v. Whitman*, the Supreme Court of Israel rejected a claim that an advertising sign was a "design," and that as a result the design was excluded from copyright protection. 40[III] P.D. at 355-356. The sign (like a printed circuit) has no use independent of the printing on it, and thus the printing is not a design but an integral part of the object.

37. Copyright Ordinance (Amendment) Law, 5713-1953, § 6, 7 L.P. 30 (amending the 1924 Copyright Ordinance, 1 L.P. 389).

38. *Id.*

39. The four orders include: Copyright Order 5713-1953, 1953 K.T. 818 [referring to the convention for the Protection of Literary and Artistic Works, Berne, September 9, 1886, revised Berlin, 1908, Rome, 1928, Brussels, 1948, Stockholm, 1967, Paris, 1971 (hereinafter "the Berne Convention")]; Copyright Order 5713-1953, 1953 K.T. 1117 (referring to an Exchange of Notes between the Government of Israel and the Government of the United States of America Constituting an Agreement on Copyright, May 4, 1950 (herein-

States) 5713-1953 provides that a work first published in the United States will be protected as if it were first published in Israel; an unpublished work created by a United States citizen will be protected as if it were created by an Israeli citizen.<sup>40</sup> Other orders provide similar protection to works that are published in countries which are members of the Berne Copyright Union<sup>41</sup>, or parties to the Universal Copyright Convention<sup>42</sup>, or works that are created by nationals of such countries.

It should be noted that to be protected in Israel works need not be *registered* in the United States or in other copyright convention countries. A work qualifies for protection if it is first published in a country which is party to a copyright convention. Thus, although at least one Israeli court made issue of the fact that there was no evidence that particular work had been registered in the United States,<sup>43</sup> the proper grounds for refusing protection of the work is the absence of proof that the work had been first published in the United States, or that the work had been created by a United States national. Israel, like most European countries, has no registration requirement, and the copyright laws protect authors without requiring them to register their works with Israeli authorities.

The Orders issued pursuant to the Berne and Universal Copyright Conventions and pertaining to the United States may be of particular significance because of the power given to the Minister of Justice by the 1924 Ordinance. If the relevant convention so provides, the Minister may grant foreign works wider protection from copyright infringement than would be allowed for works published in Israel.<sup>44</sup> Thus, if one of the conventions were to be conclusively interpreted or amended to apply to computer software, or if the U.S. and Israel would agree to provide copyright protection to computer programs, then under the 1924 Ordinance unequivocal protection could be extended to computer programs by means of an order of the Minister of Justice. This solution to the copyright protection problem avoids the lengthy and complex pro-

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after "the exchange of notes"). Copyright Order 5715-1953, 1955 K.T. 1342 referring to the Universal Copyright convention, Geneva, September 67, 1952, revised, Paris, 1971 (hereinafter "the Universal Convention"); Copyright Order 5738-1978, 1978 K.T. 1462 [referring to the Convention for the Protection of Sound Recordings (hereinafter "the Sound Recordings Convention")].

40. Copyright Order (United States) 5713-1953, §§ 1 & 2, 1933 K.T. 1117 (referring to Exchange of Notes).

41. Copyright Order 5713-1953, §§ 2 & 3, 1953 K.T. 818 (referring to the Berne Convention).

42. Copyright Order 5715-1955, §§ 2 & 3, 1955 K.T. 1342 (referring to the Universal Convention, art. 1-3).

43. *Apple v. New-Com*, 1987 [A] P.M. at 407.

44. Copyright Ordinance (Amendment) Law, 5713-1953, § 6, 7 L.P. 30.

cess of amending the 1911 Act or 1924 Ordinance.<sup>45</sup> The difficulty with this approach is that apparently it would provide added protection for foreign works only. Indigenous Israel works would continue to be vulnerable to infringement.<sup>46</sup> Therefore, full protection for computer software will require legislation by the Knesset.

