

Fordham International Law Journal

Volume 9, Issue 2

1985

Article 1

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Takashi Yuasa

Abstract

Part I of this article describes the basic framework of the ACA's proposal for copyright protection of data bases. It also compares and contrasts the opposing viewpoints expressed by MITI and in the ACA Report. Part II examines United States legal theories relating to data bases and analyzes the conflicts between the ACA Report and the United States approach to data bases arising under copyright law. Part III examines the impact of the above discussions on issues relating to data protection law, including copyright law.

COMPUTER DATA BASE PROTECTION— THE IMPACT OF JAPANESE LEGISLATIVE DEVELOPMENTS ON UNITED STATES AND JAPANESE COPYRIGHT LAWS*

*Takashi Yuasa***

INTRODUCTION

The Japanese Agency for Cultural Affairs¹ (ACA) recently proposed to revise Japan's copyright laws to provide appropriate protection for data bases.² Immediately after the ACA proposed these revisions, the Japanese Ministry of International

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The author acknowledges his deep gratitude for the invaluable assistance of the following people: Charles Whitehead, Mike and Lisa Robinson, Naoki Shimazaki, Martha Cecil, Wilhelmina Mol, and Yoshiharu Tamura.

1. The Japanese Agency for Cultural Affairs consists of the Director-General's Secretariat, Cultural Affairs Department and Cultural Properties Protection Department. The Director-General's Secretariat consists of the General Affairs Division and Budgeting and Accounting Division. The Cultural Affairs Department consists of the Cultural Diffusion Division, Arts Promotion Division, Japanese Language Division and Copyright Division. ORGANIZATION OF THE GOVERNMENT OF JAPAN 1983 61 (Administrative Management Agency) (1983). The Agency for Cultural Affairs is responsible for the following functions:

- (i) planning, assistance and advice concerning the promotion of culture and the preservation and utilization of cultural properties; (ii) improvement and diffusion of the Japanese language; (iii) matters concerning copyright; (iv) affairs concerning the facilities of art, culture and cultural properties; (v) grant of national subsidies for the promotion and dissemination of culture, and for the preservation and utilization of cultural properties. . . .

Id.

2. The Agency for Cultural Affairs (under the Ministry of Education), Interim Report of the Copyright Council, Seventh Subcommittee (on Data Bases) (Dec. 1984) [hereinafter cited as ACA Report]. The English translations of the ACA Report in the text and footnotes of this Article are made by the author based on the original ACA Report in Japanese. In discussing the legal protection of computer software and data bases, a basic acquaintance with various technical terms is essential to an understanding of the issues. "Computer software consists of the instructions and data that computer hardware manipulates to perform useful work. A sequence of instructions for a computer is called a [computer] program. The data manipulated

Trade and Industry³ (MITI) announced its intention to provide its own proposal, including the possibility of a special act for the protection of data bases.⁴ A conflict between MITI and the ACA over data base protection would parallel the recent controversy between the two governmental organizations regarding computer software.⁵ At present in the United States,

by a computer program is called a data base" DATA FOR ENGINEERS: RADIO, ELECTRONICS, COMPUTERS AND COMMUNICATIONS (E. JORDAN 7th ed. 1985).

A typical data base is a vast and continuously updated file of information, abstracts or references on a particular subject or subjects. On-line data bases are designed so that by using subject headings, key words, [and] key phrases . . . users can quickly and economically search for, sort, analyze and print out data.

COMPUTER DICTIONARY AND HANDBOOK (C. SIPPL & R. SIPPL 3d ed. 1980). For lawyers and law students, LEXIS® is a good example of a data base. Through the use of numerous commands, a person can receive information, *e.g.*, cases or legal articles, from pre-existing materials stored in data bases. The term "computer software," as used in the Copyright Act of 1976, includes not only programs but descriptions thereof and other supporting documentation. All such materials, as well as the programs themselves, are capable of being copyrighted and constitute a designated type of "literary work." 17 U.S.C. §§ 101, 102(a)(1) (1982). See generally Schmidt, *Legal Proprietary Interests in Computer Programs: The American Experience*, 21 JURIMETRICS J. 345 (1981).

3. As its name implies, MITI is the government office responsible for the management of Japanese international trade and industry. MITI's administration of government policies and programs has far-reaching implications for the Japanese economy, and the Ministry's day-to-day responsibilities affect virtually every sector of industry in Japan. It is MITI's responsibility to carry out trial policies effecting the national welfare and the stable development of the Japanese economy based on international coordination and comprehensive natural resources and energy utilization policies. MINISTRY OF INTERNATIONAL TRADE AND INDUSTRY, MITI HANDBOOK 1981/82 (6th ed. 1981).

4. See *infra* note 37.

5. See *supra* note 2 (discussing the distinction between data base and software).

Most Japanese proposals or bills are drafted by administrative officers in the ministries rather than members of the Diet, the Japanese legislative body. It is quite common for debates regarding legislation to stem from conflicts of interest between the ministries, each of which wishes to expand its scope of influence over various fields of business and society. MITI's draft proposal was entitled *Laws Concerning Title to Computer Programs*, MITI, 1983 Report. See Kikuchi, *The Ongoing Controversy in Japan over the Protection of Computer Software*, *Worldlaw*, Nov.-Dec. 1984, at 30, 31.

The United States Government and computer businesses, strongly claiming copyright protection for computer software, paralleled the ACA's position. The controversy ended in March, 1985, when MITI withdrew its proposal for the benefit of continued international harmony. MITI's action would seem to be the result of United States pressure on the Japanese Government. See *Chosakukenho de Hogo [MITI Agreed to the Copyright Protection]*, *Nihonkeizai Shimbun*, Mar. 17, 1985, at 1.

