'94 北京
国际电子出版研讨会
论文集

'94 BEIJING INTERNATIONAL CONFERENCE
ON ELECTRONIC PUBLISHING
PROCEEDINGS

科学出版社
SCIENCE PRESS

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前　言

本论文集是“'94 北京国际电子出版研讨会”（EP'94）入选论文的汇编。

EP'94 是在中国召开的首次电子出版方面的国际学术会议。在会议筹备过程中，得到了国内不少单位的大力支持和帮助。世界知识产权组织（WIPO）、国际术语信息中心（Infoterm）、国际标准化组织术语委员会（ISO/TC37）、国际术语网（TermNet）和日本电子出版协会（JEPA）等机构也给予了热情支持。国内外众多学者踊跃参加会议，并寄来了数十篇论文。我们深信，本次会议将对我国电子出版的发展，以及我国与世界电子出版界的交流与合作起到促进作用，并成为我国电子出版事业发展进程的良好开端。

我们借此机会向本次会议的所有协办和支持单位，所有提供论文的个人和单位表示深切的感谢。

EP'94 会议程序委员会

Preface

Included in the present book is a selected collection of the papers at EP'94 held in October in Beijing, China.

EP'94 has been the first international conference ever convened in China in electronic publishing field. A large number of China's institutions and organizations, meanwhile World Intellectual Property Organization (WIPO), International Information Centre for Terminology (Infoterm), International Network for Terminology (TermNet) and Japan Electronic Publishing Association (JEPA) et al. gave their kind support to the preparation for it. Scholars, both Chinese and abroad, contributed a few dozen papers. We are firmly convinced that achievements of this conference will promote the development of China's electronic publishing as well as her exchanges and cooperations with the world's electronic publishing circles and that it will set an encouraging precedent.

We would like to take this opportunity to express our sincere thankfulness to all the institutions and organizations who were generous enough to grant their assistance and support, and to the groups, bodies and individuals who contributed papers for conference.

The Programme Committee of EP'94

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挑战与机遇
——中国电子出版物的发展现状与前景

于永湛
（中华人民共和国新闻出版署）

电子出版物是高科技的产物。它以电子信息的方式将图、文、像、动画等多种形式的信息存放在光、磁等载体中，然后用计算机或电子通信等方式读出。这种以电子为媒介进行信息存储与传播的方式，是对以纸张为主要载体进行信息存储与传播的传统方式的一个挑战，它也将给出版业带来一场深刻的革命。

中国发明的造纸术和活字印刷术对世界文明做出了伟大的贡献。但随着信息社会的到来，纸张作为信息载体已"力不从心"了。纸质出版物的容量小、体积大、成本高、复制困难、不易保存，同时制造纸张消耗大量宝贵的资源，并且污染环境。而新崛起的电子出版物具有的容量大、体积小、成本低、检索快、易于复制和保存、能存储音像图文信息，以及消耗的资源很少和对环境的污染较小等特点，使它具有很大的优势，前景诱人。

电子出版物的形式、种类很多，但基本上可分为两大类：电子网络出版和单行的电子书刊。电子网络出版以数据库和电信网络为基础，以计算机主机的硬盘为存储介质。它除了可以向用户提供即时的联机服务外，还可以通过电信网络迅速提供传真出版、电子报刊、电子信件等多种服务。而单行的电子书刊则以磁盘、集成电路卡和光盘(CD-ROM)等为载体。其中，光盘(CD-ROM)的优点尤为突出，发展尤为迅速，现在已成为电子出版物的主要形式。进入90年代后，能把文字、声音、图形、动态图像等有机地集成在一起并把结果综合地表现出来的多媒体技术迅速普及，使电子出版物更加多姿多彩。全球出现了多媒体热潮，它已成为电子出版物的发展主流。

电子出版物的出现和迅速发展，不仅将改变传统的图书阅读、收藏、管理等方式，甚至对人们传统的文化观念也将产生巨大的影响，对传统的出版业更是一个巨大的挑战。它对现行的编辑、出版、发行方式以及出版社的人才结构、组织形式等都提出了新课题。中国是一个出版大国，1993年全国出版的图书品种已达9.7万种，约占全世界当年出书品种的1/4。因此，电子出版物的出现对中国的出版业是一个巨大的挑战，同时也预示着它在中国有着巨大的发展潜力。早在80年代中期我国就已引进了联机系统，但当时没有自己的数据库，而且没有真正与电信网络相结合。虽然自"七五"初期，我国就已开始了光盘的开发研制工作，但到1991年才正式出版了第一种光盘出版物。近两年光盘出版物的制作技术和开发应用能力才趋于成熟。可以说，我国的电子出版刚刚起步，在实际开发和应用能力方面与欧、美、日等地区和国家相比，还有较大的差距。