### III. SCOPE OF PROTECTION

The 1911 Act defines "copyright" to mean the "sole right to produce or reproduce the work or any substantial part thereof *in any material form whatsoever* . . .".<sup>47</sup> The term copyright also includes the sole right to do, or authorize someone else to do, any of the following acts: "to produce, reproduce, perform or publish any translation of the work . . ." or, (i)n the case of a literary, dramatic or musical work, to make any record, perforated roll, cinematograph file, or other contrivance by means of which the work may be mechanically performed or delivered.<sup>48</sup> Performing any of these acts without consent of the owner constitutes copyright infringement. Anyone who knowingly imports, sells, offers for sale, displays or distributes a work which has copyright protection also commits an infringement.<sup>49</sup> An infringing copy need not be exact; any "colourable imitation" will suffice.<sup>50</sup>

The application of section 1(2) of the 1911 Act to computer software appears to support the following propositions: (1) unauthorized reproduction of software "in any material form whatsoever," such as in source code, on disk, or in ROM, is an infringement; (2) unauthorized translations of program code, such as translations from one language to another, create infringing copies of the original programs; and (3) unau-

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45. See, e.g., Copyright Order 5713-1953, § 2, 1978 K.T. 1462 (referring to the Sound Recordings Convention) (extending the protection of section 19 of the 1911 Act to a broad category of works called "sound recordings," thus circumventing any questions regarding the applicability of the 1911 Act to any new technologies in the field of sound reproduction.)

46. In discussing Copyright Order 5713-1953 (referring to the Berne Convention), the Supreme Court has remarked that the Order "does not add any additional protection to Israeli works on the basis of the [Berne] Convention." *Etinger v. Almagor*, Civ. Appeal No. 528/73, 28[II] P.D. 116, 118 (1975).

47. 1911 Act § 1(2) (emphasis supplied).

48. *Id.*, § 1(2)(a), (d) (emphasis supplied).

49. *Id.*, § 2(1), (2). For example, in a recent unpublished case, the U.S. producer of certain software, together with its "exclusive" Israeli distributors, sought a preliminary injunction against another Israeli company that was importing into Israel and selling copies of the software that it had legally purchased in the United States. *Autodesk, Inc. v. Largo Computers, Ltd.*, Civil File No. 3226/86, Motion No. 13205/86 (Tel Aviv Dist. Ct. unpublished). The court denied the injunction on the grounds that there was no evidence that the copies that had been imported, all of which had been produced and sold by the United States software house, were works that violated section 2(2) of the 1911 Act.

50. 1911 Act, § 35(a).

thorized copying by a "contrivance" which allows the work to be reproduced on to a fixed medium such as a diskette or ROM chip, is unlawful.<sup>51</sup> These propositions find support in Israeli case law, and certain regarding the dichotomy between idea and expression, the substantial and material requirement, copying by contrivance, and prohibited uses of copyrighted works.

#### A. THE DICHOTOMY BETWEEN IDEA AND EXPRESSION

Israeli courts, like their brethren overseas, recognize the fundamental proposition that copyright protects the expression of an idea, but not the idea itself.<sup>52</sup> Copyright protects against the copying or reproduction of a particular work, but it does not confer a monopoly on the idea behind the work. Copyright law does not protect against the independent creation of a similar work, even if that work is based on the same underlying idea.<sup>53</sup>

The dichotomy between expression and idea plays an important role in computer software copyright litigation outside of Israel. Infringing defendants often claim that expression and idea in computer programs are inextricably intertwined. With only a limited number of ways to write a program to accomplish a specific task, defendants claim that the extension of copyright protection to a particular program, while presumably intended to protect the specific expression contained in the program, will have the effect of restricting access to the idea underlying the program.<sup>54</sup> Such a result is both inappropriate and undesirable. Copyright did not develop to protect ideas, processes or methods, therefore, restricting access to these would be inappropriate. The result also is undesirable because copyright could be misused to stifle creativity and innovation in the software industry.

