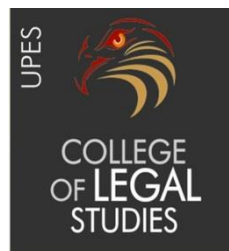


**CHALLENGES POSED BY DIGITALIZATION AND INTERNET
ON COPYRIGHT LAW**

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Submitted under the guidance of: Ms. Yasha Sharma

*This Dissertation is submitted in partial fulfillment of the degree of
B.A., LL.B. (Hons.)*



College of Legal Studies

University of Petroleum and Energy Studies

Dehradun

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CERTIFICATE

This is to certify that the research work entitled “CHALLENGES POSED BY DIGITALIZATION AND INTERNET ON COPYRIGHT LAW” is the work done by Jesny George under my guidance and supervision for the partial fulfillment of the requirement of B.A., LL.B. (Hons.) degree at College of Legal Studies, University of Petroleum and Energy Studies, Dehradun.

Yasha Sharma

Signature & Name of Supervisor

Designation

Date

DECLARATION

I declare that the dissertation entitled “CHALLENGES POSED BY DIGITALIZATION AND INTERNET ON COPYRIGHT LAW” is the outcome of my own work conducted under the supervision of Ms. Yasha Sharma, at College of Legal Studies, University of Petroleum and Energy Studies, Dehradun.

I declare that the dissertation comprises only of my original work and due acknowledgement has been made in the text to all other material used.

Jesny George

Signature & Name of Student

Date

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ABBREVIATIONS

- ACTA - Anti-Counterfeiting Trade Agreement
- BSA - Business Software Alliance
- DMCA – Digital Millennium Copyright Act
- DRM - Digital Rights Management
- EFF - Electronic Frontier Foundation
- GATT – General Agreement on Tariffs and Trade
- HDCP - High Bandwidth Digital Content Protection
- ICCPR - International Covenant on Civil and Political Rights
- ICESCR - International Covenant on Economic, Social and Cultural Rights
- ISPs – Internet Service Provider
- NAFTA - North American Free Trade Agreement
- P2P - Peer-to-Peer
- RAM - Random Access Memory
- RIAA - Recording Industry Association of America
- RMI - Rights Management Information
- ROM - Read-Only Memory
- SDMI - Secure Digital Music Initiative
- TRIPS - Trade-Related Aspects of Intellectual Property Rights
- UCC - Universal Copyright Convention
- UDHR - Universal Declaration of Human Rights
- UK DEA – United Kingdom Department of Economic Affairs
- UNESCO - United Nations Educational, Scientific and Cultural Organization
- WCT - WIPO Copyright Treaty
- WIPO - World Intellectual Property Organization
- WPPT - WIPO Performances and Phonograms Treaty

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Microsoft Corporation v Yogesh Popat

Microsoft Corporation v Kamal Wahi

Microsoft Corporation v Deepak Rawal

Time Incorporated v Lokesh Srivastava

MGM Studios v. Grokster

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My thanks and appreciations also go to my colleagues in developing this and people who have willingly helped me out with their abilities.

STATEMENT OF THE PROBLEM

Copyright protection has become increasingly difficult, given the borderless nature of Internet and its ability of transmitting works at a whirlwind speed. Though, the present legal framework relating to copyright infringement in India is strong and accountable, the implementation of the same is difficult, mainly because of the rise of internet. Piracy is rampant, due to many proxy sites that help break any blocking mechanism provided to protect any content, and this results in monetary loss to the creator of the protected work. With the rise of Internet, copyrighted works remain vulnerable to outside piracy even if protected in the home country.

REVIEW OF LITERATURE

- **“THE ETHICS OF OPEN ACCESS AND COPYRIGHT INFRINGEMENT”** by Denise Troll Covey from Carnegie Mellon University

The paper examines the campaign to provide free entree of scholarly journals and articles as a challenge to an orthodox ideology of intellectual property law. At the moment, much of the work that the renegades had made available broke public policy and infringed copyright. Without agreement, these acts of ignorance had the ability to boost the open access movement by further demonstration that the researcher interests are not well-aided by prevailing policy and law.

- **“GIVE CREDIT WHERE CREDIT IS DUE: Avoiding Plagiarism and Copyright Infringement”** by Alliant Los Angeles librarian Stephanie Ballard

The article talks about the similarities and differences between plagiarism and copyright infringement, and how plagiarism is used by students. The paper informs about all the problems of plagiarism and that of copyright infringement and also instructs on the process on how to reduce their occurrence. It also helps to use someone else’s ideas and work without presenting them as their own.

- **“COPYRIGHT CONTRADICTIONS IN SCHOLARLY PUBLISHING”** by John Willinsky

The paper observes the vagueness on how copyright works, with the publication of scholarly journals. Those discrepancies are concerned with protection of interest of the author and have become clear with growth of the open access publication as a standby to the customary merchantable model of marketing journal contributions. The paper examines the essentials of publishers' contracts with editors and writers, in addition to superior principle of copyright law to help scholars in order to comprehend the penalties in a better manner.

- **“SOCIAL POLICY CHOICES AND CHOICE OF LAW FOR COPYRIGHT INFRINGEMENT IN CYBERSPACE”** by Graeme W. Austin from Victoria University of Wellington

The article scrutinizes the part of the thesis of territoriality in copyright law from the perspective of copyright's role in a supervisory state, focusing on all differences in the all methods to the copyright issues within the different legal systems. They impeach the role of a copyright in demonstrating local information approach, including the access to materials of “art, music, and literature”. Suggestions by the US scholars to progress from the territoriality of law, are examined in light of these matters.

- **“INTELLECTUAL PROPERTY RIGHTS - Infringement And Remedies”** by Ananth Padmanabhan

This is an all-encompassing work, that considers the entire range of IPR by the viewpoint of infringement of the rights and remedies open for them. There are significant aspects relating to “trademarks”, “patents”, “copyright”, “designs” and the “common law defense” for “trade secrets”, “confidential information” and “character merchandising” that the book addresses.

- **“COPYRIGHT AND POPULAR MEDIA” - Liberal Villains and Technological Change** by Trajce Cvetkovski

The book observes progresses in media and copyright focusing mainly on perplexing fields like “piracy” and “illegal consumption”. It provides progressive answers to problematic demands of “copyright” and “digital media” piracy from the viewpoint of social science and copyright law.

- **“INTERNATIONAL COPYRIGHT LAW- A Practical Global Guide”**, edited by Ben Allgrove

The book features inspirations by the foremost copyright specialists, in their particular jurisdictions. The book gives a comparative account of the important copyright concepts across

40 jurisdictions, so that the readers could understand how copyright and its fundamentals can be approached around the world, in the best way. It makes a resounding case for “intellectual property rights” and the injunctions. Whereas this is comparatively emerging area of the law in India, exhaustive range of the cases discussed, refutes this belief. Together with the meticulousness of the case laws, the judiciousness of analysis is also exemplary.

- **“EXCEPTIONS AND LIMITATIONS IN INDIAN COPYRIGHT LAW FOR EDUCATION: An Assessment”** by Lawrence Liang

The paper discerns the basic nature of “exemptions and limits” in the copyright law for copyrighted things for the purpose of education. It sees at the prevailing “national and ‘international” regime, and claims about why there is a need for better “exceptions and limits” for the purpose of addressing the requirements of the developing nations. It contextualizes the disagreement, by inspecting the high costs of “educational materials” and the damage caused to “e-learning” and “distance education” by strong copyright procedures.

- **“THE FUTURE OF COPYRIGHT IN INDIA” – A Special reference to software piracy, its challenges and proposal for reform** by Ayyappan Palanissamy

The paper analyses the security given under statute and the problems that relate to the situation. The range of software piracy has been considered in the paper to identify the lawful effects of the provisions and the role of courts in respect to the enforcement which defends the rights of the “copyright owners” and a primary approach to suggest a development to be done to defend the interests of the copyright holders.

IDENTIFICATION OF THE ISSUES

- Whether strict application of the principle of copyright infringement hinders the economic and cultural development of society?
- Whether present laws (both national and international) are sufficient for all the challenges that emerging technologies pose for Copyright law?

SCOPE OF THE RESEARCH

The field of Copyright Infringement affects the economic and cultural aspects of the society, and with the emerging trend of technology, the scope has widened to an international level. Therefore, the research would include the study of present laws, which includes international treaties and national regulations, and their implementation keeping in mind the cultural and economic effects of it on a national and international level.

RESEARCH METHODOLOGY

The research method to be followed will be doctrinal. The research work shall make an analysis of the existing laws in Copyright. Analytical method with case studies will be used to critically analyse the effect of internet and digitalization on copyright law. Also, the challenges shall be taken into account in order to identify the areas in law that needs reform.

Primary Data- The different legislation, policies, rules and amendments related to copyright shall be analyzed. Copyright Act, 1957 and further amendments will be analyzed. International treaties will also be analyzed for the effect on a global level.

Secondary Data- In order to understand the cause and effects of digitalization and internet on Copyright law, a secondary data search shall be conducted to identify the relevant research articles journals, articles, books, newspapers, reports etc. available in online websites as well as in printed form.

HYPOTHESIS

The present laws are sufficient for the emerging technological issues, both at a national and international level, and if interpreted and implemented in an balanced manner could strike a perfect balance between the copyright owners and users, without hindering the economic and cultural development of society.

PROBABLE OUTCOME

It gets to be distinctly basic to change the lawful framework to react to the new innovative advancements in a viable and proper path, keeping in view the speed and pace of these improvements. The issues made by late innovative improvements can't be settled by the choices of individual nations. With the Internet, copyrighted works stay powerless against outside robbery regardless of the possibility that ensured in the nation of origin. In this way, it is important to adjust between simple encroachment and costly requirement; it is likewise vital to address the vulnerabilities required in worldwide suit. The more vulnerability there is about the techniques of authorization, relevant laws, or the presumable outcomes, the all the more unwilling copyright holders will be to attempt to implement their rights abroad.

TENTATIVE CHAPTERS

- Introduction
 - Definition of Copyright and Copyright Infringement.
 - Difference between Copyright and patent
 - Difference between copyright infringement and plagiarism
 - Acts that constitute copyright infringement
 - Exceptions to copyright infringement

- Digital technology and Copyright issue
 - Right of Reproduction
 - Right of Communication To The Public
 - Legal Protection of Technological Measures
 - Legal Protection of Rights Management Information

- Changes in law inspired by Digital challenges
 - WIPO Copyright Treaty
 - Berne Convention
 - Trade Related Aspects of Intellectual Property Rights
 - Universal Copyright Convention
 - The Digital Millennium Copyright Act, 1998
 - Other Legislations

- Copyright In Digital Media - Position Under Indian Law
 - Indian Copyright Act, 1957
 - Further amendments to Indian Copyright Act.

- Conclusion

1. INTRODUCTION

1.2 DEFINITION OF COPYRIGHT

Basically, copyright is the law that gives one, responsibility for things that one makes. It could be an artwork or a photo or a ballad or a novel, however in the event that one has made it, one would possess it and copyright law itself guarantees that sort of proprietorship. The proprietorship that this law inheritances, emerges with a few different rights that one, as proprietor, has only. These rights incorporate, the privilege to:

- reproduce the work
- prepare subsidiary works
- distribute duplicates
- perform the work
- and show the work to open

These are the proprietor's rights and their rights alone. Unless one enthusiastically gives them, nobody can encroach them lawfully, which implies that, unless one says something else, nobody else can play out any piece that is composed by them or even make duplicates of the said work, even with the affirmation, unless one give the OK.

Copyright protects works like books, PC programs, plays, music, sheet music and depictions. Typically, the creator of any copyrighted work would have the "right to duplicate, distribute, perform, convey and adjust" his work. Those uncommon rights make the pack of rights that is called copyright and enable the holder to have a control over the business utilization of the work.

It lays out a diagram of tenets around which, those works could be utilized. This law sets out the privileges of a proprietor of copyright, alongside the duties of all the other people who need to utilize that work. One can do various things with their copyright work, including, for ex. "duplicate, change or offer it, share it on the web or lease it to somebody" and in the meantime keep others from doing those extremely things. Contrariwise, on the off chance that one is searching for any material to utilize or reuse, one shouldn't do any of the things without, at first asking consent or watching that the said work is in "people in general area", which would imply that the said copyright would have lapsed and those rights would have been relinquished.

Essentially, if the work is not in "the general population area" and one doesn't have authorization to utilize any piece of it, one places itself in the danger of a lawful activity, regardless of their expectations.

The holder of any copyrighted work has practically entire flexibility to do whatever they need with their work, past reasonable utilize and farce. It is not any more not the same as owning an auto or a house or anything. The proprietor can loan it to a companion or offer it or change it or pulverize it. To sum things up, on the off chance that one possesses the copyright to anything, one has all similar rights that one has over whatever else and, now and again, significantly a greater amount of them.

For the work to be protected by copyright law it would should be unique and substantial.

□ Original - The work must be the result of one's own ability and work or their scholarly creation, for it to be unique, and it ought not simply copy another person's work. This is to do with counteracting straightforward things, such as composing any ballad that comprises of any single word that is being, by configuration, ensured by copyright. Or disaster will be imminent, it is difficult to be imaginative in day by day life, without faltering into another person's copyright.

□ Tangible - This implies copyright can't be quite recently given to a thought that one simply had. Rather one needs communicated that general thought in a physical (substantial) shape. A work is secured by copyright when it is composed down as a melodic score or recorded as an execution. It can't be ensured in the event that it is only a tune in their psyche.

Copyright wellbeing rises consequently, when the work is made. There is no compelling reason to enlist the work to guarantee that the rights are ensured by copyright, which is not at all like patent or trademark. Copyright in any case, won't not ensure imagination in every one of its structures, and in a couple cases an alternate type of Intellectual Property security may really be significantly more appropriate. Each nation has, its own copyright law and its practice can fluctuate. Be that as it may, the vast majority of the nations will secure the works that are made in different nations in a comparative way in which they ensure their own natives' work.

The significance of Copyright has expanded to a great degree, in the time of modernization where provoke changes are going ahead in the field of "printing, diversion, film, media and music and PC ventures".

Copyright, as a licensed innovation right, has an inordinate favorable position, since it emerges naturally. It emerges into reality the minute the work has been made. There is no need of any enlistment shape or any expense. It is critical that there are stringent points of confinement to the

insurance that copyright bears. Copyright is not a genuine restraining infrastructure, dissimilar to a patent. What copyright secures, is the shape in which the work is communicated, and not the thought.

As to part of authorization, requirement offices of India are at present working viably and therefore, there has been an unmistakable decrease in the theft levels in India. The administration has taken various measures to fortify the authorization of copyright law because of the expanding attacks against the infringers of copyright. It incorporates setting up of a Copyright Enforcement Advisory Council, which is an association of classes and workshops for

- The making more noteworthy mindfulness about the copyright law in the requirement work force and as a rule open,
- The setting up of agreeable authoritative social orders, and
- The production of particular cells in the state police base camp.

Copyright law can be implemented in an official courtroom and Copyright Act is currently in completely similarity with the TRIPs necessities.

The Act gives common cures, as well as criminal cures, against infringer, if there should arise an occurrence of encroachment of a copyright. These two cures are partitioned and autonomous and they can be attempted at the same time. The Copyright Act, 1957 sets required discipline for the robbery of copyrighted matter proportionate with the gravity of the offense, with an outcome to overwhelm encroachment, in concurrence with the TRIPs assention.

1.2.1 MORAL RIGHTS

Moral rights are those arrangement of rights, which are separate from the copyright of the creator copyright on a work. They are when all is said in done considered total, implying that they can't be given away or even sold, and in this way proceed regardless of the possibility that the copyright to a piece is completely sold.

As characterized by the Berne Convention, the ethical privileges of a creator are as per the following:

- "right to claim origin of the work.
- right to protest any bending, mutilation or alteration of the work.

- right to question any critical activity that may harm the creators respect or notoriety."

One can without much of a stretch perceive how valuable good rights can be in battling counterfeiting, in light of the fact that such a demonstration is disregarding creator's copyright, as well as the ethical rights. It is additionally helpful in those situations where the copyright of any work has been lost, is sold or given away, however written falsification still proceeds.

1.3 INTERNATIONAL CONVENTIONS THAT DEAL WITH COPYRIGHT INFRINGEMENT

There is no "worldwide copyright" all things considered, which would naturally ensure a creator's work on a global level, all through the world. National laws are depended for assurance against any unapproved use in that specific nation depends. Albeit, most nations offer assurance to outside work in specific situations, those conditions are vitally disentangled by the worldwide bargains and traditions. It has turned out to be imperative that copyright property be ensured on global premise, as the overall economy and worldwide exchange has developed. There is nothing that can be called as a worldwide copyright law which would give copyright security on a universal premise. As an option a large portion of the nations have sanctioned their own copyright laws, which can't have any significant bearing outside of their outskirts. The US copyright Act, for instance, has no impact at all exterior their outskirts of the US. On the off chance that a work is copyrighted under the US copyright law, and is encroached in some other nation, the US would have no ward over the encroachment.

