CHAPTER 1

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The convergence of computer networks and telecommunications facilitated by the digital technologies has given birth to a common space called ‘cyberspace’. Cyberspace has become a virtual platform for global commerce which is more commonly referred to as ‘electronic commerce’. This virtual place is increasingly being used for a variety of trading activities which include advertising, selling, making payments and delivering goods and services. The Internet has emerged as the main platform and also vehicle for such global trade. The emergence of the Internet and the resultant trading activities have altered the scales of production, consumption and distribution of goods and services and has ushered in a new economy which is referred to as the ‘global digital economy’.

There are numerous dotcom companies that rely on business models that trade in physical objects. The online traders Barnes and Noble and Amazon, for example, utilize vast databases of books, video and music titles and user-friendly
purchasing systems to attract consumers away from the shopping mall, and then send these products (each a work of intellectual property) to consumers using postal mail. Travel sites and airline companies such as EasyJet and RyanAir and entertainment ticket sellers such as Ticketmaster, profit through saved overheads by conducting sales online, using e-ticketing or mailing tickets to purchasers. Numerous small and medium sized enterprises have used the Internet in this way, as a marketing tool to locate buyers for their products in a huge global marketplace. It is, however, the digitisation of works of intellectual property, by a process that reduces text, visual images and sound to computer-readable binary code of ‘0’s and ‘1’s, grouped in bits and bytes that can travel over the networks, that has enabled intellectual property to transfer so efficiently to the Internet.

The Internet offers an unprecedented channel through which foreign markets that number more than half a billion users¹ and the diaspora of nationals living abroad and hungry for access to their cultural heritage, can be exploited. Vast numbers of works of literature, film and art, and notably computer programs, have already transferred to the digital environment. Textual works such as books and newspapers are ideally suited to digitisation and, although online publishing of popular literature has had a mixed reception with a public accustomed to paper and ink, there is evidence of a growing demand for e-books.² There has been real success in the online availability of science, technology and medical publications, where the demand for fee-based research has supported the e-

¹ NUA reported approximately 580.78 million people had Internet access, representing some 10% of the world’s population (NUA Internet Surveys, “Onwards and Upwards,” (August 12, 2002), available at: http://www.nua.com/surveys/). Netsizer shows more than 812,000,000 at Internet users as at August 2002, and its Web site allows viewers to watch this number constantly growing, available at: http://www.netsizer.com.
publishing industry. Demand has also grown for the online collections of more than 7,300 libraries that have provided free remote access to the texts of hundreds of thousands of e-books. In the field of fine art, indigenous craft and artifacts, numerous museums and art galleries have digitised their collections and made them available for viewing on the Internet. One such site, Artnet, allows users to access works by over 16,000 artists and in over 1,300 art galleries. Film and music creators, software developers, authors and publishers, are now exploring ways in which to make their products available online, while protecting their rights and recouping their investment.

The Age of Discovery began with the advances in cartography and the development of the sextant and the maritime chronometer, made it possible for the sailors to measure the longitude accurately, thus encouraging navigators to explore the high seas. Just as the Age of Discovery was characterized by exploration of new continents and expansion of geographical frontiers, etching of the silicon chip gave birth to the Digital Era which saw the expansion of the electronic frontier - the frontier of knowledge. The parallels between the two eras are strikingly similar because just as the geographical boundaries were broken down by the age of discovery through exploration of the high seas, Internet by opening up the electronic frontier, has dissolved the national boundaries and has sounded the death knell of distance. Digital Technology has set in motion, a historical force which can aptly be described as the digital revolution.

3 For example, ScienceDirect, which provides access to over 1,500 technical journals and 40 million scientific articles on the basis of a license fee or pay-per-view, available at: http://www.sciencedirect.com.
4 The Museum Computer Network (http://www.mcn.edu/resources/sitesonline.htm) and Virtual Library Museums Pages (http://vlmp.museophile.com/) list more than 1,000 museums and museum-related sites globally that maintain digital collections online.
5 http://www.artnet.com/.
The digital revolution has facilitated ‘technological convergence’ which refers to shifting from analog to digital mode by digitization of signals in the three sectors viz computers, telecommunications and audiovisual industry leading to convergence of platforms. The Internet is an example of such convergence. It exhibits characteristics of several media that had previously been distinct. Networks carry three types of information sound, video (pre-recorded vs. live or real-time), and data. Historically, these different forms of information have used different delivery vehicles. The telephone network delivered sound and broadcast networks delivered video. Each service was tightly tied to a specific form of infrastructure -- the telephone network largely used copper wires to reach subscribers, broadcast television used the airwaves, cable television used coaxial cable, and so forth. Convergence has blurred those lines. As a result, broadcasting by Internet bypasses traditional systems and content can be downloaded from millions of sites from the web defying national boundaries. Most important effect of this development can be seen in the tendency of broadcast, TV, newspapers and magazines to migrate to cyberspace with the digital version of their products.

This global digital economy is characterized by the free flow of digital products on the Internet. By ‘digital products’ is meant something that can be digitised i.e. can be represented in bits and bytes. Such digital products include text, data, pictures, books, music, films, software, animation and broadcasts; all of these can verily be transmitted on the Internet anywhere around the world in a matter of seconds. Though, the phenomenon of the Internet has impacted upon production, consumption and distribution of a very wide variety of goods and services, it is most prominent in case of digital products. One of the characteristic features of electronic commerce in digital products is that the entire process of a transaction can be completed on the Internet itself; i.e. advertising, sampling, delivery and making and receiving payment.
The vehicle of this global digital economy is the Internet which can best be described as a network of independent networks. Being connected to the Internet means being connected to all the other networks. A computer on one network can send packets of data over the Internet to any other computer connected to the Internet. Apart from the connectivity huge amount of digital products like literature, books, pictures, music, films, and computer software is available on the Internet. On the one hand the Internet has come as a boon for digital product industry in terms of expanding markets, on the other hand the same technology that allows this also permits colossal piracy. Any digital product once released on the Internet, has a potential of slipping out of the control of the owner. With its enormous promises the Internet, is also a gigantic copy machine -- no doubt the current levels of online piracy of digital products were described by an American litigant as “a 21st century piratical bazaar.” Therefore, there is an increasing need being felt to regulate the cyberspace in a manner we have regulated the physical space and thereby bringing the same kind of order in the global digital economy. World over lawyers, legislators and policy makers are struggling to find answers to the problems posed by the new technologies. In our quest for finding our answers to regulatory challenges let us first look at what laws are applicable to digital products.