The court's response to these claims has been to analyze the particular circumstance in each case in order to determine whether what has been copied is an idea or the expression of that idea. The Court of Ap-

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51. 1911 Act, § 1(2)(a), (d).

52. *Almagor v. Godek*, Civ. Appeal No. 559/69, 24 [I] P.D. 825, 829 (1970); *Goldenberg v. Bennet*, Civ. App. No. 15/81, 36 [II] P.D. 813, 817 (1981). See *Donoghue v. Allied Newspapers, Ltd.* [1937] All E.R. 503, [1938] 1 Ch. 106, 110 (stating that the English courts recognize a similar dichotomy). See also *Baker v. Selden*, 101 U.S. 99 (1879) (where the court discussed the long standing recognition of the dichotomy in the United States).

53. *Ladbroke Ltd. v. William Hill Ltd.* [1964] 1 W.L.R. 273, 291, [1964] 1 All E.R. 465. See generally, *Nibblett Legal Protection of Computer Programs* (Oyez, 1980), at 41-42. To the extent an idea can be protected, it is protected by patent law. A discussion of application of patent law to computer programs is beyond the scope of this article.

54. See, e.g., *Apple* 714 F.2d at 1252-54; *Whelan Associates, Inc. v. Jaslow Dental Laboratory, Inc.*, 797 F.2d 1222, 1234-40 (3rd Cir. 1986), *cert. denied*, 107 U.S. 877 (1987); *Broderbund Software, Inc. v. Unison World, Inc.*, 648 F. Supp. 1127, 1181-1233 (N.D. Cal. 1986).

peals for the Third Circuit in the United States developed the following test:

We . . . focus on whether the idea is capable of various modes of expression. If other programs can be written or created which perform the same function as an Apple's operating system program, then that program is an expression of the idea and hence copyrightable. In essence, this inquiry is no different than that made to determine whether the expression and idea have merged, which has been stated to occur where there are no or few other ways of expressing a particular idea.<sup>55</sup>

Copyright will not protect a program if that program is the only reasonable way of accomplishing a particular task.

Although Israeli courts have not directly confronted the issue of whether the expression in a computer program has merged with its underlying idea, they faced a similar challenge in a different context. The appellant in *Almagor v. Godek* was a lyricist engaged to write the words to a number of songs in the hit Israeli musical *Casablan*.<sup>56</sup> After a dispute with one of the producers, the appellant withdrew from the production. The producer then employed other lyricists to change and complete some of the songs originally worked on by the appellant. The appellant alleged that those songs, and a final scene from the musical, infringed on his copyright. In their defense, the appellees argued that because they needed to compose songs which would serve a predetermined dramatic purpose in the plot, and conform to a predetermined melody and tempo, they had only a limited number of alternative modes of expression from which to choose. They argued that the protection of the appellant's songs would amount to protecting the idea behind the songs, and not the particular expression embodied in the song.

Although the lower court accepted this argument, the Israeli Supreme Court took a cautious approach to the problem. A limited availability of "vocabulary in a language may explain the use of a few identical words, but the importance of this factor is greater in the context of technical subjects than in the context of song or fiction."<sup>57</sup> The court proceeded to analyze each song for external restraints and available expressions. It found that some songs infringed on the appellant's copyright while others did not. As in cases involving infringement of computer programs, the court must disentangle idea from expression on a case-by-case factual basis. The Israeli courts would most likely adopt the *Almagor* approach where an alleged computer software infringement claims he was copying an idea, and not an expression.

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55. 714 F.2d at 1253.

56. *Almagor v. Godek*, 24[I] P.D. at 827.

57. *Id.* at 831.

