Intellectual Property Rights and the National Information Infrastructure*

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This article covers issues relating to the genesis of copyright laws, US copyright laws, limitations of exclusive rights and infringement of exclusive rights.

In 1993, President Clinton formed the Information Infrastructure Task Force (IITF), made up of representatives of the involved federal agencies, to work with the private sector, public interest groups, Congress, and State and local governments to develop comprehensive telecommunications and information policies and programs that will promote the development of the National Information Infrastructure (NII) and assure its integration into the Global Information Infrastructure (GII).

The IITF is organized in three committees; the Telecommunications Policy Committee; the Committee on Applications and Technology; and the Information Policy Committee. The Information Policy Committee has several working groups; among them the Working Group on Intellectual Property Rights whose charge is to examine the intellectual property implications of the NII and to make recommendations as to needed changes in U.S. intellectual property law and policy.

The Working Group on IPR deals with recommendations for modifications of the copyright laws of the United States. Other countries - including Australia, Canada, France, Finland, Germany, Japan, Sweden, Singapore and the United Kingdom - are conducting their own studies and will, no doubt, issue their own reports. At the February 1995, G-7 Ministerial Meeting on the Global Information Infrastructure (GII), the ministers emphasized the need to work through international fora to develop the rules of the road for international information superhighways. Even today it is possible for a user in France, for example, to access a database in the United States and download material to a computer in Sweden. Whose copyright law would apply to such a transaction? Because copyright law is territorial, acts that may be an infringement in one country may not be in another country. Harmonization of U.S. law with laws of other countries will have to be accomplished.

fact that different legal traditions form the basis of intellectual property protection in the various countries. Some historical perspective may be useful to make clear some of the important differences.

**Genesis of Copyright Laws**

Prior to the invention of the printing press, there were no copyright laws. Copying was done but it was such an arduous task as to cause no harm to the holders of manuscripts. Indeed, for two hundred and fifty years after the invention of the printing press, the pacts and arrangements made were not for the benefit of the author. Rather, because in England and a number of other countries both the church and the state were concerned about the use of the printing press to circulate heretical and seditious ideas, the government gave a monopoly to printers that agreed not to print seditious and heretical books. It was not until 1710 that the English parliament passed the first copyright statute. It changed the rules in many ways, but most importantly it granted to authors, not printer, the control over the printing of their works. It also made clear that the purpose of this grant to authors was to encourage “Learned men to compose and write useful books.” The evolution of copyright in the United States as well as Europe incorporated many of the features of this original statute, but in other way it diverged significantly. The United States and other countries that follow the anglo-american legal tradition have “copyright systems” in which the principal focus is on promoting the public interest by protecting the author’s economic rights. By contrast other countries have chosen to follow the tradition of author’s rights (droit d’auteur) to be inherent rights. These include in addition to the protection of the economic rights, the protection of the author’s “moral rights” as an integral and essential part of the system. Moral rights include the right to be named as the author of the work and the right to object and prevent the work from being used in ways the author believes would bring dishonor or discredit to his reputation. These two approaches, needless to say, are not always free of conflict and complicate the harmonization process.

The principle of national treatment is the cornerstone of international intellectual property agreements. In general, this means that under a nation’s law, a foreigner enjoys the same rights and benefits that a citizen of that nation receives. Some, however, argue that such rights should be granted only on the basis of reciprocity. That is we should grant the right to a foreigner only if his country grants our citizens, and theirs, the same right.

**The U.S. Copyright Law**

The United States constitution provides that Congress has the power to try to achieve the promotion of the progress of science and the useful art by securing for a limited time to authors and inventors the exclusive right to their respective writings and discoveries. The United States Supreme Court has described the primary objective of copyright to be the promotion of the progress of science and the useful arts, not the reward of the labour of authors. To this end, copyright assures the authors the right in their original expression, but encourages others to build freely, upon the ideas and information conveyed by the work. The United States Congress, when it enacted the Copyright Act of 1909, stated that “the enactment of copyright legislation by Congress under the terms of the constitution is not based upon any natural right that the author has in his writ-
ing...but upon the ground that the welfare of the public will be served and progress of science and the useful arts will be promoted by securing to authors for limited periods the exclusive rights to their writings...". Thus the purpose of copyright and the reasons for the granting of rights are clear and not in dispute.