1.3.1 THE BERNE CONVENTION

The Berne Convention was settled in 1886, and by and by has more than hundred part nations. By giving certain built up measures of insurance for their works, it focuses to secure the privileges of all creators. The Berne Convention underlines 2 noteworthy universal standards, which are:

- **The principle of national treatment**, which permits the courts of any nation to apply their residential law to those, demonstrations that occur inside that country, rather than some remote law. Thusly, choices will probably be altogether focused, since the judges will apply a law with which they are natural.
- **The principle of automatic protection**, , a creation will be conceded assurance, regardless of the possibility that it neglects to substance techniques, for example, enlistment or even lawful store, under the national law of any part nation.

The Berne Convention covers an extensive variety of works including books, handouts and different compositions, addresses, sensational works and representations. Interpretations, adjustments, courses of action and accumulations are additionally ensured. For the most part, works are secured for a long time after the creator's demise.

The works of nationals of all Berne Convention part nations are secured. A few works of creators who are not nationals of Berne Convention part nations may likewise be secured if the work was first or all the while distributed in a part nation.

The Berne Convention gives creators certain restrictive rights, including making or approving interpretation, generations and open recitations; and assurance of good rights.

Every part nation may allow certain employments of works in its enactment, for example, a statutory permit for generation and correspondence of works by instructive establishments. The Berne Convention constrains the effect of such exemptions to the copyright proprietor's selective rights by giving that the ordinary misuse of the work and honest to goodness interests of the creator must not be influenced.

1.3.2 UNIVERSAL COPYRIGHT CONVENTION (UCC)

The UCC was finished up in 1952 under the protection of the United Nations Education, Science and Cultural Organization (UNESCO) trying to consolidate a more noteworthy number of nations into the worldwide copyright group. UCC security is lower and more adaptable than the Berne Convention. It was felt that it was more qualified to the requirements of creating nations. The UCC epitomizes the rule of national treatment, yet not programmed insurance. A UCC part nation is not required to give a remote work programmed insurance if national conventions for assurance have not been met. Thus, the © image, name and date of first production ought to be put on the work to give sensible notice of claim of copyright.

Scholarly, logical and creative works are ensured by the UCC. For the most part, works will be ensured for at least 25 years past the life of the creator. The UCC requires part nations to give least rights to rights holders. Special cases to these rights might be made the length of they don't strife with "the soul and arrangements of this Convention".

1.3.3 THE GENEVA AND ROME CONVENTION

Many countries including US have been hesitant to recognize the producers of sound recordings and performers and author under copyright law. Consequently, ownership rights in sound recording have historically been protected by several neighboring is related rights treaties that are not technically part of copyright law. The convention for the protection of producers of phonograms against unauthorized duplication their phonograms (the Geneva Convention) were passed in 1971 and became effective in US from 10 March 1974. The Geneva Convention is designed to provide the international protection against the record piracy by recognizing the

rights of reproduction, distribution and importation of the sound recordings. Another treaty, the international protection for the performers, producers of phonograms and broadcasting organization (the Rome convention) provides a higher level of protection than Geneva Convention. However, the US has not joined the Rome Convention.

1.3.4 THE NORTH AMERICAN FREE TRADE AGREEMENT

Starting in the 1980's the US began a campaign to link IP protection into multinational trade-based Agreements more closely to international trade by incorporating the copyright protection in to multinational trade-based agreements. This resulted from newly developed economic rights philosophy for copyright protection and rests on the exemption that the failure to adequately protect the intellectual property on an international basis is an unfair trade practice. The NAFTA was entered in to 1992 by the US, Canada and Mexico. NAFTA requires copyright protection for computer programs, data compilations and sound recordings, recognition of rental rights for sound recordings, limitations on compulsory licensing and recognition of rights against unauthorized importations of copies of the protected work.

NAFTA contains detailed provisions providing for the protection of sound recordings. Producers of sound recordings can authorize or prohibit a recordings direct or indirect reproduction, importations of unauthorized copies, first public distribution and commercial rental. It also provides for a minimum copyright term of 50 years for sound recordings.

1.3.5 THE GENERAL AGREEMENT OF TRADE AND TARIFFS

The GATT is a multinational treaty designated to encourage free international trade. GATT includes an agreement on Intellectual Property called the trade related aspects of intellectual property rights. Under trips, member countries must agree to enact copyright laws that give effect to the substantive provisions of the Berne Convention. Trips incorporate most of the minimum standards specified by the Berne convention. However, give primarily pressure by the U.S., trips does not require the recognition of moral rights. Trips incorporate the Berne convention requirement of a minimum term of copyright protection lasting for the life of the author plus 50 years. If a works term is not based on the life of natural person, the term must be at least 50 years from either the year of the publication or the creation of the work if the work has not been published within 50 years of publication of its creation¹.

¹http://books.google.co.in/books?id=y6mhbfjuOucC&pg=PA147&dq=conventions+dealing+with+copyright&source=web&ots=vO-XmVm&sig=Oc5_kbJvr6DwvZJBDpCR3oT-SY&hl=en#PPA148,M1

1.4 INFRINGEMENT OF COPYRIGHT IN INDIA

Copyright law confers upon the owner of the work a bundle of rights in respect of reproduction of the work and the other acts which enables the owner to get financial benefits by exercising such rights. If any of these rights relating to the work is carried out by a person other than the owner without the license of the owner or a competent authority under the act, it constitutes infringement of copyright in the work. Since copyright is granted for a limited period, there will be no infringement if the reproductions of the work or other acts concerned are carried out after the term of the copyright has expired. The exclusive rights conferred on the owner depends on the nature of the work in which copyright subsists. Accordingly the type of acts which will constitute infringement will also depend on the nature of work. Section 51 of the Copyright Act, 1957 defines infringement of copyright generally. Section 52 defines a long list of acts which do not constitute infringement of copyright. These are in nature of exceptions to the exclusive rights conferred up on the copyright owner. They also serve as defences in an action for infringement of copyright.

The exclusive right granted under the Act extends also a translation or adaptation of the work or to a substantial part thereof. Thus copyright will be infringed if the substantial part of the work was reproduced. What amounts to substantial part of work will depends on the circumstances of the case.²

Copyright infringement issue has raised an alarm in today's world. When a person intentionally or unintentionally copies or uses the work of another creator, without his prior consent or permission, or any contract or license or assignment with the author as covered by the copyright law, it amounts to infringement.³ Infringement can be broadly classified into two:-

1. Primary infringement;
2. Secondary infringement.

Primary infringement deals with the real act of copying, while **secondary infringement** deals with other kinds of dealing like selling the pirated books, importing etc.

Copyright is granted for a term of 60 years, i.e. when the work is related to music, literature, art, drama, etc., the period will be the life of the author plus 60 years. However, in the case of cinematographic films, recordings, publications, photographs and works of government and international organisations, the period of 60 years will be counted from the date of publication.

² Justice P.S.Narayana, "Intellectual Property Rights", 3rd Ed., 2004.

³ www.pressreleasepoint.com/copyright-infringement-and-its-remedies.

1.5 DIFFERENCE BETWEEN COPYRIGHT AND PATENT

The patent is defined as the exclusive right or authority conferred to the inventor for a novel, and non-obvious invention, by the government for a fixed period, in exchange for a complete declaration of the invention. The inventor has the right to debar others from using, manufacturing, selling that invention, for a particular period. To get patented the invention should satisfy the following:

- It must be new and original.
- An inventive step must be there.
- It must be capable of industrial application.

The patent is awarded for twenty years, from the date of application, for which a renewal fee is required to be paid every year, to keep the patent valid for twenty years. Further, if the fee is not paid within the stipulated time, the rights will be ceased.

⁴The following points are significant so far as the difference between copyright and patent is concerned:

1. A bundle of rights granted to the creator of original work, which excludes others from performing, selling or producing the work, is known as Copyright. A legal grant given by the government to the inventor which excludes others from making, utilising or trading the invention for a set period, is called a patent.
2. While idea, reduced to practice is the subject matter of the patent, copyright focuses on expression.
3. In India, the Indian Copyright Act, 1957 regulates the copyright rules and regulations. On the contrary, patents are governed by the Indian Patent Act, 2005.
4. Copyright includes artistic, and literary creation whereas patents stresses on inventions.
5. As soon as the original work is created the copyright comes into existence, thus the protection is automatic, and no formality is required to be fulfilled. On the other hand, the patent requires registration, wherein the application of the patent is submitted at the regional or national patent organisation.
6. Copyright excludes others from creating, copying or selling the original work. As against this, patent debar others from manufacturing or using the product or technique.

⁴ <http://keydifferences.com/difference-between-copyright-and-patent.html>

7. Copyright, in general, is granted for 60 years. Unlike a patent, which is conferred to the author for 20 years.

1.6 DIFFERENCE BETWEEN COPYRIGHT INFRINGEMENT AND PLAGIARISM

⁵But where copyright infringement is a construct of the law, plagiarism is a construct of ethics.

Most broadly, plagiarism is defined as the taking the original work or works of another and presenting it as your own.

The definition of “work” can include a variety of things including ideas, words, images, etc. Anything that is seen as an unethical and unattributed use of another’s original creation can be defined as plagiarism.

However, the definition of plagiarism is not always consistent. Different industries, for example, have different standards. A lawyer, for example, is held to different standards than a poet, which is different than a speechwriter and different from a musician.

Because of this, as with copyright infringement, many cases of plagiarism are divisive as to whether or not a violation was committed.

On the surface, plagiarism and copyright both have a great deal in common. Most things that can be plagiarized could be copyrighted. After all, most plagiarism deals with either creative or academic work and those types of works, typically, qualify for copyright protection when they are new.

More importantly though, many plagiarisms are copyright infringements. Plagiarizing a blog post on a new site, copying an encyclopedia article without attribution for a book report or submitting a photograph someone else took under your name to a magazine are all examples of both plagiarism and copyright infringement.

As such, many plagiarisms are actually addressed through the legal framework provided by copyright law. Plagiarized content posted online is often removed with takedown notices, commercial plagiarisms, for example in advertisements, are often dealt with through lawsuits and so forth.

However, not all plagiarisms are copyright infringements and not all copyright infringements are plagiarisms. Though there’s a lot of overlap between them, there’s a lot of areas where they diverge.

⁵ <https://www.plagiarismtoday.com/2013/10/07/difference-copyright-infringement-plagiarism/>

DIFFERENCES

The key difference between plagiarism and copyright infringement is that not all plagiarisms are infringements and not all infringements are plagiarisms.

For one, a person can plagiarize almost anything, including works that are not protected by copyright. If you were to claim to have written “Hamlet”, for example, it would be a plagiarism but not a copyright infringement because the play is in the public domain and is not protected by copyright.

Also, plagiarism often covers things that are not covered by copyright. Ideas, facts and general plot elements are all things that can be plagiarized, at least in certain situations, but generally don’t qualify for copyright protection.

It’s also worth noting that getting permission to use a work makes the use non-infringing though it might still be a plagiarism. For example, getting permission to submit a purchased essay means that the use is not an infringement, but it is still a plagiarism as the work is not originally yours.

To make matters more confusing, most copyright infringements don’t really hinge on whether or not a use attributed. For example, if you passed out copies of a play without permission, it’s most likely an infringement whether or not you tried to take credit for it. While plagiarism may have an impact on damages awarded if a lawsuit is filed, attribution generally doesn’t make an infringing action legal.

In short, it’s possible to infringe a work without plagiarizing it and it’s equally possible to plagiarize something without committing copyright infringement.

Though plagiarism and copyright infringement are often spoken of in the same breath, especially by victims of plagiarism who are seeking justice, it’s important to remember that the two are not the same thing.

Another way to think of it is this. While copyright infringement has one victim, the copyright holder(s), plagiarism has two sets of victims, the copyright holder(s) and the people who were lied to about the origin of the work.

⁶The other important way to look at is that plagiarism is an ethical construct and copyright infringement is a legal one. Though they have a lot of overlap, they are not the same and can never really be the same.

So while plagiarism may come up in copyright discussions and vice versa, it’s important to know that the two are different in some very important ways.

⁶ <http://sarafhawkins.com/difference-copyright-and-plagiarism/>

Both copyright infringement and plagiarism are bad. Both often play out in the court of public opinion, which likely has a greater cost than any legal judgement. Some may argue that the consequences of being found to have plagiarized a work are more harsh than damages a court doles out. Interestingly, a finding of plagiarism may stay with someone much longer than being held accountable for copyright infringement.

As a society, the value we have for makers and creators is not always consistent with actions. With the advent of social media, it's easier than ever to be held accountable for claiming to have created something when, in fact, you didn't. Right or wrong, we really need to move away from the premise that it's easier to ask for forgiveness and, instead, support the value of creators and their work and ask permission and give credit.

1.7 EXCEPTIONS TO COPYRIGHT INFRINGEMENT

Protection and enforcement of intellectual property rights must:

1. be conducive to social and economic welfare;
2. safeguard an individual's fundamental rights; and
3. Promote commerce, competition and innovation.

In Copyright Laws exceptions and limitations are provisions which in public interest permit the use of copyrighted works without prior authorization or a license from its owner.

Generally, exceptions and limitations to copyright are subject to a three-step test set out in the Berne Convention for the Protection of Literary and Artistic Works. Briefly stated, the Berne Convention provides that an exception or limitation to copyright is permissible only if:

1. it covers special cases
2. it does not conflict with the normal exploitation of the work; and
3. it does not unreasonably prejudice the legitimate interests of the author.

Standard exceptions and limitations vary from country to country in their number and scope.

⁷In India the provisions of Section 52 of the Copyright Act, 1957 provide for certain acts, which would not constitute an infringement of copyright namely fair dealing with a literary, dramatic, musical or artistic work not being a computer program for the purposes of-

⁷ <http://www.lexology.com/library/detail.aspx?g=4c426ccb-a002-4256-9a0a-36039b2856a3>

- *private use, including research;*
- *criticism or review ,*
- *reporting current events in any print media or*
- *by broadcast or in a cinematographic film or by means of photographs,*
- *reproduction for the purpose of a judicial proceeding or of a report of a judicial proceeding;*
- *reproduction or publication of a literary, dramatic, musical or artistic work in any work prepared by the Secretariat of a Legislature or, where the Legislature consists of two Houses, by the Secretariat of either House of the Legislature, exclusively for the use of the members of that Legislature;*
- *the reproduction of any literary, dramatic or musical work in a certified copy made or supplied in accordance with any law for the time being in force;*
- *the reading or recitation in public of any reasonable extract from a published literary or dramatic work;*
- *the publication in a collection, mainly composed of non-copyright matter, bona fide intended for the use of educational institutions,*
- *the making of sound if made by or with the license or consent of the owner of the right in the work*

1.8 THE DOCTRINE OF FAIR DEALING

The term “fair dealing” has not been defined in the Act. It is a legal doctrine, which allows a person to make limited use of copyrighted work without the permission of the owner.

Whether a person’s use of copyright material is “fair” would depend entirely upon the facts and circumstances of a given case. The line between “fair dealing” and infringement is a thin one. In India, there are no set guidelines that define the number of words or passages that can be used without permission from the author. Only the Court applying basic common sense can determine this. It may however be said that the extracted portion should be such that it does not affect the substantial interest of the Author. Fair dealing is a significant limitation on the exclusive right of the copyright owner. It has been interpreted by the courts on a number of occasions by judging the economic impact it has on the copyright owner. Where the economic impact is not significant, the use may constitute fair dealing.

The fair nature of the dealing depends on the following four factors:

1. the purpose of use
2. the nature of the work
3. the amount of the work used, and
4. the effect of use of the work on the original

In the case of ***Kartar Singh Giani v. Ladha Singh***, the High court held that:

“two points have been urged in connection with the meaning of the expression fair, in fair dealing (1) that in order to constitute unfairness there must be an intention to compete and to derive profit from such competition and (2) that unless the motive of the infringer were unfair in the sense of being improper the dealing would be fair.”

2. DIGITAL TECHNOLOGY AND COPYRIGHT ISSUE

Historically, U.S. copyright law has sought to balance private incentives to engage in creative activity with the social benefits that arise from the widespread use of creative works. In the past, the emergence of new technologies— the photocopying machine and videocassette recorder, for example—has threatened to tilt the scales of the copyright regime by loosening the control that copyright owners enjoy over subsequent uses of their works.

Such a development could reduce the revenues that creators of copyrighted material obtain from their efforts and thereby restrict the future supply of creative works.

Over the years, however, three important factors have helped to preserve some balance in the U.S. copyright regime: the judicial interpretation of existing copyright law; the enactment of new legislation; and the ability of copyright holders and the industries that market and distribute creative products to find ways of applying those new technologies to generate sufficient returns to maintain the flow of new creative works.

The decentralized nature of Internet makes it possible for any user to disseminate a work endlessly in the cyberspace through an end number of outlets, thereby giving rise to global piracy. Estimates of global losses from pirated books, music and entertainment software range into billions of dollars. The Internet in a way presents a troublesome situation for copyright holders as the users become mass disseminators of others copyright material and creates disequilibrium between the authors and users⁸. The advent of digital technology, therefore presents legislators with a choice: either expand or modify existing 'old media notions' or redefine the catalogue of restricted acts, taking into account the peculiarities of the new environment in multiple facets discussed herein under.