随着我国改革开放的不断深入、经济实力和科技水平的迅速提高，进入90年代以后我国的电子出版得到迅速的发展。一些新闻单位和报社建立了自己的数据库，并向用户提供联机服务，同时还出版了数据的光盘版。国内成立了众多的多媒体制作公司，一些公司

已具有较强的开发、制作实力。目前，全国已建成了三十余条 CD 生产线，光盘出版物的生产也从 1992 年的一、二种，上升到今年的几十种。新闻出版署现正在中国大百科全书出版社投资建立“中国百科术语数据库”。建成后，它将为全国出版界和广大用户提供联网服务并与国际有关数据库联网，同时它还将出版光盘出版物。国内一些出版社也纷纷与有关多媒体制作公司合作出版光盘等电子出版物，目前已经投入制作的有《中国美术全集》、《中国大百科全书》等多部巨著及旅游、教育、辞书、工具书等一批选题，人民日报也已出版了光盘版。有的出版社还结合编辑自动化，积极培养人才，创造条件，准备今后自己制作多媒体出版物。前不久，在北京举办的“中国社会发展成就展”上，展示了海天电子图书开发公司等单位开发的光盘出版物，受到社会各界的关注。在此次北京国际电子出版研讨会期间，又有一批海内外电子出版机构展示其技术和产品，对推进我国电子出版业的发展，将产生积极影响。目前，江苏、湖北省出版总社已经专门成立了电子出版物的开发机构，大力推进电子出版。相信在不久的将来，一些出版社在出版纸质出版物的同时就将推出相应的光盘出版物。随着我国人民生活水平的大幅度提高，计算机已渐渐进入家庭，CD-ROM 驱动器的拥有量以每年 100～200%的速度增长，家庭电话也开始普及，这些都为我国电子出版物的发展创造了很好的条件，预示着中国电子出版物的市场前景极为广阔，预计在今后五、六年即本世纪末时，电子出版物将在我国出版物中占有相当的比重。

我国政府极为重视目前方兴未艾的世界性科技革命。为了迎接电子出版物对出版业的挑战，抓住这次出版业发展的机遇，我国政府采取了一系列政策，支持和扶持电子出版业。最近国务院已决定由新闻出版署统一管理电子出版物，以使电子出版物得以顺利、健康的发展。政府还将制定电子出版业的发展规划，研究对电子出版业发展有利的经济政策，并对重大电子出版选题的开发给予支持，使电子出版单位能形成规模开发的实力。还将针对电子出版物极易复制的特点，研究、制订加强版权保护和行业管理法规、措施。同时将与有关部门一起着手制订电子出版物的统一标准和统一格式，使我国的电子出版物能顺利走入国内市场、打入国际市场。为使电子出版业的发展走上健康、繁荣的轨道，我们应充分发挥电子出版行业协会的作用，以协会为纽带，团结广大电子出版业者，协调好电子出版和传统出版的关系，保护电子出版业者的合法权益，促进中国电子出版业的发展。我们相信，在政府的政策推进下，在广大电子出版业者的奋斗下，我国的电子出版水平一定会在一个不太长的时间内赶上世界先进水平，为我国的社会主义物质文明和精神文明建设，为人类的文明和发展做出应有的贡献。

Challenge and Opportunity —Development and Prospect of Electronic Publication in China

Yu Yongzhan

(*Press and Publication Administration of P. R. C.*)

Abstract

The arthor outlined the present situation and future development of electronic publishing in China. Then he introduced the developing trend and strategy as well as administration of electronic publication in China.

The International Bureau of the World Intellectual Property Organization (WIPO)

Copyright Aspects of Electronic Publishing

1. Digital Technology and the "Guided Development"[1] of International Copyright Law

The newer and newer waves of technological development, of course, have not only contributed to making some old problems of copyright—present in the internaitonal copyright system from its very creation—more important, but they have also raised a great number of new problems in respect of emerging new categories of works and new ways and means of using works. It is certainly not exaggerated to state that the international system of copyright and neighboring rights has never been faced with so many fundamental and multiple challenges as today. The new technologies did not produce so many changes in the first 85 years of the history of the Berne Convention, between its adoption in 1886 and its latest revision in 1971, as during the little more than two decades since 1971.