What then are those exclusive rights, what are their limitations, and how may they be affected by the global digital network?

The first, and perhaps the most fundamental, is the exclusive right to reproduce the work. This right will be implicated in every transfer of a work from one computer memory to another computer memory under contemporary technology. For under current law the placement of copyrighted material into memory of a computer is generally considered a reproduction because in the law's terms it may now be "perceived, reproduced or communicated with the aid of a machine or device".

The second is the right to prepare derivative works. This means that the copyright owner can control the abridgement, adaptation, translation, revision, or other "transformation" of his work. A user who modifies, by annotating, editing, translating, or otherwise significantly altering the contents of a downloaded file, creates a derivative work. Assuming that the copy modified was legally obtained and the derivative work is solely for personal use, it is not an infringement any more than marking up the margins of a book would be. But that is the limit of use that is permissible.

Third is the right to distribute copies. This right is substantially limited by the so called "first sale" doctrine. This notion is easiest to understand in terms of a tangible object, e.g. a book. The copyright owner has the right to distribute copies of his works. Thus he may determine how, by whom, and under what conditions a copy of his work may be made available, e.g. a copy of his work, a book, may be bought at a bookstore. Because of the first sale doctrine, the copyright owner's right ends there. He has no right in how, what or where you, as owner of a lawfully made copy, deal with that book. You may resell it, you may loan it either free or for a fee, or burn it or give it away without consulting the copyright owner. But you may not reproduce it, for that would be an infringement of the reproduction right. The first sale doctrine is one of the most contentious issues in the global digital network. I will return to it under the discussion of limitations on these exclusive rights.

Fourth is the right to perform the work publicly. This right is available to all forms of performable works with the exception of sound recordings.

Finally there is the right to display the work publicly. Thus when a user visually "browses" though copies of works in any medium, a public display of at least a portion of the browsed work occurs.

Limitations of Exclusive Rights

Notwithstanding the granting of these "exclusive rights", the copyright law provides a number of exceptions and specifies that certain uses of copyrighted works are outside the control of the copyright owner. While many regard these exceptions as "users' rights", they are, as a technical matter, outright exemptions from liability for what would otherwise be acts of infringement. In many ways the most important of these limitations is the doctrine of "Fair use". Arising out of the express constitutional purpose of copyright to promote the progress of sci-
ence and the useful arts, and the freedoms of speech and expression guaranteed by the first amendment to the constitution, the courts over a period of two hundred years established in case law a notion that certain uses contributed to the public good and caused little or no economic hardship to the copyright owner and therefore served the purpose of the copyright law fairly. In 1976, the Congress enacted a fair use statute which begins as follows: "notwithstanding the (exclusive rights granted to authors in the previous sections), the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords by any other means specified by that section, for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship or research is not an infringement of copyright.”

In addition to this broad exception, the copyright law provides for a number of specific exceptions for libraries and educational institutions.

The first sale doctrine, as explained earlier, allows the owner of a particular copy of a work to dispose of possession of that copy in any way chosen. There is, however, an exception to this limitation with respect to computer programs and sound recordings. The owners of these works may not lend, rent, or lease them for purposes of direct or indirect commercial advantage. These exemptions were made because of the case with which reproductions of these works can be made at much lower cost than the original. It might of course be argued that since such reproductions would themselves be an infringement of the author’s reproduction right, such exemptions were not necessary.

The exclusive right to public display is also limited in that the owner of a lawfully made particular copy may without the authority of the copyright owner display the copy directly or by the projection of no more than one image at a time to viewers present where the copy is located. Thus an art gallery that purchases a painting may publicly display it. But this exemption would not apply to the public display of a copy on an electronic bulletin board or other communications network in that among other things the viewers would not be present where the copy is located.