The ACA Report, citing MITI's 1983 statistics, mentioned that the number of commercial data bases available in Japan was 916 (but some of them overlap between different service companies and, therefore, the real number was 679), out of which

copyright laws⁶ govern the protection of data bases. Given the

173 were Japanese and 743 foreign. With respect to their categories, general matters accounted for 72, natural science and technology accounted for 346, social and human sciences accounted for 77, business accounted for 369, and, finally, a miscellaneous category accounted for 52. ACA Report, *supra* note 2, at 8 (citing MITI, 1983 Report and others).

6. The United States Constitution gives Congress the power "to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." U.S. CONST. art. I, § 8, cl. 8. Congress enacted the first copyright law in 1790, Act of May 31, 1790, ch. 15, 1 Stat. 124, and after major revisions in 1831 and 1870, the Copyright Act of 1909 was enacted. Act of Mar. 4, 1909, ch. 320, 35 Stat. 1075 (codified as amended at 17 U.S.C. § 1-62 (1982)). Many difficulties arose with the application of this statute to the numerous technological advances in the reproduction and transmission of images and sounds. After much debate, Congress enacted the Copyright Act of 1976 which took effect January 1, 1978. Copyright Act of 1976, Pub. L. No. 94-553, 90 Stat. 2541 (1976) (codified as amended at 17 U.S.C. §§ 101-810 (1982)). The Copyright Act of 1976, which took effect on January 1, 1978, has now terminated, for the most part, the previous dual system of federal and state copyright laws by reason of federal preemption under section 301(a) of this act. *See* M. NIMMER, NIMMER ON COPYRIGHT, A TREATISE ON THE LAW OF LITERARY, MUSICAL AND ARTISTIC PROPERTY, AND THE PROTECTION OF IDEAS § 1.01[B], at 1-6, § 2.02, at 2-16 (1985). Section 102 of the Copyright Act of 1976 (as amended in 1982) provides as follows:

- (a) Copyright protection subsists, in accordance with this title, in original works of authorship fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device.

17 U.S.C. § 102 (1982).

Within this context, a very low level of originality is necessary. All that is needed to satisfy both the Constitution and the statute is that the author contribute something more than a "merely trivial" variation, something recognizably his own. Copyright protection is not extended to ideas but only to their expression. Section 102(b) provides:

In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.

17 U.S.C. § 102(b) (1982). Section 103(a) provides:

While individual facts may not be copyrighted, statutory protection of data does extend to compilations of facts, even if the facts themselves are in the public domain. 17 U.S.C. § 103(a) (1982).

The Japanese Copyright Law applies to unfair competition involving copyright infringement. Law No. 48 of 1970, *translated in* UNITED NATIONS EDUCATIONAL SCIENTIFIC AND CULTURAL ORGANIZATION, COPYRIGHT LAWS AND TREATIES OF THE WORLD, JAPAN (1971 & Supp. 1978) [hereinafter cited as Japanese Copyright Law]; Japanese Copyright Law applies to unfair competition involving copyright infringement. Article 2 thereof defines a copyrightable work as a "production in which thoughts or sentiments are expressed in a creative way and which falls within the literary, scientific, artistic or musical domain." Japanese Copyright Law, *supra*, art. 2(1)(i). Article 10 lists those works for which copyright protection is available. These include liter-

rapid change in data base protection throughout the world, the controversy in Japan could have a significant impact on data base protection under United States law.

From a comparative law perspective, several points regarding data base protection should be underscored. Although data bases in the United States are protected under current copyright law,⁷ the ACA's proposed revision would eventually provide much broader protection than presently provided in the United States.⁸ It should also be noted that the potential controversy between the ACA and MITI regarding data bases differs from the previous confrontation as to software. The prior conflict involved issues primarily relevant to copyright and patent law.⁹ The data base controversy, on the other hand, involves issues dealing with copyright law and misappropriation.¹⁰ The new controversy between MITI and the ACA may provide a good opportunity to reexamine issues of a similar nature dealing with the computer software controversy and the scope and limitation of the copyright laws in Japan and the United States.

Part I of this article describes the basic framework of the

ary, musical, and artistic works, figurative works of a scientific nature such as plans, charts, and models, and cinematographic and photographic works. *Id.* art. 10.

For a work to be copyrightable under Japanese law, it has to meet the following three criteria set forth in article 2 of the Japanese Copyright Law: 1) the work must be an expression of an idea or a feeling of an author; 2) the major portion of a work's expression must be creative and original; 3) the work must be expressed in one of those forms specified under article 10, such as words, characters, colors, pictures or other images, or sound. Japanese Copyright Law, *supra*, art. 10. A computer program is construed under Japanese law as a work which creatively expresses ideas or concepts of a programmer regarding a method of performing tasks by a computer. Takaishi, *Legal Protection of Software Under Japanese Law*, 5 *EUR. INTELL. PROP. REV.* 131, 132 (1982).

7. See generally *supra* note 6.

8. See *infra* notes 40-61 and accompanying text.

9. See Yuasa, *Kompyuta Sohutouea no Beikoku Chosakukenho niyoru Hogo to Sono Rironteki Genkai* [U.S. Copyright Protection of Computer Software and Its Intrinsic Limitations], 12 *KOKUSAI SHOJI HOMU* [J. OF THE JAPANESE INSTITUTE OF INT'L BUS. L.] 853 (1984); Nakayama, *Kompyuta Puroguramu no Hoteki Hogo* [Legal Protection for Computer Programs], 784 *JURISTO* 14 (1983); Takaishi, *Sohutouea Hogo no Hoteki Kadai* [Legal Issues on Software Protection] 784 *JURISTO* 19 (1983). In the United States, similar issues regarding object programs, i.e., computer programs written in machine languages, have been discussed. See, e.g., Stern, *Another Look at Copyright Protection of Software: Did the 1980 Act Do Anything for Object Code?*, 3 *COMPUTER L.J.* 1 (1981).

10. See *infra* notes 14-63 and accompanying text; for a discussion of a misappropriation theory of unfair competition, see, e.g., M. NIMMER, *supra* note 6, § 2.11, at 2-165 n. 30.