## B. THE SUBSTANTIAL AND MATERIAL REQUIREMENT

Israeli courts have adopted the requirement that to constitute infringement a copy must be "substantial and material."<sup>58</sup> Determining whether copying is substantial and material necessitates a factual inquiry:

The question of whether the similarity between two works suffices to hold that the defendant copied a substantial and material portion of the protected work is a question of fact and degree, and the answer to this question must be given not on the basis of a mechanical comparison of a number of similar words or lines in the works under discussion, but on the basis of the impression of the judge of the entirety of the works.<sup>59</sup>

In *Goldenberg v. Bennet*, the holders of rights in the musical *Chorus Line* sued the Israeli producers of an allegedly infringing play. The plaintiffs made no claim that the lyrics or music had been directly translated or copied; instead, they claimed that taken as a whole the Israeli production constituted an infringing copy of *Chorus Line*. After comparing the two musicals, the Israeli Supreme Court found for the plaintiffs:

The comparison of the two musicals . . . indicates . . . that all of the dramatic combinations and counterpoints of the incidents constituting the tangible expression in *Chorus Line* that were new, special or original, . . . were copied with only slight camouflage in the Israeli musical. We are speaking of an imitation of the entirety of the situation and incidents with changes and modifications that were insufficient to hide the true source.<sup>60</sup>

The court, pointing to similarities in plot, scenes, music, scenery and staging, found a breach of copyright despite the absence of any word-by-word or line-by-line similarities between the two musicals.

One might interpret the *Goldenberg* holding as an Israeli version of the look and feel doctrine which has emerged from a number of recent U.S. cases finding that computer programs reproducing the look and feel of a protected program had infringed the copyright held by the owners of the original. In *Whelan v. Jaslow*, the United States Court of Appeals for the Third Circuit held that "copyright protection of computer programs may extend beyond programs' literal code to their structure, sequence, and organization."<sup>61</sup> In *Broderbund v. Unison*, the

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58. *Goldenberg*, 36 [III] P.D. at 823; *Almagor*, 24 [I] P.D. See *Chatterton v. Cave* [1878] 3 App. Cas. 483, 497-98; 47 L.J.Q.B. 545 (containing an early English statement of the requirement for "substantial and material" copying).

59. *Goldenberg*, 36[III] P.D. at 823.

60. *Id.* at 822.

61. *Whelan*, 797 F.2d at 1248. It is not surprising that the *Whelan* court relied on analogies to cases involving alleged infringement of book and movie plots.

district court extended copyright protection to the "structure, sequence and arrangement of . . . text, artwork, and user inputs."<sup>62</sup> In both cases, the infringer had at one point been in a confidential relationship with the creator of the original program, either as an employee or licensee, and had exploited the knowledge and information gained to create a similar, though not identical, program.

Recent attempts to extend the look and feel doctrine to cases where there was no confidential relationship between the infringer and the owner of the original program have made the software industry nervous.<sup>63</sup> In early 1987, the American software giant Lotus Development brought suit against two relatively small software houses, Paperback Software and Mosaic Software, alleging infringement of its popular "Lotus 1-2-3" spreadsheet program. Smaller companies fear that software giants will use the threat of "look and feel" litigation to attack their competitors, thus reducing the vitality and competitiveness of the industry.<sup>64</sup> The industry worries that such litigation would "stifle innovation, and discourage the spread of standards that would help computer users master software made by different companies."<sup>65</sup>

To date Israeli courts have not been required to rule on an alleged copyright infringement of the look and feel of a computer program. So far the cases decided have involved admitted copying of virtually all of a program.<sup>66</sup> It is therefore premature to conclude that the *Goldenberg* holding represents the adoption of a look and feel approach by the Israeli courts. Consequently, it is not clear whether the courts will protect the organization, sequence and structure of a program. A limited look and feel approach, requiring manifest similarity in organization, sequence, and structure of programs, would constitute a logical and constructive extension of the substantial and material doctrine into the realm of computer programs.

### C. COPYING BY CONTRIVANCE

Israeli courts have applied the 1911 Act to new technological methods of copying. In *Israel v. Videotext*, the defendant claimed that an electromagnetic copy of a video cassette produced by means of a video recorder was not an infringing copy under the 1911 Act.<sup>67</sup> The court

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62. *Broderbund*, 648 F. Supp. at 1127.