The World Intellectual Property Organization (WIPO) has convened a number of meetings and has prepared a number of studies and documents dealing with the impact of new technologies. Some of the meetings still took place during the 1970s, but the truly intensive activities started at beginning of the 1980s.

First, the new uses of works and the various computer-related questions were on the agenda. Here are some examples of the questions discussed: storage of protected works in computers and computer-protected works (in 1980 and 1982); copyright protection of computer programs (in 1983 and 1985); private copying (in 1984); rental and lending of phonograms and videograms (in 1984); cable television (in 1980, 1981 and 1983); and direct broadcasting by satellites (in 1985).

Following this series of meetings, attention was focused on the various categories of works. All relevant questions were dealt with, but, once again, first of all the questions raised by new technologies in respect of the categories of works concerned. The following categories were discussed, listed in chronological order: audiovisual works and phonograms (in 1986); works of architecture (in 1986); works of visual art (in 1986); dramatic, choreographic and musical works (in 1987); works of applied art (in 1987); the printed word (covering the various sub-categories of writings, except computer programs, and also extending to the questions concerning the protection of data bases; in 1987); and photographic works (in 1988). There was still another meeting to reconsider a summary of the principles elaborated for the protection of the categories of works listed above (in 1988).

Partly in parallel to the meetings concentrating on the various new uses and on the different categories of works, also some specific aspects of the exercise, administration, and enforcement of rights were discussed, such as publishing contracts (in 1984 and 1985); the status of works created by employed authors (in 1981 and 1986); collective administration of rights (in an international forum, in 1986; the program then was continued in various ways and in 1990 led to the publication of an important WIPO study offering detailed guiding principles for national legislation); and the means of fighting piracy (in two international forums, in 1981 and 1983, and in a meeting of a Committee of Experts in 1988; the latter discussed detailed model provisions for national legislation, the further consideration of which was suspended, however, waiting for the outcome of the Uruguay Round negotiations at GATT).

The questions concerning the protection of neighboring rights were dealt with mainly at the sessions of the Intergovernmental Committee of the Rome Convention held every second year.

The meetings held and the studies prepared on the various subjects listed above offered appropriate guidance to governments on practically all the important current questions concerning the protection of copyright and neighboring rights. A great number of new copyright laws and amendments to copyright laws reflected that this guidance had been used widely in national legislation. (A spectacular example for the "tangible" impact of these WIPO meetings and studies on national laws was the "follow-up" to the meeting held in Geneva in February 1985 on the copyright protection of computer programs. At the time of the meeting, only five counrties provided in their statutory laws for the copyright protection of computer programs: Australia, Hungary, India, the Philippines and the United States of America. The meeting clarified the questions concerning the protection of computer programs and resulted in a breakthrough for the international recognition of computer programs as a category of works protected by copyright. Use of the term "breakthrough" is hardly exaggerated if we consider that in June and July 1985 alone—practically in a month's time—the following four countries included explicit provisions in their statutory laws on the copyright protection of computer programs: France, Germany, Japan and the United Kingdom.)

Although this period of "guided development" had brought positive results, at the end of the 1980s it became clear that mere guidelines, recommendations and principles no longer offered sufficient guarantees for a harmonious development of copyright in the long term. In the absence of binding international norms, there was increasing danger that national legislators would choose differing solutions to new problems, that this would lead to increasingly divergent trends in the international system of copyright and neighboring rights, and that this, as a result, would also undermine the delicate balance between the minimum level of protection determined by the Berne, Rome and Phonograms Conventions, on the one hand, and the principle of national treatment, on the other.

Hence, the work started in 1989 on a possible protocol to the Berne Convention. A valid preliminary question is: why a protocol, and not a revision of the Convention itself?

For a long time, it was a sacrosanct principle for the international copyright community that

the Berne Convention should not be touched; it should not be revised, and even no question about a possible revision should be raised. A revision was considered dangerous and hopeless; dangerous because the outcome of a revision could not be predicted, it might produce unexpected and undesirable results, and it might also result in decreasing the level of protection provided in the Convention; hopeless because under Article 27(3) of the Convention, unanimity would be needed for a revision which, with the great number of member countries of the Berne Union[2] with many conflicting interests, did not seem realistic to achieve.