ACA's proposal for copyright protection of data bases. It also compares and contrasts the opposing viewpoints expressed by MITI and in the ACA Report.¹¹ Part II examines United States legal theories relating to data bases and analyzes the conflicts between the ACA Report and the United States approach to data bases arising under copyright law.¹² Part III examines the impact of the above discussions on issues relating to data protection law, including copyright law.¹³

I. THE FRAMEWORK OF THE ACA REPORT

The ACA Report spans a broad number of topics¹⁴ ranging from the definitions of "data base" and "copyright" to the moral rights subsumed under the rubric of copyright.¹⁵ The Report defines a data base as a voluminous collection of information systematically organized and integrated in machine readable form for the purpose of computer retrieval.¹⁶ Although the term data base has at times been used to refer to a data base system including computer software, as used in the ACA Report it does not include computer software.¹⁷ The ACA Report identifies two fundamental types of data bases: 1) documentary data bases, and 2) factual data bases, i.e., data bases consisting of particular facts or details.¹⁸ Under the ACA Report, a data base in its entirety is considered a distinct category of copyright protected work;¹⁹ the category of "collected works" is an insufficient concept to encompass the nature of data bases.²⁰ Thus, the unpermitted partial copying of a data

11. See *infra* notes 37-39 and accompanying text.

12. See *infra* notes 40-63 and accompanying text.

13. See *infra* notes 64-76 and accompanying text.

14. See generally ACA Report, *supra* note 2 (table of contents).

15. *Id.*

16. See *id.* at 4.

17. See *id.*

18. See *id.*

19. See *id.* at 20.

20. Chosakukenho (Copyright Law), Law No. 48, art. 12(1) of 1970 [hereinafter cited as Chosakukenho (Copyright Law)]; see ACA Report, *supra* note 2, at 18-20. It should be noted that the English translation of Chosakukenho in this Article is based on the 3 EHS LAW BULLETIN SERIES: SERIES OF JAPANESE LAWS (EIBUN-HOREI-SHA, INC. 1971) [hereinafter cited as EHS Translation]. A collected work is described as "a collection having [originality] by way of selection or arrangement of the materials [that] shall be protected as a work." Chosakukenho (Copyright Law), *supra*, art. 12; see ACA Report, *supra* note 2, at 19, 20.

base constitutes a copyright infringement when the copied part is a collection of information having a copyright value.

Although the Japanese Copyright Law²¹ acknowledges the author's exclusive rights to "broadcast" or "wire-broadcast"²² of his works, the ACA Report does not specify whether the transmission of information by data base services constitutes "broadcasting" or "wire-broadcasting."²³ The ACA has not resolved this question, but suggests that this issue be reexamined in light of new communications media.

Pursuant to the ACA Report, the addition or renewal of information on a data base that is not the equivalent of creative conduct generally does not constitute an adaptation of a copyrighted work.²⁴ Only if such addition or renewal of information constitutes an adaptation is the new data base construed as a "secondary work"²⁵ of the original data base. However, if the creator of a new data base uses only the format of the original data base to store completely different information therein, the new data base does not constitute an adaptation but is considered a new and independent copyrighted work.²⁶ The Japanese Copyright Law protects the data base as a collection of information systematically organized and integrated, but it does not protect the format itself.

The output of the data bases in the form of voices or sounds will be covered by the right of dictating²⁷ or the rights

21. Japanese Copyright Law, *supra* note 6.

22. Chosakukenho (Copyright Law), *supra* note 20, art. 23. "[1] An author shall exclusively have the right of broadcasting or wire-broadcasting his work. [2] An author shall exclusively have the right of publicly delivering his work broadcast or wire-broadcast by using a receiving apparatus." *Id.* art 23. Article 2.1 (8) defines "broadcasting" as a "[t]ransmission of wireless communication for the purpose of being directly received by the general public." *Id.* art. 2.1(8). "Wire-broadcasting" is defined at article 2.1(8) as the act of "effecting transmission of wire electric communication . . . for the purpose of being directly received by the general public." *Id.* art. 2.1(8).

23. *Id.* art. 2.1(8).

24. *Id.* art. 27. "An author shall exclusively have the right of translating, arranging, transforming, dramatizing, cinematizing, or otherwise adapting his work." *Id.*

25. *Id.* art. 11. "Secondary work" is defined as a "[w]ork created by translating, arranging, transforming, dramatizing, cinematizing, or otherwise adapting a work." *Id.*

26. *Id.*

27. *Id.* art. 2(1)(18), (24) (discussing the "right of dictating").

of staging or playing.²⁸ However, under the Japanese Copyright Law, output in the form of a screen-image will not be covered by the right of screening.²⁹ The ACA will examine this inconsistency in light of new communications media and networks.

An author's right of retrieval with respect to the data base is also examined by the ACA Report. The author of the data base will be protected when data base users attempt to retrieve that part of the data base that has a copyright value. However, users often retrieve only that portion of the data base which has no copyright value. For example, a user of LEXIS® may frequently search only the names and citations of legal articles, having no copyright value, rather than the full text of these articles. The ACA Report plans to continuously examine whether the right of retrieval is necessary to protect the authors of the data base in this situation.³⁰

The author can also be granted a compulsory license.³¹ A compulsory license is given by a governmental authority on behalf of the author of the copyrighted work to permit the use of the work for the public interest.³²

Above and beyond the aforementioned rights, the Japanese Copyright Law also provides for the protection of certain moral rights of the author. Specifically, three types of moral rights are protected by the Japanese Copyright Law:³³ 1) the right of publication; 2) the right to manifest the author's name;

28. *Id.* art. 2(1)(16), (22) (explaining the "right of staging and [the] right of playing").

29. *Id.* art. 26. "An author shall exclusively have the right of publicly screening his cinematic work, or the right of distributing the reproduction thereof." *Id.* The ACA Report stated that the "right of screening" covers only cinematic work and, therefore, rarely includes the output of information of static pictures on a screen.

30. See generally ACA Report, *supra* note 2, at 38 (discussing retrieval and use of data bases, assessing protection of individual parts).