63. See Bunnell, *Feel and Loathing in Phoenix—'Look and Feel' Stirs Debate at PC Forum*, 6 SUBROUTINES (March 1987).

64. *Id.*

65. Wessel, *Software Display's Copyright Upheld; Judge Bans Sale of Similar Produce*, Wall. St.J., Apr. 2, 1987, at 32, col. 3.

66. *Apple v. New-Com*, 1987 [A] P.M. at 406 (where defendants copied all but 80 of the 16,000 lines in Apple's software, a "substantial and material" copying by any standard).

67. *Israel v. Videotext*, 1983 [B] P.M. at 60.

found that electromagnetic copying constituted both copying by means of any "other contrivance by means of which the work may be mechanically performed or delivered" and reproducing "in any material form whatsoever".<sup>68</sup> The court rejected claims that "electromagnetic" copying is not "mechanical" copying, and that the 1911 Act should be limited to forms of copying known to the legislator at the time the law was originally enacted. The court's noted:

[a] good law anticipates the future. Thus, when it uses general technical concepts such as "other contrivance" or "mechanically" the court is authorized to attempt to interpret these general concepts and to harmonize them with the needs of the hour and technological progress—provided the application is not "forced" or an exercise in "acrobatics."<sup>69</sup>

The court found that the use of the term "other contrivance" clearly "leaves a wide opening that enables (the 1911 Act) to apply to every future device or contrivance, even to those not known to the legislator and even to those that could not be predicted in advance."<sup>70</sup>

The same reasoning should be applied by Israeli courts when called upon to decide what constitutes a copy or an infringing use of a computer program. If they follow the logic of *Videotext*, the courts will conclude that the reverse engineering of a ROM chip, or the storing of object code, or other new technological modes of copying, constitute copying by means of "contrivance." This logical extension of *Videotext*, however, is not certain. The courts may focus on Section 1(2)d of the 1911 Act which requires the contrivance to "perform" or "deliver" the work. A new technology of copying, while enabling the operation and use of a computer program, arguably may not enable the "performance" or "delivery" of the program. Therefore, another possible interpretation of the 1911 Act is that it does not protect against copying by means of an unauthorized "contrivance" of this type. To prevent this uncertainty, new legislation should specify the types of copying and other uses of computer programs that will require authorization of the copyright owner.

#### D. PERMITTED USES OF COPYRIGHTED WORKS

The 1911 Act specifically permits several uses of copyrighted works which would constitute copyright infringements. Drawn from modern needs, permitted uses include any "fair dealing with any work for the purposes of private summary, research, criticism, review or newspaper summary." Permitted uses also include, in certain circumstances, the

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68. 1911 Act, § 1(2).

69. 1983 [B] P.M. at 60.

70. *Id.* at 61.



making of records and other mechanical reproductions of sound.<sup>71</sup>

Efficient private use of computer programs requires that the user made a back-up copy of all computer programs in case the original is somehow corrupted or destroyed. In the absence of special provisions to the contrary, the unauthorized creation of a back-up copy obviously involves the production of an infringing copy of the program. By enacting legislation which specifically permits the making of copies for the "utilization of the computer program" or for "archival purposes only," the United States resolved this infringement problem.<sup>72</sup> The legitimate owner of a computer program is entitled to make a back-up copy to be used in case the original copy is lost, destroyed, or rendered unusable.<sup>73</sup>

Israel needs similar legislation. Reading a new exception into the 1911 Act in order to permit direct copying of software in certain circumstances goes beyond the traditional interpretative powers of the court. Such a reading is too broad even for a court like the *Vidotext* court, willing to "juggle" the words of the 1911 Act. New legislation is the only answer.