LAW AND DIGITAL PRODUCTS

Traditionally, the production, consumption and distribution of digital products has been regulated through the medium of a legal instrument called ‘copyright’ which is part of the wider concept of ‘intellectual property rights’. By and large all these digital products are a result of human creativity, for example, music, literature,

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films, etc. Traditionally the law of copyright has governed and regulated these art products which embody human creativity.

Copyright, that emanated when creativity and technology met for the first time, finds itself seeking its soul once again at the current junction when creativity has met with the latest in the series of technological innovations i.e. digital technology. This junction is, in many ways, a defining moment in the history of copyright. In order to appreciate the current problems it becomes necessary to glimpse the historical relationship between art, technology and copyright.

Art in its various forms existed from times immemorial. Technology made it possible in many ways to ‘preserve’ art. Singing, dancing and drama are as old as civilisation or even older but we were able to preserve them by recording only with the invention of technology. Technology transformed art into industry; thereby changing the scales of creation, production and consumption. Film, television, musical records, etc. are forms of the same.

Technology influences the arts industry enormously but in doing so creates new ways of exploitation of arts and new opportunities for enhancing their aesthetic, social and economic impact. Technological innovations act as catalysts and modifiers of the arts and fundamentally change the way we practice, conserve, distribute, market, promote, sell, study, criticise and enjoy them.

Technological inventions are largely accidental by-products of the scientific method. Cultural strategy and the possible impact of technology on art and culture have little to do with the process of invention of technologies. Historically, scientists have not been driven by questions of cultural values and influences. These days, largely it is the companies that develop and market the technologies and they do so independent of their likely impact on art and culture. Artist and the art industry (have to) adopt and adapt to these new technologies. New technologies may kill older technologies but their introduction is rarely fatal to any
Art form. The invention of the camera did not mean the death of painting; film did not kill the theatre; the photocopier did not ruin the book, and so on. Therefore, Technology and culture are not foes; they are agents of mutual influence and change.

Art is old maybe as old as man or at least older than civilisation. Technology came much later in the course of mankind's journey from caves to space stations. Though technology was the result of independent scientific process, it nevertheless had and continues to have great impact on art and creativity. It has provided various media to preserve, store, reproduce, and communicate various forms of art.

Copyright, as an instrument of law, emerged soon after the first technological invention that affected the art. Thus, copyright is referred as the child of technology because it was technology that necessitated the sprouting of copyright laws and every new technological innovation has led to the growth of copyright laws around the world. And for the last three centuries the world has seen various advances in technology which have been adopted by the creative community for the progress of arts. And with each successive technological development, the law has been challenged posing threats of varying magnitude.

The philosophy of copyright is age old. Legend has it that Kaalidaas was the court poet during the reign of king Vikramaaditya. Akbar the great had so high regard for art and artists that he included some of them in his Navraatin. Recognition, maintenance, protection and encouragement for the art and artist are the quintessence of copyright philosophy. Creators' rights that are now shaped by statutes have always existed in the legal consciousness of mankind. Old kings of history have given way to the new kings of business and laws, thereby creating an environment where everything is guided by business interest and regulated by laws. Though the philosophy is old, the copyright system, as we know today, is comparatively of recent origin and is a result of complex
processes of modern society. The invention of technology and its resultant impact on art necessitated a legal system to protect the interest of creators and producers of art in its various forms.

Copyright and technology have always had a strange relationship. On the one hand technology was the progenitor of copyright and copyright based industries, on the other hand, every new technology has again and again repeatedly threatened the very existence of copyright industries. The industry has always unwelcomed and tried to resist every such new invention and, ironically though, in the end the industry was not only able to absorb and assimilate the new technology but was able to put every new invention to its advantage in terms to creating newer forms of exploitation of art, widening markets and increasing profits.

The first copyright law, the Statute of Anne, enacted in England in the year 1709, was induced by the invention of the printing press. Printing press, though created huge potential for publication of literary works, it at the same time created a problem of fast and loose replication of books without compensating the authors and publishers. Without a system of copyright anybody was free to replicate works of literature without the authorisation of the author, thereby restricting his rights to make a living out of his creation. The remedy of the emergent situation came through the first legislation on Copyright gave copyright holders exclusive rights for distribution and copying their works of literature for a period of 20 years. Likewise the copyright law was amended as and when technological advancement necessitated it.

In the early twentieth century, music publishers attempted to prevent the distribution of the piano roll. Up until the creation of the piano roll, music could only be heard by live performance; the piano roll had the effect of increasing the diversity of music one could listen to. Publishers of player-piano rolls started making a killing by selling recordings of popular tunes without paying composers
a dime. The music companies then tried to control the market for phonogram recording equipment and phonograph players and filed suit, claiming copyright infringement. The Supreme Court of the USA rejected their claim, reasoning that the law doesn't cover player-piano rolls. But, the remedy came from the Congress which amended the copyright law to include licensing fees for player-piano rolls, phonograph records, and public performances. Analogue tape recorders and cassette tapes, which were resisted by the music publishers, were instrumental in promoting the distribution of music to a wider audience, thus leading to more revenues for the record companies.

The traditional antagonism between audiovisual industries and new technology is well demonstrated by another milestone in technology i.e. the invention of VCR with the help of which anyone had the ability to record audiovisual products. The film industry was perplexed once again and considered the new technology as a threat to their very existence. The industry filed a case against Sony, the company that had invented the Betamax, an early version of the VCR for contributory infringement of copyright because the machine was able to record shows and thereby its primary function was to aid copyright infringement. The logic was, if people are able to record movies that were being broadcast, then who is going to visit cinemas? The Supreme Court of the USA upheld\(^8\) citizens' fair-use right to make home recordings and stated that the technology of VCR had substantial non infringing uses as well. Two decades later, while box office receipts add up to about $8.4 billion, video sales and rentals are a $16.9 billion market for the movie studios—not bad for the lawsuit's losers! The technology of the VCR has in fact opened up newer vistas for the film industry, i.e. home videos.

