

Protection of Intellectual Property -- Patent, Copyright, and Trade Secret Law in the United States and Abroad

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I. Introduction

Intellectual property law is an old¹ and highly specialized body of law that protects original ideas, creative forms of expression, new discoveries or inventions, and trade secrets. This body of law is premised on the idea that to encourage innovation,² persons responsible for such advances should be rewarded. The rewards provided are limited monopolies accorded by patents³ and copyrights⁴ laws and protection of business "know-how" by trade secret law.⁵

Although American jurisprudence generally has an aversion to monopolies and the restriction of free enterprise,⁶ the limited exceptions embodied in intellectual property law have early beginnings in the American legal system.⁷ The founding fathers of the United States understood the need for some limitations on free enterprise to stimulate new ideas and scientific and artistic creativity.⁸ Therefore, they included a clause in the Constitution that expressly allowed Congress to grant exclusive rights for limited times to authors and inventors.⁹

The need for protection of intellectual property is critical today because of the increased competition in both foreign and domestic markets.¹⁰ The economic benefits of technological innovations that result from research and development programs are quickly lost if intellectual property laws are not used aggressively. This problem is especially evident in the area of computer technology. One company may invest heavily in the development of computer chips or software only to find other companies copying the chips or software and selling them at greatly reduced prices because they do not have development costs to recoup.¹¹ This competition, especially from foreign companies, has raised tremendous interest in intellectual property law. This has caused unprecedented congressional and administrative action to improve intellectual property protection.¹²

Intellectual property law consists of federal and state statutory law and state common law and has been divided into three areas: patent law, copyright law, and trade secret law. Each area is discussed separately in this article, and different types of available protection are compared to demonstrate their relative advantages and weaknesses and to aid in determining the type of protection appropriate in a particular situation.

II. Patent Law

Patent law, which is exclusively federal law, allows the federal government to grant a patent to an inventor through the United States Patent and Trademark Office.¹³ A patent is the grant of exclusive property rights for a limited time to prevent others from making, using, or selling the patent owner's invention in the United States.¹⁴ In return for these rights, a description of the invention is published and made publicly available.¹⁵ The underlying rationale of patent law is the creation of a public contract under which the inventor discloses his invention to the world in return for exclusive rights in the invention for a limited time.¹⁶ The potential benefits arising from issuance of a patent on scientific and technological advances encourages such advances.¹⁷

Three types of patents may be granted under patent law: plant patents, which protect certain types of asexually reproducing plants;¹⁸ design patents, which protect ornamental designs;¹⁹ and utility patents, which protect the underlying idea embodied in the invention.²⁰

Plant patents can be granted for the invention or discovery of an asexually reproducing plant.²¹ This patent gives the owner "the right to exclude others from asexually reproducing the plant or selling or using the plant so reproduced."²²

Design patents can be obtained for articles of manufacture that embody new and original ornamental designs.²³ The test to determine if the design is new is whether the average observer would consider the design to be new as opposed to being merely a modification of an existing design.²⁴ In addition, the design must represent more than the skill of the average designer.²⁵ A mere change in finish, labor, or workmanship is not sufficient to meet this requirement,²⁶ and judicial decisions have disallowed patent protection for designs that are merely simulative of known objects.²⁷

Utility patents are the most widely sought and most valuable type of patents. To qualify for protection under a utility patent, an invention must be new or novel.²⁸ Only one patent can be issued for a single invention even if several people independently invent the same thing.²⁹ Thus, the inventor generally must be the first person to invent the subject matter of the patent.³⁰

The term "invention" is a term of art with a distinct legal meaning.³¹ The inventor must conceive³² the idea, generally by creating written notes or diagrams, or by actual experiments. This conception then must be transformed into an actual working prototype of the invention that is tested or used in the intended environment before an invention exists within the legal definition.³³ The construction and utilization of the invention is known as "actual reduction to practice."³⁴ "Constructive reduction to practice," generally defined as the filing of a patent application, also satisfies the definition of an invention, even though the invention may never actually have been built or tested in any form.³⁵

For a new invention to be deemed patentable it also must be useful.³⁶ This is referred to as the utility requirement and requires that the invention accomplish at least one of its objectives³⁷ regardless of how well it meets this objective or whether the invention is commercially desirable or profitable.³⁸ In actual practice the utility requirement is almost always met as long as some use is evident.³⁹ The rejection of an invention on lack of utility grounds is reserved in most cases for devices purporting to be perpetual motion machines because such devices are inherently inoperative, and therefore, lack usefulness.⁴⁰

Congress has limited patentable inventions to those that fall within certain specific statutory classes. To be patentable, an invention must be a "process," "machine," "manufacture," "composition of matter," or an "improvement" of something within the aforementioned classes.⁴¹ Generally, a process is a tangible method comprising a series of steps or acts that are used to transform or change some particular subject matter. An example of a typical process is a novel series of steps for curing rubber in an industrial plant.⁴² A machine generally is a structure or device, such as a sewing machine, that incorporates moving parts.⁴³ A composition of matter results from the uniting of two or more ingredients, either chemically or physically, to produce a new and homogeneous mass. This new composition of matter can be a new chemical compound or a new living organism.⁴⁴ Finally, a manufacture is any tangible object made by man other than a machine or composition of matter.⁴⁵

It is rarely necessary to know precisely which class an invention falls within as long as it clearly falls within at least one class. Judicial decisions, however, have placed specific limitations on the above statutory classes and have made it clear that mere printed matter,⁴⁶ scientific principles,⁴⁷ things naturally occurring in nature,⁴⁸ mental processes, mathematical algorithms,⁴⁹ and methods of doing business⁵⁰ are not included, and therefore, are not patentable.