#### IV. THE QUESTION OF COPYRIGHT OWNERSHIP

The 1911 Act provides that "the author of a work shall be the first owner of the copyright therein."<sup>74</sup> If the author "was in the employment of some other person under a contract of service or apprenticeship," then ownership of the copyright in a work made during the course of employment shall, in the absence of any agreement to the contrary, vest in "the person by whom the author was employed."<sup>75</sup> Thus in the absence of an agreement to the contrary, the copyright in a computer program created by a person "under a contract of employment" with a software house, will belong to the software house. The case of a software house employee poses few problems. Many situations may arise, however, where the 1911 Act does not provide a satisfactory answer. Such situations can be dealt with by contractual arrangements between the parties, but it would be preferable if the law provided more definite answer in the event the parties failed to anticipate the issue of copyright ownership.

A typical problem situation involves customized software developed by a software house according to special order for valuable consideration. Typically the ordering company lists its operation requirements,

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71. 1911 Act, §§ 2(1)(i), 19(2).

72. Computer Software Amendment Act of 1980, Pub. L. 96-517, § 1d(b), 94 Stat. at 3028 (codified at 17 U.S.C. § 117(1) (1982)).

73. See also Crisp, *supra* note 7, at 300-301.

74. 1911 Act, § 5(1).

75. *Id.* § 5(1)(b).

provides basic specifications, and sometimes permits or requires personnel from the software house to work at its facilities or on its computer. The software house is usually an independent contractor, therefore no employer-employee relationship exists. Hence, in this case, the copyright would belong to the software house designing the program and not to the company placing the order. The 1911 Act has a special provision dealing with works made according to order for valuable consideration. This provision gives the copyright to the person placing the order, but it is limited to the case of an "engraving, photograph, or portrait."<sup>76</sup> Assuming that computer software is not an "engraving, photograph, or portrait," software made on order belongs to the developer and not to the company placing the order and paying for development.<sup>77</sup>

A question arises as to copyright ownership when a freelance programmer is hired by a software house to assist on a large project to develop software. Once again, an employer-employee relationship may not exist if the software house has not properly protected its rights by contract.<sup>78</sup> In that case, the freelance programmer will own the copyright in the portions of the project that he designed or developed.<sup>79</sup>

Another question arises as to copyright ownership when a computer writes the software. With the advent of artificial intelligence, more programs are written by other programs with less direct human input.<sup>80</sup> Short of a forced interpretation, the 1911 Act cannot address

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76. *Id.* § 5(1)(a).

77. See, e.g., *Strosky v. Whitman*, 40 [III] P.D. 340 (1985) (where the question of who owned the copyright in advertising signs turned on whether the sign was an "engraving" for purposes of section 5(1)(a) of the 1911 Act). The *Strosky* court concluded that it was not an engraving, and therefore ownership of the copyright remained with the graphic artists who produced the signs, and not with the ice cream manufacturer who ordered and paid for them. 40 [III] P.D. at 350-355.

78. The question of the existence of an employer-employee relationships troublesome and uncertain. No single universal definition of these terms exists. In fact, "a person may be deemed an employee for purposes of one law, but not deemed an employee for (purposes of) another law." *State of Israel v. Nisim*, 35 [IV] P.D. 748, 758. Civ. Appeal Nos. 502/78, 515/78, 79/79 (1980). In the field of labor law, the clear trend has been to expand the variety of relationships that will be deemed "employer-employee" relationships. See, e.g., *Hershlikovitch v. Pazgas Marketing Company, Ltd.*, Hearing No. 3-82/M.H., 17 P.D.A. 97 (1985) (an "independent" agent can be considered an "employee"). It is difficult to predict how the courts would approach this question in the context of computer programmers. Cf., *BPI Systems, Inc. v. Leith*, 532 F. Supp. 208, 210 (W.D. Tex. 1981) (work specially ordered and commissioned is not "work made for hire" where the programmer is not a regular employee).

79. *Filmtechnique (Israel) Ltd. v. Tax Assessor, Tel Aviv 5*, Civ. Appeal No. 691/66, 21[II] P.D. 642, 645 (1967), (where the Supreme Court found that the translator was the first owner of the copyright in films translated to order, but that upon receipt of payment, the translator transferred the copyright to Filmtechnique).