The most recent example of such a technological development is the Internet which poses a greater challenge to the copyright system than the photocopier, and the VCR. It is the latest in a long line of challenges provided by technology.

\(^8\) *Sony Corp. v. Universal City Studios*, 464 U.S.417 (1984).
Accordingly, whenever developments in technology affect arts practice they also act as a catalyst for review and change in the laws of copyright. Whenever a new reproduction or transmission technology comes along, one has to ask, “Can the existing formulations of the law cope with the effects of the new technology?” Similar is the case with the digital and information technologies of which the Internet is a paramount embodiment.

Since the present work revolves around the copyright regime it becomes important to appreciate the copyright regime that is prevailing in India today.

Copyright is the financial heart of the arts community. It provides the legal basis for generating income from creative effort. All art practices, including audiovisual, involves exploitation of the economic rights provided by copyright. What developed as a mode of cultural remuneration for individual creators is now established as integral to the balance sheets of many of the most powerful companies on earth and as such, has become a fundamental part of the world economy. Copyright protection and control is not just an issue for the creators, it is an issue having much relevance to the boardrooms. Though, principally the copyright system around the world is structured on territorial laws, the concept has developed into a powerful international network of treaties and organisations and through the internationalisation of communications and commerce, it has influenced the entire world.

Copyright is a right given by law to the creators of literary, dramatic, musical and artistic works and producers of cinematograph films and sound recordings to do or authorize the doing of certain acts with regard to their creations. It is a kind of protection against unauthorized use or misuse of a work, but for a limited duration. Generally the rights include the rights of authorship, reproduction, distribution, communication to the public, broadcasting, adaptation and

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translation. The exact nomenclature and scope of the rights may vary from
country to country and from a class of work to another class of work. However,
international treaties such as the Berne Convention for the protection of Literary
and Artistic Works and the Agreement on Trade Related Aspects of Intellectual
Property Rights have brought in some kind of harmonization in these rights.

The basic principle on which copyright rests is that creativity in literary, dramatic,
musical and artistic fields needs to be rewarded like manual work and people
who produce intellectual property should be able to live by their efforts while
guaranteeing certain exclusive rights to creators, the copyright laws also ensure
that the public's right to full participation in the cultural life of the community by
enjoying the creative efforts of gifted members of humanity is not jeopardized.
This is ensured by two means; firstly, limiting the duration in which a work enjoys
copyright protection, and secondly, allowing certain uses without specific
authorization by the owner of copyrights, known as fair use provisions in
copyright parlance.

Copyright is a property right, but the property is an intangible one. It is the right
of the author in the creation of his intellect. This means that in the case of a book
of poems, the copyright of the author is not in the physical copy of the book in
which the poems have been printed but in the creative expressions which are the
poems.

Copyright, being a property right, can be transferred or assigned to another
person. It can also be inherited during the time it exists. Without transferring or
assigning, a copyright owner can license specified uses by others.

Copyrights are national in nature. This means that your rights are recognized by
your national laws and extend to the territorial limits of your country. However,
international treaties like the Berne Convention for the Protection of Literary and
Artistic Works (1886) the Universal Copyright Convention (1952) and the
Agreement on Trade Related Aspects of Intellectual Property Rights (1994) ensure protection of copyrights of nationals of a member country in all other member countries. Through the principle of ‘National Treatment’ it is ensured that foreigners if they are nationals of a member-country, are given the same rights enjoyed by the nationals, except in the matter of term of protection.

Copyright is an intellectual property right and like all other intellectual property rights it is for a limited duration. This limitation emanates from the basic concept of intellectual property right that while creators of intellectual property have the right to control the reproduction and other uses of their works, they being essential elements in the scientific and cultural progress of humanity, the society has the right to access and share the same so that social and cultural life of humanity gets enriched.

Copyright is a bundle of exclusive rights but is not a monopoly right in that others are not prevented from making a similar work independently. Since copyright protects only original expressions and not ideas, and the test of originality in copyright is not as rigorous as in the case of other intellectual property rights, independent creations of similar works are quite possible, although the chances of two persons expressing the same thought in identical words or ways are well nigh impossible. For example, if ten painters describe a sunrise scene, all the ten poems are likely to be different from each other.

In India, copyright is governed by the Copyright Act, 1957, as amended last in 1999, the Copyright Rules, 1958 as amended last in 1995 and the International Copyright Order, 1999 as amended in 2000. The Copyright Act provides the basic law so far as copyrights are concerned, the Copyright Rules contain the rules and regulations as well as various procedures and the International Copyright Order extends copyright protection to works of nationals of specified foreign countries.
The Copyright Act classifies the works in which copyright subsists in India into the following three classes:

(a) literary, dramatic, musical and artistic works
(b) cinematograph films, and
(c) sound recordings.

The scope of ‘literary work’ includes any “work which is expressed in print or writing, irrespective of the question whether the quality or style is high.” It also includes computer programs and computer databases. Dramatic work includes any piece for recitation, choreographic work or entertainment in dumb show, the scenic arrangement or acting, form of which is fixed in writing or otherwise but does not include a cinematograph film. Musical work means a work consisting of music and includes any graphical notation of such work but does not include any words or any action intended to be sung, spoken or performed with the music. Artistic work means a painting, a sculpture, a drawing (including a diagram, map, chart or plan), an engraving or a photograph, whether or not any such work possesses artistic quality; a work of architecture; and any other work of artistic craftsmanship. The Copyright Act defines cinematograph film as “any work of visual recording on any medium produced through a process from which a moving image may be produced by any means and, includes a sound recording accompanying such visual recording”. The Act also clarifies that cinematograph shall be construed as including any work produced by any process analogous to cinematography including video films. Sound recording (phonogram) is a recording of sounds from which sounds can be produced.

10 S. 2(o), Copyright Act, 1957.
11 Ibid.
12 S. 2(p), Copyright Act, 1957.
13 S. 2(c), Copyright Act, 1957.
14 S. 2(f), Copyright Act, 1957.
regardless of the medium on which such recording is made or the method by which the sounds are produced.