For an invention that is new, useful, and within a statutory class to be deemed patentable, it must represent more than the exercise of the ordinary skill normally associated with the person working in the field of the invention.⁵¹ The required level of skill may vary depending upon the type of invention involved. In the field of electronics, for example, the level of ordinary skill may be very high because highly trained electronics engineers usually are employed. The level of skill may be lower in the field of chair design because the average person working in this field typically is less highly skilled.⁵² This level of inventiveness requirement, which is referred to as the "nonobvious requirement," is in practice the major hurdle that separates patentable from nonpatentable inventions.⁵³ The actual requirement for the level of inventiveness or nonobviousness appears in a single section of the patent law:

A patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.⁵⁴

A landmark Supreme Court decision⁵⁵ established the following procedure for applying the nonobvious requirement: (1) the scope and content of the prior art⁵⁶ in the field of the invention is determined; (2) the difference between the prior art and the invention sought to be patented is determined; (3) the level of ordinary skill at the time of invention in the field of the invention is determined; and (4) finally, the invention is found to be obvious or nonobvious, as a matter of law, based upon the above determinations. The determination of the scope and content of the prior art, the difference between prior art and the invention in question, and the level of ordinary skill in the field are all questions of fact,⁵⁷ which often are established by expert testimony.⁵⁸ The ultimate question of obviousness, however, is a question of law based upon the previously determined factual determinations.⁵⁹

Other factors, commonly referred to as "secondary considerations," such as long-felt need, commercial success, failure of others, the number of unsuccessful efforts by others, whether success came independently to several inventors at about the same time, synergism, and the extent to which the invention supplanted what had gone before, are always relevant to the issue of obviousness.⁶⁰ Pragmatically, these considerations are the most important factors for convincing the United States Patent and Trademark Office or a court that an invention is not obvious. Although the reliance and appropriate use of secondary considerations has been disputed widely by courts and commentators, recent decisions have stated categorically that these secondary considerations are always relevant in an obviousness determination.⁶¹

Despite the existence of an otherwise patentable invention, certain statutory limitations exist that may bar the issuance of a patent. If the invention is publicly available or accessible, or actually used in public at least once in the United States before the date of the invention by someone other than the inventor, the inventor is not entitled to a patent.⁶² Actual knowledge by the inventor of this prior public availability or use by someone else is not relevant. Prior public use or availability outside the United States of which the inventor is unaware will not prevent issuance of a patent. If a description of the invention has been published anywhere in the world or if any country has issued a patent for the invention prior to the inventor's date of invention, however, a patent cannot be obtained.⁶³ Additionally, seeking a foreign patent before applying for a United States patent may prevent issuance of a patent in the United States.⁶⁴

Although the first inventor is usually entitled to a patent, a subsequent inventor may become entitled to the patent if the first inventor failed either to construct the invention diligently or to file a patent application.⁶⁵ This rule encourages prompt filing of patent applications to ensure rapid disclosure of inventions to the public. The encouragement to file is very strong because lack of diligence may lead to forfeiture of the right to file a patent application. Finally, an inventor must file a patent application within one year of any public use, sale, or published description of the invention.⁶⁶ These restrictions ensure prompt filing of patent applications to increase the public's knowledge as quickly as possible while limiting the duration of the monopoly granted to an inventor.⁶⁷

The procedure for obtaining a patent involves several general steps. Usually a patent attorney or agent⁶⁸ will draft a short written description with accompanying diagrams that describes the invention. A patent search will be conducted to determine if the invention is in fact new or if other similar ideas or products exist that would negate the patentability of the invention.⁶⁹ Initially, a patent search will involve an examination of issued United States patents, comprising over four million patents to date, which are classified into numerous categories known as classes and subclasses.

The search can also be extended to foreign patents, technical journals, and any other publicly accessible information sources. Traditionally, searches are limited to United States patents because of cost and inaccessibility. The ubiquity of computer-assisted research, however, has resulted in improved search capability at a reduced cost. Computer databases, available for every conceivable area of technology, are easily searched in minutes via any small computer linked to the database by a telephone.⁷⁰

The patent attorney or agent and the inventor evaluate search results to determine the merits of proceeding with filing a patent application. If appropriate, a patent application may be drafted by the patent attorney or agent. This application will contain various sections and drawings that describe the invention and teach someone who is skilled in the art how to use the invention.⁷¹ The application will conclude with patent "claims," which are highly specialized statements that legally define the metes and bounds of the invention for which patent protection is sought.⁷²

Once the application is received and executed by the inventor, it is filed in the United States Patent Trademark Office in Washington, D.C. It is reviewed to determine if all required parts are included,⁷³ and it is ultimately assigned to a patent examiner in the Patent and Trademark Office who performs a search.⁷⁴ Based on this search and on the provisions of the patent law, the examiner issues a written report, called an office action, which grants a patent on the invention or states the reason for rejection of the application.⁷⁵ Depending upon the area of technology involved, it typically takes anywhere from six months to two years for an initial office action to be issued. If the office action rejects the patent application, the application may be amended and arguments presented in person and in writing to persuade the patent examiner to grant a patent.⁷⁶ The examiner will issue a final office action in response to these arguments and amendments within three months to a year. Such action will allow the issuance of a patent or explain the reason for rejecting the application again.⁷⁷ An administrative hearing may be obtained before the Patent and Trademark Office Board of Appeals upon final rejection for review of the examiner's decision.⁷⁸ Judicial review in the federal courts is subsequently available, and certiorari to the Supreme Court is possible in an appropriate case.⁷⁹

Once a patent issues, it is published and publicly available.⁸⁰ The inventor or patent owner has the right for seventeen years from the date of issue to prevent anyone from making, using, or selling the invention within the United States.⁸¹ The seventeen-year monopoly is a negative monopoly entitling the patent owner to prevent others from using the invention. It does not automatically give the right to freely use the invention if the use of another patented invention is involved. This distinction is important in the case of a patented improvement to an existing patented invention where use of the improvement necessitates use of the underlying invention. In this situation the owner of the improvement patent can prevent anyone from making use of the improvement, but the owner of the improvement cannot use his patent absent permission of the owner of the underlying patent.⁸² Additionally, the right to enforce the negative monopoly begins when a patent issues, not when a patent application is filed.⁸³ Although many inventions include notices, such as "patent pending" or "patent applied for," such notices do not legally bar anyone from copying or using the invention.⁸⁴