80. Butler, *Can a Computer Be an Author? Copyright Aspects of Artificial Intelligence*, 16 INTELLECTUAL PROPERTY L. REV. 385 (1984).

the issue of computer-written software. The issue of copyright ownership in computer software is thus ripe for legislation.<sup>81</sup>

## V. PROPOSED AMENDMENT TO ISRAELI LAW

Drawing on the experiences in Israel and abroad, Israel's copyright law should be amended:

- (a) Section 35(1) of the 1911 Act should include a definition of computer program.<sup>82</sup>
- (b) The definition of "literary work" in section 35(a) of the 1911 Act should include computer programs regardless of the medium (source code object code, ROM chip, firmware or microcode) in which they are fixed.<sup>83</sup>
- (c) Section 1(2) of the 1911 Act, which lists the exclusive rights conferred upon copyright owners, should state that the computer program copyright owner has the sole right to store the work in a computer and to make any translations or adaptations of the work by means of converting it into or out of another computer language or code.<sup>84</sup>
- (d) Section 2(1) of the 1911 Act, which lists acts not considered as infringements, should permit the lawful possessor of a computer program to use it in a computer and to make copies for archival purposes.<sup>85</sup>
- (e) Section 5 of the 1911 Act, which deals with copyright ownership, should provide that copyright ownership in a computer-generated work belongs to the person who undertook the arrangements nec-

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81. See generally Sorrel, *The Treatment of Computer Software Works Made for Hire under the Copyright Law of 1976*, 5 COMPUTER L.J. 579. The author suggests that courts should consider the following factors when determining who owns the copyright in a work arguably made for hire: (i) the responsibility for creating the work; (ii) the existence and terms of the relevant employment contract; (iii) the scope of employment; (iv) the employer's right to supervise and control the work; and (v) the employer's payment of expenses and/or wages. See *Evans Newton, Inc. v. Chicago Systems Software*, 793 F.2d 889 (7th Cir. 1986).

82. The various amendments and proposals considered by panels and legislatures throughout the world contain a number of definitions of computer programs. A relatively simple, but accurate definition appears a bill submitted to the U.S. Congress by Rep. Kastenmeier: "(a) 'computer program' means a set of instructions capable, when incorporated in a machine-readable medium, of causing a machine having information processing capabilities to indicate, perform or achieve a particular function, task or result." H.R. 6983, 97th Cong., 2d Sess. § 1 (1982).

83. This proposed amendment codifies the *Apple*, holding. It also reflects the international consensus. See notes 14-25 *supra* and accompanying text.

84. See Copyright (Computer Software) Amendment Act, 1985, ch. 41, §§ 1(2), 2 (forming the basis of the article's suggested agreement).

85. This proposed amendment relies on the Copyright Software Amendment Act of 1980. 17 U.S.C. § 117 (1982). See Graft, *Combatting Software Piracy: A Statutory Proposal to Strengthen Software Copyright*, 34 DEPAUL L. REV. 993, 1029 (1985) (providing a more detailed description of non-infringing uses).

essary to create the computer output or computer-generated work<sup>86</sup> and should specify criteria for determining who owns a work created pursuant to an independent contractor relationship.<sup>87</sup>

## VI. CONCLUSION

The 1911 Act, with the assistance of creative judges, has proved remarkably adaptable to inevitable, but unanticipated, technological progress. To ask, however, that the 1911 Act cope with the copyright problems posed by computer software without amendment is to ask too much even from a well-drafted law. The need to afford copyright protection to computer programs raises issues which deserve the Kneset's immediate attention.

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86. See British Computer Society, *Intellectual Property and Innovation*, 5 SOFTWARE PROTECTION 13, 16 (Nov. 1986). This proposed amendment relies on the proposals made by the British Computer Society.

87. See Sorrel, *supra* note 81.