⁸ Gulla, R. K. (2007). Digital Transformation of Copyright Laws and the Misty Indian Perspective, *Icfai Journal of Intellectual Property Rights*, 6(3), 1-26.

2.1 THE RIGHT OF REPRODUCTION

Since the adoption of the Statute of Anne, the mother of modern copyright law, the reproduction right has been at the heart of copyright law for more than three hundred years. Though recognized as a seminal right accorded to authors⁹, the reproduction right *per se* has not been unambiguously delimited by the international instruments for copyright protection¹⁰.

The Berne Convention: Article 9 of the Berne Convention provides:

“Authors of literary and artistic works protected under this Convention, shall have the exclusive right of authorizing the reproduction of these works, in any manner or form.”

Due to the lack of agreement on the right's scope and content, the original text for the Berne Convention did not include any provision that expressly protected the reproduction right¹¹. Under Article 9(1) of the Berne Convention, copyright owners are granted “the exclusive right of authorizing the reproduction of these works, in any manner or form”. However, the ambivalence of Article 9(1) of the Berne Convention, particularly the phrase “in any manner or form”, has resulted in an international rift over the scope of the reproduction right. The advent of the Internet makes the delimitation of the reproduction right more problematic in the digital age. Given that any transmission of protected works over the Internet involves the reproductions transitorily stored in the connected computers' RAM, the question of whether right owners should be granted with the control over all temporary reproductions looms large amid the dematerialized and decentralized nature of the Internet. By contrast, the WIPO Performances and Phonograms Treaty, 1996 contains two articles (Articles 7 and 11) for the protection of the reproduction right enjoyed by Performers and Phonogram Producers respectively. Under the WPPT Performers and Phonogram Producers are vested with “the exclusive right of authorizing the direct or indirect reproduction of their respective protected subjects in any manner or form” (Agreed Statement concerning Articles 7, 11 and 16 of the WPPT). The Agreed statements attached to the WCT and WPPT make it clear that the Article 9 of the Berne convention shall apply *mutatis mutandis* to the protection of the reproduction right in the digital environment. At first glance, what is clear under these two agreed statements is that permanent digital copies, for example, copies stored in floppy disks or a computer's read only memory (ROM), are protected by the WIPO Treaties 1996. Moreover, members are free to introduce new limitations or exceptions to the re-delimited reproduction right, subject to the three-step test. Yet the ordinary meaning of the second sentence of the agreed statements, in particular the term “storage”, still remains largely ambiguous and obscure. Does it cover the making of temporary copies? One

⁹ Goldstein, P. (2001). *International Copyright: Principles, Law and Practice*. New York: Oxford University Press.

¹⁰ Spoor, J. H. (1996). The Impact of Copyright in Benelux Design Protection Law. In P. B. Hugenholtz (ed.), *The Future of Copyright in a Digital Environment* (54-86) Hague: Kluwer Law International.

¹¹ Ricketson, S. (1987). *The Berne Convention for the Protection of Literary and Artistic Works: 1886-1986*. London: Centre for Commercial Law Studies, Queen Mary College.

would answer in the negative that “in ordinary usage, 'storage' connotes a much higher level of activity than simple 'temporary' conduct”¹². On the contrary, the counter argument may simply go that the temporarily stored copy does in fact constitute a form of storage of the work. Without the direct reference to the phrase “permanent or temporary”, the agreed statements, rather than fulfill the proclaimed ambitious task to provide the clarity, fail to determine the extent to which the reproduction right should be applied in the digital environment. The ambivalence of the treaty language leaves the question as to whether the temporary copies have been covered, potentially unsettled.

¹² Ginsberg, J. (2003). Achieving Balance in International Copyright Law, *Columbia Journal of Law & Arts*, 26, 201-245.

2.2 THE RIGHT OF COMMUNICATION TO THE PUBLIC

Digital technology blurs the line between different categories of copyrightable works¹³ and the means of communication to the public as well. On the other hand, in the midst of fast development in digital technology, the computer networks, in particular the Internet, brings forth a point-to-point way of transmitting works on an on-demand and interactive basis. The interactivity and individuality afforded by this new method of exploiting works, makes it possible for any member of the public to have the full discretion in determining the place and the time one is intended to access and use works in digital form. Against this backdrop, a new form of unitary, technology-neutral right of communication to the public is suggested to be ushered in to replace the fragmentary, technology-specific protection to this right.

Paradoxically, it seems that the Berne Convention has become an incomplete and outdated international instrument for the protection of the right of communication to the public, unable to respond to the challenges posed by the shift in the ways of exploiting works.

First and foremost, the Berne Convention has lagged behind the trend in the digital conversions of the telecommunications, media and information technology. The right of communication to the public is regulated in a fragmented manner by the Berne Convention in terms of the means of communication.

Second, the scope of the right of communication to the public does not cover all the categories of copyrightable subject-matter, including computer programs, photographic works, works of pictorial art, graphic works¹⁴. These works however, have been and are being widely disseminated over the Internet yet are vulnerable to the unauthorized access and use.

Further, it remains ambiguous under Berne Convention as to whether the traditional right of communication to the public would regulate interactive, on-demand transmission of works over the computer networks. Concern has been expressed that the Berne Convention may only be able to squarely regulate the point-to-multipoint communication of works, leaving right owners in the grey area where they probably do not have the right to exclude others from communicating their works to the public on a point-to-point basis with the interactive, on-demand nature¹⁵. The perceived loopholes or ambiguities within the Berne Convention, therefore, make it evident that relevant obligations need to be clarified by providing a unitary, technologically neutral right of communication to the public. After rigorous debate on the WIPO Diplomatic Conference 1996, a

¹³ Boon, D. S. K. (1998). Copyright Norms and the Internet: The Problems of Works Convergence, *Singapore Journal Of International and Comparative Law*, 2, 76-116.

¹⁴ WIPO. (1996). *Basic Proposal for the Substantive Provisions of the Protection of Literary and Artistic Works to Be Considered by the Diplomatic Conference*. WIPO, Geneva.

¹⁵ Ibid

broad right of communication to the public was eventually established by the WIPO Treaties 1996.

Article 8 of the WCT provides that: Without prejudice to the provisions of Articles 11(1)(ii), 11bis(1)(i) and (ii), 11ter(1)(ii), 14(1)(ii) and 14bis(i) of the Berne Convention, authors of literary and artistic works shall enjoy the exclusive right of authorizing any communication to the public of their works, by wire or wireless means, including the making available to the public of their works in such a way that members of the public may access these works from a place and at a time individually chosen by them. The WPPT contains two similar provisions (Articles 10 and 14) that accord performers and phonogram producers with the right of making available to the public of fixed performances and phonograms respectively.

Under the WIPO Treaties 1996, two categories of the minimum standards for the protection of the right of communication to the public have been set up. First, regarding the point-to-multipoint communication routinely involving an active sender and passive recipients, they usher in a unitary right of communication to the public by wire or wireless means, technologically neutral in terms of copyrightable subject-matter and means of communication as well. This right fills up the lacunae existing in the Berne Convention and is designed to apply all copyrightable subject-matter, including computer programs and databases that are not protected by the fragmented right of communication to the public under the Berne Convention. By supplementing the relevant provisions (e.g., Articles 11(1)(ii), 11bis(1)(i) and (ii), 11ter(1)(ii), 14(1)(ii) and 14bis(1)) in the Berne Convention the new right of communication to the public is able to fully accommodate all communication of copyrighted subject-matter that may be developed in the future. With respect to point-to-point communication routinely involving an active sender and an active recipient, the new right has been embedded in to the general right of communication to the public. The main objectives to establish this new right are first “to make it clear that interactive on-demand acts of communication are within the scope of copyright protection”; and second “to harmonize the obligations” in order to “avoid any discrepancies that may be caused by different interpretations” of the traditional communication right under the Berne Convention¹⁶. Excluding the physical distribution of works, fixed performances and phonograms, the right of making available to the public specifically regulates interactive, on-demand online communication that is shiftable both in terms of place and time. Acts of communication subject to this new right, include those that enable members of the public to access protected subject-matter from “a place and at a time individually chosen by them”. In this way the control over the interactive means of exploiting copyrightable subject-matter is conferred upon copyright owners under the rubric of the right of making available¹⁷. However, any other form of “exploitation by way of offering, at specified times, predetermined programs for reception by the general public”¹⁸, fall outside the

¹⁶ Ibid

¹⁷ IFPI. (2003). *The WIPO Treaties: Making Available Right*

¹⁸ Reinbothe, J. and Lewinski, S. (2002). *The WIPO Treaties 1996: The WIPO Copyright Treaty and The WIPO Performances and Phonograms Treaty: Commentary and Legal Analysis*. London: Butterworths.

ambit of this new right. Although the WIPO Treaties 1996 significantly expand the scope of the right of communication to the public, the following two issues have been left unsettled. First and foremost, the term “the public”, has not been given a clear cut definition in the context of new right of communication to the public. The Endeavour’s to delimit this term for the protection of the right of public performance have sparked much controversy just because technological developments in digital dissemination of works carry the effect of blurring the public-private distinction¹⁹. Given the increased difficulty to draw the line between private and public transmissions, it is understandable that the WIPO Treaties 1996 are silent on the benchmark with which the public-private distinction could be decided and leave the discretion to determine the scope of public communication to each contracting party²⁰.

Moreover, the issue concerning the secondary liability of those who facilitate the infringing communication of works to the public, including Internet Service Providers (ISPs), has not yet been addressed. The Agreed Statement concerning Article 8 of the WCT emphasizes that the mere provision of physical facilities, such as server space, communication connections, or facilities for the carriage and routing of signals, for enabling or making a communication “does not in itself amount to communication within the meaning of this Treaty or the Berne Convention”²¹. What has been made clear by this statement is that ISP should not be held liable as passive conduits that merely offer “physical facilities” to bring the communication of information to fruition²². It does not, however, deal with the issue pertaining to the indirect liability of those who normally act as passive conduits for communication yet in fact actively participate in the infringing transmission of protected works.

HOW SHOULD THIS BE DEALT WITH?

- Existing or new exclusive right.

The treaties leave open the possibility to implement this provision either on the basis of an existing exclusive right or through enactment of a new right. Different legal systems may justify different approaches. In principle, countries can include the ‘making available’ right within the sphere of the ‘communication to the public’ right—probably the preferred choice in most countries— or the distribution right.

- Acts taking place by wire or wireless means.

¹⁹ See supra note 10

²⁰ See supra note 15

²¹ Ibid

²² See supra note 13

‘Making available’ can happen either via physical networks such as a cable network or the internet, or via wireless means such as mobile phone networks or broadcasting signals. Implementing legislation therefore should make clear that this right applies notwithstanding the media or the transmission means by which music or other protected material is made available.

- Broad definition of interactivity.

The treaty defines the ‘interactivity’ criterion in a broad manner ('from a place and at a time individually chosen'). The right is thus designed to cover all forms of transmission that allow for a degree of interactivity. This should be measured by whether individual members of the public (not the public at large) can determine when and where they want to access a work or phonogram. Not only should on-demand delivery of music over a network be covered, but also any service that allows the consumer a choice of content and of the moment of enjoyment of that content. This should include, for example, multichannel digital services (by online or wireless means) that play the same content several times a day and allow for the automatic identification and recording of all or part of the content. All new services that have a degree of interactivity, target individual needs and/or have an impact on the primary market should be covered. Note that any implementation of this right must cover not only actual transmissions, but also the initial act of opening an interactive server to the public.

- Protection of authors, phonogram producers and performers.

The treaties require that authors (WCT Art. 8), phonogram producers (WPPT Art. 14) and performers whose performances are fixed in phonograms (WPPT Art. 10) benefit from the exclusive ‘making available’ right.

2.3 LEGAL PROTECTION OF TECHNOLOGICAL MEASURES

In response to the increasing ease of reproduction and disseminating works over the internet, copyright owners and their technology have designed entirely novel and more effective technological measures, to constrain physical access to and use of their copyrighted works. Early in 1991, the E.U. took the lead to provide legal protection against circumvention of technological measures applied to protect computer programs.

In the wake of this directive, the North America Free Trade Agreement, 1992 provides for criminal and civil remedies against decoding the encrypted program carrying satellite signals and related acts. The advent of Internet facilitates the manufacture and trafficking of circumvention devices, and the subsequent dissemination of copies of works whose technological protection measures have been circumvented, at a global scale, posing formidable challenges for the effective protection of copyright owner's interests.

Therefore, an ambitious agenda to provide an effective and adequate protection for the technological measures deployed by copyright owners was adopted at the WIPO Diplomatic Conference 1996. Article 11 of the WCT provides that: “Contracting parties shall provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights under this Treaty or the Berne Convention and that restrict acts, in respect of their works, which are not authorized by the authors concerned or permitted by law.”

Likewise, the WPPT contains a parallel provision (Article 18) for the protection of technological measures employed by performers and phonogram producers.

(a) Circumvention of Digital Copyright Material

Under the WIPO Treaties 1996, contracting parties are duty-bound to provide “adequate and effective” legal protection against the “circumvention” of effective technological measures. At the same time, contracting parties are also obligated to prohibit circumventor's initial act of manufacturing devices primarily for the purpose of circumventing technological measures, as a sequel to pre-empt action leading to any illicit act of direct circumvention. However, it remains disputable as to whether the third party's manufacture and distribution of protection-defeating devices will be subject to the anti-circumvention provisions. Given that the acts of circumvention are not amenable to detection and control in the digital environment²³, the legal protection of technological measures can hardly be enforced in an effective manner if it focuses exclusively on

²³ Marks, D. S. & Turnball, B. H. (2000). Technical Protection Measures: The Intersection of Technology, Law and Commercial Licences, *European Intellectual Property Review*, 22 at 198-218.

the act of circumvention²⁴. The absence of an effective oversight of the downstream supply of circumvention devices in the market place would result in considerable difficulties to deter the acts of circumvention thereby put the right owners' interests to serious prejudice. The absence of the protection against preparatory activities will arguably disturb the balance of copyright protection as proclaimed in the preambles of the WCT and WPPT. In terms of the required effective and adequate protection of the technological measures, contracting parties are therefore obligated to outlaw preparatory activities in the national anti-circumvention regulations²⁵.

(b) Eligible Technological Measures for Protection

The WIPO Treaties 1996 mandate that the eligible technological measures for protection should be “effective” in nature, and differentiate the types of such technological measures employed by the right owners. Article 11 of WCT states that technological measures protected should be effective and used by authors in connection with the exercise of their rights under the WCT or Berne Convention. Moreover, the WIPO Treaties 1996 divide the protectable technological measures into two categories: access-control measures (effective technological measures “that restrict acts, in respect of their works, which are not authorized by the authors concerned or permitted by law”) and rights-control measures (effective technological measures “that are used by authors in connection with the exercise of their rights under this Treaty or the Berne Convention”)²⁶.

(c) Knowledge Requirement

Under the WIPO Treaties 1996, there is no explicit knowledge requirement in the anti-circumvention provisions. By contrast, the *Basic Proposal* made it clear that a person would be penalized if he or she knew or had the reasonable grounds to know that the device in question would be used for or in the course of the unauthorized access to and use of works²⁷. This knowledge requirement, therefore, focused on the purpose for which the device would be used. However, it was not incorporated in the final texts of the WIPO Treaties 1996.

(d) Effective Remedies

Finally, contracting parties are required to provide effective remedies against the circumvention of the technological measures. The WIPO Treaties 1996, however, are silent on concrete criteria

²⁴ See supra note 19

²⁵ See supra note 13

²⁶ See supra note 24

²⁷ See supra note 15

to evaluate the effectiveness of remedies. According to the *Basic Proposal* contracting parties are free to choose appropriate remedies according to their own legal traditions²⁸. National enforcement system, under the WCT and WPPT, should be effective and at least include expeditious remedies to prevent infringements and remedies which constitute deterrence to further infringements. Therefore remedies against circumvention should be effective enough to “constitute a deterrent and a sufficient sanction” against illegal acts of circumvention.

²⁸ Ibid

2.4 LEGAL PROTECTION OF RIGHTS MANAGEMENT INFORMATION

It is important that whenever a work or an object of related rights is requested and transmitted over the network, the fact of the use is registered together with all the information necessary to ensure that the agreed payment can be transferred to the appropriate right owner(s). Various technologies in this respect are available or being developed which will enable the necessary feedback to the right owners. Such information may also function in conjunction with technological measures, as where a watermark serves to identify a work but may also be a requisite component for enabling the authorized use of a copyrighted work. It can also serve to facilitate online licensing.

It is crucial, however, that such information is not removed or distorted, because the remuneration of the right owners would in that case not be paid at all, or it would be diverted. From a practical point of view, this would be as prejudicial to the interests of the right owners as an outright infringement of rights.

The emergence of Rights Management Information (RMI) facilitates the efficient exploitation of works of authorship, and offers a myriad of new opportunities for right owners to protect their moral rights in the digital age. The RMI's vulnerability to unauthorized alteration or removal casts a long shadow on the protection of the integrity of RMI. Aimed to provide right owners with the sufficient protection of RMI attached to their works, the WIPO Treaties 1996 oblige contracting parties to provide effective protection against the manipulation of RMI and other relative acts that unreasonably prejudice right owners' interests.