31. Chosakukenho, *supra* note 20, art. 67 (describing the utilization of work in case of indistinct owner of copyright); *id.* art. 68 ("the broadcast of work"); *id.* art. 69 ("sound-recording to commercial record"); *id.* art. 70 ("proceedings and standards concerning ruling").

32. The ACA Report states that enactment of specific provisions regarding data bases is not necessary. See generally ACA Report, *supra* note 2, at 44.

33. See *id.* arts. 18, 19, 20. The three types of moral rights are defined as:

Article 18

Right of Publication

An author has the right of offering or presenting to the general public his work which has not been published. . . .

and 3) the author's right to preserve the integrity of the work. The right of publication deals with the issue of when a data base is construed to be published. The ACA Report specifically states that a data base is published at the moment the data base service begins. The right to display the author's name, either real or artificial, i.e., a pen name, is also protected under the ACA Report. In the case where a data base might have more than one author (the present author and also the author of the pre-existing work stored in the data base), the ACA Report states that the right to display the author's name may be resolved by the authors at the time of creation of the data base.³⁴

The author's right to protect the creative and discretionary integrity of his work consists of the author's right to retain control over the content of the work and to reject revisions to the work with certain exceptions. The ACA Report indicated that the modification of a data base by the addition or deletion of information is essential to the nature of data bases and that therefore such additions and deletions fall within an exception to this protection because they are "unavoidable in the light of the nature of the work."³⁵

The period of copyright protection for data bases under the ACA Report is equivalent to that for other copyrightable works, (i.e., fifty years after the death of the author or, in the case of the corporate author, fifty years after publication of the data base). According to the ACA Report, the period for data base protection should be discussed on an international

Article 19

Right of Manifesting the Author's Name

An author has the right of manifesting his true name . . . as the author's name or of not manifesting the author's name, in the original of the work or at the time of offering or presenting the work to the general public.

Article 20

Right of an Author to Preserve the Integrity of His Work

An author has the right to preserve the integrity of the work and the title thereof, and shall not be subject to changing, cutting or any other revision contrary to his intention.

Id.

34. ACA Report, *supra* note 2, at 12.

35. Chosakukenho, *supra* note 20, art. 20(2)(3). "Revision in addition to those mentioned in the preceding two items, is recognized as unavoidable in light of the nature of the work as well as the object and mode of utilization thereof." *Id.*

level.³⁶

A. MITI's Response to the ACA Report

Immediately following publication of the ACA Report, MITI announced its intention to make its own proposal,³⁷ with the possibility of a special act providing for the protection of data bases. MITI indicated that it disagreed with several provisions in the ACA Report. MITI believed, for example, that the scope of data base protection under the copyright laws was too narrow, primarily because it did not protect facts themselves.³⁸ In addition, MITI took exception to the examination needed to determine whether the on-line transmission of data base information constitutes "broadcasting" of the copyrighted work under the Japanese Copyright Law.³⁹

II. DATA BASE PROTECTION UNDER UNITED STATES COPYRIGHT LAW

The National Commission on New Technological Uses of Copyrighted Works (CONTU)⁴⁰ was created by the Congress of the United States for the purpose of revising the existing copyright law. Among the recommendations CONTU submitted in its final report to the President and Congress in 1978 was a proposal that the copyright law should apply to data ba-

36. ACA Report, *supra* note 2, at 15.

37. *See generally*, Deta Beisu nimo Chosakuken: Tsusansho ga Hanron no Bunsho (MITI Issued an Internal Document Opposing the ACA's Proposal for Copyright Protection of Data Bases), *Nihonkeizai Shimbun*, at 5 (Dec. 18, 1984); Deta Beisu: Moho de Kenkai Wakareru (Data Base Protection: Different Views of the Copying of Data Bases).

38. *See generally*, Deta Beisu nimo Chosakuken: Tsusansho ga Hanron no Bunsho (MITI Issued an Internal Document Opposing the ACA's Proposal for Copyright Protection of Data Bases), *Nihonkeizai Shimbun*, at 5 (Dec. 18, 1984); Deta Beisu: Moho de Kenkai Wakareru (Data Base Protection: Different Views of the Copying of Data Bases).

39. *See generally*, Deta Beisu nimo Chosakuken: Tsusansho ga Hanron no Bunsho (MITI Issued an Internal Document Opposing the ACA's Proposal for Copyright Protection of Data Bases), *Nihonkeizai Shimbun*, at 5 (Dec. 18, 1984); Deta Beisu: Moho de Kenkai Wakareru (Data Base Protection: Different Views of the Copying of Data Bases).

40. Act of Dec. 31, 1974, established the National Commission on New Technological Uses of Copyrighted Works (CONTU), which was charged, *inter alia*, with studying and making recommendations for copyright legislation. Act of Dec. 31, 1974, Pub. L. No. 93-573, 1974 U.S. CODE CONG. & AD. NEWS (88 Stat.) 1873.

ses, because data bases are categorized as compilations.⁴¹ The term "compilation" within this context can be loosely defined as the selection or arrangement of materials. Such materials are sometimes in the public domain and at other times considered copyrighted works. If such underlying materials are works capable of copyright protection then these compilations are called "collective works."⁴²

Pursuant to express statutory language,⁴³ the copyright protection afforded to compilations covers only those materials attributable to the author of the compilations. Thus, any copyright protection of the underlying work will not be affected. Also, when the underlying materials are in the public domain, such materials themselves are not protected. In the latter case, it has been said that "facts" are not subject to copyright protection. To recapitulate, the subject matter of copyright in data bases is the selection or arrangement of underlying materials, regardless of whether those materials are copyrighted or in the public domain. This rule is consistent with the cardinal principle of copyright law which is to protect the "original" writings of the author.