A significant limitation of United States patent law is that it is without extraterritorial effect.⁸⁵ Therefore, if a product is useful outside the United States, a foreign patent application should be filed in those foreign countries where marketing potential exists.⁸⁶ Although patent law of most countries contains numerous similarities, United States patent law has certain unique aspects. First, United States patent law permits an application to be filed within one year of public disclosure of an invention.⁸⁷ Most foreign jurisdictions, however, do not allow a patent to issue once any public disclosure of the invention has occurred.⁸⁸ Additionally, many foreign countries publish filed patent applications and allow anyone to advance valid reasons opposing the issuance of a patent.⁸⁹ The United States, however, maintains all patent proceedings in absolute secrecy up to the point of patent issuance.⁹⁰

Despite the obvious advantages of obtaining patent protection, serious problems exist with the use of patent law. The United States Patent and Trademark Office typically takes several years to issue a patent,⁹¹ and despite serious efforts to reduce this time period, the ultimate goal of an eighteen-month pendency is still inadequate.⁹² This delay can render an issued patent worthless. In the field of electronics and software, for example, technical advances are so rapid that a product may be obsolete by the time a patent issues. Additionally, the extensive cost of obtaining a patent limits the ability of solo inventors to seek patent protection for new innovations.⁹³ The costs for large corporations can also be extensive because international business dealings may require that patent protection be sought in many countries in addition to the United States.⁹⁴

In the past the various courts of appeals have had disparate interpretations of the patent law.⁹⁵ Because the Supreme Court rarely agrees to hear patent cases, this led to uncertainty in the enforcement of patent law. The future of patent law in the United States looks very promising, however, since Congress has attempted to ensure uniformity by granting appellate jurisdiction for all patent matters to a single federal court.⁹⁶

III. Copyright Law

Copyright is a form of legal protection authorized by the Constitution⁹⁷ which protects the form of expression of certain types of original works of authorship, such as books, music, artistic creations, sound recordings, or computer software.⁹⁸ The underlying purpose of copyright is the belief that a grant to authors of some exclusive rights in their works will give them an incentive to create, and the public will be enriched.⁹⁹

The basic distinction between patent and copyright protection lies in the scope and extent of protection and the difficulty in obtaining each type of protection. Copyright protects only the form of expressing an explanation, idea, system, or artistic creation; patent protection may extend to an embodiment of the underlying idea or system.¹⁰⁰ Despite its limits, copyright protection is established automatically once property within the copyright law is created.¹⁰¹ In contrast, patent protection is obtained only after the lengthy and costly process of filing and pursuing a patent application to issuance.¹⁰²

Prior to the enactment of the Copyright Act of 1976¹⁰³ a dual system of copyright protection existed in the United States.¹⁰⁴ Under this dual system state common law copyright applied prior to publication, and federal copyright law applied subsequent to publication of a protected work.¹⁰⁵ This system was replaced by the 1976 Act, which establishes an automatic statutory copyright under federal law once a work covered by the Act is created.¹⁰⁶

For a work to be within the domain of copyright law certain criteria must be met. The Constitution allows the law to extend copyright protection to all writings of an author.¹⁰⁷ This provision probably stems from the original application of copyright to written works, such as books. Courts, however, have construed writings liberally to include all forms of writing, printing, engraving, and etching,¹⁰⁸ photographs,¹⁰⁹ motion pictures,¹¹⁰ and even three dimensional objects.¹¹¹ The Supreme Court has stated that writings include any physical rendering of the fruits of the creative, intellectual or aesthetic labor.¹¹²

This broad view of writings has been carried over into the Copyright Act, which extends protection to works of authorship rather than simply to writings.¹¹³ The Act explicitly states that works of authorship include: (1) literary works;¹¹⁴ (2) musical works, including any accompanying words;¹¹⁵ (3) dramatic works, including any accompanying music;¹¹⁶ (4) pantomimes and choreographic works;¹¹⁷ (5) pictorial, graphic, and sculptural works;¹¹⁸ (6) motion pictures and other audiovisual works;¹¹⁹ and (7) sound recordings.¹²⁰ A careful reading of the Act makes it clear that these categories are merely illustrative,¹²¹ although a broad interpretation of these categories probably includes most works that conceivably qualify for copyright protection.¹²²

To obtain copyright protection the work of authorship also must be an original creation of the author in the sense that the work resulted from the author's own intellectual effort and represents at least a modicum of creativity.¹²³ Although the creativity requirement is minimal, trademarks,¹²⁴ blank charts for recording facts,¹²⁵ simple directions dictated by functional considerations,¹²⁶ names, titles, or short phrases,¹²⁷ and computing devices, such as a sliderule,¹²⁸ have all been determined to lack sufficient creativity to be copyrightable.

It is important to distinguish this originality requirement from the novelty requirement of patent law, which requires one to be the first inventor of the patentable subject matter.¹²⁹ Originality under copyright merely requires that the author create the work of authorship independently without copying a preexisting work.¹³⁰ Theoretically, several people could obtain copyrights on identical works of authorship as long as each person created the work independently.¹³¹ This differs from patent law, which permits only one patent to issue for an invention.¹³²

Additionally, the original work of authorship must be fixed in some tangible medium of expression.¹³³ This fixation requirement is satisfied when the work is embodied in some physical form or device such as a book, videotape, photograph, or computer disk.¹³⁴ An otherwise copyrightable work, absent fixation, falls outside the Copyright Act and can be subject to state law¹³⁵ because the Act preempts only state laws or rights that affect works of authorship within the domain of the Act.¹³⁶

Once the work falls within the protection of the Act, a broad array of rights,¹³⁷ subject to certain explicit limitations, qualifications, and exemptions,¹³⁸ accrue to the copyright owner. These rights, explicitly listed in the Act, are the rights of: (1) reproduction;¹³⁹ (2) adaptation;¹⁴⁰ (3) public distribution;¹⁴¹ (4) public performance;¹⁴² and (5) public display.¹⁴³

The reproduction right allows the copyright owner to control the reproduction of the protected work in copies or phonorecords, which are defined to mean material objects embodying the copyrighted work with some permanence.¹⁴⁴ This right prohibits, for example, the unauthorized photocopying of a copyrighted publication, the recording of copyrighted television broadcasts, and the reproduction of a read only memory (ROM)¹⁴⁵ which embodies a protected computer program.¹⁴⁶ This right explicitly prohibits the making of even a single, unauthorized copy. In addition, it is irrelevant whether the unauthorized copy is publicly used or merely made and used in private, such as when a record is copied onto a cassette tape.