Contrary to the general and nebulous language used in the anti-circumvention rules, the RMI-related provisions in the WIPO Treaties 1996 usher in a set of new minimum standards for the protection of the integrity of RMI.

First, the treaties make it clear that the illegal acts of manipulating RMI include: (1) the removal or alteration of any electronic rights management information without authority; and (2) the non-permissive distribution, importation for distribution, broadcast or communication to the public of works, knowing that electronic rights management information has been removed or altered without authority (Article 12 of WCT and Article 19 of WPPT).

Second, the RMI provisions expressly provide for a two-layered knowledge requirement. With respect to the first layer of the knowledge requirement, persons with actual knowledge committing the aforementioned illegal act would be subject to the penalty. The person liable for second layer information of contents, must have the knowledge or have reasonable grounds to know that his act will "induce, enable, facilitate or conceal an infringement of any right" covered by the WCT and WPPT, or the Berne Convention. This, in fact, adds an additional benchmark to determine whether the aforementioned manipulation of RMI shall be penalized. It will exempt

those who inadvertently make alteration or removal of RMI, and cause no threat to the legitimate interests of right owners [17].

Third, the scope of protectable RMI is unequivocally delimited. Under the WCT, the RMI eligible for protection includes the information which “identifies the work, the author of the work, the owner of any right in the work”, or deal with “the terms and conditions of use of the work, and any numbers or codes that represent such information”.

Moreover, such information should simultaneously be “attached to a copy of a work or appears in connection with the communication of a work to the public” (Article 19 of WCT). Additionally, the agreed statement concerning Article 12 of the WCT further makes clear that the rights protected include both exclusive rights and rights of remuneration set forth in the WCT or Berne Convention.

Meanwhile, contracting parties are not allowed to rely on Article 12 “to devise or implement rights management systems that would have the effect of imposing formalities”, prohibiting the free movement of goods or impeding the enjoyment of rights under the WCT. This agreed statement is applicable *mutatis mutandis* to the RMI provision in the WPPT (Agreed Statement concerning Article 19 of the WPPT).

2.5 LIMITATIONS AND EXCEPTIONS

From earliest times in the history of copyright, it has been recognised that in certain cases limitations or exceptions should be placed on the exercise or scope of established rights and may be termed as “internal restrictions”, i.e. they are actual or potential restrictions resulting from the provisions of the instrument itself²⁹. The reasons given for imposing such restrictions may be based on considerations of public interest, prevention of monopoly control, etc. The limitations on copyright are necessary to keep the balance between two conflicting public interests: the public interest in rewarding creators and the public interest in the widest dissemination of their works, which is also the interest of the users of such works³⁰. The restrictions may appear in the form of compulsory or statutory licenses (often involving procedural requisites, and payment of remuneration to the right owner), or (more frequently) permitted uses, not subject to formal procedures or payment, but in respect of which conditions may apply (e.g. statement of source). The limitations on the author's exclusive rights may be imposed in order to facilitate the work's contribution to intellectual and cultural enrichment of the community. However, the limitations must not be such as to dampen the will to create and disseminate new works.

²⁹ Sterling, J. A. L. (2003). *World Copyright Law*. London, Sweet & Maxwell.

³⁰ Stewart, Stephen M. (1989). *International Copyright and Neighbouring Rights*. London, Butterworths.

2.6 NEED FOR PROTECTION OF TEMPORARY IN A NETWORKED ENVIRONMENT

In our new networked world, copyright protection against unauthorized “temporary copying” is critical to developing a safe environment for the conduct of e-commerce globally. It is axiomatic now that digital technologies and computer networks, like the Internet, provide the individual with the choice of enjoying or benefiting from protected material through the use of physical, permanent copies (e.g. CD-ROMs, DVDs or other optical or electronic media) or through the use of temporary copies. Indeed, from the user’s perspective, the permanent or temporary format may be indistinguishable – he/she can view a movie, play a piece of music, play a videogame, read an e-book or execute the commands of a computer program whether from a permanent copy or from having access to the work through creation of a temporary copy of it in the RAM of the user’s computer or similar device. The key is that a work or sound recording can be FULLY exploited by the user even if he/she has made no permanent copy of it.

It is this critical revolution in technology and in the business models for using computer networks that creates the need for a copyright owner to be able to control both temporary as well as permanent copying and is the indispensable backdrop to the legal arguments that temporary copies are, and must be, considered reproductions that fall within the scope of the reproduction right.

Most countries’ copyright laws already contain a reproduction right. In implementing the WIPO Treaties, it is necessary to check whether all of the necessary elements of the reproduction right are protected by national statutory or case law. These are as follows:

- Any manner or form of reproduction, including use and storage in digital form.

This means that the exclusive right should apply irrespective of the technology used in the act of copying or the medium onto which protected material is copied. National law should also ensure that all types of temporary and permanent reproductions that take place in the use and electronic storage of a work in digital form are protected by copyright.

- Direct and indirect reproduction.

The WPPT grants phonogram producers and performers the exclusive right to authorise indirect as well as direct reproduction. Among other things, this means that the right owner’s consent is needed for copying from a tangible phonogram as well as for copying from a broadcast or other type of communication.

- In whole or in part.

It is clear that protection should cover the use of the whole or parts of a work or phonogram. This is traditionally recognised under most copyright and related rights laws, and becomes even more important now that technology has made extracting, copying and commercial use of parts of phonograms in advertising, multimedia and sampling so easy.

- Protection of authors, phonogram producers and performers.

The treaties require that authors (WCT Art. 1(4)), phonogram producers (WPPT Art. 11) and performers of literary or artistic works or expressions of folklore (but not necessarily audiovisual performers) (WPPT Arts. 7, 2(a)) benefit from the exclusive reproduction right.

2.7 COPYRIGHT ENFORCEMENT IN DIGITAL ENVIRONMENT

Global computer-based communications cut across territorial borders, creating a new realm of human activity and undermining the feasibility and legitimacy of laws based on geographical boundaries³¹. Digital technology has made copyright enforcement difficult to achieve³². In the online environment, works such as videos, recordings of musical performances, and texts can be posted anywhere in the world, retrieved from databases in foreign countries, or made available by online service providers to subscribers located throughout the globe. Our system of international copyright protection, however, historically has been based on the application of national copyright laws with strict territorial effects and on the application of choice-of-law rules to determine which country's copyright laws would apply³³. Such a network of national codes may have sufficed in an era when the distribution or performance of works occurred within easily identifiable and discrete geographic boundaries. However, “instant and simultaneous worldwide access to copyrighted works over digital networks fundamentally challenges territorial notions in copyright”³⁴ and complicates traditional choice-of-law doctrine because it is often difficult to determine where particular acts have occurred in order to determine which copyright law to apply³⁵.

Thus, one can ask:

- “If authors and their works are no longer territorially tethered, can changes in the fundamental legal conceptions of existing regimes for the protection of authors be far behind?”³⁶
- With so many potential locations, where unauthorized use of the work may be violative of owner's rights, whose law should determine whether the transmission or reproduction of a protected work constitutes infringement?
- The site where the work was uploaded or downloaded?
- The author's country of origin?”

³¹ Johnson, David R. & Post, D. (1996). Law and Borders: The Rise of Law in Cyberspace, *Stanford Law Review*, 48, 1367-1387.

³² Austin, Graeme W. (1999). Domestic Laws and Foreign Rights: Choice of Law in Transnational Copyright Infringement Litigation, *Columbia - VLA Journal of Law & the Arts*, 23, 1-46.

³³ Geller, Paul E. (2000). International Intellectual Property, Conflict of Laws and Internet Remedies, *European Intellectual Property Review*, 22 (3), 125 -153.

³⁴ Reiendl, Andreas P. (1998) Choosing Law in Cyberspace: Copyright Conflicts in Global Networks, *Michigan Journal of International Law*, 19, 799-823.

³⁵ Ibid

³⁶ Ginsburg, Jane C. (1999). The Cyberian Captivity of Copyright: Territoriality and Authors' Rights in a Networked World, *Santa Clara Computer & High Technology Law Journal*, 15(2), 347-361, available at: <http://digitalcommons.law.scu.edu/chtlj/vol15/iss2/3>

2.8 PROSPECTIVE IMPACT OF REVISIONS IN COPYRIGHT LAW REVISIONS ON INNOVATION AND ECONOMIC DEVELOPMENT

More than in the past, revisions to copyright law today may quickly become enmeshed with developments in industries not directly concerned with copyright. Technological progress continues at a rapid pace in the hardware and telecommunications products that enable the processing and distribution of creative content in digital form. As a result, those industries are making important contributions to productivity in the overall economy.

Any government-imposed mandate that a particular technology— an encryption or copy-control program, for example— be used to thwart copyright infringement should weigh the implications of that mandate for future innovation.

The popular new wireless technology known as Wi-Fi provides a good illustration of the vigor of technological advance. The continuing expansion of Wi-Fi networks may enable inexpensive high-speed Internet access for many users of mobile computing devices.

The emergence of those networks, however, has been facilitated by technological and commercial experimentation. Both technology standards and the business models through which Internet access is available over Wi-Fi networks continue to evolve. Depending on a mobile user's location, Wi-Fi access may be available free of charge, often paid for by a commercial establishment that the user frequents, or it may be available only to subscribers.

The technological and commercial development of Wi-Fi networks would have been significantly more difficult under a property rights regime that required those networks to authenticate the identity of all users able to access the Internet through that network—a requirement that could enable the tracking of copyright infringers, for example. That is not to argue that technological regulation is always ill-advised or that operators of Wi-Fi networks should not be held accountable for what transpires on them. Rather, it is important to recognize that the development of a new technology is often a precarious process that premature regulation can potentially threaten.

Copyright law affects different sectors of the economy to varying degrees. At first approximation, “core” copyright industries can be distinguished from “copyright-related” industries.³⁷ Comparisons of the economic and social importance of industries with a stake in the outcome of current copyright conflicts are not straightforward.

The computer hardware and telecommunications industries, for example, provide goods and services that do not, as a rule, benefit directly from copyright protection. Yet those copyright-related industries, which could be affected by a technology mandate aiming to protect copyrighted works in digital form, have greater economic weight (in terms of gross revenues) than do the core music and movie industries currently at the heart of the debate over digital copyright law. Innovation in computer hardware and telecommunications has played a key role

³⁷ Stephen Siwek, *Copyright Industries in the U.S. Economy: The 2002 Report*

in the economy's recent growth and, according to all indications, will continue to do so in the future. Hence, deliberations about modifying digital copyright law to address the concerns of a particular industry must consider the consequences for economically important, related industries.

At the same time, it is important to keep in mind the fact that innovation in those copyright-related industries also benefits, through patent protection, from laws that protect intellectual property.

- **Core Copyright Industries**

Core copyright industries are those whose revenues depend directly on the production or dissemination of copyrighted works. They have traditionally been in the news and entertainment sector—journalism; literature; sound recordings and movies; and radio, television, and cable broadcasting. More recently, computer software has become an important core copyright industry.

The gross revenues of the core copyright industries totaled \$441.4 billion in 2002 and were distributed. Nearly a third of that total (\$143.4 billion) came from the newspaper, periodical, and book publishing industries. The music industry, which generated \$13.9 billion in gross revenues in 2002, is the smallest segment.

In deliberations over copyright law, it is important to keep in mind the diversity of industries that are directly affected. For example, the production and distribution of works of journalism traditionally differ from those used for music or movies. News organizations typically produce and distribute content on a more frequent or regular basis than do music and motion picture enterprises.

Because journalism and news operations provide value in part through the timeliness of their efforts, they may have more options for appropriating revenues from their copyrighted works (for example, newspaper subscriptions and advertising) than do other core copyright industries. As a consequence, the importance of the rigorous application of digital copyright law may differ by industry.

- **Copyright-Related Industries**

Copyright-related industries produce goods used in conjunction with copyrighted materials. Examples include the computer hardware and consumer electronics industries and, increasingly, telecommunications and the Internet.

- **Computer Hardware and Consumer Electronics**

According to the U.S. Census Bureau's 2001 *Annual Survey of Manufactures*, \$78.7 billion of computers and peripheral hardware were manufactured in the United States in 2001, along with

\$8.3 billion of radio, television, and stereo equipment. Those industries have considerable weight in the economy relative to many of the core copyright industries, and their past performance and future prospects indicate rapid rates of technological advance.

As a result of sustained progress in manufacturing techniques, which manifests itself in continuing quality improvement coupled with stable or even declining unit sales prices, real final sales of computer and peripheral hardware displayed double-digit growth rates each year from 1990 to 2003, rising at a compound annual rate of 32.6 percent.

Technological advances in semiconductor and computer manufacturing are widely expected to continue well into the future. Because the use of those products is so pervasive, technological progress in those industries constitutes one of the few reliable contributors to the future growth of productivity and output in the overall economy. Realizing the full potential of that progress, however, may well depend upon finding a resolution to current digital copyright disputes.

Take the changing nature of computer demand, for example. Consumer purchases are increasingly moving away from the personal computer (PC) platform to media devices that incorporate hardware and software elements traditionally found in computers. Digital video recorders (DVRs), which permit the recording and replay of television programs, may come with hard drives of 160 gigabytes, while the typical home PC has a 40-gigabyte hard drive. Some hard disk manufacturers report that demand from consumer electronics is growing roughly seven times faster than demand from traditional computer-related markets and could eventually account for half of their business.

As demand for consumer electronics grows, the requirements of processing and displaying video in digital format are claiming processor and terminal production that would otherwise have been allocated to PCs. Purchasers of consumer electronics and PCs, meanwhile, are enjoying the same technological advances.³⁸ Some observers suggest that, partly as a result of the convergence of personal computing and consumer electronics, consumer purchases may claim a greater share of total demand for computing products than business investment, which has in the past been by far the largest source of demand for computer hardware and peripherals.³⁹

However, owners and distributors of creative works such as literature, music, and movies are unwilling to make copyrighted material widely available in digital format unless they are sure that they can adequately protect that material from piracy.

The outcome of the current copyright debate is one of many factors, including the level of research and development, important to the future growth of information technology industries. Consequently, continued growth in consumer purchases of digital processing equipment— and, by extension, the continued enjoyment of technological progress and productivity gains from the manufacture of that equipment—is linked to the satisfactory resolution of digital copyright disputes.

³⁸ John Markoff, "New Intel Chip for Digital TV Could Remake the Market," *New York Times*, December 17, 2003.

³⁹ Simon London and others, "The Two-Speed Tech Sector," *Financial Times*, December 1, 2003.

- **Telecommunications**

Goods and services from the telecommunications industry are frequently used in conjunction with copyrighted materials. Networks that transmit voice calls also carry Internet traffic, which increasingly includes copyrighted material in both licensed and pirated form. Equipment for digital networking in the home, which enables computing and digital entertainment devices to exchange data, is enjoying fast-growing popularity among consumers. Wi-Fi, the underlying technology, is considered a relatively inexpensive way of providing wireless, broadband Internet access. As part of the convergence of computing and consumer electronics, other telecommunications products, such as wireless phones, are acquiring the capacity of traditional computing devices to receive and process voice, video, and audio content.⁴⁰

Business investment in telecommunications equipment totaled \$90.6 billion in 2001, which is roughly equal to the value of domestic sales of telecommunications equipment that year. (Many consumer telecommunications products, such as cell phones, are imported.) Like innovation in computer and peripheral hardware, innovation in telecommunications equipment is robust, although not always captured by official economic statistics.⁴¹

The rapid growth in telecommunications investment in the late 1990s, which contributed significantly to overall economic growth during that period, was spurred by the economic potential seen in the Internet. Accordingly, continued investment in the telecommunications sector depends in part on the demand for high-speed Internet service, which in turn depends upon the availability of high-quality content that can be accessed via those networks.

Again, copyright owners claim that they are reluctant to make their creative works available until their concerns about copyright infringement are satisfied.

Gross revenues of telecommunications services totaled \$367.2 billion in 2001. Over \$78 billion of those revenues came from cellular and other wireless communications services, the value of which more than doubled, in nominal terms, after 1998 and accounted for over half of the increase in the value of telecommunications services between 1998 and 2001.

Continuing growth in cellular communications services hinges on the availability of additional wireless frequency bands, which in turn depends upon the willingness of television broadcasters to shift from the frequency bands in which they currently transmit to smaller frequency bands suitable for digital broadcasts. The speed of that transition, television broadcasters say, is contingent on the availability in digital form of copyrighted creative content, such as movies and sports programs, which copyright owners are reluctant to provide without satisfactory safeguards against infringement.

⁴⁰ Matthew Maier, "Mobile Entertainment Goes Hollywood," *Business2.com*, December 11, 2003; and Alex Salkever, "The Many Shapes of Tomorrow's PC," *Business Week*, November 4, 2003.

⁴¹ Congressional Budget Office, *The Need for Better Price Indices for Communications Investment* (June 2001).

2.8.1 New Obstacles to Copyright Enforcement

Perhaps the most well-known illustration of information technology's current challenge to copyright enforcement is the unauthorized sharing of digital music files on the Internet through peer-to-peer (P2P) networks. Since the late 1990s, software has been readily available from retailers and over the Internet to rip audio files from CDs and then store them, typically in compressed digital versions (MP3 format) on personal computers. During that period, both the computer processing power available for audio file conversion and the amount of storage space available on personal computers have expanded significantly.