41. National Commission on New Technological Uses of Copyrighted Works, Final Report 84-85 (July 31, 1978), *reprinted in* CONTU's Final Report and Recommendations in 5 *COPYRIGHT, CONGRESS AND TECHNOLOGY: THE PUBLIC RECORD* 77 (N. Henry ed. 1980). "Under the new law a data base is a compilation and thus a proper subject for copyright [footnote omitted]." *Id.*; *see also* M. NIMMER, *supra* note 6, § 2.04[C], at 2-43 n.19; 17 U.S.C. § 101 (1977). "A 'compilation' is a work formed by the collection and assembling of preexisting material or of data that are selected, coordinated, or arranged in such a way that the resulting work as a whole constitutes an original work of authorship. The term 'compilation' includes collective works." *Id.*

42. 17 U.S.C. § 101 (1977). "A 'collective work' is a work, such as a periodical issue, anthology, or encyclopedia, in which a number of contributions, constituting separate and independent works in themselves, are assembled into a collective whole." *Id.*

43. 17 U.S.C. § 103 (1977) provides:

- (a) The subject matter of copyright . . . includes compilations . . . but protection for a work employing preexisting material in which copyright subsists does not extend to any part of the work in which such material has been used unlawfully.
- (b) The copyright in a compilation . . . extends only to the material contributed by the author of such work, as distinguished from the preexisting material employed in the work, and does not imply any exclusive right in the preexisting material. The copyright in such work is independent of, and does not affect or enlarge the scope, duration, ownership, or subsistence of, any copyright protection in the preexisting material.

Id.

The above-mentioned rule seems to have been applied by United States courts in a very confusing manner, especially when significant research was involved in the completion of such compilations. Under both the 1909 and the current United States copyright laws, courts have held that the copying of the underlying materials may constitute a copyright infringement.

Certain courts have consistently shown a desire to protect the industriousness of the researcher.⁴⁴ Toward this end, case law has gone so far as to protect the fruits of a researcher who explores obscure archives and who finds and brings to the light of public knowledge little known facts or other public domain materials by attributing to the finder the title of "author." The most extreme application of this rule is found in *Leon v. Pacific Telephone and Telegraph Co.*,⁴⁵ where the defendant rearranged the plaintiff's telephone directory from alphabetical order to numerical order. In this case, the United States Court of Appeals for the Ninth Circuit stated that this constituted copyright infringement of the existing telephone directory. A noted scholar in copyright law has criticized this line of cases for merely protecting the fruits of one's research.⁴⁶ This authority agreed that this type of research might be protected in certain circumstances under a theory of unfair competition. But he argued that to accord copyright protection on this basis alone distorts basic copyright principles in that it creates a monopoly in public domain materials without the necessary justification for protecting and encouraging the creation of "writing" by "authors."⁴⁷

Some courts, on the other hand, do view an arrangement or pattern of data as the sole copyrightable element of a compilation. For example, in *Triangle Publications, Inc. v. Sports Eye*,

44. See, e.g., *Northwestern Bell Tel. Co. v. Bedco of Minn., Inc.*, 501 F. Supp. 299 (D. Minn. 1980); *Jeweler's Circular Publishing Co. v. Keystone Publishing Co.*, 281 F. 83 (2d Cir. 1922), cert. denied, 259 U.S. 581 (1922); *Southwestern Bell Tel. Co. v. Nationwide Indep. Directory Serv.*, 371 F. Supp. 900 (W.D. Ark. 1974); *National Research Bur., Inc. v. Kucker*, 481 F. Supp. 612 (S.D.N.Y. 1979).

45. 91 F.2d 484 (9th Cir. 1937); see M. NIMMER, *supra* note 6, § 3.04, at 3-15, 18, 20 n.20.

46. See M. NIMMER, *supra* note 45 and accompanying text.

47. M. NIMMER, *supra* note 6, § 3.04, at 3-19, 20.

Inc.,⁴⁸ the defendant extracted results from the plaintiff's *Daily Racing Form* for publication in its newspaper. The court held that no infringement occurred since the defendant reassembled the racing results into charts that were in no way similar to those of the plaintiff.⁴⁹

A. *The Differences Between the ACA Report and United States Copyright Law*

A detailed analysis of the Japanese ACA Report reveals that this document provides broader copyright protection for data bases than the United States copyright laws.⁵⁰ Under the present Japanese Copyright Law, data bases can be protected as compilations.⁵¹ The issue raised by the ACA Report is whether the compilations category is sufficient and appropriate for the protection of data bases.

The ACA Report indicates that the character of compilations, i.e., the selection or arrangement of materials, does not provide protection for important aspects regarding the originality of data bases.⁵² In other words, the ACA Report differ-

48. 415 F. Supp. 682 (E.D. Pa. 1976); see M. Nimmer, *supra* note 6, § 3.04, at 3-18 n.14.

49. *Id.* at 685-86; see also *Miller v. Universal City Studio, Inc.*, 650 F.2d 1365 (5th Cir. 1981); *Eckes v. Card Price Update*, 736 F.2d 859 (2d Cir. 1984); *Rosemont Enterprises, Inc. v. Random House, Inc.*, 366 F.2d 303 (2d Cir. 1966), *cert. denied*, 385 U.S. 1009 (1967).

50. See generally *infra* notes 57-61 and accompanying text.

51. Japanese Copyright Law, *supra* note 6, art. 2 (1)(i).

52. See ACA Report, *supra* note 2. The ACA Report examined the originality of data bases as follows:

Four Stages of Creating Data Bases

1. *Collection or selection of pre-existing materials.* The creators of data bases determine their plans for collection of information and then pursuant to such plans and standards actually determine which information will be stored.
2. In order to organize and integrate information already collected and stored, the creators of data bases determine characteristics of data and create data structures for storing and indexing information. Thus systems of data bases are made. Creation of the data structures is very important to maximize efficient retrieval of necessary information from data bases.
3. In order to actually organize and integrate information in the data system, the creators of data bases will make analyses and process information, such as confirmation of the trustworthiness of information, supplementation of lacking information, and adjustment to achieve consistency and unification among information. Thus, creators select data bases by means of understanding the important points of the stored documents

entiates data bases from existing compilations, such as directories or encyclopedias, because of the originality contained in data bases.⁵³

The ACA Report states that a data base is not a mere aggregation of information but a work from which one can easily and effectively retrieve necessary data.⁵⁴ As examples of originality in data bases, the ACA Report notes the selection and setting of key words in a documentary data base and the processing of information through the creation of data bases.⁵⁵

The ACA Report further discusses the necessity of understanding the distinction between a data base, which is a distinct category of writing, and a compilation, the original nature of which is much more limited.⁵⁶ The underlying policy of the ACA Report is designed to achieve flexible copyright protection suitable for new technology.