Several distinct exceptions exist that allow reproductions that otherwise would be infringing. Generally, libraries and archives may make reproductions of copyrighted work, for limited purposes, without permission. The copy must not be for commercial purposes, the library must be open to the public, and the copy must include a notice that the work is protected by copyright law.¹⁴⁷ In the case of certain phonorecords of musical works that are distributed publicly in the United States, the copyright owner must provide a license for reproduction in return for fixed royalty payments.¹⁴⁸ The right to control the reproduction of sound recordings is also limited because it does not extend to the independent re-creation of the sounds.¹⁴⁹

Finally, the input of a computer program into a computer in violation of the reproduction right is not actionable, because such action specifically is permitted when performed during the normal utilization of a program.¹⁵⁰ This computer program exception is essential because the normal use of a program, such as one contained on a floppy disk, requires copying of the program by a computer before it can be used by the computer.¹⁵¹

The adaptation right allows the copyright owner to control the transformation or adaptation of the copyrighted work into another form. Typical examples would be turning a book into a motion picture, translating a literary work into another language, altering a musical arrangement by changes in the lyrics, or abridging a novel.¹⁵² This right, however, is limited for sound recordings.¹⁵³ The adaptation right for such recordings is limited to rearranging, remixing, or otherwise altering the sequence or quality of the sounds.¹⁵⁴ Neither independent re-creation of the sounds contained in a sound recording nor use of sound recordings in certain educational radio and television programs violates the adaptation right.¹⁵⁵ In addition, the computer exception to the reproduction right applies equally to the adaptation right, because a computer program often must be adapted internally by a computer before it can be used by the computer.¹⁵⁶

Despite the broadness of the adaptation right, it must be noted that a portion of the copyrighted work must be incorporated into the new work for it to violate the adaptation right.¹⁵⁷ Therefore, a movie version of a novel may violate the adaptation right, but a musical composition inspired by a novel ordinarily would not violate the right, because it usually would not contain any part of the novel.¹⁵⁸ Although the reproduction and adaptation rights overlap in many cases, the adaptation right extends to one area outside the domain of the reproduction right. To violate the reproduction right, the resulting reproduction must be fixed in some tangible form in a copy or phonorecord.¹⁵⁹ The adaptation right, however, does not have such a fixation requirement. Therefore, a pantomime or improvised performance based on a copyrighted work may violate the adaptation right, but not the reproduction right.¹⁶⁰

Adapting copyrighted works into a new form is complicated by the fact that the transformed work can be the subject of more than one copyright. The creator of the original work owns a copyright on the original work. If the owner of the copyright licenses someone else to adapt or transform the original work, the licensee will have a copyright in any new material added to the original underlying work.¹⁶¹ The owner, however, will still retain the copyright in the original work.¹⁶² A typical example occurs when an editor selects and edits a group of literary works and reprints them in an anthology with additional annotations about the works. The author of each literary work has a copyright in his or her work, and the editor has a copyright that extends to the selection, editorial changes, and arrangement of the works, and to the annotations incorporated into the anthology. The editor's copyright, therefore, extends to the anthology as a whole, but not to the individual literary works contained within.

The distribution right grants the copyright owner the exclusive right to control the initial public distribution of copies or phonorecords of the protected work.¹⁶³ This control extends broadly to the sale or other transfer of ownership and to the rental, leasing, or lending of the copies or phonorecords to the public.¹⁶⁴ Once copies or phonorecords are distributed to the public by the copyright owner, however, the "first sale doctrine" extinguishes the distribution right of the copyright owner with regard to those lawfully obtained copies or phonorecords.¹⁶⁵ These copies or phonorecords may be sold freely or transferred to anyone without violating the copyright owner's distribution right, although the other distinct rights of the copyright owner remain intact. A typical example is the purchase of a textbook. The purchaser is free to resell or dispose of the textbook, because the distribution right of the copyright owner has been extinguished.¹⁶⁶ Photocopying the book or incorporating substantial portions of the book into another work, however, still would be copyright infringement, because the reproduction¹⁶⁷ and adaptation¹⁶⁸ rights of the copyright owner remain in effect.

The performance right entitles the copyright owner to control public performances¹⁶⁹ of copyrighted literary, musical, dramatic, and choreographic works, pantomimes, motion pictures, and other audiovisual works. It is important to note that this performance right is more limited than the other rights discussed because it applies only to the categories listed above.¹⁷⁰ Copyrighted material that falls outside these categories is not subject to protection under the performance right.¹⁷¹

The performance right restricts only public performances, not private performances. Otherwise, every time a commercially purchased prerecorded videotape was played, the performance right would be violated. Because this would be counterproductive, the right is limited explicitly to public performances. The performance right, however, would be violated if a prerecorded videocassette was purchased and played in a public place, because this would be a public performance.¹⁷²

Numerous exemptions and limitations narrow the scope of the performance right. Performance of a copyrighted work by teachers or students in a face-to-face classroom setting of a nonprofit institution is not violative of the performance right.¹⁷³ Educational broadcasts of nondramatic literary or musical works directed to government employees or classrooms for disabled persons unable to attend traditional classrooms also are not barred by the performance right.¹⁷⁴ Religious institutions are specifically exempted from coverage by the performance right when certain types of literary or musical works are performed in the course of services at a place of worship or religious assembly.¹⁷⁵ Nondramatic musical works may be performed freely at annual agricultural and horticultural fairs,¹⁷⁶ and in stores for the sole purpose of promoting the sale of copies and phonorecords of the work.¹⁷⁷ Nondramatic literary works may be broadcast freely if done primarily for handicapped persons and without commercial motives.¹⁷⁸ Additionally, this exception extends to dramatic literary works performed for blind persons.¹⁷⁹