Those years also witnessed a sizable increase in individual access to broadband Internet connections and the emergence of P2P networks, which allow individual computer users to make files on their hard drive available to others through the Internet. As a result, unauthorized copying, storing, and sharing of digital files has become inexpensive and easy.

P2P file-sharing has grown dramatically in recent years. According to one estimate, an average of 8 million users were online and sharing 10 million gigabytes of data on those networks at any given time during June 2004.⁴²

In contrast, the value of music sales in the United States fell approximately 4 percent in 2001, 8 percent in 2002, and 6 percent in 2003 (see Figure 2-1). The persistence and magnitude of those revenue declines are exceptional in recent history and are regularly attributed to unauthorized file-sharing across P2P systems.

However, some people argue that the impact of P2P sharing on music sales is overstated. They emphasize that the growth in music sales during the mid-1980s and early 1990s was unsustainable for several reasons: the introduction of the CD format; high CD prices; a reduction in the number of music titles available for purchase; and competition from other entertainment, such as DVDs and electronic games. Indeed, even music industry executives have recently begun to acknowledge that file-sharing may not be the entire cause of declining sales.⁴³

The popularity of music file-swapping shows the ease with which copyrighted material can be obtained and redistributed on the Internet today. The rate of data transfer that the Internet allows currently makes the distribution of movie-length video files much more timeconsuming than that of audio files; hence, illicit sharing is less common for video content than for audio files.

Nevertheless, movie and software companies (especially computer-game makers) are increasingly worried that technological advances in digital compression, transmission, and file-sharing will soon lead to piracy of their copyrighted content.⁴⁴ According to the Motion Picture Association of America, the number of Web sites offering pirated movies increased from 143,000 in 2002 to approximately 200,000 by the end of 2003. In March 2004, video files

⁴² John Borland, "Survey: Movie-Swapping Up; Kazaa Down," *CNET News.com*, July 13, 2004 (available at http://news.com.com/2100-1025_3-5267992.html).

⁴³ Neil Strauss, "Executives Can See Problems Beyond File-Sharing," *New York Times*, September 9, 2003.

⁴⁴ "Hollywood's Piracy Epic," *FT.com*, September 12, 2003.

accounted for 31.9 percent of bytes transmitted over P2P networks, up from 16.4 percent in March 2003.⁴⁵

Although the DMCA explicitly provided copyright owners with the means to enforce their intellectual property rights on the Internet, the law was promulgated in an era of server-based rather than P2P network distribution. As a result, copyright owners' ability to prosecute unauthorized reproduction and distribution of copyrighted materials on the Internet by suing the enabling file-sharing services has come into question. Such measures were successful against the Napster service, which used its own computer servers to direct file requests to available content on individual computers; however, newer P2P services do not rely on centralized servers but rather on enabling software that is not administered by a single entity.

Further, in the recent case of *MGM Studios v. Grokster*, the U.S. District Court for the Central District of California held that because the Grokster file-sharing service had substantial noninfringing uses, it was not liable for contributory copyright infringement.⁴⁶ That ruling is currently being appealed.

As a result of the proliferation of P2P file-sharing, individuals rather than larger, Web-hosted entities have become the target of the subpoena provisions of the DMCA. Until recently, the courts have upheld the ability of copyright owners to obtain from ISPs identifying information about individuals suspected of infringing copyright. Beginning in September 2003, the Recording Industry Association of America (RIAA) used that information to file 382 lawsuits. However, that subpoena power was checked—at least temporarily—by a December 19, 2003, decision by the U.S. Court of Appeals for the District of Columbia Circuit.⁴⁷ The Court ruled in favor of Verizon Internet Services, Inc., which was contesting the application of the DMCA's subpoena provisions to cases of copyright infringement in which the infringing material resided not on an ISP's server but, rather, on an individual's PC.

In response, the RIAA initiated "John Doe" lawsuits, which target groups of suspected copyright infringers. As of June 22, 2004, the RIAA had filed 3,047 such lawsuits.

Only after considering the merits of each lawsuit will the courts issue a collective subpoena for identifying information on individuals in the group. This contrasts sharply with the options for legal action thus far afforded by the DMCA's subpoena provisions, under which identifying information was obtained first and individual lawsuits filed thereafter.

Copyright owners may attempt to obtain subpoenas under the DMCA from other courts, or they may petition the Congress to revise copyright law to allow explicitly for subpoenas in the context of P2P networks. Given concerns for individual privacy, the subpoena provisions of the DMCA are likely to remain controversial.

⁴⁵ Lorenza Muñoz and Jon Healy, "Pirated Movies Flourish Despite Security Measures," *Los Angeles Times*, December 4, 2003; and "Streaming Media," *Wired*, June

⁴⁶ 259 F. Supp. 2d 1029 (C.D. Cal. 2003)

⁴⁷ *Recording Industry Ass'n of America, Inc. v. Verizon Internet Services, Inc.*, 351 F.3d 1229 (D.C. Cir. 2003).

Finally, enforcement abroad is becoming increasingly important for U.S. copyright owners. Manufacturing advances are enabling even small-scale piracy operations to produce large numbers of unauthorized CDs and DVDs.

Such illicit activity is particularly common in Asia, where it is often connected to organized crime. Piracy abroad has become increasingly harmful to copyright owners of movies as well as music. For example, the Motion Picture Association of America claims that global piracy of DVDs cost it \$3.5 billion in revenues during 2003. Another concern of U.S. copyright owners is increasing Internet penetration in Europe and Asia, where copyright laws are in some ways less stringent than those in the United States.⁴⁸ As a consequence of those developments, the protection of intellectual property has become prominent in both multilateral and bilateral trade negotiations between the United States and other nations, most notably China and other developing countries.

⁴⁸ Geoffrey A. Fowler, "Hollywood's Burning Issue Is Piracy of DVDs and CDs," *Wall Street Journal*, September 18, 2003; and Mark Landler, "U.S. Is Only the Tip of Pirated Music Iceberg," *New York Times*, September 26, 2003.

3. CHANGES IN LAW INSPIRED BY DIGITAL CHALLENGES

The Digital Age has added new challenges to copyright law enforcement. Digital media are the building blocks of Multimedia authoring. The Internet has made the authorship of digital media a particularly complex issue. Copyright protection across the world has become more difficult in recent years due to technological advances that make content sharing extremely easy and inexpensive, and due to a drastic increase in the utilization of Internet-related platforms such as social media. Since the dawn of the Internet Age in the late 1990's, legislators around the globe have been trying to determine how to balance the need to protect an author's intellectual property from unauthorized use without hampering innovation.

Digital technology and the Internet brought with them the ability to make unlimited copies. As a result, rights holders are unable to control the unauthorised production and distribution of content, via the internet and also other sources. This means that the digital environment has caused changes in the distribution mechanisms of digital content, and this means that the rights holders are now faced with certain threats such as economic losses. Therefore they have found their protection in the development of legislative measures.

Copyright laws around the world were clearly designed with analogue technology.⁴⁹ The arrival of digital technology presents these copyright laws with a set of clear challenges. Copyright works, whether in text, image or sound, once digitized are put in one single format. They are transformed into binary units of information consisting of 0s and 1s. This means in practice that all copyright works of a different nature can be combined easily and can also be easily modified. It is also important to note that whilst digitization leads to a loss in quality, in practice this loss can barely be identified. Moreover once in digital form identical copies of the digital version can be made with no further loss in quality.

It is also important to note that whilst digitization leads to a loss in quality, in practice this loss can barely be identified. Moreover once in digital form identical copies of the digital version can be made with no further loss in quality. Ease of copying means that one is able to make copies cheaply, quickly and efficiently without any loss in quality. In addition, copying cannot be easily traced. For these reasons many people have little interest in paying for the original works or legitimate copies because the quality is exactly the same as the original copy and their infringing activities cannot be traced. In other words authors cannot enforce their economic rights easily and therefore they lose significant income. In this sense the primary purpose of copyright, which is to reward the author, is not met. Producers of copyright works also lose substantial income and are therefore less inclined to digitize their work or put it in an online environment.

Since its inception, copyright law has responded to technological change. Today, the changes that are grabbing all the headlines relate to digital technology and digital communications networks, such as the Internet and personal computers. These technologies, like many

⁴⁹ Pamela Samuelson, *The Digital Dilemma: A Perspective on Intellectual Property in the Information Age*, p1

innovations, are both promising and potentially harmful to various parties interested in the use and exploitation of works of authorship, from books and music to films and web pages. There is no doubt that the issues related to achieving the right balance between these interests in light of recent developments are daunting and justifiably can be described as "new" or "unique." But, at the same time, they are merely one step in a journey of continual and successful adaptation that characterizes the history of copyright law. This article examines some of the digital issues faced by copyright law today.

CHARACTERISTICS OF DIGITAL TECHNOLOGIES WITH COPYRIGHT IMPLICATIONS

The technologies that presently are raising issues for copyright law are those related to digital storage and transmission of works. There are a number of aspects to these technologies that have implications for copyright law, including the following:

Ease of Reproduction: Once a work is rendered in digital form, it can be reproduced rapidly, at little cost, and without any loss of quality. Each copy, in turn, can be further reproduced, again without any loss of quality. In this way, a single copy of a work in digital form can supply the needs of millions of users. We have seen how the compact discs (CDs) containing the original digital versions of recorded music and sold to consumers in the '80s and '90s have become the "masters" from which billions of copies have been made and distributed on computers and on the Internet in this decade.

Ease of Dissemination: The emergence of global digital networks allows the rapid, worldwide dissemination of works in digital form. Like broadcasting, digital networks allow dissemination to many individuals from a single point (although, unlike broadcasting, digitized materials need not reach each individual simultaneously). However, digital networks allow each recipient on the network to engage in further dissemination of the work, which can cause the work to spread at a geometric (sometimes called "viral") rate of increase. This, combined with the ease of reproducing works, means that a single digital copy of a work can be multiplied many thousands of times around the world within a few hours. When transmitted through high-speed transmission lines, like coaxial cable networks or even fiber optic lines, the process is even faster, and the capacity for the transmission of works grows as well.

Ease of Storage: Digital storage is dense, and it gets denser with each passing year. Ever-increasing quantities of material can be stored in a smaller and smaller amount of space. In the early 1990s, CDs, which can store over 600 megabytes of data, were perhaps the predominant form of digital storage used by commercial pirates for storing entire libraries of computer programs or sound recordings with aggregate retail values in the millions of dollars. Today's popular iPod portable music player can store nearly 70 times that amount (around 10,000 songs) in a device the size of a cigarette pack.

New Forms of Exploitation and Illicit Competition

The revolution in the way new technology can reproduce, disseminate, and store digital information, including copyrighted works, is truly a double-edged sword for authors and rights holders. On the one hand, it can provide for new and exciting ways for authors to provide copies of their works in convenient, inexpensive ways to a much larger audience than in the past. For example, a recording artist can put his or her music on a web site that can be accessed by fans from around the globe, without a large investment in manufacturing, packaging, and shipping physical products to these remote locations. On the other hand, these new technologies make it easier for pirates and those who want to compete illicitly with that author to make and distribute infringing copies of the work.

The challenge of copyright in the digital age is to preserve the author's and rights holder's incentive to create new works and use new technologies to distribute them to users and consumers in the face of such a competitive threat from the illicit use of technology by infringers. It also involves making sure that beneficial uses of works are not being needlessly stifled by a copyright system rendered inefficient by the advance of new technology.

Early Challenges

The advent of digital technology posed a number of challenges to the international copyright community.

- *Maintaining the Framework of Exclusive Rights*

Because of the degree to which advances in digital technology have facilitated rapid, widespread reproduction and dissemination of works, the international community has paid significant attention in recent years to the need to adjust the existing framework of exclusive rights to address issues of new technology. The conclusion internationally has been that the existing framework is generally adequate to accommodate the new technologies and needs minor revisions rather than a major overhaul. This is reflected in the modest, though important, scope of the WIPO Copyright Treaty (WCT), concluded shortly after digital technology started to become prevalent.

The WCT requires member countries to recognize certain exclusive rights designed for activity that takes place over new digital communications networks like the Internet. Among other things, it requires that authors enjoy a right of communication to the public, including the right of

"making available" their works, such as providing downloads from an Internet web site. While many existing copyright laws provide such a right through the more traditional rights of reproduction or performance, the WCT made clear that such a right, in whatever form, must be granted to authors.

- *Technological Adjuncts to Copyright Protection*

While the WCT leaves the existing framework of exclusive rights largely intact, it does contain provisions, relatively new to international copyright agreements, on technological adjuncts to copyright protection. These adjuncts are intended to further the development of digital networks by ensuring that copyright can be meaningfully enforced and licensed online.

Under the WCT, countries must put effective legal remedies in place against the circumvention of technological measures that owners use to safeguard their rights. Countries must also provide legal remedies against persons who delete or alter rights management information attached by the copyright owner to the work. In the United States, the principal change to U.S. law in the legislation implementing the WCT was the addition of provisions on technological adjuncts to copyright protection. Title I of the Digital Millennium Copyright Act (DMCA) created a new form of liability for circumventing technological measures that restrict access to protected works, or that control reproduction, distribution, public performance, or public display of protected works.

The WCT, therefore, recognizes that owners cannot rely on technological measures alone to protect their works, because every technical device can be defeated by someone who is determined to access a work. In other words, while the framework of existing property rights continues to be appropriate, the meaningful exercise of these rights in the context of new uses, such as those on the Internet, requires supplementing them with legal rules that prohibit the compromise of their technology.

- *Markets and Management of Rights*

As discussed above, collective management of rights is a market response to the inefficiencies of individually licensing rights to large numbers of works to large numbers of users, where the value of any individual use is relatively small. Traditionally, individually licensing such works would result in transaction costs that exceed the value of the license.

At first blush, collective management of rights appears to be an attractive approach to managing rights to at least some works on digital networks. It's unclear, however, to what extent the same conditions apply. The information infrastructure that permits rapid, inexpensive dissemination of works may also enhance the ability of rights holders to manage rights individually. The private

sector currently is working to create technologies that facilitate individual transactions between rights holders and users. The intensive use of automation could reduce the cost of such a transaction to levels that would make individual rights management economically feasible. Alternatively, or additionally, such technologies could be used within a framework of collective management as a supplement to traditional blanket licenses.

For these technologies to meet their full potential in the marketplace, however, they must be allowed to develop with minimal interference. Market forces – and not governments – must determine whether collective management of rights, individual management of rights, or some combination prevails.

NEW OBSTACLES TO COPYRIGHT ENFORCEMENT

Copyright owners confront two primary obstacles to enforcement that appear potentially more important today than during earlier copyright disputes. Increasingly, copyright infringement is an issue both at the individual level and in the international arena.

- **Infringement by Individuals**

The digitization of creative content is lowering the cost of copyright infringement by individual consumers. Greater computer processing power and storage capacity, as well as the proliferation of file-sharing on peer-to-peer networks, have facilitated the unauthorized use of creative works. As a consequence, private individuals, rather than commercial entities, are increasingly the targets of copyright-enforcement efforts.⁵⁰

- **Infringement at the International Level**

The ease of replication and redistribution of creative works in digital form facilitates the instantaneous, global availability of copyright-infringing works. Consequently, the effectiveness of any nation's efforts to protect the rights of its copyright owners depends increasingly on international coordination of enforcement efforts and the harmonization of copyright law across countries.

International copyright issues are particularly urgent for the United States, whose copyright owners earn considerable revenues from licensed distribution of their works abroad. The U.S. movie industry, for example, earns roughly the same amount of box office receipts abroad as it does domestically. The major sources of revenue for the movie industry today, however, are movie sales and rentals in digital videodisc (DVD) format.⁵¹ Because movie DVDs are particularly vulnerable to copyright infringement by illicit manufacturing operations abroad, the U.S. motion picture industry increasingly views international harmonization and enforcement of copyright law as a key factor in its future revenue growth. The sound recording and software industries, whose music and software compact discs are similarly vulnerable to copyright infringement abroad, share the concerns and views of the U.S. movie industry.

⁵⁰ J. Bradford DeLong and A. Michael Froomkin, "Speculative Microeconomics for Tomorrow's Economy," in Brian Kahin and Hal Varian, eds., *Internet Publishing and Beyond: The Economics of Digital Information and Intellectual Property* (Cambridge, Mass.: MIT Press, 2000), pp. 6-44.

⁵¹ Sharon Waxman, "Studios Rush to Cash In on DVD Boom," *New York Times*, April 20, 2004; and Kate Bulkley, "DVD Sets Rules for Hollywood," *Financial Times*, January 22, 2004.

3.1 WIPO COPYRIGHT TREATY

The WIPO Copyright Treaty was established in the early 1990's. It became crucial during the WIPO negotiations that the growth of information and communication technologies and their effect on copyrighted information mandated a custom-made legal regime. The treaty is thus the first multi-lateral treaty to address the effect of digital technology on copyright⁵².