Infringement of Exclusive Rights

The law is quite specific that anyone who exercises, without authorization, any of the exclusive rights of the copyright owner, as granted and limited by the law, is an infringer. Infringement is determined without regard to the state of the mind of the infringer. In short, “innocent” infringement is infringement nonetheless. The courts generally use the word “copying” as a shorthand for the violation of any of the exclusive rights. The copying must be of the protected expression, not the ideas. Ideas and facts are not copyrightable. In the case of compilations such as databases, the compilation itself may be held to be copyrightable even if all the material in the compilation are facts or material in the public domain.

The exclusive right to distribute includes the right to limit the importation of copies secured outside the United States. The applicability, under current law, of the importation provisions to the transmission of a work via electronic superhighways is debatable because, as in domestic transmission, it is not clear that transmission constitutes a distribution of a copy. Clearly this is an issue that will have to be clarified both with regard to U.S. law in international agreements.
Direct participation in the infringing activity is not a prerequisite for liability. The copyright owner's exclusive rights include the right to authorize others to exercise those rights. Thus, those who do not themselves infringe an exclusive right but contribute to or "authorize" others to do so are themselves infringers. Liability may be based on the provision of services, or of equipment. Perhaps the most important example from the point of view of our concerns would be the liability of the on-line service provider. Clearly, on-line service providers play a pivotal role in the development of the GII. It has been argued, therefore, that providers such as bulletin board operators should either be exempt from such liability or at least be given a higher standard, such as imposing liability only where infringement was willful and repeated or when it could be proved that the provider had both actual knowledge and the ability and authority to terminate the infringing activity. This argument continues by pointing out that it would be impossible for operators of large systems to review every message transmitted or file uploaded. What is more, even if by some means the operator could do such monitoring, it is frequently impossible to identify infringing materials. Finally, that unless operators are shielded from liability, service providers will be driven out of business and the GII will fail.

The counter argument is that on-line service providers are not alone in this position. Millions of photographs are taken to photo finishers each day, book sellers, record stores, newsstands and computer software retailers also cannot possibly monitor everything that passes through their establishments for infringement of copyright. Yet, they all may be held strictly liable, as distributors, if the works are infringing. This has been part of the cost of doing business for distributors of materials that are provided by others. However this matter is resolved; here again there must be harmonization of the laws of the various states or chaos will reign on the international electronic superhighways. Neither the U.S. Congress nor the courts have been sympathetic to the arguments posed that such unknowing infringements are innocent and should not be considered infringements at all. They have, however, said that innocent infringement may be considered in awarding damages.

**Access versus Security**

The basic problem for technology is to provide the means by which the integrity and security of copyrighted materials can be maintained while at the same time facilitating access through the GII. The structure of the Internet is basically computer to computer communications. The user computer seeks a connection with the server computer on which resides information the user wants. Technology already exists which can well control access and use of protected works at the server level. Similarly control and access can be regulated by the technology of files on the server. This can also be extended to safeguard the integrity of material in the files as well as to provide audit trails of all who have accessed the files.

The problems of access, confidentiality, security, integrity and monitoring all have sound technologic solutions. However the concepts themselves are in conflict. Something can be made so secure that practically none has access. The solution to these vexing issues lies with the development of workable policies to assure the appropriate balance between the conflicting needs. But the appropriate balance will vary greatly depending on the material, its intended use, and marketing strategies. While arranging
for the appropriate balance may be an individual matter, certain information should be always available and made part of the accessible header of any file. This might include copyright information including specifically that the material is not copyrighted, conditions of use, available licenses as well as contact information for seeking permission for special uses.

Finally, since access and use of the electronic superhighways start with elementary school children, it is important to initiate an educational program that identifies the rules of the road as well as appropriate network etiquette. In U.S. copyright law, innocent infringement is not a defense.