The rights which form the bundle called copyrights can be broadly classified into two categories, viz. economic rights and moral rights. Economic rights are so called because “they imply as a rule that within the limitations set by the copyright law the owner of the copyright may make all public use of the work conditional on payment of remuneration.” These rights enable the copyright owner to reap economic returns for his work. The major economic rights available in the Indian copyright Act are the following:

(a) Right of Reproduction
(b) Right to Issue Copies of a Work
(c) Rights of Public Performance
(d) Right of Communication to the Public
(c) Adaptation Right
(d) Translation Right

Right of reproduction is the most fundamental of all economic rights. The right envisages that copyright owner has the exclusive right to authorize the making of one or more copies of a work or of a substantial part of it in any material form, including sound and visual recording. The most common kind of reproduction is printing an edition of a book. Storing of a work in any medium by electronic means is also reproduction. The Copyright Act gives the right of reproduction in all classes of works.15

Obviously the right of reproduction is of no economic value if the owner of copyright cannot authorize distribution of copies made with his authorization. The Copyright Act extends this specific right to all literary, dramatic, musical and artistic works. The right to issue copies of the work however does not extend to

15 S. 14(a)(i), Copyright Act, 1957.
copies already in circulation. This means that once a copy of a work has been sold, the purchaser can dispose of it further without any specific authorization of the copyright owner.\textsuperscript{16}

The Indian Copyright Act provides public performance right to literary, dramatic, and musical works. The main criterion so far as this right is concerned is that the performance must be in public and not private. Where the borderline between public and private performance lies is to be decided by the courts according to the circumstances but it is generally agreed that a performance before a small invited audience whether in a home or in a hired hall is not a public performance. The general public must have access to the performance to make it a public one. The performance can be given ‘by any means or process’. This means that the performance need not be ‘live’, but can be by means of phonograms or films.\textsuperscript{17}

The Copyright Act of India defines communication to the public as “making any work available for being seen or heard or otherwise enjoyed by the public directly or by any means of display or diffusion other than by issuing copies of such work regardless of whether any member of the public actually sees, hears or otherwise enjoys the work so made available.” An explanation to the definition states that “communication through satellite or cable or any other means of simultaneous communication to more than one household or place of residence including residential rooms of any hotel or hostel shall be deemed to be communication to the public.”\textsuperscript{18}

Copyright Act, 1957 specifically provides this right to all literary, dramatic, musical and artistic works, and computer programs. The Act defines adaptation with reference to each category of works as under:\textsuperscript{19}

\begin{itemize}
\item \textsuperscript{16} S. 14(a)(ii), Copyright Act, 1957.
\item \textsuperscript{17} S. 14(a)(iii), Copyright Act, 1957.
\item \textsuperscript{18} Ibid.
\item \textsuperscript{19} S. 14(a)(vi), Copyright Act, 1957.
\end{itemize}
"Adaptation" means-

(i) in relation to a dramatic work, the conversion of the work into a non-dramatic work;

(ii) in relation to a literary work or an artistic work, the conversion of the work into a dramatic work by way of performance in public or otherwise;

(iii) in relation to a literary or dramatic work, any abridgement of the work or any version of the work in which the story or action in conveyed wholly or mainly by means of pictures in a form suitable for reproduction in a book, or in a newspaper, magazine or similar periodical;

(iv) in relation to a musical work, any arrangement or transcription of the work; and

(v) in relation to any work, any use of such work involving its rearrangement or alternation.

In a broader sense this also includes the right to make cinematograph film or sound recording in respect of a work although in the Indian Copyright Act this right is separately provided.

Translation means the expression of a work in a language other than that of the original version. In order to do a translation of a work protected by copyright you need the authorization of the copyright owner. The translation also enjoys copyright without prejudice to the rights of the original author. Therefore, in order to reproduce and publish a translation you need the authorization of the copyright owner in the original work as well as in the translation.20

Another right which is getting wider acceptance and also find mention in the Agreement on Trade Related Aspects of Intellectual Property Rights is that of commercial rental. This right is mostly extended to computer programs,

20 S. 14(a)(v), Copyright Act, 1957.
phonograms and cinematograph films in whose cases advancements in digital and other technologies have made copying easy. This right is meant to control to some extent unauthorized reproduction. The Copyright Act extends this right to computer programs, cinematograph films and sound recordings.  

The Copyright Act also provides that owners of copyright in computer programs, cinematograph films and sound recordings have the exclusive right to sell or offer for sale any of the work, regardless of whether such copy has been sold on earlier occasion. However, in the case of computer programs, now the principle of first sale exhaustion applies, after the 1999 amendment.

Moral rights are the spiritual ties that bind the author (creator) and the work (creation). Moral Rights are generally provided with a view to assert the authorship on a work and also to uphold the right of integrity. Moral rights 'stem from the fact that the work is a reflection of the personality of the creator, just as much as the economic rights reflect the author's need to keep body and soul together.' The Indian Copyright Act provides this as special rights of authors to claim authorship of the work and to restrain or claim damages in respect of any distortion, mutilation, modification or other act in relation to the said work which is done before the expiration of the term of copyright if such distortion, mutilation, modification or other act would be prejudicial to his honour or reputation. Moral rights are independent of the economic rights and remain with the author even after he has transferred his economic rights. In the era of digital technologies, moral rights, particularly right of integrity, are very necessary to safeguard against misuse and distortion of an author's work.

Copyright is for a limited duration. While the Berne Convention provides for a minimum period of protection which is life term of the author plus 50 years

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21 S. 14(d)(ii) and s. 14(e)(ii), Copyright Act, 1957.
22 S. 14(b)(ii), s. 14(d)(ii) and s. 14(e)(ii), Copyright Act, 1957.
23 S. 57. Copyright Act, 1957.
thereafter, national governments are free to provide a longer term of protection. In India, original literary, dramatic, musical and artistic works enjoy copyright protection for the lifetime of the author plus 60 years if they are published within the lifetime of the author. The term of protection is 60 years since publication in the case of cinematograph films, sound recordings, photography, posthumous publications, anonymous and pseudonymous publications, and works of government and international organizations.