⁵³The rationale behind the treaty is to broaden and harmonise the role of copyright and neighbouring rights in the international arena and to maintain equilibrium between the rights of authors and the broader public interest, such as education, research and access to information⁵⁴. According to article 11 of the WIPO Copyright Treaty, it gives member states the discretion and requires them to apply "adequate legal protection" and "effective legal remedies" against the avoidance of technological measures used by authors in the exercise of their rights under copyright law. The technological procedures must limit acts which are not approved by the author's involved or acceptable by law⁵⁵. This means that member states may in their discretion, enact limitations and exceptions, appropriate for the digital environment, to the authors' rights. All limitations are mandated to follow a three-step test, which sets boundaries for limitations and exceptions to exceptional cases that do not clash with a normal exploitation of the work and do not arbitrarily prejudice the sincere interests of the author.⁵⁶

The WIPO Copyright Treaty's overall provisions are envisioned to establish minimum standards, allowing members considerable freedom in implementation. In fact, the WIPO Treaty does not specifically require a means of access to new anti-circumvention legislation; member states may determine in their discretion that existing measures are "adequate" and "effective".⁵⁷ The WIPO Treaty does not affect access to works, since it applies technological measures used by authors in connection with the exercise of their rights under the WIPO Treaty and the Berne Convention.⁵⁸ If access is not a right granted by the Berne Convention, and the WIPO Treaty does not explicitly require access control, this leaves member states the freedom to protect access controls or not⁵⁹. The term "effective" technological measures further rises the question what level of effectiveness is obligatory. Obviously if the measures are fully effective, no further legal protection is required to reinforce the technological layer.⁶⁰

⁵² Campbell, D., Ban, C. (2005). *Legal Issues in the Global Information Society*. New York: Oceana Publications, Inc.: Dobbs Ferry, p. 148.

⁵³ Ibid

⁵⁴ These are the rights given by various international treaties, such as the ICCPR.

⁵⁵ Campbell, D., Ban, C. (2005). *Legal Issues in the Global Information Society*. New York: Oceana Publications, Inc.: Dobbs Ferry, p. 149,150.

⁵⁶ (Ibid.) Article 10 of the WIPO Copyright Treaty.

⁵⁷ Ibid

⁵⁸ Article 11 of the WIPO Copyright Treaty

⁵⁹ Campbell, D., Ban, C. (2005). *Legal Issues in the Global Information Society*. New York: Oceana Publications, Inc.: Dobbs Ferry, p. 149,151.

⁶⁰ (Ibid.)

Finally, the WIPO Treaty only requires protection against the act of avoidance, not against introductory or connected activities, such as manufacturing and import of circumventing devices. This raises the question of whether introductory acts, i.e. circulation (or trafficking) of circumventing technology should be read into the text, to satisfy the requirement of “effective” measures. Another gap in the protection granted by the Treaty is that, the treaty does not affect access to works. This means that if it is not a right granted under the Berne Convention and the Treaty does not openly require control over the access of information, then it also leaves the member states with the discretion whether to protect access controls or not. The consequence of this is that if access to the author’s work is not protected, copying and piracy becomes easier.⁶¹

As can be seen from the following articles and principles derived from the WIPO Copyright Treaty, there is international protection for the authors and owners. The rule in seeking international remedies is thus that all local remedies have first to be exhausted, before a complainant can seek remedies on an international level. The problem however is that, state parties to the WIPO Copyright Treaty has the discretion as to decide what is “effective” and “adequate”.

⁶¹ Article 11 of the Berne Convention.

3.2 BERNE CONVENTION

The Berne Convention needed amendments, since its establishment in 1886. It's a very long time taking into consideration the technological developments that has been taking place. The Berne Convention was established as there arose a need for international harmonisation with regards to the exchange of data. The harmonization was considered in the form of bilateral and then later international multilateral agreements, such as the Berne Convention. Even if the Convention is in need of drastic change, because it may not contain remedies that are relevant to the author or owner⁶², it still is the main instrument on which most copyright legislation principles are based on. The Convention however provides limitations on the exclusive rights of owners called the right of free use. These statutory exceptions are designed to keep a balance between the exclusive rights of the owners and the rights of the individual.

However as can be seen from the date of incorporation of the BERNE Convention which was in 1886, new treaties are needed as the international norms of the Convention fails to provide adequate guidance for the new technological era. If adequate legal protection measures are not provided, what will the future bring for digital designs? If digital designs are not adequately protected, such as the protection granted or afforded to the other subject matters of copyright, how can authors of digital designs be protected? As provided earlier in the chapter, digital designs are not included in the definition of artistic work as provided under the Namibian copyright Act. Nor is it included in any of the other definitions that could have afforded some sort of definition to the subject-matters of copyright.

A question was earlier asked whether the definition of artistic work is limitative or illustrative of the work that it includes. The definition could be said to be limitative, as it only describes under the definition what is included in the definition of artistic work. The problem is this that with the advent of the Internet and the rapid development of technology, it brought with it certain problems.

The first being that sophisticated methods of copying has been developed, which means that unlike in earlier years where it was difficult to produce or make a copy of the original work of the author, it has now become much easier.

Secondly, because of this sophisticated manner of copying, and with the fact that digital designs are not protected, what remedies are available for the protection of the owners and authors of digital designs? As a result of the issues that arose, international multilateral treaties and conventions were established. It was developed as a reason to avoid conflict between different countries, as copyright was increasingly becoming a cross border issue. As stated earlier, the

⁶² One of the main disadvantages of the Berne Convention is that, the Convention did not cater for the development of the technological era. Therefore change was needed in the form of other Conventions such as the WIPO Copyright treaties.

Berne Convention of 1886 was the first international Convention established to provide principles for copyright.

However the Berne Convention does not provide for the technological changes. The WIPO Copyright Treaty was then established in the 1990's to provide for the digital environment. The problem with the WIPO Copyright Treaty is thus that it provides member states the discretion to include in their national legislation what is effective and adequate. This raises many questions such as the level of effectiveness and adequacy required. Finally, national and both the Berne Convention and the WIPO Copyright Treaty are silent on specific subject matters, such as the protection of digital designs. Reconciling the use of information and the control of access to information, presents limitations and exceptions. It may be difficult to provide harmonization between the conflicting interests. The next chapter will analyse why is it that digital designs are not included in the definition of artistic work, taking certain factors into account such as the principle of originality.

3.3 TRADE RELATED ASPECTS OF INTELLECTUAL PROPERTY RIGHTS

This is the first international treaty to explicitly include computer programs within the illustrative list of copyrighted works. TRIPS set forth three different forms of protection for software: copyright, patent and trade secrets. TRIPS includes a specific provision in Article 10 that expressly requires member states to protect software, whether in source or object code, as literary works under the Berne Convention.

However, the member countries have a right to provide more extensive protection of intellectual property rights within their national legal systems. Article 27.1 recognizes patent protection for software related invention for the member states so long as the invention satisfies the other requirements (6) for patentability which are country specific. Therefore, software may be granted patent protection in a particular country if it fulfils the specific conditions set forth under the laws of that country. Article 39 of TRIPS provides an alternative to copyright protection. It talks about protection for undisclosed information and offers a trade secret regime for software protection. Trade secret regime is applicable for the protection of trade secrets which may include software.

A particular software may contain lot of valuable and confidential information about a company which forms its trade secret. Civil and criminal actions are provided for in most legislation against the unauthorized disclosure or use of confidential information. In this case, there is no exclusive right, but an indirect type of protection based on a factual characteristic of the information (its secret nature) and its business value. Unlike patents, trade secrets are protected as long as the information is kept secret. Thus, TRIPS does not preclude additional forms of protection for computer programs and a member can offer patent, copyright and trade secret protection for computer programs. Keeping in mind the higher standards of creativity required by patent law the software developer can choose any form of protection which is most desirable to him. As the source code is comprehensible only by a trained programmer and not by normal persons, the proprietors generally protect the source code under the trade secret regime and the object code is protected as a copyright.

3.4 UNIVERSAL COPYRIGHT CONVENTION

Under the UCC's national treatment provisions, software created by a U.S. author or first published in the US is protected in other UCC member countries to the extent that the member country's copyright laws protect software. The UCC provides that any member country that requires, as a condition of copyright protection, compliance with formalities (such as registration, deposit or notice) must treat such formalities as satisfied if all published copies of a work bear the symbol "©", the name of the copyright proprietor and the year of first publication. This provision applies, however, only to works that (i) were first published outside the country requiring the observance of the formalities, and (ii) were not authored by one of that country's nationals. In contrast to Berne Convention, formalities such as registration are permitted under the UCC in order to bring an infringement suit. India being a member to the UCC, authors of software in US will get protection in India also as per the terms and conditions laid down in the Indian copyright law.

3.5 THE DIGITAL MILLENNIUM COPYRIGHT ACT, 1998

One of the first countries to legislate on the treaty provisions was the United States through its Digital Millennium Copyright Act⁶³ (DMCA) that came into force in 1998. ⁶⁴The European Union (EU) has issued a Copyright Directive spelling out how the treaties should be implemented by the member states. Though the initial deadline was set for the end of 2002, many EU countries have not yet implemented them probably because of the complexity of the issues involved. It would be appropriate to examine the current state of play of the DMCA to develop an understanding of the issues involved in enforcement of digital copyright.

A study of DMCA and its impact is particularly relevant because US is the leader of the digital revolution and its court system is probably one of the fastest and so judicial pronouncements are available even on emerging areas. The most discussed provision of the DMCA is the protection of technological measures. DMCA divides technological measures into two categories: measures that prevent unauthorized access to a copyright work and measures that prevent unauthorized copying or use or performance of a copyrighted work as discussed below.

The first limb of DMCA prohibits circumvention of technological measures controlling access. Sec 1201(a) of DMCA states, "No person shall circumvent a technological measure that effectively controls access to a work protected under this title". The "access control" measures used in digital transmission are thus protected.

⁶³ Digital Millennium Copyright Act, Pub L No 105-304, 112 Stat. 2860 (1998)

⁶⁴ Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonization of certain aspects of copyright and related rights in the information society.

So, for example, this provision makes it unlawful to defeat the encryption system used on a DVD containing a movie. This ban on acts of circumvention applies even where the purpose for decrypting the movie would otherwise be legitimate under the copyright law. This enactment further prohibits the manufacture or import or distribution of devices primarily produced for circumventing a technological measure if such devices have limited commercial purpose or use other than to circumvent. The devices and technologies that enable circumvention are hence banned.

The second limb of the DMCA deals with the technological measures used by authors to protect their copyrights⁶⁵. It prohibits manufacture, distribution or import of devices that are primarily designed for the purpose of circumvention of technological measures that effectively protects the right of a copyright holder. There is no specific prohibition against circumvention in this case, admittedly because copyright law itself permits circumvention in some instances like fair use exceptions.

As to the act of circumvention DMCA prohibits only the circumventing of technological measures that control access. Circumvention is not prohibited in the second instance but devices that enable circumvention are banned. DMCA bans only those devices:

- (i) which are primarily designed or produced to circumvent,
- (ii) which have only limited commercially significant purpose other than to circumvent, or
- (iii) which are marketed for use in circumventing.

DMCA contains provisions for exemptions from liability for certain limited classes of activities, including security testing, reverse engineering of software, encryption research, and law enforcement. A violation of any of the prohibition is subject to significant civil and, in some circumstances, criminal penalties.

Some copyright scholars argue that DMCA went far beyond the requirements of the WIPO Copyright Treaty and that by banning all acts of circumvention and all technologies and tools that can be used for circumvention.⁶⁶ However we need to note that this legislation was framed after extensive consultations with industry and public and hardly any case law precedents were available when the legislation was put to law⁶⁷. The copyright industry strongly favours this legislation.

The International Intellectual Property Alliance advocates DMCA as the best solution to protect the rights of creators in digital environment. Same is the advice of Business Software Alliance (BSA), an international association of software majors. The BSA has welcomed a recent trade

⁶⁵ See 1201 (b) of DMCA

⁶⁶ 14 *Berkeley Tech Law Journal*, 519, 1999

⁶⁷ Litman Jessica, *Digital Copyright*, Prometheus Books, New York (2001)

agreement between US and Singapore echoing the anti- circumvention provisions of the DMCA⁶⁸. This trade agreement makes it unlawful circumvention without authority of any effective technological measure or distribution of a hardware device or software utility that performs a circumvention function. The complex trade agreement, which deals with many other areas, also deems it a criminal offence to wilfully receive or further distribute an encrypted programcarrying satellite signal that has been decoded without the authorization of the lawful distributor of the signal. The US president said that the agreement would help generate well paying jobs and opportunities for people in Singapore and the United States. The Singapore Prime Minister Minister hailed this agreement as establishing high standards in intellectual property⁶⁹.

Clearly, the US sees intellectual property issues as vital to its economic interests and would like other legal systems to follow the legislation it has put in place.

Consequences

Though the DMCA was enacted to prevent piracy of copyright works in the online environment, critics argue that it in effect prevents a number of otherwise legitimate activities. Some incidents narrated below describe what some call as the chilling consequences of an overarching legislation in the field of copyright⁷⁰.

In September 2000, a multi-industry group in US known as the Secure Digital Music Initiative (SDMI) issued a public challenge encouraging skilled technologists to try to defeat certain watermarking technologies it had developed intended to protect digital music. A Princeton University professor Edward Felten and a team of researchers took up the challenge and succeeded in removing the watermarks.

When the team tried to present their results at an academic conference, however, SDMI representatives threatened the researchers with liability under the DMCA. The threat letter was also delivered to the researchers' employers, as well as the conference organizers. The researchers had to withdraw their paper from the conference. The threat was ultimately withdrawn and a portion of the research published at a subsequent conference, but only after the researchers filed a lawsuit in a federal court.

Following the legal threat against Pro fessor Felten's research team a number of prominent computer security experts have curtailed their legitimate research activities out of fear of potential DMCA liability⁷¹.

⁶⁸ McCullagh Declan, US-Singapore trade pact echoes DMCA *CNET News. com*, 6 May 2003

⁶⁹ *ibid*

⁷⁰ Electronic Frontier Foundation (EFF) available at <http://www.eff.org/>

⁷¹ EFF, *ibid*

For example, prominent Dutch cryptographer and security systems analyst Niels Ferguson discovered a major security flaw in an Intel video encryption system known as High Bandwidth Digital Content Protection (HDCP). He declined to publish his results on his website relating to flaws in HDCP, on the grounds that he travels frequently to the US and is fearful of “prosecution and/or liability under the U.S. DMCA law.”

More shocking is the experience of a Russian programmer who lived and worked in Moscow. When he came to attend a conference in the United States, the US authorities arrested him. What was Skylarov’s alleged crime? Skylarov had worked on a software program known as the Advanced e-Book Processor, which allowed owners of Adobe™ electronic books (“e-books”) to convert them from Adobe’s e-book format into Adobe Portable Document Format (“pdf”) files, thereby removing restrictions embedded into the files by e-Book publishers. Writing this program was legal in Russia, and so in most of the world.

This process removes the various restrictions (against copying, printing, text-to-speech processing, etc.) that publishers can impose on e-books. The program is designed to work only with e-books that have been lawfully purchased from sales outlets. ElcomSoft, Skylarov’s employer produced and distributed this software over the Internet.

The Advanced e-Book Processor allowed those who have legitimately purchased e-books to make fair uses of their e-books, which would otherwise not be possible with the current Adobe e-book format. For instance, the program allows people to engage in the following activities, all of which are fair uses:

- read it on a laptop or computer other than the one on which the e-book was first downloaded;
- continue to access a work in the future, if the particular technological device for which the e-book was purchased becomes obsolete;
- print an e-book on paper;
- read an e-book on an alternative operating system such as Linux™ (Adobe’s format works only on Macs and Windows PCs);
- have a computer read an e-book out loud using text-to-speech software, which is particularly important for visually-impaired individuals

From Adobe’s perspective this program helped to remove the restrictions placed on e-book thus enabling others to copy them. Thus, this software could enable a pirate to copy an electronic book otherwise readable only with Adobe’s reader technology and then sell that copy to others without the publisher’s permission. That would be a copyright violation⁷².

⁷² Lessig Lawrence, Jail Time in the Digital Age, *New York Times*, 30 July 2001

In short they claimed that it helped to circumvent the technological measures put in place by them circumvention of which is prohibited by the DMCA. They invoked the provisions of DMCA and requested the federal agencies in US to act consequent upon which the FBI arrested Sklyarov when he came to US to deliver a lecture at a conference⁷³. The arrest led to extensive protests over the Internet and at the offices of Adobe. The non-profit Electronic Frontier Foundation, which works to keep the digital space free, defended Sklyarov and ultimately the Department of Justice permitted Sklyarov to return home, but elected to proceed against his employer, ElcomSoft, under the criminal provisions of the DMCA. In December 2002, a jury acquitted ElcomSoft of all charges, completing an 18-month ordeal for the wrongly accused Russian software company. Some analysts feel that thus ‘when the DMCA protects technology that in turn protects copyrighted material, it often protects much more broadly than copyright law does. It makes criminal what copyright law would forgive’⁷⁴.

Following this incident, Russia issued a travel advisory to Russian programmers travelling to US. Many foreign scientists expressed concern over travelling to US and some have withdrawn results of their scientific research from their websites⁷⁵.