**Goal of the Working Group**

The primary goal of the working group was to preserve the appropriate balance between the purpose of copyright and the means to achieve that purpose. This is sometimes translated into the rights of users and the rights of copyright owners. The new technology has, in some instances, a tendency to alter that balance; sometimes in favour of copyright owners, sometimes in favour of users. The stated purpose of the working group is to “accommodate and adapt the law to technological changes so that the intended balance is maintained and the constitutional purpose is served.” If any one group is satisfied, the report will probably not have met that test. If both the users and the copyright owners claim that the report favours the other, one may assume that the report has approached its objective.

The first and a most fundamental question is whether current intellectual property laws, and in particular copyright law, will be sufficient in the context of a digital electronic network. The extreme arguments are that copyright is by design a system of laws designed for individual case adjudication and therefore automatically adjusts for changes in technology. Therefore, nothing needs to be changed in existing law. The opposite view is that the new technologies make copyright law irrelevant and inapplicable. Therefore, copyright law should be done away with and replaced by contract law in general and licensing in particular. This would allow the market place to operate unencumbered. This polarization maximizes the intrinsic conflict between the purpose of copyright, namely the promotion of the arts and sciences, and the device employed to achieve that purpose, namely the granting of limited monopoly to authors to assure an economic incentive to create. The working group believes that copyright is a social construct that has been, and should be, tailored to achieve the social purposes for which it is designed. This is not the first time technology has disrupted the equilibria between opposing forces nor will it be the last. Therefore the working group states that with no more than minor clarification and amendment, the copyright act will provide the necessary balance of protection of rights and limitations on those rights - to promote the progress of science and the useful arts.

**Transmission as Distribution**

A major issue arising out of the technology is to determine when a transmission is not simply a transmission, but perhaps a reproduction, a distribution, a performance or a public display. Transmission is not among the exclusive rights but all the others are. Logically and technically it is clear that it is possible through transmission to in fact distribute etc. If a file is transmitted from one computer to ten others, the transmission results in the distribution of ten copies of the
work. However, it is not clear under current law that transmission can constitute a distribution. Therefore it is argued that some fine tuning is necessary to make it clear that such distributions are possible and should fall within the exclusive distribution right of the owner. This argument continues that no new right is being created, but only the clarification of a real practice is made explicit and would equally apply to the other rights which also could be effected by transmission.

The counter argument is that even if no new right is intended, the effect is to imply, especially in contested cases about the other rights, that some additional weight has been granted. Moreover there is no need for such clarification because in each case the exclusive right itself is clear, or some other of the exclusive rights will have obviously been infringed. In the example above even if there is question about the distribution right, the fact that there are now ten copies is a clear infringement of the reproduction right.

Since there is no transmission right, clearly not all transmissions of copies of copyrighted works will fall within the owner’s distribution right. Even if it did, it is not necessarily unlawful. First the distribution must be a distribution to the public, in effect a publication. Therefore the transmission of a copyrighted work from one person to another in a private e-mail message would not constitute a distribution to the public. Second, all the limitations, exemptions and defenses that currently apply to the distribution right will continue to apply. For example, any exercise of any of the exclusive rights may be fair use - including the reproduction and distribution of copies by transmission. The last point in favour of the clarification of distribution by transmission is that it can thus be easily extended to importation. While it may be of little practical importance to make clear that transborder transmission is important because the customs services could hardly monitor such traffic, it does make this form of importation, under the law, subject to the same restrictions as shipping or mail.