Any copying or duplication, adaptation, translation, public performance, communication to the public or broadcast done without the authorization of the copyright owner, or even where any work has been licensed or assigned, any violation of the conditions of the licence or assignment constitutes copyright infringement. Any import of infringing copies also constitutes copyright infringement. Even such copies made outside India cannot be imported into India without infringing copyright where such copies, if made in India, would infringe copyright, even if it may not be an infringement in the country of origin.

To balance the rights of the owners and the society as a whole, there are exceptions in the law. Subject to certain conditions, fair deal for research, study, criticism, review and news reporting as well as use of works in library and schools and in the legislatures are permitted. There are provisions to avoid harassment of the public; for example, making copies for purely personal and private use (except in the case of computer programs) are now permitted. Again, playing music at religious ceremonies, including marriage processions and marriage festivities, official functions of central and state governments and local bodies will not be affected by copyright. This is done in keeping with the social and cultural traditions of the country.

25 Ss. 22-29, Copyright Act, 1957.
The Copyright Act provides for registration of works. However, the registration under the Act is voluntary and not obligatory. Registration does not itself confer copyright but the particulars entered in the Register of Copyright maintained in the Copyright Office constitute *prima facie* evidence of ownership of copyright in copyright cases. As per the provisions of the Act, copyright subsists in any work as soon as it is created, without any formality like registration being observed.

Since copyright is a proprietary right, the owner has to administer his own rights. The Copyright Act provides for collective administration of rights through registered copyright societies. These societies have to be formed voluntarily by the copyright owners. Only the owner of copyright or the society who have the rights can institute civil and criminal proceedings against infringement of his works. Civil remedies include injunction, and damages. Copyright infringement is also a cognizable offence. Copyright infringement is punishable with imprisonment for a term ranging from six months to three years and with a fine ranging from Rs. 50,000 to Rs. Two lakh. So far as computer programs are concerned there is an added provision which says that any person who knowingly makes use on a computer of an infringing copy of a computer program shall be punishable with imprisonment for a term which shall not be less that seven days but which may extend to three years with a fine which shall not be less that fifty thousand rupees but which may extend to two lakh rupees. In India we have no separate courts for trying copyright infringement cases. Such cases are heard in the regular courts. Copyright law is on par with other laws of the country and are enforced through police and ordinary courts. District Courts have been given jurisdiction to try the suits relating to copyright violation within the vicinity of which the owner of the copyright resides or carries on business.

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26 Ss. 33-36A, Copyright Act, 1957.
27 Ss. 54-62, Copyright Act, 1957.
28 Ss. 63-70, Copyright Act, 1957.
India is part of the international copyright regime through its membership of Berne Convention for the Protection of Literary and Artistic Works, Convention Establishing the World Intellectual Property Organization (WIPO), Universal Copyright Convention, Convention for the Protection of Producers of Phonograms Against Unauthorized Duplication of Their Phonograms, Multilateral Convention for the Avoidance of Double Taxation of Copyright Royalties and Additional Protocol, and the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS).

The Copyright Act gives the government powers to extend copyright to foreign works. The government has done this through a separate order, namely, the International Copyright Order. This order extends protection to the works of those countries who are members of the international conventions of which India is a member. In extending the application of the provisions of the Act to foreign works as if they are Indian works, the principle of national treatment has been adopted except in the matter of term of protection. This is in accordance with the principles laid down in the Berne Convention.

CHARACTERISTICS OF NEW DIGITAL AND INFORMATION TECHNOLOGIES AND RESULTANT GLOBAL DIGITAL ECONOMY VIS-À-VIS THE COPYRIGHT REGIME

While the contours of copyright law have always been drawn by the developments in the technological world, the emergence of digital technologies towards the concluding decades of the twentieth century as the defining paradigms of new age communication raised a whole new set of challenges to copyright regimes. All works can now be digitalized whether they comprise texts, images, sound, animation, photograph and once digitalized the various elements are all ‘equal’ and can be merged, transformed, manipulated or mixed to create an endless variety of new works. Earlier rights of reproduction and distribution
affected only tangible physical copies of a work. Some characteristics of the digital media that have a bearing on copyright are described below:

**Compactness**

Compactness is one characteristic of digital media which has potential to create new kinds of legal problems. In comparison to print and other traditional media, digital works do not take up much space and hence such works are inherently easier to steal. While the compactness of digital media makes it possible to put company records, whole libraries, encyclopaedias and the like, in a set of compact discs, some new kinds of intellectual property law problems have resulted from these new assemblages of materials, which were unheard of in print world. This has led to development of elaborate systems with access restrictions and regulations, which in turn, have thrown up issues of who should regulate, types of rights to be controlled and kinds of access to information sources.

**Replication**

The ease with which works in digital form can be replicated poses a difficult problem for the law to handle. In the existing copyright regime, there is a general perception that making copies for personal or private use is considered fair-use and lawful. While the technology of reprography has improved dramatically, in digital domain, “perfect” multiple copies can be generated by the same technology which is employed for the use of the digital product. Hence it has become more difficult for the copyright owners to exercise control over replication of their works and to obtain compensation for unauthorised replication. Although the copyright system in the analog world has generally focused on sales of copies of copyrighted works, in the digital world the trend is to reap the financial rewards for creating and disseminating intellectual products by charging for access to and use of digital works and limiting rights to use and copy these
products. The older technologies of photocopying and taping allowed only mechanical copying by individual consumers, but in limited quantities, requiring considerable time, and of a lower quality than the original. Moreover, the copies were physically located in the same place as the person making the copy. On the Internet, in contrast, one can make an unlimited number of copies, virtually instantaneously, without any degradation in quality. The result could be the disruption of traditional markets for the sale of copies of programs, music, art, books and movies. The key point in all this was that, by contrast with the analog world in which, although copying was easy, the copy was invariably less good than the original, the digital work would always copy perfectly. The downloader would get as good a version as the master on the original site -- and would get it increasingly easily and quickly as the technology moved on.