The DMCA contains a provision which enables the US Copyright Office to conduct a triennial rulemaking proceeding to determine whether there are particular “classes of works” as to which users are, or are likely to be, adversely affected in their ability to make non- infringing uses if they are prohibited from circumventing such technological measures⁷⁶. This rulemaking process contemplates that the Library of Congress in consultation with the copyright office could incorporate specific exemptions, which would facilitate circumvention technological measures.

⁷⁷ The necessity of such exercises show the need for law to be flexible in the digital environment as the technologies evolve and market practices develops rapidly.

It is also worthwhile to note that the lawmaking process is a participatory one as anyone who is interested has been asked to respond to the notification. The criticism against DMCA has, it appears, forced the US policymakers also to take notice. There are two bills currently pending in US Congress to specifically permit circumvention for fair use purposes. One appropriately called the ‘Balance Act’ aims to ensure that consumers are allowed to make copies of lawfully obtained digital content for their personal use. There are other lawmakers who publicly voice their concern. “We never contemplated” cases such as Lexmark’s when the DMCA was written, a member of the US Congress, Howard Berman stated at a Silicon Valley panel that examined the

⁷³ *ibid*

⁷⁴ *Reuters Ltd, Lawyers say Digital Copyright Law Unconstitutional, FindLaw, (2April 2002) at <http://news.findlaw.com>*

⁷⁵ EFF, *note 51 supra*

⁷⁶ US copyright Office notification available at http://www.copyright.gov/fedreg/2003/68fr1_3652.html?tag=nl

⁷⁷ *ibid*

law. “Let some of these things play out in court decisions,” Berman said⁷⁸. Law’s adaptation to technology does not seem to be an easy one.

3.6 OTHER LEGISLATIONS

3.6.1 THE CANADIAN COPYRIGHT ACT

The Canadian Copyright Act governs copyright law in Canada. Canada is a party to the Berne Convention for the Protection of Literary and Artistic Works and has signed, but not yet ratified, the World Intellectual Property Organization (WIPO) Copyright Treaty of 1996 that both the U.S. and the European Union have ratified. There is no Canadian equivalent to the U.S. DMCA because Canada is in the process of updating its copyright laws.⁷⁹

Current Canadian intellectual property law does not adequately address the unique challenges of the Internet and the Social Media Age. The latest attempt to update Canadian copyright law was The Copyright Modernization Act, Bill C-32. This legislation was tabled on June 2, 2010, and it was the second major failed initiative in the past several years that tried to modernize Canadian law to specifically address the legal issues that confront Canadian electronic content providers and users.

3.6.2 EUROPEAN COPYRIGHT LAW

Intellectual property law in Europe varies by country. European countries first tried to coordinate intellectual property protection via the Berne Convention for the Protection of Literary and Artistic Works. The Berne Convention requires its signatories to recognize the works of authors from other signatory states in the same manner that it protects the copyrights of its own citizens.

In addition to the Berne Convention, European Copyright law is promulgated via directives, which are legislative acts of the European Union that require member states to achieve certain results without instructing its members on exactly how to achieve the desired goals. Since some European Union member states have legal systems based on common law and others on civil law, a one-size-fits-all approach will not work for all its members. Intellectual property directives provide member states guidance on how to regulate Internet and electronic media copyright issues.

3.6.3 THE UK DIGITAL ECONOMY ACT 2010 (UK DEA)

⁷⁸ By Congressmen Boucher (Bill no.H.R.107, called the Balance Act) and Lofgren (Bill no.H.R.1066)

⁷⁹ S. Shear, Bradley. *Copyright Protection In The Digital Age*. 1st ed. Association of Corporate Counsel, 2010.

The UK DEA regulates digital content in the United Kingdom. The UK DEA provides the government broad power to limit, suspend, or terminate Internet service to copyright infringers. The UK DEA also requires ISPs/OSPs to notify copyright owners of potential infringement. In comparison, in the U.S., the onus is on the copyright holder to notify the ISP/OSP of alleged infringement. Companies doing business in the UK need to understand how the UK DEA may affect their social media implementation plans and internet content compliance.⁸⁰

3.6.4 ANTI-COUNTERFEITING TRADE AGREEMENT (ACTA)

The Anti-Counterfeiting Trade Agreement (ACTA) is an agreement to create new global intellectual property (IP) enforcement standards that go beyond current international law, shifting the discussion from more democratic multilateral forums, such as the World Trade Organization (WTO) and the World Intellectual Property Organization (WIPO), to secret regional negotiations. Through ACTA, the US aims to hand over increased authority to enforcement agencies to act on their own initiative, to seize any goods that are related to infringement activities (including domain names), criminalize circumvention of digital security technologies, and address piracy on digital networks.

ACTA was negotiated from 2007 through 2010 by the US, the EU, Switzerland, Canada, Australia, New Zealand, Mexico, Singapore, Morocco, Japan, and South Korea. Eight out of the eleven negotiating countries signed the agreement in October 2011. The number of countries that were part of these negotiations is limited, but the agreement's provisions would have global consequences for digital freedoms. Once six nations ratify the agreement, its implementation will take effect. As of October 2012, it has only been ratified by Japan.

From its inception, ACTA was intended to target the Internet and its users. One of the specific objectives for negotiating ACTA was to extend the existing international IP enforcement norms in the Agreement on Trade Related Aspects of Intellectual Property (TRIPS) to the online environment, and this is due to major US and EU copyright industry rightsholder groups seeking stronger powers to enforce intellectual property rights across the world.

⁸¹ACTA contains several features that raise significant potential concerns for consumers' privacy and civil liberties, as well as pose threats to digital innovation and the free flow of information on the Internet. The main issues with ACTA are three-fold:

1. **Process:** Negotiated in secret, ACTA bypassed checks and balances of both domestic and existing international IP norm-setting bodies without any meaningful input from national parliaments, policymakers, or their citizens. The first text was only officially released in

⁸⁰ Ibid

⁸¹ Anti-Counterfeiting Trade Agreement, Electronic Frontier Foundation, <https://www.eff.org/issues/acta> (last visited Mar 5, 2017).

2010, once it had already been finalized following eight rounds of closed-doors negotiation.

2. **Provisions:** It would require signatory countries to enact new IP enforcement measures that would call for restrictive rules for the Internet that raise significant potential concerns for users' free speech, privacy, ability to innovate, and due process rights.
3. **Enforcement:** It creates a new supra-national ad-hoc institution, an "ACTA Committee", constituting non-elected members to oversee ACTA implementation and interpretation with no legal obligation to be transparent in their proceedings.

The final ACTA text includes intellectual property enforcement provisions that have the potential to open the floodgates for negative national legislation, while simultaneously creating strong incentives for online service providers to privately enforce the law in ways that can seriously undermine Internet users' privacy and freedom of expression. As it reads, its language could also be interpreted to legitimize website filtering and blocking and Internet disconnection.

While it was rejected in Europe by a crushing 92% majority of the European Parliament in the summer of 2012, it remains a threat for other signatory nations that have ratified or have yet to ratify ACTA. While China has not been invited, countries like India, and Brazil were formally invited to the negotiations and declined or have refused to join from the outset, expressing they have no interest in joining such efforts to bypass existing international fora and force developing countries to adhere to much lower standards of due process in order to address IP infringement.

4. COPYRIGHT IN DIGITAL MEDIA - POSITION IN INDIAN LAW

The Indian Copyright Law mainly consists of the Copyright Act 1957⁸². The Copyright Act, 1957 is the oldest extant intellectual property right legislation in India. The Act has been amended five times, prior to 2012, once each in the years 1983, 1984, 1992, 1994 and 1999 to meet with the national and international requirements.⁸³ The amendments in 1994 were a response to technological changes in the means of communication like broadcasting and telecasting and the emergence of new technology like computer software. The 1999 Amendments have made the copyright fully compatible with Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement.

4.1 COPYRIGHT AMENDMENT ACT, 2012

The Amendments introduced by the Copyright Amendment Act, 2012 are significant in terms of range as they address the challenges posed by the Internet and go beyond these challenges in their scope. The latest Amendment harmonizes the Copyright Act, 1957 with WCT and WPPT. With these amendments, the Indian Copyright Law has become a forward-looking piece of legislation and the general opinion is that, barring a few aspects, the amended Act is capable of facing copyright challenges of digital technologies including those of Internet.

The 1980s and 1990s saw the digital revolution sweeping the world and the advent of Internet over the world wide web. The global community responded to the challenges posed to the copyright system by the Internet through two treaties framed in 1996, called WIPO Copyright Treaty (WCT) and WIPO Performances and Phonograms Treaty (WPPT), together known as the 'Internet treaties'.⁸⁴ The treaties address the challenges relevant to the dissemination of protected material over digital networks such as the Internet. The WCT deals with the protection for the authors of literary and artistic works. The WPPT extends copyright like protection to performers and producers of phonograms. Many provisions in these treaties like right of communication to the public have been available in the Indian copyright law since the 1994 amendment.

The Copyright (Amendment) Act, 2012, introduced amendments to harmonise the Copyright Act, 1957 with WCT and WPPT.

According to the Indian Act, 'publication' for purposes of copyright means, "making a work available to the public, by issue of copies or by communicating the work to the public". This definition, by virtue of its non-restrictiveness, can be construed as covering electronic publishing and, thereby, 'publication' on the Internet. Under the 2012 Amendment the definition of the term "communication to the public" has been amended. The erstwhile definition was applicable only

⁸² Rafiqi, Fareed Ahmad and Iftikhar Hussian Bhat. "Copyright Protection in Digital Environment: Emerging Issues". *International Journal of Humanities and Social Science Invention* (2013), 6-15.

⁸³ Thomas, Zakir. "Overview Of Changes To The Indian Copyright Law". *Journal of Intellectual Property Rights* 17 (2012): 324-334.

⁸⁴ *Journal of World Intellectual Property*, 1 (1) (1998) 3-35.

to “works”. If the work or performance is made available, whether simultaneously or at places and times chosen individually, this would also be considered as communication to „public“. Thus, on demand services (video on demand, music on demand); will clearly be considered as “communication to public”. Section 57 of the Act recognizes special rights of the author of the work, also known as “moral rights” viz. (i) Right to claim authorship of the work; and (ii) Right to restrain or claim damages in respect of any distortion, mutilation, modification or other act in relation to the said work if such distortion, mutilation, modification or other act would be prejudicial to his honour or reputation (“Right Against Distortion”). The said section also provided that such moral rights (except the right to claim authorship) could be exercised by legal representatives of the author Pursuant to the 2012 Amendment, the exclusion has been removed and the right to claim authorship can now be exercised by legal representatives of the author as well. Therefore, post death of the author, if he is not given credit for his work, then legal representatives, may take necessary action to remedy such breach. As per the Amendment, the right against distortion is available even after the expiry of the term of copyright. Earlier, it was available only against distortion, mutilation etc. one during the term of copyright of the work.

Section 52 of the Copyright Act, 1957 includes in itself the principle of limitation and exception as envisaged under Article 10 of WCT. The acts expressly allowed under Indian law include fair dealing with a literary, dramatic, musical or artistic work (not including a computer program) for the purpose of private and personal use including research, criticism or review, the making of copies or adaptation of a computer programme by the lawful possessor of a copy of such computer programme, from such copy in order to

- (1) utilize the computer programme for the purposes for which it was supplied; or
- (2) make back-up copies purely as a temporary protection against loss, destruction or damage in order only to utilize the computer programme for the purpose for which it was supplied.

4.1.1 Fair Use in Digital Works

Fair use provisions have been extended to the digital environment. Any transient and incidental storage of any work through the process of ‘caching’ has been provided exceptions as per the international practice. Any deliberate storing of such works and unauthorized reproduction and distribution of such works is an infringement under Section 51 of the Act attracting civil and criminal liability. Exceptions under this section have been extended to education and research purposes as works are available in digital formats and in the Internet. The scope of these provisions ensures that introduction of new technology will also be covered under this new section.

An explanation has been inserted to clause (1) (a) of Section 52 to clarify that storing of any work in any electronic medium for the specified purposes, including the incidental storage of a computer programme which in itself is not an infringing copy, shall not be an infringement.

A new clause (b) in Section 52 seeks to provide that transient and incidental storage of a work or performance purely in the technical process of electronic transmission or communication to the public shall not constitute an infringement of copyright. Similarly, clause (c) provides that transient and incidental storage of a work or performance for the purposes of providing electronic links, access or integration, where such links, access or integration has not been expressly prohibited by the right holder, shall not constitute infringement.

To facilitate digitisation of libraries, a new clause (n) has been introduced to enable the storage of a digital copy of a work if the library possesses a non-digital version of it.

4.1.2 Protection of Technological Measures

A new Section 65A has been introduced to provide for protection of technological measures used by a copyright owner to protect his rights on the work. Any person who circumvents an effective technological measure applied for the protecting any of the rights, with the intention of infringing such rights, shall be punishable with imprisonment which may extend to two years and shall also be liable to fine.

Sub-section 2 provides for some exceptions. The prohibition shall not prevent doing anything for a purpose not expressly prohibited by the Act (thus enabling enjoyment of fair use provisions). However, any person facilitating circumvention by another person of a technological measure for such a purpose shall maintain a complete record of such other person including his name, address and all relevant particulars necessary to identify him and the purpose for which he has been facilitated. Exception is available for doing anything necessary to conduct encryption research or conducting any lawful investigation; or doing anything necessary for the purpose of testing the security of a computer system or a computer network with the authorization of its owner or operator; or doing anything necessary to circumvent technological measures intended for identification or surveillance of a user; or taking measures necessary in the interest of national security.

The above provision emanates from Article 11 of WCT and Article 18 of WPPT. The rationale is to prevent the possibility of high rate of infringement (digital piracy) in the digital media. Digital locks (technological protection measures - popularly known as TPMs) were invented to prevent infringement of works. At the same time, circumvention technologies to overcome the TPMs were also developed to unlock the digital locks used by owners of copyright to prevent infringement. Sub-section (1) makes such circumvention a criminal offence punishable with imprisonment. The use of TPM had a significant impact on users since the freedom to use the work (fair use of works) permitted by law was considerably regulated through these measures.

In the absence of the owner of the works providing the key to enjoy fair use, the only option was to circumvent the technology to enjoy fair use of works. The major problem of use of law in preventing circumvention was the impact on public interest on access to work facilitated by the

copyright laws. This is the logic of sub-section (2) permitting circumvention for the specified uses. The Standing Committee of the Parliament which examined the legislation in its report stated that many terms in this section have been consciously left undefined, given the complexities faced in defining these terms in the laws of developed countries. It also stated that the approach enshrined in Section 65 A is to give limited legislative guidelines and allow the judiciary to evolve the law based on practical situations, keeping in mind the larger public interest of facilitating access to work by the public.

4.1.3 Digital Rights Management (DRM)

Prior to the amendment the United States had shown its eagerness for a change in India's copyright laws in order to match the U.S. copyright laws. This is evident from the Special 301 report of U.S. in the year 2009 wherein it stated; "*The United States encourages India to enact legislation in the near term to strengthen its copyright laws and implement the provisions of the WIPO Internet Treaties.*"⁸⁵

DRM includes measures that amount to a 'digital lockup' of content and networks by right-holders/service providers. The most commonly deployed measures include encryption, metadata, watermarking or fingerprinting.⁸⁶ They can be used to simply restrict access or even to protect copyrighted material.

The reason for implementation of anti-circumvention laws may not only be because of pressure from other countries. According to a BSA-IDC Global Software Piracy Study, in 2008 global software manufacturers lost an estimated \$2.76 billion to software piracy in India⁸⁷. In 2009 the Indian government suffered revenue losses of \$866 million in 2009 due to the high rate of illegal software trade in the country⁸⁸. The Indian film, entertainment and media industry has also been hit heavily due the increasing rate of piracy.

⁸⁹Section 65A(1) seeks to make circumvention of "effective technological measure" on copyrighted material a criminal offence, with imprisonment for a maximum period of two years. The word "effective" is rather vague and can also be interpreted to mean that circumvention of technological measures which are easy to circumvent. Based on the usual doctrines applied in intellectual property laws, the courts may adopt an interpretation along the lines of; if a common man who has no special skills which enable her/him to circumvent such technological measures, manages to do so, then such technological protection measures cannot be said to fall within the

⁸⁵ Office of the United States Trade Representative 2009 Special 301 Report , April 30, 2009

⁸⁶ Herman, B.D., 'Breaking and Entering My Own Computer: The Contest of Copyright Metaphors', (2008) Communication Law and Policy 13(2) 231-274, p231

⁸⁷ The Economic Times, 'Software piracy in India down by a notch; losses up at \$2.7 bn', New Delhi, May 12, 2009

⁸⁸ The Hindu, 'Software piracy caused \$866-m tax loss in 2009: Study' Pune, June 4, 2012

⁸⁹ Section 65A (1) "*Any person who circumvents an effective technological measure applied for the purpose of protecting any of the rights conferred by this Act, with the intention of infringing such rights, shall be punishable with imprisonment which may extend to two years and shall also be liable to fine.*"

purview of “effective technological measures”. In modern times, professional hackers and crackers are generally youngsters with no special training, so determining whether a person has ‘special skills’ or not may sometimes become difficult to prove.