B. *The Partial Copying of Data Bases: The Infringement Criterion*

The ACA Report states that copying a certain aggregation of information which has copyright value will constitute copyright infringement.⁵⁷ It suggests that this criterion regarding copyright infringement will be broad enough to make almost all commercially meaningful copying of data bases a violation of copyright law.⁵⁸ The ACA's proposal with respect to the criterion for data base infringement may be characterized as a practical approach to the issue of copyright infringement because: 1) it is generally not necessary that the court be involved in confusing concepts, such as determining what a selection or arrangement is; and 2) it permits a court to focus on

and extracting their main subjects. Selection of key words used for the retrieval of information would be particularly creative among the intellectual efforts of analyses and process information.

4. After the above work is completed, the information is stored and the data bases, as expressions of collected information, are completed.

Id. at 24-25. The ACA Report stated that these stages provide originality for a data base. *Id.* at 25.

53. *Id.*; see also Denicola, *Copyright in Collections of Facts: A Theory for the Protection of Nonfiction Literary Works*, 81 COLUM. L. REV. 516, 531 (1981) (discussing the originality of data bases).

54. ACA Report, *supra* note 2, at 23-25.

55. *Id.*

56. *Id.*

57. *Id.* at 31-33.

58. *Id.* at 33.

whether the copied portion of the data base has a copyright value. The adoption of this test by a court would favor the plaintiff⁵⁹ more than would the tests established under United States law.

It is not clear from the ACA Report whether the theory that compilations are original writings susceptible to copyright has been abandoned. The ACA Report finds the issue of the originality of a data base more complicated than that of an existing compilation.⁶⁰ The Report also emphasizes that a data base is an integrated aggregation of information.⁶¹ This theory will most likely result in the classification of all commercially meaningful partial copying as a copyright infringement. A conceptual union of the data base as an integrated whole and of the discrete information stored in the data base is supported by the fact that various stages of processing information are involved in the creation of a data base. One example

59. It is important to understand the difficulties imposed on the plaintiff who is confronted with the following general problems regarding high-technology law practice:

1) *The Difficulties in Predicting the Result of Litigation*

In litigation dealing with the issues of computer technology, it would be extremely difficult as well as important for attorneys to explain computer technology to judges or juries in laymen's terms. (It might be helpful for most attorneys to cooperate with computer scientists.) The lack of a computer background on the part of a judge or a jury would make the result of litigation quite uncertain and unpredictable.

2) *The High Cost of Litigation*

Because of the many difficult legal and technological issues regarding computers, litigation may often be too costly or risky for a great number of medium- or small-sized data base companies.

3) *The Necessity of Quick Remedy*

Attorneys should be aware that where their clients are small companies or venture businesses, the quickest remedy should be sought in order to avoid the client's bankruptcy.

4) *The Difficulties of Proof of Infringement*

If there is litigation on copyright, such issues as substantial similarity between the copyrighted work and the infringing work should be proved by plaintiff. Since information stored in data bases may be easily changed, the determination of substantial similarity, etc., would be a very difficulty task for even an expert witness.

5) *Psychological Difficulties on the Side of the Plaintiff*

Before commencing suit, a client and his attorney may face psychological barriers. Generally, litigation regarding computer technology involves former or active employees or fellow software houses, regardless of whether such suits are brought against them or not. It might make the client hesitate to bring a suit.

60. ACA Report, *supra* note 2, at 23.

61. *Id.* at 23-25, 31-33.

of processing information is the selection of keywords for a documentary data base.

The position taken in the ACA Report is open to criticism because the ACA Report does not make a clear distinction between the underlying work, i.e., the stored information, and the author's intellectual efforts that are vested in a data base. In fact, the ACA Report did not extend copyright protection to either the underlying copyrighted work or to the mere facts of a data base. The ACA Report does not respond to the confusing issues that arise between copyright law and misappropriation. Rather, it tries to avoid these issues and achieve a more practical result, by establishing a flexible infringement criterion for partial copying.

C. An Intrinsic Limitation to United States and Japanese Copyright Protection of Data Bases

The copyright theories of United States law and those proposed by the ACA Report disregard an important distinction between data bases and existing literary works. In the case of a literary work, photocopied parts remain part of the original expression of the author of the book. On the other hand, the output produced by the data base user, upon completion of a search, is different from the original expression of the author of the data base. The data base is a selectively edited version of the materials that were input by the author.

As the ACA Report indicates, the original work completed by the user of a data base is so slight that he or she should not be considered a co-author of the output.⁶² However, this does not necessarily mean that all the originality contained in the output is attributable to the author of the data base. The user of the data base may select or combine numerous commands for retrieval. Therefore, the output is not under the control of the author of the data base except to the extent that the materials contained in the output are included in the pre-existing materials stored in the data base. From the perspective of copyright law, it is quite difficult to analyze the extent to which the originality of the data base is reflected in the new output.

The ACA Report implies that the user's output should be

62. *Id.* at 32.

subject to the exclusive copyright of the data base author because the economic value of the data base is much greater than the economic value of the user's output. Thus, the data base author should have exclusive copyright protection of the output. This implied policy may distort the principle of copyright law which provides legal protection for that work to which the author's originality is attributable. This is a limitation on both United States and Japanese copyright law with respect to data base protection.