**Carrier-less transmission: Selling wine without bottles**

Digital and information technologies have brought in a new form of transmission of copies of a work. Traditional transmission of a work was material copy based which could be on paper in the case of a book or a tape or film in the case of a phonogram or a motion picture. Information technologies have made possible carrier-less and material-less transmission of digital products. Through computer bits and bytes books, music, films and software can now be transmitted on wires or wireless. The physical carrier of content has been done away with and Internet is being used for transmitting all kinds of copyright works like books, music, movies, computer software, etc. Prof John Perry Barlow who has been hailed as Thomas Jefferson of Cyberspace for his 'Declaration of Independence of Cyberspace', aptly sums up the problems posed by the digital revolution in his article "Economy of Ideas - Selling Wine Without Bottles". According to Barlow, digital technology has detached information from its physical plane. In other words information has been liberated from its containers and carriers and is

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floating in cyberspace freely. This is a characteristic of digital media that poses problems for traditional IPR systems for the ease with which digital works can be transmitted and used by multiple users, compared to paper and analogue versions of the works. A pirated version of a digital work can be loaded into a computer connected to the Internet and hence can be made available and transmitted across the globe in a matter of seconds.

Online mechanisms are growing as a source for transmission and delivery all digital products. Which delivery mode(s) for digital products will become dominant in the third millennium? Though delivery mechanism for digital products has changed to some extent, but around the world and especially in India phonograms remain to be the primary carriers of audiovisual products in today’s date. The prediction “(Disks and tapes) will no longer be the primary sound carrier. They will be used when camping and fishing but rarely in the home”\textsuperscript{30} seems still afar. But in the past couple of years unauthorized transmission and distribution of digital products through various online mechanisms has become commonplace throwing the disrupting the smooth assertion of intellectual property rights in respect to them.

Promises of the digital technology – fresh woods and pastures new

Digital and information technologies offer new possibilities for the dissemination and use of culture products, since all kind of works (literary works, films, videotapes, records, databases) can be made available in non-material form and can be transferred using networks throughout the world. This is the so-called "cultural dimension" of the information society. These technologies could greatly help cultural diversity. Because in a global society driven by economics, giant corporations have a tendency of monopolising production and trade in audiovisual products. This monopoly situation is dangerous for the economic survival of

products belonging to small, minority, and remote production groups. But the Internet has the potentiality of changing all this. More than ever before, the audiovisual industry has become “a global enterprise based on local creativity.” The Internet and on-line services could provide a more efficient and cost effective mechanism, one that will also permit listeners a virtually unlimited choice of material.

The Internet offers digital product industries and music/film lovers virtually limitless possibilities. Digital technology brings works to a wider public, affords niche artists access to their audiences, makes our vast cultural heritage widely available, and could distribute old, new and unusual works with great ease. The Internet could popularise an artist’s work at something approaching the speed of light. The Internet allows artists to offer their works directly to their fans, thus bypassing the record labels. This means that the Web is much more than a virtual record store. It’s the hub of everything the fan values about - the sound, the personalities, the look, the lyrics, charts, community, news, opinions, and comment.

**Cross border distribution is the rule**

One of the main characteristics of digital exploitation of works is that is not limited to one single national territory, but in the majority of cases crosses borders as the cyberspace of today doesn’t respect geographical and political limits. In transactions on the Internet, one or more of the parties involved including consumers, vendors, businesses, service and content providers may be and often are located in different countries with their own legal systems. The same is the case with the assets of businesses and other processes used in transacting over the Internet like, technology systems and computer servers. This leads to uncertainties and ambiguities as to where the pertinent activities are taking place and where the consequences are being felt. These activities themselves can have intended and unintended consequences around the world, resulting in
uncertainties when a dispute arises as to localizing the dispute, determining the applicable law, and the manner of pursuing enforcement.

**Instantaneous Global Presence**

Prior to the Internet, presence in foreign markets was generally a gradual process starting first in the home market and then moving slowly to foreign markets, and such foreign markets were approached individually, or on a regional basis. The distribution of products or services in foreign markets was invariably accompanied by some form of physical presence there in the form of local representative. On the other hand, once a Web site is created and launched on the Internet, it becomes instantaneously accessible from everywhere on the globe.

The deployment of economic activities in a foreign country necessarily brings with it the potential of contact with the judicial system of that country. There is a risk that the vendor of goods or services will be sued in the foreign jurisdiction. There is now the potential for an exponential growth of the number of countries to which the vendor of goods or services will expand its economic activities. This means that the same exponential growth will take place in relation to the number of jurisdictions in which the vendor can potentially face court action. And additionally, the higher number of jurisdictions involved, each eventually concerning a limited number of transactions, makes it more difficult and costly for the vendor of goods or services to acquire in advance adequate legal advice on the risks involved.

**Trade relations – no longer a matter of choice**

With e-commerce coming in vogue, there is a fundamental change in which the expansion into third countries comes about. Gone are the times when a decision to expand into a certain country and its market was primarily a decision made by
the vendor in his own time and on his own initiative. Electronic commerce essentially limits the vendor's choice to entering this global market or to staying out of it. Once engaged in e-commerce the vendor loses control. The transactions are induced by the consumer and that consumer may be based in a country with which the vendor never had any contact and about the legal system of which the vendor of goods or services has no information. It may also not be practicable to gain that information at the stage where the order is received. There may not be time to do so, but in addition the value of the transaction may not be such that the cost of acquiring advice can be recovered. It has, therefore, become more difficult for the vendor of goods or services to assess the situation in advance and to take appropriate measures to cope with the risk of finding itself obliged either to bring or to defend an action in a foreign court.

Small sized enterprises though have hardly any international experience, but the arrival of e-commerce makes it possible for them to trade globally without major investment or without the need to set up overseas branches or subsidiaries. Whilst this may well be an opportunity for them, they often also lack the local knowledge needed to avoid the pitfalls of overseas markets.