Section 65A (2), however, provides various exceptions, enumerating permissible acts of circumvention. These exceptions include:-

- doing anything necessary to conduct encryption research using a lawfully obtained encrypted copy; or
- conducting any lawful investigation; or
- doing anything necessary for the purpose of testing the security of a computer system or a computer network with the authorization of its owner or operator; or
- doing anything necessary to circumvent technological measures intended for identification or surveillance of a user; or
- taking measures necessary in the interest of national security⁹⁰.

When compared to the anti-circumvention provision in the U.S. Digital Millennium Copyright Act (DMCA), section 65 (A) seems to be more consumer friendly and far more balanced. However, this provision does not disallow certain DRM systems which prohibit the common man from exercising any of the fair use exceptions. It only gives the common man the legal right to circumvent in case of such exceptions. Therefore, the dilemma of the legality of DRM systems restricting fair use still remains. It was for this reason that Yahoo India had suggested deletion of Section 65A.⁹¹ The Indian Broadcasting Federation (IBF) had recommended an increase in the imprisonment term from 2 years to 3 years for first offence, 5 years for second offence and all offences to be treated as cognizable and non-bailable was the first suggestion made⁹². It was also recommended by IBF that any person found circumventing the technology should be deemed to have circumvented it with the intention to infringe copyright. This way the burden of proof would fall on the circumventer. Also, copyright owner should be entitled to seek damages from the offender. Google India suggested that illegal circumvention be only a civil offence and not a criminal offence⁹³. MediaNama also advocated deletion of this section, as consumers buy the right to listen to music, this right cannot be restricted to particular devices or a medium.

⁹⁰ Section 65A (2), the Amendment Act

⁹¹ Department-Related Parliamentary Standing Committee On Human Resource Development, Two Hundred Twenty-Seventh Report On The Copyright (Amendment) Bill, 2010, presented to the Rajya Sabha On 23rd November, 2010, laid On The Table Of Lok Sabha On 23rd November, 2010, 20.4

⁹² Ibid

⁹³ Ibid

The newly added section 65B provides for protection of Rights Management Information (RMI)⁹⁴. The purpose of section 65B is to make the Indian copyright laws in compliance with the WIPO Copyright Treaty (WCT), article 12 of the treaty in particular⁹⁵. The Amendment Act even defines RMI at Section 2(xa).⁹⁶

The Standing Committee, after taking these suggestions under consideration concluded that it would be better to give only limited legislative guidelines for anti-circumvention and allow the judiciary to evolve the law based on practical situations⁹⁷.

It is also worth noting that the Amendment Act does not list the type or class of goods or services for which circumvention applies. This may lead to an overlap with the 'right to information' or 'freedom of speech' or other laws calling for accountability.

4.1.4 Limited Protection to Some Internet Intermediaries

The amendments to section 52, which provide some level of protection to 'transient or incidental' storage of a work or performance either purely in the technical process of electronic transmission or communication to the public, or for the purpose of providing electronic links, where such link has not been expressly prohibited by the right holder, unless the person responsible is aware or has reasonable grounds for believing that such storage is of an infringing copy. This provision would protect search engines which provide hyperlinks to other websites.

⁹⁴ Section 65B of the Amendment Act *"Protection of Rights Management Information Any person, who knowingly (i) removes or alters any rights management information without authority, or (ii) distributes, imports for distribution, broadcasts or communicates to the public, without authority, copies of any work, or performance knowing that electronic rights management information has been removed or altered without authority, shall be punishable with imprisonment which may extend to two years and shall also be liable to fine;..."*

⁹⁵ Article 12 of WCT: *"Obligations concerning Rights Management Information: (1) Contracting Parties shall provide adequate and effective legal remedies against any person knowingly performing any of the following acts knowing, or with respect to civil remedies having reasonable grounds to know, that it will induce, enable, facilitate or conceal an infringement of any right covered by this Treaty or the Berne Convention:*

(i) to remove or alter any electronic rights management information without authority;
(ii) to distribute, import for distribution, broadcast or communicate to the public, without authority, works or copies of works knowing that electronic rights management information has been removed or altered without authority.

(2) As used in this Article, "rights management information" means information which identifies the work, the author of the work, the owner of any right in the work, or information about the terms and conditions of use of the work, and any numbers or codes that represent such information, when any of these items of information is attached to a copy of a work or appears in connection with the communication of a work to the public."

⁹⁶ Sec 2 (xa) of the Copyright Amendment Act, 2012- *"Rights Management Information, means- the title or other information identifying the work or performance; (ii) the name of the author or performer; (iii) the name and address of the owner of rights; (iv) terms and conditions regarding the use of rights; and (v) any number or code that represents the above information; but does not include any device or procedure intended to identify the user."*

⁹⁷ Ibid

As noted above digital technology has created host of issues which needed an immediate answer. In India a comprehensive process of reformulating copyright law was made recently by way of a major overhaul of copyright law. It provided for punishment for those who in any way circumvent a technological measure applied for the purpose of protecting any of the rights conferred by the Copyright Act. However, few exceptions were carved out to pave for legitimate use of copyright material while encountering technology, which can be summed up as under (Section 65A of the Copyright (Amendment) Act 2012):

- Doing of anything not expressly prohibited by this Act,
- Doing anything necessary to conduct encryption research using a lawfully obtained encrypted copy; or
- Conducting any lawful investigation; or
- Doing anything necessary for the purpose of testing the security of a computer system or a computer network with the authorization of its owner or operator; or
- Doing anything necessary to circumvent technological measures intended for identification or surveillance of a user; or
- Taking measures necessary in the interest of national security.

The scope of the exemption under this section should be restricted to owners or operators who are specially authorized by the owners to perform the task and should not be so wide so as to cover any operator in general. One of the major breakthroughs made by India through these amendments was compliance with WIPO mandate without formally ratifying the WIPO Treaty. New provisions have been inserted in relation to Right Management Information (RMI). RMI is defined to mean: (a) the title or other information identifying the work or performance; (b) the name of the author or performer; (c) the name and address of owners of rights; (d) terms and conditions regarding the use of rights; and (f) any number or code that represents the information referred to in sub-clauses (a) to (d), but does not include any device or procedure intended to identify the user. Under the Amendment many acts are considered as offences and are punishable with imprisonment which may extend to two years, as well as, fine. The owner of copyright may also avail of civil remedies provided under Chapter XII against the persons indulging in such acts.

When comparing this section with the US Digital Millennium Copyright Act, we find that there are numerous differences. For instance, there is ambiguity as to how the term „authority“ is construed under the amended section. Furthermore, the DMCA makes exceptions for such activities by law enforcement, intelligence or other authorized government personnel, which is not the case in Section 65B. The exemptions as provided under Section 65A (2), should have

also been made applicable in relation to Section 65B. The 2012 Amendment has introduced a new Section 53 which provides a detailed procedure where the owner of the copyright can make an application to the Commissioner of Customs (or any other authorized officer) for seizing of infringing copies of works that are imported into India. This amendment seems to be in line with the Intellectual Property Rights (Imported Goods) Enforcement Rules, 2007. After scrutiny of the evidence furnished by the owner of the right and on being satisfied, the Commissioner may treat infringing copies of the work as prohibited goods that have been imported into India, excluding goods in transit. When any goods treated as prohibited under the above provision have been detained, the Customs Officer detaining them shall inform the importer as well as the person who gave notice, of the detention of such goods within forty-eight hours of their detention. The present provision appears to be an aid to the copyright owner to prevent import of infringing copies into India. However, the Customs authorities have limited right to detain the goods till the copyright owner obtains court order. The right holders will face difficulties to convince the authorities about their ownership of unregistered copyright and therefore, there is a need for guidelines to be issued in respect of unregistered copyright for better implementation of the object of this provision.

Further, in the case of the *Gramophone Co. of India Ltd. v. B B Pandey*⁹⁸, the Supreme Court of India concluded that the word 'import' in Sections 51 and 53 of the Act means 'bringing into India from outside India' and is not limited to importation for commerce only but includes importation for transit across the country. The moment goods enter India, even if it is on transit it is prone to violation of copyright. However, the Amendment has carved out “good in transit” from the “prohibited goods” for the purpose of this Section.

⁹⁸ 1984 (2) SCC 534. SC

4.2 JUDICIAL PRONOUNCEMENTS

Indian courts have presently come forward to acknowledge and compensate aggrieved parties when their IP rights are infringed. There are few cases decided by the courts by making precedents with respect to imposing a strict liability on the part of the infringers relating to software piracy.

In *Microsoft Corporation v Yogesh Popat*⁹⁹, the Delhi High court took an extremely serious view of the defendants' infringing activities. The court relied on the principles adopted in various jurisdictions for assessing the quantum of damages and granted Rs. 1,975 million to the plaintiff by way of damages.

The court used this precedent in *Microsoft Corporation v Kamal Wahi*¹⁰⁰, when it granted damages of Rs. 2.3 million in favour of the plaintiffs. This award of damages is highest ever in India's IP history.

The issue of copyright infringement was considered by the Delhi High Court in *Microsoft Corporation v Deepak Rawal* (2006)¹⁰¹. In this case, the plaintiff, Microsoft Corporation, is a company under the laws of the state of Washington, United States. It has a global presence for business software such as Microsoft Windows and Microsoft Office, which is installed globally, including in India. The software developed and marketed by the plaintiff is classified as computer programs within the meaning of Section 2(ffc) of the US Copyright Act 1959; it is also covered by Section 2(o) of the same act as literary works. Although Microsoft's employees created these programs, under US copyright law Microsoft owns the copyright in these works. The copyrights are registered in the United States. Since India and the United States are both signatories to the UCC and the BC, Microsoft's works are protected in India under Section 40 of the Copyright Act 1957, read with the International Copyright Order 1999. As Microsoft owns the copyright in the software programs, it is thus entitled to all the exclusive rights this ownership entails, as set out by the copyright laws. Microsoft claimed that it had suffered incalculable damage to its IP rights and business as a result of various forms of copyright piracy. The court held that as Microsoft owns the registered trademark Microsoft, the defendant had no right to use this trademark and trade name in respect of related goods. Therefore, Microsoft successfully proved that the defendant had infringed its copyright in Microsoft Dos and Microsoft Windows, as it had not granted the defendant a licence for this purpose. In addition, the defendant also infringed the Microsoft trademark. In the course of its judgment, the Indian court discussed various other cases worldwide in which Microsoft had sued for piracy and counterfeiting, and cases in which the Indian courts had considered damages for infringement.

⁹⁹ O.S. No. 103/ 2003, Delhi High court, India

¹⁰⁰ O.S. No. 817/ 2004, Delhi High court, India

¹⁰¹ (33) PTC 122(Delhi), 2006.

For example, in *Time Incorporated v Lokesh Srivastava*¹⁰², the court granted punitive and exemplary damages of Rs500,000 even though the defendant chose to remain ex parte. To meet the ever increasing challenges, as posed by the changed circumstances and latest technology, the existing law can be so interpreted that all facets of copyright are adequately covered. This can be achieved by applying the “purposive interpretation” technique, which requires the existing law to be interpreted in such a manner as justice is done in the fact and circumstances of the case.

Though the courts were given enormous discretionary power to make appropriate principles concerning protection of software, they are highly reluctant to exercise their powers to punish the violators of IP with award of damages. Among the judicial pronouncements made in the Indian courts concerning copyright infringements, majority were from the High court of Delhi which originated only from the year 2005. Although, these verdicts can be regarded as legal principles (Stare decisis) to be applied in future cases, which has the same effect as a legislative rule, it is highly persuasive for the other States High Courts. Though the country has such a sound and strong legal base for the protection of IPR, the judiciary should play an active role in the protection of these rights, including the copyright.

¹⁰² (3) PTC 3 (Delhi), 2005

5. CONCLUSION

Given the borderless nature of the Internet and its ability of transmitting works almost at a lightning speed, copyright protection has become increasingly difficult¹⁰³. The problems created by recent technological developments cannot be solved by the decisions of individual countries. With the Internet, copyrighted works remain vulnerable to outside piracy even if protected in the home country. Therefore, it is necessary to balance between easy infringement and expensive enforcement; it is also important to address the uncertainties involved in international litigation. No doubt, to some extent these uncertainties are common to all law suits, but in most other contexts there is, at least, a greater amount of precedent for successful results. The more uncertainty there is about the procedures of enforcement, applicable laws, or the likely results, the more unwilling copyright holders will be to try to enforce their rights abroad. The problem for a copyright holder is not only the potential loss of earnings due to infringement, but also the additional costs spent in unsuccessful litigation. Enforcing judgments would be easy if all the defendants were residents of the country of the court that rendered the judgment. In the case of foreign defendants, it would also be straightforward if they had assets within that country¹⁰⁴. However, foreign defendants with no assets in the forum country create a problem. It can be difficult to have national judgments enforced in the foreign country where the defendant resides or has assets, and it is also difficult, costly, and time consuming to need to pursue additional copyright litigation abroad. The ubiquitous nature of online delivery systems necessitates the consideration of multinational enforcement¹⁰⁵, which will to some degree require the harmonization of domestic laws concerning enforcement measures and facilitate the cross-border protection of copyright in the digital age. Clear rules about the enforcement of preliminary injunctions and monetary judgments will diminish the inconvenience of dealing with the unknowns of how foreign judges apply their own substantive and procedural laws. Even if the cost of international litigation would only be marginally reduced, the increased certainty and probability of success would improve the balance between unfettered infringement and expensive enforcement.

The evolution of copyright has been closely linked to technological development. Whereas, most of the technologies made copyright protection more difficult, digital computers managed to alter the fundamental concepts behind copyright. These challenges to copyright industry have emerged at a time when the share of copyright in national economies is reaching unprecedented levels. It becomes critical to adjust the legal system to respond to the new technological developments in an effective and appropriate way, keeping in view the speed and pace of these developments. This will maintain balance between the stakeholders be it users or creators for the public interest. In order to do so the focus of the anti-circumvention regulation should be to

¹⁰³ WIPO. (1998). *Intellectual Property Reading Material*, WIPO, Geneva.

¹⁰⁴ Symposium. (2004). Copyright's Long Arm: Enforcing US Copyrights Abroad, *Loyola of Los Angeles Entertainment Law Review*, 24 (1), 36-55.

¹⁰⁵ Ginsburg, J. (1995). Putting Cars on the 'Information Superhighway': Authors, Exploiters, and Copyright in Cyberspace, *Columbia Law Review*, 95, 1466-1485.

target at the technologically sophisticated persons who have the potential to become circumventors, and the manufacturers and distributors of circumvention-enabling devices. In most circumstances, technologically sophisticated persons, albeit relatively small in number, have the technological know-how to bypass technological measures. On the contrary, ordinary users are by no means equipped with the sufficient technological know-how to make protection-defeating devices in order to circumvent technological measures. Digital technology has made copyright enforcement difficult to achieve. It is necessary to balance between easy infringement and expensive enforcement, and to address the uncertainties involved in international litigation. As technology allows copyrighted materials to be transmitted easily around the globe without the authorization of the copyright owner, there is an increased need for protection without borders. A procedural mechanism for international litigation would serve to complement already existing substantive provisions. In order to augment enforcement the following measures may be taken:

- The legal framework of Indian copyright law envisage penal and civil provisions to safeguard the interests of the creators, however, it is not free from hassles and hurdles which need to be eliminated.
- The enforcement aspect of the provisions is a matter of great concern and there is an urgent need of building better administrative machinery for the enforcement of the provisions of the legislation which requires well-oiled enforcement machinery.
- There is a need for trained and well-equipped specialized police force for detection and enforcement of provisions relating to violation of copyright and there is also a need for change of the judicial mindset in dealing with copyright violations.
- There are still misconceptions, difficulties of access to courts, slow growth of copyright bar and delay in disposal of whatever cases reach the courts. It is submitted that redress and access to the adjudicatory machinery must be improved and this can be done in a better manner, if copyright or intellectual property tribunals manned by specialists in the areas are set up throughout the country.
- The ubiquitous nature of Internet necessitates the consideration of multinational enforcement, which will to some degree require the harmonization of domestic laws concerning enforcement measures and facilitate the cross-border protection of copyright in the digital age. Diversities in basic theories and in the practice of national systems protecting copyright and related rights create obstacles to effective international and national implementation of protection of authors and other right owners.
- The experience and achievements of the harmonization programme of the European Community demonstrate the possibilities of bringing together important provisions of diverse national systems. The unity of legislative approach will, it is submitted, be the only effective way of dealing with the problems posed for the exercise of copyright and related rights in the borderless environment created by the Internet and other international communication systems.

□ The provisions of the Berne Convention taken in conjunction with those of other relevant international instruments and the relevant regional instruments can, it is suggested, provide the basis for a unified global system of copyright, and, to be effective, future planning should be based on moves towards a world copyright regulation which will incorporate harmonized rules on all fundamental issues.

□ Last but not the least, since, the pirate is using new technologies in the digital environment to infringe on the copyright and related rights, so in the same vein, the holders of these rights should use the very means to counter such actions of infringer. As renowned novelist Chinua Achebe once said the Engel bird says 'since man has learnt to shoot without missing, I have also learnt to fly without perching'.

□ The recent Amendments to the Indian copyright law have certainly given room for using creative lawyering skills to develop and structure innovative business models to help the industries effectively deal with the changes.

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