Both nondramatic literary and musical works may be performed in the presence of any audience under the following circumstances. The performance must not have a commercial purpose; the performers, organizers, and promoters must not be compensated; and there must not be an admission charge or alternatively, the admission charge must be used for educational, religious, or charitable purposes if not objected to by the copyright owner.¹⁸⁰ In all cases, however, nondramatic literary and musical works may be performed as part of a social function before a nonprofit veterans or fraternal organization if the public is not invited and the proceeds of the performance are used exclusively for a charitable purpose.¹⁸¹ The 1976 Copyright Act also provides that some otherwise infringing performances are subject to compulsory licenses so that the copyright owner is remunerated for use of the performance right, but cannot bar such exercise of the right. Public or educational broadcasters are entitled to a compulsory license

to broadcast nondramatic musical works.¹⁸² The Act also provides a compulsory license for the performance of phonorecords in a jukebox.¹⁸³

Generally, the receiving and rebroadcast of radio or television signals, referred to as a "secondary transmission," is not a copyright violation if the local signal is merely transmitted at no charge to various private rooms of hotel guests or apartment house residents.¹⁸⁴ Such a secondary transmission to the public or even to a select group, such as a closed circuit cable television broadcast to a theatre, however, violates the performance right of the copyright owner.¹⁸⁵ In the case of cable systems, local signals may be rebroadcast freely as a secondary transmission, while nonlocal signals may be rebroadcast only under a compulsory license.¹⁸⁶

Finally, a copyright owner is entitled to the right to publicly display¹⁸⁷ literary, musical, dramatic, and choreographic works, pantomimes, and pictorial, graphic, or sculptural works, including individual images of a motion picture, or other audiovisual works. Despite the display right, the lawful owner of a copyrighted work may freely display that work to viewers at the location of the copy provided the display does not amount to a secondary transmission.¹⁸⁸ The exemptions from the performance right for face-to-face teaching activities¹⁸⁹ and the performance of certain literary and musical works in the course of educational broadcasts¹⁹⁰ or in the course of religious services¹⁹¹ also apply to the display right. The secondary transmission exemptions discussed above with regard to the performance right and the right to a compulsory license for cable systems apply equally to the display right.¹⁹²

In addition to the various limitations of a copyright owner's rights already discussed, a major exception to the rights of the copyright owner is the "fair use doctrine."¹⁹³ This judicially created doctrine, which was explicitly codified in the 1976 Copyright Act, provides that the reproduction, adaptation, distribution, performance, and display rights may be exercised with regard to copyrighted material for "criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship or research," provided such use is a fair use.¹⁹⁴ The underlying rationale of this doctrine recognizes that situations exist where copying should be allowed to prevent inhibiting the purpose of copyright, which is to enrich the public.¹⁹⁵ Additionally, the fair use doctrine provides a means of resolving conflicts between the copyright law, which restricts expression of an idea, and the first amendment, which grants freedom of speech.¹⁹⁶

The Act lists the following factors to be evaluated in determining fair use:

- (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
- (2) the nature of the copyrighted work;
- (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
- (4) the effect of the use upon the potential market for or value of the copyrighted work.¹⁹⁷

It is clear from the Act that the above factors should always be considered, although additional factors may also be examined in an appropriate case.¹⁹⁸ Inclusion of the fair use doctrine in the 1976 Act merely codified existing case law that interpreted and applied this judicially created doctrine.¹⁹⁹ The open-ended nature of the codification, which requires the evaluation of at least the four factors listed above, makes it clear that fair use "cannot be determined by resort to arbitrary rules or fixed criteria," but rather, that each case must be examined on its own facts.²⁰⁰

Rights afforded by the Copyright Act arise automatically upon the creation and fixation of an original work of authorship within the domain of the Copyright Act. Initially, these rights are vested in the author or joint authors if the work resulted from the work of several persons.²⁰¹ When the work is made for hire, however, the employer or person for whom the work was created is considered to be the author, and therefore, the copyright automatically vests in the employer or person for whom the work is made, absent an express written agreement to the contrary.²⁰²

The Copyright Act grants equal rights to authors regardless of nationality when the work is unpublished-not made available to the public.²⁰³ If a work is published, however, a foreign author is not entitled to protection unless the author is domiciled in the United States at the time of first publication, the author is a domiciliary of a country that is party to a copyright treaty of which the United States is also a party, the work is first published in the United States or in a foreign country that is a party to the Universal Copyright Convention, the work is first published by the Organization of American States or the United Nations, or the work is covered by a Presidential proclamation.²⁰⁴

Although copyright protection is automatic and generally lasts for the life of the author plus fifty years,²⁰⁵ the Act requires that a special notice of copyright be placed on all publicly distributed copies of the copyrighted work to entitle the owner to claim copyright protection.²⁰⁶ The notice generally consists of three elements:

- (1) "Copyright," "Copr.," or "©;"
- (2) the name of the copyright owner; and
- (3) the year of first publication.²⁰⁷

In the case of sound recordings the notice placed on the phonorecords must be identical to the normal copyright notice except that ["P" in a circle] is used in place of "Copyright," "Copr.," or "©."²⁰⁸

The Copyright Act also provides for deposit of a copyrighted work with the United States Copyright Office, which is part of the Library of Congress.²⁰⁹ The Act specifically requires that two complete copies of the copyrighted work be deposited with the Copyright Office within three months of public distribution of the work.²¹⁰ Failure to make this mandatory deposit, however, does not affect one's rights under the copyright law. The only penalty incurred for failure to deposit the copies is the potential imposition of a monetary penalty.²¹¹

In addition to the deposit requirements, the Act provides for permissive registration of a copyright.²¹² A copyright must be registered or registration must have been applied for and refused by the copyright office before a copyright infringement action may be brought.²¹³ Several reasons exist, however, for registering a copyright prior to bringing suit. If registration is made prior to or within five years of the first publication of the work, the registration is prima facie evidence of the validity of the copyright.²¹⁴ Also, the recovery of attorney's fees²¹⁵ and statutory damages²¹⁶ in lieu of actual damages is limited if early registration is not accomplished.²¹⁷