**Fair Use**

There is perhaps in our times no issue in which technology has been more dominant than fair use. Since the Williams and Wilkens case in which our library was the defendant and the issue was photocopying, fair use has perhaps been the most polarized issue in recent copyright law. The 1976 amendments, which for the first time recognized fair use in statute, was the result of long and arduous work on the part of many to try to find a reasonable framework for legislation. The lesson of the Williams and Wilkens case was for me at least that the judicial forum was ill suited by its adversary nature to find reasonable solutions. It almost necessarily would generate much more heat than light. It was equally clear that the legislative forum, pressured on all sides by lobbying groups, was equally ill suited to design appropriate balance. Drawing on this experience and confronted with perhaps even more radical technological importance than the reprography of twenty years ago, the working group has sponsored a conference on fair use. In the hope that such clarifications as necessary can be agreed to by the interested parties, some sixty representatives of authors, publishers, libraries, educational institutions, museum curators and trade associations have met more or less monthly since September 1994. To date no formal guidelines have been agreed to, but various drafts have been prepared, discussed, reworked and represented, and it is
hoped that some may be formalized as agreed upon guidelines before the end of the year. Among the subjects being discussed by the conference are browsing, distance learning and downloading for personal use.

It is reasonable to assume that the courts will approach fair use in the electronic age as they have in the past traditional environment. But it is here perhaps more than in any other aspect of copyright law that owners are allied in a position to do away with fair use by the substitution of licenses. They argue that the electronic age makes monitoring, control and payments both cheap and easy and that fair uses are depriving them of income which should be regulated by the market place and not by statute. The counter argument is that fair use is the means by which the appropriate balance that best serves the constitutional purpose of copyright is maintained, and that without it we would increasingly become a nation divided between information “haves” and “have nots”. Moreover, with regard to libraries and archives, fair use is an important means by which they assure access to esoterica, and preserve and make available the world’s cultural heritage and scholarship.

Other Concerns Related to Technology

Beyond the generic issues about fair use there are a number of specific concerns where it is argued that the technology has truly altered the balance in activities about which there had been workable agreements. Is distance learning, where any number of students may be connected to the teacher, the same as classroom learning where the number is limited? Should classroom guidelines still apply? Is browsing the Internet the same as browsing in a library or a bookstore? Is downloading a file the same as making a copy on a copying machine? Is archiving in electronic media the same as preserving on microfilm? For those that answer any or all these questions in the affirmative, there is the belief that the fundamental activity is the same and only the media have changed. They are generally the users. But the owners, who almost all answer these questions in the negative, argue that the facility with which electronic digital information can be stored, manipulated, duplicated and disseminated so markedly increases the risk of abuse and infringement that the old agreements are no longer tenable.

Finally there is the question of how far the law should go to assure that the technology can provide the necessary security and guarantee the integrity of copyrighted works? One argument is that it is only a matter of time before some smart hacker will come up with a way to defeat any security device. Therefore it is in the public interest to prohibit devices, products, components and services that circumvent technologic methods of preventing unauthorized use of copyrighted materials. Others argue that this is a clear abridgement of first amendment rights, for almost any such device may also have a legitimate purpose or some legitimate product may be barred because of its claimed potential for defeating security provisions. In the U.S. but not necessarily in other countries, only national security issues have been allowed to permit such prohibitions.

Conclusion

Before I close permit me a personal post script. While scientific and technical reports may be in the forefront of electronic publishing, they are not yet there in very significant numbers. For libraries and publishers, both primary and secondary, much of what I have
discussed will be addressed in traditional paper and print mode for at least several more years. Visualization of a largely or completely digital electronic world is not easy. Our views are colored on the one hand by our paper and print experiences and on the other hand by our fear of the unknown. What exactly in such a world will be the roles of publishers, libraries and secondary services is far from clear. The associated copyright questions, if only by trial and error, will eventually become consonant with the reality of that time and some reasonable balance will be achieved. For this group a series of far more important issues remain unresolved and unaddressed. In that electronic age how will bibliographic control be exercised over scientific and technical publications? Indeed what will constitute a publication? What will constitute peer review? How and by whom will the scholarly record be recorded and preserved? These are fundamental issues that we need to start addressing now. We need to do so in a cooperative, non-adversarial forum. We need to bring into that discussion all who are or who plan to develop electronic publication of scientific and technical material. Finally we need to develop proposals for addressing these issues to provide a matrix upon which to build a workable system that modifies or replaces our current paper based methods.