D. The Right to Retrieve Information from Data Bases

One of the most important legal issues raised by the ACA Report concerns the right of the user to retrieve information from a data base. Even under the broad protections provided by the ACA Report, the copying of a portion of a data base which has no copyright value in itself, does not constitute a copyright infringement. The ACA Report found that the use of a data base normally involves retrieving small portions of information contained in the data base.⁶³ This use can be covered by a data base contract between the author of a data base and each data base user. However, in order to provide full protection for the author of a data base, protection must be extended to information retrieved from the data base.

III. POTENTIAL CONTROVERSIES BETWEEN THE ACA REPORT AND MITI'S PROPOSAL

A. The Moral Rights of the Author

One potential point of disagreement between MITI and the ACA Report focuses on the moral right of the author to control his copyrighted work. Japan is a member of the Berne Convention for the Protection of Literary and Artistic Works (Berne Convention).⁶⁴ Pursuant to the Berne Convention, copyright includes moral rights which are, by nature, inalienable because they are based on the personality of the author.⁶⁵

Among the moral rights expressly provided for by the Jap-

63. *Id.* at 38.

64. *Latest Revision*, July 24, 1971, 331 U.N.T.S. 218 [hereinafter cited as Berne Convention]. See generally C. MASOUE, *GUIDE TO THE BERNE CONVENTION FOR THE PROTECTION OF LITERARY AND ARTISTIC WORKS* (1978).

65. Berne Convention, *supra* note 64, art. 6bis(1).

Japanese Copyright Law⁶⁶ is the author's right to creative and discretionary integrity over his work. This so-called right of integrity might be inconsistent with the nature of data bases which inevitably engender constant modifications. Under the Japanese Copyright Law, the author of the copyrighted work may enjoin the infringing conduct.⁶⁷ The ACA Report confronts the issue of the constant modification of data bases by referring to it as "[r]evision . . . recognized unavoidable in the light of the nature of the work"⁶⁸ When compared with the modifications of computer software, the modifications of data bases are less significant in terms of the copyright value attached to the works. Since Japanese legislators seem to have reached the conclusion that the modification of computer software falls within the scope of revisions recognized as "unavoidable in the light of the nature of the work," it may be quite difficult as a practical matter for MITI to raise the issue of moral rights again in conjunction with data base protection.

B. *Abandonment of the Author's Exclusive Right*

MITI's discussions on the topic of data base protection may be influenced by a theory that advocates the denial of an exclusive right of copying to the creator of data bases.⁶⁹ Rather, this theory provides for the monetary compensation of the creator. The theory holds that, in a society such as ours, it is impossible to control copying. Although the copyright law may prohibit the substantial copying of data bases, it does not control copying of small portions of data bases. Over time, the separate copying of these portions of a data base will eventually amount to the complete copying of the data base, although not by one person. From this perspective, the author of a data base has not yet been fully compensated for his actual contribution to society. In order to provide for full compensation in a new copyright act, these practical realities facing the data

66. See *supra* note 27 and accompanying text.

67. Chosakukenho, *supra* note 20, art. 112.

68. *Id.*

69. Nakayama, Nyumedia Jidai no "Joho" no Hogo [The Protection for Information in the Times of New Computer Media], *Juristo Zokan: Kodojohosbakai no Horitsu Mondai* [Jurist Special Issue: Legal Problems in a Hightech-Information Society] [hereinafter cited as Nakayama *Juristo Zokan*], Sept. 1984, at 246, 249.

base distribution market should be thoroughly researched and taken into consideration.

C. *Transmission of Information*

The ACA Report has raised another important issue relevant to the transmission of information from the data base to the user. Although the ACA Report has not yet reached its conclusion, there has been some discussion as to whether the transmission of information by data base services would constitute "broadcasting"⁷⁰ or "wire-broadcasting"⁷¹ under Japanese Copyright Law.

The two distinctive features of data base services are: 1) the one-to-one relationship between the supplier and the user, and 2) conversational relationship between these same parties. With respect to the first element, it may be argued that in keeping with the definition of "broadcasting,"⁷² the one-to-one relationship between the sender of information and the user or receiver is misplaced. In a typical broadcast situation the relationship between the broadcasting company and the user is not a one-to-one relationship. Rather, the relationship involves one broadcaster transmitting the same information to many users at the same time.

The second distinctive element of data base services is the conversation that occurs between the user of data bases and the data base service. The conversation between the two parties is really an exchange of transmitted information between the users and the data base service. The user commands the computer to retrieve necessary information by specifying a set of numerous or complex conditions. For example, a LEXIS® user can request information regarding computer-related cases by specifying "computer" as one of these conditions. The data base service then returns the information from the data base pursuant to the user's commands and the data base structure. Thus the transmission of certain complicated information be-

70. Chosakukenho, *supra* note 20, art. 2.1(8) (defining "broadcasting" as "transmission of wireless communication for the purpose of being directly received by the general public").

71. *Id.* art. 2(1)(17) (defining "wire-broadcasting" as "[e]ffecting transmission of wire electric communication . . . for the purpose of being directly received by the general public").

72. *See supra* note 70.

tween the two parties is not a one-way system but rather a conversational two-way system. By contrast, the television user cannot ask a television broadcast company to show his or her favorite program during 8:00-9:00 p.m. instead of 6:00-7:00 p.m. The difference between a one-way system and the "conversational" system employed by data bases is thus clearly underscored by this example. For the reasons stated above, it is not appropriate to conclude that the on-line service of a data base constitutes a "broadcasting" or "wire-broadcasting" simply because it is ostensibly the same type of transmission.

The ACA Report itself acknowledged the distinction between the "one-to-one" and "one-to-many" relationship existing between the sender and the receiver of information. Under Japanese Copyright Law, in order for a transmission to constitute "broadcasting" or "wire-broadcasting," such transmission is required to exist for "the purpose of being directly received by the general public."⁷³ The ACA Report indicated that since all or part of data bases are repeatedly transmitted to numerous people, the on-line service of data bases, as a whole, constitutes "wire-broadcasting," although the broadcast is not continuous. The outcome will depend upon the interpretation given the phrase "the purpose of being directly received by the general public."