Once a valid copyright exists, violation of the rights accruing to the owner may be enforced by an action brought in a United States district court.²¹⁸ To establish a cause of action, the copyright owner must prove that copyright protection exists. He has to satisfy the requirements of the Act by showing that the work is an original work of authorship fixed in a tangible medium of expression that comes within the domain of the Act.²¹⁹ The copyright owner also must prove ownership of the copyright by showing either authorship or a valid transfer of ownership from the author.²²⁰ The copyright owner then has the burden to prove that the infringing work was copied from the copyright owner's work.²²¹ Because actual copying usually is impossible to prove, normally the copyright owner must prove only that the defendant viewed or had the opportunity to view the copyright owner's work and that substantial similarities exist between the works.²²² Once the copyright owner meets the burden of proof, the burden of rebutting the prima facie case shifts to the defendant. The defendant generally will prevail only if he can show authorized copying²²³ or can negate the evidence of copying by showing independent creation of the allegedly infringing work. If the copyright owner prevails in an infringement action, he may be entitled to injunctive relief,²²⁴ destruction of the infringing materials,²²⁵ actual damages and profits²²⁶ or prescribed statutory damages,²²⁷ attorney's fees,²²⁸ and costs of the suit.²²⁹

The Copyright Act, like the patent law, is without extraterritorial effect. Copyright infringement that occurs outside the United States is not actionable under the United States Copyright Act.²³⁰ Unlike the patent law, however, several international copyright conventions and treaties enable a work of authorship created by a United States national to be protected in both the United States and most foreign countries without any special filing or registration of the copyright either in the United States or abroad.²³¹ Protection in foreign countries that are members of these international conventions and treaties is in accordance with the national laws of each particular country. Most foreign copyright laws, however, protect the same subject matter as United States law.²³² The rights granted by foreign copyright laws are generally equivalent to the rights under the United States Copyright Act with the exception of the public display right, which is not recognized in most countries.²³³

It is therefore possible for a United States author to obtain automatic copyright protection throughout most of the world. To incur broad foreign protection, however, a copyright notice that includes the following elements should be placed on all published copies of the work:

- (1) "©"
- (2) the name of the copyright owner;
- (3) the year of first publication; and
- (4) "All rights reserved."²³⁴

Both domestic and foreign copyright protection is easily obtained for minimal cost, thus making it a very desirable form of protection. These benefits, however, must be balanced against the degree of protection afforded, because the copyright owner's rights are limited to protection of the form of expression. Any underlying idea contained in the copyrighted work is not subject to copyright protection, and copyright provides protection only against copying a work of authorship. Independent creation of the same or similar works do not violate a copyright. Therefore, it should be recognized that while copyright is the easiest type of intellectual property protection to obtain, the extent of such protection is limited.

IV. Trade Secret Law

Secret industrial and business "know-how,"²³⁵ commonly referred to as trade secrets, are protected by judicially created trade secret law.²³⁶ This body of state common law is premised on the belief that inventions, unique methods of doing business, customer lists, and any other proprietary information that is used secretly and that gives a business a competitive advantage in the marketplace should be protected.²³⁷ The protection, however, does not protect the actual subject matter per se, but rather, prohibits illegal or wrongful appropriation or disclosure of the subject matter.²³⁸ Despite the common-law basis of trade secret law, a high degree of uniformity has been achieved by the courts of the industrial states.²³⁹ The *Restatement (First) of Torts*²⁴⁰ has become the source of trade secret law followed, in whole or in part, in most jurisdictions.²⁴¹

Initially it must be determined that the subject matter in question is appropriate information or know-how within the definition of a trade secret to obtain trade secret protection.²⁴² Although Judge Friendly has stated that a trade secret is "any unpatented idea which may be used for industrial or commercial purposes,"²⁴³ the most frequently relied on definition is contained in the *Restatement (First) of Torts* section 757 comment b (1939):

A trade secret may consist of any formula, pattern, device or compilation of information which is used in one's business, and which gives him an opportunity to obtain an advantage over competitors who do not know or use it. It may be a formula for a chemical compound, a process of manufacturing, treating or preserving materials, a pattern for a machine or other device, or a list of customers....Generally it relates to the production of goods as, for example, a machine or formula for the production of an article. It may, however, relate to the sale of goods or to other operations in the business, such as a code for determining discounts, rebates or other concessions in a price list or catalog, or a list of specialized customers, or a method of bookkeeping or other office management....The subject matter of a trade secret must be secret . . . so that, except by the use of improper means, there would be difficulty in acquiring the information.²⁴⁴

Despite the explicit *Restatement* definition, the drafters realized that it was impossible to provide an exact definition of a trade secret, and therefore, they listed the following factors to be considered in determining whether information is a trade secret:²⁴⁵

- (1) the extent to which the information is known outside the trade secret owner's business;
- (2) the extent to which it is known by employees and others involved in the owner's business;
- (3) the extent of measures taken by the owner to guard the secrecy of the information;
- (4) the value of the information to the owner and to competitors;
- (5) the amount of effort or money expended by the owner in developing the information; and
- (6) the ease or difficulty with which the information could be properly acquired or duplicated by others.²⁴⁶

To qualify for trade secret protection, the information must not be widely known outside the owner's business,²⁴⁷ and it must be information that enhances the business.²⁴⁸ Knowledge of the information should be restricted to employees who have a legitimate business reason to be exposed to the proprietary information,²⁴⁹ and such employees should be subject to a nondisclosure agreement that legally obligates them not to disclose the information as a condition of employment.²⁵⁰ Many nondisclosure agreements also contain restrictive covenants that limit an employee's ability to compete with his employer if the employee goes to work for himself or another former employer.²⁵¹ The owner of the proprietary information should also take precautions to prevent employees not subject to a nondisclosure agreement from gaining access to the information and should prevent access to the information by persons outside the business.²⁵² In some instances these precautions should even extend to preventing access to trash. Information unearthed in a company's trash may amount to disclosure of the proprietary information, and consequently, may extinguish the trade secret protection.²⁵³

In addition to establishing information as a trade secret, the owner of the information must undertake continuous measures to maintain the secrecy of the information.²⁵⁴ Employees must be reminded that information is a trade secret and must be maintained as a trade secret for the benefit of the employer.²⁵⁵ Such efforts to maintain secrecy are critical because trade secret protection will end once the protected information is no longer secret.²⁵⁶