Shops on the information superhighway

Digital and communication technologies have been dramatically changing the market structure for copyright industries. Irrespective of technological or legal developments, the ways in which we do business is changing. Large and small corporations, individuals and groups have already put their toes into the cyberpool. Publishers, record companies, newspapers, film studios, etc. are experimenting with the Internet because they know that it is not going away and that unless they embrace it, get comfortable with it, learn how to make it work for them, learn how to dominate it, they will lose market share. So, in many respects, embracing the Internet is not a matter of choice for them but rather has become a compulsion.
For government and commercial interests, it was a means of economic development. At a bare minimum, the Internet was an information, marketing and advertising device capable of reaching an ever-widening number of citizens, consumers and buyers. All kinds of producers could in effect set up shop on the Internet. A good example is Amazon.com, the on-line bookshop, offering traditional products (books and so on), but being in touch with its customers through electronic communication across the web. But the technology which underlay the Internet – the digitisation of information and material of all kinds – also created the possibility of new types of electronic product and services which could be traded primarily on the Internet. Computer programs and games were the most familiar type of digital product before the Internet took off; these could now be made available on the Internet for downloading directly to computers linked to the relevant Web site. The Internet opened up the possibility, soon realised by Napster and others, of a kind of global jukebox from which music enthusiasts could download to a local computer at any time whatever took their fancy. From music it was but a short step to films, albeit if a full-length feature the latter required far more digital capacity in both the carrier and the player – a technical problem solved for the moment by the technique of compression and the development of the ‘digital versatile disk’ (the DVD) and broadband. Digitisation also enabled the rapid development of the multi-media product, combining written text with sounds and images still and moving. A well-known example of this is Microsoft’s Encarta encyclopaedia, but there are innumerable others.

**Rise of interactive services**

Digital transmission of copyrighted works has enabled new services in the form of specialised news and data services, commercial on-line services and new emerging services like video-on-demand, TV and music services. All these services function with Internet as the delivery medium. With regard to copyright, these services differ from the broadcasting and other delivery mechanisms of the
past, as there is no broadcaster involved. A wide variety of works and services are made available on a server of the service provider for interactive access and use at a time chosen by the user. The service provider may be just a passive participant. The amount of transmission traffic now handled by telecommunication carriers for such interactive services has increased dramatically in recent years. New intermediaries have appeared in this delivery process, such as Internet Service Providers that provide a link between users and the telecommunication carrier.

**Loss of control**

The fact that it is possible to make copies extremely fast, at low cost and without any loss in quality has led to a considerably enhanced intensity of private possibilities of use vis-à-vis traditional reprography and previous video and phonogram recordings, possibilities that may well conflict with the exploitation of the original products and hence the interests of authors and rights holders in optimal control over and exploitation of their rights. The rightowners find that the rights over their creations i.e. right of distribution has come within the competence of ordinary individuals and is really hurting the industry and from the perspective of rights owners, a loss of control and uncertainty in legal issues may well entail a drop in investment activities. This could lead to an undesirable restraint regarding investments in the digital infrastructure and in attractive digital products. Moreover, digital data files are particularly vulnerable to manipulation (or: digipulation) by third parties; in this context it is unimportant whether the third party is entitled to use the protected work or not. To top it all to catch an infringer on the Internet is very difficult since he can hide behind a series of veils.

This loss of control over intellectual property has become a debating issue nationally and internationally within and outside the legislative processes. On the one side, some believe that copyright, as we have known it has come to an end,
on the other side, rightowners, armed with technology and new laws, are asserting their intellectual property more vigorously than ever before.

**PURPOSE AND SCOPE OF THE WORK**

The dawn of the third millennium heralded by the convergence of computer networks and communication technologies is a defining movement in the history of mankind because the historical forces set in motion by the digital revolution has spawned a new civilization characterized by path breaking inventions and technological innovations and the opening up of the electronic frontier. It is an age which combines the marvels of the age of discovery and the epoch of renaissance rolled into one.

The advent of digital revolution, which has lead to the transition from industrial to information society in the last three decades of the second millennium, has exploded many traditional assumptions about the State, law and other institutions of governance. Just as the advent of industrial revolution required other institutions of the society to adapt itself to the challenges, digital revolution also raises new social, economic and legal issues. Digitisation of information and the tools to use it is generating astonishing wealth. Computers can archive, compare, manipulate and distribute data with astonishing speed and ease and in ways previously unknown. This in turn has caused novel and complex problems which lawyers find difficult to address.

The debate about the role and scope of copyright in the digital context was sparked by varying visions of what the Internet and, following it, the ‘information superhighway’ should be about. This work considers the scope of copyright in the light of the so-called “digital (or Internet) revolution”, and raises some issues about the future shape of the law which seem to require further investigation and reflection. This work also examines what has been happening in relation to
digital dissemination and copyright by reference to news stories, litigation and legislative enactments, mostly emanating from the developed countries like the USA, Japan and EU countries where the majority of the changes to domestic legislation required in terms of international obligations have been implemented, so making it, to some extent, the testing bed for these new laws and their effects on commercial and consumer practices.

This work concentrates on the exploitation of digital products such as books, music, films and software on the information superhighway, i.e. the Internet. Never before has it been so easy to violate a copyright owner’s exclusive right to copy the material. Materials protected by copyright and related rights, spanning the range of information and entertainment products, will constitute much of the valuable subject matter of electronic commerce. While the transmission of text, sound, images and computer programs over the Internet is already commonplace, this will soon also be true for transmission of audiovisual works such as feature films, as the technical constraints of narrow bandwidth begin to disappear. The scope of copyright and related rights on the Internet can have an effect on how electronic commerce will evolve. The intellectual property discipline is confronted with new issues generated by the emergence of the Internet. Each of them must successfully resolve these issues in order for electronic commerce in copyrighted products to flourish.

Copyright is the child of technology. It was technology that necessitated the sprouting of copyright laws and every new technological innovation has lead the growth of copyright laws around the world. In the first place, every new technological invention threatened the survival of copyright industries and till now all the technologies have been assimilated into the copyright regime and the result is the manifold growth of copyright industries the world over. The traditional balance in copyright law has once again been altered by the development of digital technology. The rise of the Internet threatens the rights of copyright holders.
In the environment when traditional notions of copyright law are under challenge from technology and much doubt is raised about the relevance of such laws, internationally many attempts have been made at reforming the law. The World Intellectual Property Organisation finalised two treaties popularly known as Internet treaties in 1996 as a response to the challenges posed by the Internet to copyright regime. World over a debate is going on whether to implement these treaties in national laws or not. Opinions differ on various issues touched by the treaties. We in India have already started legislating on some of these issues and some are vigorously being debated in legislative and academic circles. Undoubtedly we, as an essential part of the global digital economy, are touched by these technical and legal developments. In our quest for the regulatory framework that fosters creativity and boosts commerce, it has become necessary for us to decide for ourselves what shape we have to give to our copyright law and information technology law. Towards this direction the present work examines various national laws and international treaties and presents their critical appraisal. This work is a humble attempt in the direction of analysing the problems posed by the twin forced of digitisation and globalisation and suggesting law reforms for India.