The Governing Bodies of WIPO took the decision on preparing a possible protocol to the Berne Convention to avoid the pitfalls of revising the Convention and still to update the international copyright norms. As the Committee of Experts set up to do the preparatory work noted at its first session correctly, the terms of reference for the protocol would not require a revision of the Convention and the protocol could rather take the form of a special agreement, in keeping with Article 20 of the Convention. The special agreement formula seemed attractive at least for two reasons; first, because, from the very notion of special agreement, it followed that for its conclusion no unanimity was needed, and second, because Article 20 of the Convention only allows such agreements "in so far as [they] grant to authors more extensive rights than those granted by the Convention, or contain other provisions not contrary to this Convention," that is, any decrease of the existing level of protection would be excluded.

The project of the Berne protocol first was included in the 1990-91 program of WIPO and then retained in the 1992-93 program. The first two sessions of the Committee of Experts were held in November 1991 and in February 1992, both in Geneva.

The terms of reference of the Committee of Experts, were then limited by the Assembly of the Berne Union on September 29, 1992, to the following ten items;

(1) computer programs,

(2) data bases,

(3) rental right,

(4) non-voluntary licenses for the sound recording of musical works,

(5) non-voluntary licenses for primary broadcasting and satellite communication,

(6) distribution right, including inportation right,

(7) duration of the protection of photographic works,

(8) communication to the public by satellite broadcasting,

(9) enforcement of rights, and

(10) national treatment.

The Assembly also created, at that time, a second committee, on a possible instrument on the protection of rights of performers and producers of phonograms.

The third session of the Committee of Experts on a Possible Protocol to the Berne Convention and the first session of the Committee of Experts on a Possible Instrument on the Protection of the Rights of Performers and Producers of Phonograms were convened on the basis of the above-quoted decision for two consecutive weeks, from June 21 to 25, 1993, and from June 28 to July

2, 1993, respectively. The latter Committee was unable to complete the discussion of the memorandum prepared by the International Bureau at its first session. The discussion was completed at the second session of the Committee, from November 8 to 12, 1993.

Then, the Assembly of the Berne Union decided in April 1994 that the next sessions of the committees on the protocol and on the new instrument would be held during two successive weeks, from December 5 to 14, 1994. In the meantime, governments were invited to make comments and suggestions, and a number of them availed themselves of this possibilitye. On the basis of those comments, the Assembly of the Berne Union will take up the matter again at its extraordinary session to be held during the sessions of the WIPO Governing Bodies to be held from September 26 to October 4, 1994 (which will take place after the completion of this paper).

Clearly, digital technology will mandate a rapid evolution of the international copyright framework. Some of the new issues and problems could be solved in the contxt of the possible protocol. Let us look at those new issues.

2. Digital Technology: New Problems on The Horizon

When taking an inventory of settled and unsettled problems, one should not forget that the copyright and neighboring rights provisions under both the Berne Convention and the Rome Convention, on the one hand, and those of the GATT/TRIPS Agreement, on the other, were adopted in view of the existence and application of analog technology.

Now, however, the international system of protection of copyright and neighboring rights is also faced with the challenges presented by the full application of a qualitatively new technology —the digital technology—which seems to raise much more fundamental questions than any other new developments in the various analog-based technologies.

With the advent of interactive digital networks, digital "superhighsays," digital delivery, multimedia, and the other new developments brought about by digital technololgy, not only some new provisions and new licensing techniques, but also a completely new structure for the protection, exercise and enforcement of rights may become necessary. In this new structure, the categorization of works may have to change, the role of some "traditional" rights may become less important, other heretofore "secondary" rights may gain primary importance, and certain new rights may have to be recognized. Furthermore, collective administration of rights will probably have to replace individual exercise of rights in further fields, and technical means, such as copy-protection and copy-management systems, smart cards, digital sub-codes, identification numbers and the like, may be more frequently applied. It seems that-in harmony with the globalization of the digital uses of works and other productions-this will call for appropriate international norms.

WIPO's early response to the challenges of digital technology was the organization of the WIPO Worldwide Symposium on the Impact of Digital Technology on Copyright and Neighboring Rights at Harvard University, from March 31 to April 2, 1993, and then, the WIPO Worldwide Symposium on the Future of copyright and Neighboring Rights in Paris in the new wing of the Louvre from June 1 to 3, 1994. More than 550 participants from all over the world took part in