Although many trade secrets are used only within a single company, it is sometimes advantageous for the trade secret owner to disclose the information to someone outside the company. This may be the case, for example, when a company develops a trade secret but lacks the capability to exploit it commercially.²⁵⁷ Also, in some cases a trade secret has value only if it can be licensed to other companies for use in their businesses. This latter situation would arise, for example, when a computer program designed for a limited market is created.²⁵⁸ To meet the need for disclosure without destruction of trade secret status, disclosure is allowed if it is in confidence and both parties understand that a confidential relationship exists regarding the information.²⁵⁹ Although a written agreement establishing a confidential relationship is not required,²⁶⁰ it generally is advisable to execute such an agreement. This is important because a confidential relationship can be established only by agreement of both parties. A written agreement is evidence that both parties have consented to such a relationship.²⁶¹

The amount of licensing or confidential disclosure of a trade secret may affect its status. The extent of disclosure may equal a public disclosure that vitiates trade secret protection at some point.²⁶² The measures taken to maintain secrecy, however, generally are more important with regard to maintaining information as a trade secret than the number of parties who have learned of the information in confidence.²⁶³

Once information is subject to trade secret protection, the duration of such protection is potentially infinite, provided appropriate actions to maintain secrecy continue.²⁶⁴ Because the basis of trade secret law rests on protecting the owner of proprietary information from wrongful appropriation of the information by others, two occurrences can easily defeat protection. First, anyone who lawfully obtains a product or device embodying a trade secret is free to disassemble the device and determine how it operates. This process, often called reverse engineering,²⁶⁵ may permit a competitor to discover the trade secret, which the competitor is then free to use.²⁶⁶ Second, someone may independently invent or discover the trade secret and be free to use or publicly disclose it.²⁶⁷

Trade secret protection also may be lost when proprietary information is obtained illegally by industrial espionage, disclosed by a former employee or disclosed in breach of a confidential agreement. In such cases an action may be brought against the party responsible for wrongfully obtaining or disclosing the proprietary information,²⁶⁸ but once the information is publicly disclosed, trade secret status is lost.²⁶⁹

As a general rule, the following must be shown to prevail in a suit for misappropriation of a trade secret:²⁷⁰

- (1) the existence of a trade secret;²⁷¹

- (2) a relationship between the parties that provides an opportunity for the owner's trade secret to be communicated to another party;
- (3) actual knowledge of the trade secret by the other party;
- (4) knowledge of the other party that the trade secret is proprietary information that is valuable to the owner and is not to be used outside the relationship; and
- (5) use or disclosure of the trade secret by the other party that results in potential or actual damage to the owner.

Actions for misappropriation of a trade secret usually take the form of contract or tort actions. If the employee has executed an express agreement not to disclose proprietary information, any wrongful disclosure usually will be treated as a breach of contract, and contract law will control an action brought by the employer against the employee.²⁷² When no express contract exists courts will either establish an implied contract and apply contract principles²⁷³ or focus on the breach of a confidential relationship, which usually is viewed as a tort action.²⁷⁴ Although either a contract or tort theory will support an action, the particular designation significantly affects the procedural rights of the parties²⁷⁵ and the available remedies.²⁷⁶

Actions against former employees may not be worthwhile if the employees are essentially judgment proof, because their net worth is minimal compared to the value of the trade secret. In such a case it may be desirable to seek redress against the company that is now wrongfully using the trade secret after acquiring it from the former employee. An action against the company would be based on the economic tort of interference with contractual relations.²⁷⁷ This cause of action requires a showing that a third party enticed the former employee to breach a contractual obligation not to reveal trade secrets.²⁷⁸

Although courts recognize the importance of protecting trade secrets, they balance this protection against the rights of employees to practice their trades or professions freely. Attempting to resolve this tension, the Massachusetts Supreme Judicial Court stated:

The law is well settled that an employee upon terminating his employment may carry away and use the general skill and knowledge acquired during the course of the employment. But it is equally well established that out of the relationship of employer and employee certain obligations arise, including that which precludes an employee from using, for his own advantage or that of a rival and to the harm of his employer, confidential information that he has gained in the course of his employment.²⁷⁹

Therefore, courts may not construe trade secrets so broadly as to prevent former employees from working in their fields of expertise for other employers.²⁸⁰

Relief for misappropriation of proprietary information typically is in the form of an injunction.²⁸¹ Halting the use of the information by someone other than the owner can preserve the secrecy of the information,²⁸² thus protecting the trade secret and any economic value it has.²⁸³

A preliminary injunction may be sought immediately when misappropriation of a trade secret is discovered to minimize compromising the secrecy of the proprietary information. Obtaining a preliminary injunction generally requires:

- (1) a showing that suggests the existence of a trade secret;
- (2) a showing that defendant learned of the trade secret in a confidential relationship with plaintiff;
- (3) a showing that the trade secret is being used or is about to be used in a manner detrimental to plaintiff; and
- (4) a showing that the result of this detrimental use is likely to injure plaintiff in a way that cannot be readily converted to monetary damages.²⁸⁴

Following a final judicial decision that proprietary information was wrongfully disclosed or used, an injunction often may be obtained to bar use of the information by the party who wrongfully obtained it for the period of time that would be required for independent development of the information.²⁸⁵ Damages also may be available in lieu of²⁸⁶ or in addition to injunctive relief.²⁸⁷ The measure of damages in most cases is either the damages suffered by the trade secret owner as a result of the wrongful disclosure or use of the trade secret, or the profits or other benefits reaped by the defendant in using the proprietary information.²⁸⁸ In addition, punitive damages may be awarded when the wrongful appropriation or disclosure was particularly egregious.²⁸⁹ Unlike patent and copyright infringement, attorney's fees generally are not available for trade secret misappropriation, because damages are determined by state common law principles that do not allow awards of attorney's fees absent a statute directing such an award.²⁹⁰

Although trade secret law is highly developed in the United States, foreign trade secret law is less developed, less uniform, and subject to many uncertainties.²⁹¹ In the United States, trade secrets include almost any technological or commercial information that is used secretly in a business to provide a commercial advantage over competitors.²⁹² Recent Australian case law seems to follow this approach by explicitly relying on and adopting the *Restatement* definition of a trade secret.²⁹³

Other countries, however, have differentiated between industrial or manufacturing secrets, such as methods, processes, formulas, or manufacturing systems, and commercial trade secrets, such as customer lists, price lists, advertising methods, and financial data.²⁹⁴ France protects manufacturing secrets by statutory criminal law,²⁹⁵ while commercial secrets are protected by an action for unfair competition.²⁹⁶ Germany,²⁹⁷ Italy,²⁹⁸ and Switzerland²⁹⁹ recognize both industrial and commercial secrets, but do not differentiate between them in terms of legal protection.