The whole work is divided into eight chapters. Chapter one introduces the work by examining new technologies and their impact on business, society and law and identifies the challenges thus posed to copyright regime. It also traces the evolution of copyright as an instrument of cultural control and summarises in brief the principles of copyright law in India as it stand today.

Chapter two highlights the scenario when contents of a Web site are exploited by others without the permission or knowledge of the owner. The discussion is centred on copyright issues involved in the practices of Linking, Inlining and Framing technologies which are normally being used on the Internet. This
chapter also examines the protection of works in multimedia setting on the Internet.

The Internet provides a tremendous new way of reaching consumers of information and entertainment products in the comfort of their own homes. But the difficulty also facing those minded to exploit these opportunities was precisely the ease and speed of digital reproduction. How could consumers be made to pay for the material they downloaded in this way? How could pirates, those making copies for their own commercial gain without the authority of the originator, be stopped from exploiting the technology and thereby undercutting the latter’s market? In this light, chapter three addresses the issue of how piracy takes place through the Internet and what are the main networking architectures that are used for facilitating the unauthorised distribution of digital products? This chapter presents and analyses various means that are being adopted by the owners of intellectual property to protect their content on the Internet.

With the emergence of the Internet and resultant convergence, the world of broadcasting, as we have known it, is bound to change. Broadcasting content is increasingly being offered on the Internet through new services like webcasting. So, there is a migration from the controlled regime of broadcasting to largely unregulated system of webcasting. In this light, chapter four finds out the differences and similarities between broadcasting and webcasting. It emphasises on the need to regulate the webcasting segment by assimilating the same to broadcasting and suggests law reforms for the same.

Chapter five examines the issue of management of copyright in the global digital economy. Apart from huge promises in terms of widening markets and expanding commercial frontiers, the new technologies also pose many problems which include, increasing unauthorised use and piracy. A pragmatic answer to these problems was provided by the technology itself: the product could be locked behind technological barriers (or ‘walls’ or ‘fences’) – encryption, so-called
‘water-marking’, passwords and so on – requiring authorisation and payment through electronic means before they could be opened up or set aside. The content owners are lobbying with hardware and software producers to implement copy protection on their devices. The idea is to install chips into each computer that will decode audio and video information only if it comes with an unlocking key; the computer will refuse to play content if it is not digitally signed by an authorized party. The goal is for the system to quietly report to authorities any unauthorized content in the computer, and the system may be instructed to delete information from the owner's hard drive. This chapter examines these copy protection initiatives and suggests the desirable regulatory path to be adopted by India. The digital product industry is vying for protection of the law to the technological systems against acts of circumvention, so as to prevent making available devices that could be used to circumvent the anti-circumvention measures. Because users tend to access works on a one-to-one basis, so contractual conditions can be placed on, not only access to the underlying work, but also use of the work. Copyright and technical protection measures are thus bolstered and reinforced by contract terms leading to gagging of fair use and extension of copyright far beyond the scope envisaged by the legislature. This chapter analysis the anti-circumvention provisions of various legal instruments internationally and nationally and suggests measures for reforms for India.

Because of the inherent difficulties of enforcing copyrights against individual Internet users worldwide, the copyright owners have found the answer to this problem in placing legal liability for intellectual property infringement on those who allow and enable Internet pirates to exist, namely the Internet service providers (ISPs). Most of the time in every set of action that a copyright owner takes against infringements on the Internet, by and large the action is simultaneously taken against the ISP as well, apart from the person who actually commits the infringement. There are reasons behind ISPs being sued so often when it comes to Internet infringements; and this is true not only for copyright infringements but also for all other kinds of infringements that take place on the
Internet. The issue of on-line copyright infringement liability for ISPs has been around since the use of the Internet started to expand rapidly in the early 1990’s and has been the subject of extensive debates worldwide. Should ISPs be held responsible for illegal activities committed by their users? Should on-line intermediaries be held responsible for third party material put on the Internet by users of their facilities? If yes, what should be the extent of their liability? As far as India is concerned we have already legislated in this regard in the Information Technology Act, 2000 but the legislation is faulty on many a count. Chapter six makes an in-depth study of various national and international laws vis-à-vis ISP liability for copyright infringement and suggests reforms in the Information Technology Act, 2000.

The Internet is by definition International and can be accessed from almost any place on earth hence multi-jurisdictional. On the Internet, digitised data may travel through various countries and different jurisdictions in order to reach its destination. With increase in trade, disputes on the Internet have also increased and intensified. The traditional dispute resolution mechanism based primarily on territoriality faces a number of challenges when applied to disputes arising on the Internet. The Internet operates in an environment, which allows infringements to take place with no clear and convenient jurisdiction in which the rightsholder can file suit. Chapter seven presents the difficulties in resolving disputes on the Internet and analyses the approaches adopted by courts around the world in solving these disputes.

Finally, chapter eight summarises the entire work and lists various reforms in India’s Copyright Act, 1957 and Information Technology Act, 2000 which have become necessary because of the emergence of digital and information technologies. The following chart illustrates the scope of the present work.
Digital products on the Internet

Text, pictures and animation
- Available on the www and exploited through linking, inlining and framing

Music, films, books, software
- Available on P2P networks like Napster, Gnutella and Kazaa

Interactive broadcasting
- Available through webcasting

PIRACY

Litigation
- Targeting individuals
  - Where to litigate? Which law would apply?
  - Strained relationship between industry and consumers

Protection of content through technology
- Countering ISPs
- Self-help measures
  - May affect innocent bystanders
  - May go against IT Act, 2000

Supplementing copyright through contracts
- Employing copy protection
- Tagging 'rights management information' (RMI)

Extending the scope of copyright law envisaged by legislature
- Bolstered by law: 1. for making copy protection compulsory
  2. against detaching of RMI
  3. against anti circumvention of technological measures
  - Gagging of 'fair use'