The ACA Report seems to have disregarded the latter of the above-mentioned two elements, i.e., the *conversational* aspect of the data base transmission. In the United States, the concept of transmission would be subsumed under the rubric of "performance" or "display."⁷⁴ However, transmission itself is not included as one of the author's exclusive rights.

In conclusion, it is extremely important that the legal protection of data bases reflect the above-mentioned features of data base services. To incorporate this peculiar feature of the data base transmission of information into the legal protection for data bases, the activities involved must be thoroughly understood, including all of the various transmissions of information, in the context of a computer network.⁷⁵

73. See *supra* notes 48-49.

74. 17 U.S.C.A. § 101 1982. To transmit a performance or display is to communicate it by any device or process whereby images or sounds are received beyond the place from which they are sent.

75. A computer network consists of interconnected computer units or systems

IV. ANALYSIS: A PROPOSAL FOR DATA BASE
PROTECTION DESIGNED IN CONJUNCTION WITH
A COMPUTER NETWORK

One of the most important aspects of the protection of data bases involves constructing a protection structure in conjunction with the development of a computer network. If data bases were mainly package-sold, the legal protection for data bases would be quite similar to that for computer software. However, the reality is that data bases are mostly used by on-line-service systems. It is extremely important to provide the type of legal protection that is most suitable to the actual use of data bases. Otherwise, the legal protection for data base authors would be at odds with the realities of a rapidly developing computer society.

As a computer network develops, computers in geographically dispersed areas will be utilized to achieve an appropriate allocation of resources as well as to reduce various risks or costs accompanied by over-centralization. The same is true of data bases, which will be melted into a computer network. Even though data bases are located in diversified places, such data bases can be accessed by geographically dispersed users quite conveniently. This trend will most likely continue to be sustained by the public need for flexible information interchange. In this sense, the copyright law or any other existing legal framework will have great difficulty in reflecting technological reality.

Thus, while data bases must be protected by copyright law or other legal means, the allocation of profits produced by the computer network among the relevant parties should be considered, including the creators of data bases and network owners such as cable TV or telephone companies. This can be accomplished through the completion of a system to monitor network activities. By monitoring the traffic of information, one may locate the destination address, i.e., the identity of the user, and the source address, i.e., the identity of the data base. This monitoring system can be tied to a certain charge system

which realize an efficient data flow between computer systems and their users. Currently, the realization of freedom of information interchange in a computer network is one of the most important tasks for computer scientists. *See generally* *infra* notes 76-77 and accompanying text.

which will serve to decide how to allocate the profits among the relevant parties, such as data base services and computer network owners. This system would be similar to the existing system for monitoring long distance telephone credit card calls where users are identified and charged through such monitoring system. Actually, this system would be easily installed if, for example, all parties make use of existing public telephone networks. Its use is well illustrated by the stock market and news data service available in telephone networks.

These proposals should be examined by a special committee consisting of experts in various fields, including law, computer science, and marketing. In a high technology society, lawyers should recognize that new legal structures are and will be constantly evolving with the development of computer technology.⁷⁶

As a practical matter, a proposal that provides for the allocation of economic interests among the parties of the computer networks, including the creators of data bases, should be combined with the copyright protection of data bases. Since the marketing of a data base as a package, like a software package, may be common in the future, this alternative would prove quite beneficial. However, there would be a greater chance that all of a data base or a substantial part thereof would be copied by users. Under this proposal, copyright law would provide protection for data bases as well as computer software.

CONCLUSION

A proposal for the protection of data bases will have to include not only the safeguards of copyright law, but also a structure designed in conjunction with the development of a larger computer network. This type of legal framework and its underlying policies of data base protection would be extremely valuable in achieving the free interchange of information required in a computer-literate society. Because information is a

76. Another possibility would be to enact new legislation controlling access to data bases. Because Japan has no specific trade secret laws, this direction must be envisioned by Japanese legislators. However, enactment of an industrial espionage act would be inappropriate since an important aspect of the data base services is their contribution to the freedom of information interchange. At any rate, such legal protection should be accompanied by technological protection, *e.g.*, encryption.

crucial factor in which every country shares mutual benefits, the development of this legal and technological system on a worldwide scale would play an important role for business, politics, and science.

Rather than have Japan adopt unique legislation with respect to data bases, it would be more fruitful for both countries to cooperate and research these issues together in order to realize an efficient information interchange by allocating appropriate economic profits among relevant parties, including data base creators or services. In this way, the protection of data bases will finally reach the issue of computer networks.

As this article has indicated, the ACA Report will reexamine the above issues in light of new communications media. Since MITI has already questioned the ACA's interpretation of data base transmission, MITI may deal with these issues in a unique manner through its administrative influence over the computer industry.⁷⁷ However, it is unlikely that the new controversy concerning data bases will follow the same course as the previous one regarding computer software, because these issues in the context of a computer network are too complicated for the traditional tools found in United States and Japanese copyright law.

77. It should be noted that the Ministry of Posts and Telecommunications (MPT) will also be greatly concerned with these issues relevant to network communication. The current activities of MPT include promotion of the telecommunications industry and refinement of data communications, such as construction of data communications networks with the aim of realizing an advanced information society. See, e.g., MINISTRY OF POSTS AND TELECOMMUNICATIONS, *POSTAL AND TELECOMMUNICATIONS ACTIVITIES IN JAPAN FOR THE FISCAL YEAR ENDED MARCH 31, 1985 (1986)*, at 41, 43. In the near future, the controversy may involve a third party, MPT, in addition to MITI and the ACA. MPT has recently increased its significant influence through the advent of communications society. See *Seikankai Sokanzu [The Overview of the Power System in Politics and Administrations in a New Computer Media Society]*, *Nihonkeizai Shimbun*, Oct. 22, 1984, at 4.