England has long recognized protection for trade secrets. English case law, however, has gone beyond American law³⁰⁰ by recognizing confidential information as protectable even if the information is not secret.³⁰¹ This treatment of confidential information is similar to American law in that it focuses on a breach of confidentiality as being legally actionable, but the information does not

have to be secret.³⁰² In other countries, such as Taiwan and India, there is a total dearth of statutory or case law authority with regard to trade secrets.³⁰³ Japan, a major economic and technological country, provides practically no trade secret protection.³⁰⁴

As a general rule, most secret information used by a business to maintain an advantage over competitors is potentially protectable by trade secret law both in the United States and abroad. The trade secret definition provided by the *Restatement of Torts* is the standard used by most American courts to ascertain the existence of a trade secret,³⁰⁵ but the definition and extent of protection of trade secrets varies in foreign countries.

V. Patent, Copyright, or Trade Secret Protection - Which is the Best?

The distinctions and similarities between patent, copyright, and trade secret protection must be understood so that the appropriate form of protection will be used in a particular case. In addition, it is important to understand how patent, copyright, and trade secret protection may overlap or be used simultaneously in some cases.

Trade secret law provides protection under statutory and state common law³⁰⁶ for most secret industrial and commercial information that is not generally known and that is used in a business to acquire a competitive advantage.³⁰⁷ The broad scope of trade secret law includes subject matter within the domain of patent protection.³⁰⁸ The main thrust of trade secret law is to protect secret business information from wrongful misappropriation, rather than to prevent use of the information if it is acquired by reverse engineering or independent development.³⁰⁹ Unlike patent and copyright, the duration of trade secret protection can be infinite provided the information is used in secrecy, and no one lawfully discovers it.³¹⁰

Patent protection is purely statutory and is limited to embodiments of an invention or discovery that fall within specifically defined statutory categories.³¹¹ These categories are much narrower in scope than the broad range of information that can be protected as trade secrets.³¹² In addition, strict tests of patentability must be satisfied during the lengthy process of seeking a grant of patent protection.³¹³ Although patent law does not provide protection until a patent is issued, upon issuance the patent owner has an absolute right to prevent anyone from making, using, or selling the patented invention in the United States for a specified time.³¹⁴ Unlike trade secret protection, which requires actual use of the information in a business,³¹⁵ the grant of a patent confers absolute rights without regard to use of the invention. In fact, many patents are merely "paper patents" because the patented inventions have never actually been constructed.³¹⁶ This does not affect the rights of the patent owner, however, who can still use the patent to prevent use of the invention.

Copyright protection, which is a function of federal law, arises automatically upon the creation of an original work of authorship that is permanently fixed in some tangible medium of expression.³¹⁷ This is distinctly different from trade secret protection, which requires extensive secrecy precautions,³¹⁸ or patent protection, which requires lengthy and costly administrative proceedings to secure protection.³¹⁹ Copyright protection typically has a long lifetime³²⁰ and merely requires the inclusion of a simple copyright notice on published works to inform the world that copyright is claimed in the work.³²¹ Despite the duration and ease of obtaining copyright protection, the extent of protection is limited. Copyright only prevents others from copying the form of expression of the protected work, as opposed to patent and trade secret protection, which extend protection to the underlying idea.³²² Also, copyright does not prohibit independent creation of the same or similar work by another author.³²³

The overlapping coverage of some subject matter by trade secret and patent law allows an inventor to make an election between the two types of protection.³²⁴ In some circumstances the two types of protection also may be used together. The Patent and Trademark Office maintains all patent proceedings in complete secrecy³²⁵ and reveals information about the proceedings only if the patent is issued. Therefore, prior to the issuance of a patent the invention can be maintained as a trade secret. This allows the inventor to continue trade secret protection in the event a patent is denied. Although trade secret and patent protection cannot be used for the same subject matter, because the full disclosure accompanying issuance of a patent vitiates any claim to secrecy, different related components or aspects of an invention may be protectable by different methods.³²⁶

The ultimate decision to rely on trade secret or patent protection in an appropriate case depends upon many factors.³²⁷ If the invention is used in a mass-marketed product and can be discovered easily by reverse engineering, patent protection may be the only practical means of protection. If a standard product made by a novel method is indistinguishable from the same product made by well-known methods, however, trade secret protection may be desirable. The projected life of the product is also relevant because the length of patent protection is limited, while trade secret protection is infinite if secrecy is maintained.³²⁸

The type of market available for the product is also important. A limited market lends itself to relying on trade secret protection by confidentially licensing the product to customers.³²⁹ A mass-marketed product may not be compatible with such an approach, and therefore, patent protection may be preferable. The likelihood of independent invention or discovery by a competitor is another important consideration because this would destroy trade secret protection but not patent protection.³³⁰ In addition, the type of technology involved is significant. In areas such as electronics, new ideas or products may become obsolete before lengthy patent proceedings are completed. The difficulty of maintaining secrecy is another critical factor because the continued maintenance of trade secret protection requires the existence of secrecy.

The lack of uniformity in the application of the patent law by the judiciary has caused many companies to resort to trade secret law. In addition, courts have shown a propensity to invalidate patents in suits to enforce rights arising from an issued patent.³³¹ In contrast, the courts have shown a tendency to uphold trade secret rights.³³²

The coincident use of trade secret and copyright protection has been explicitly upheld because copyright extends only to the expression used by the author while trade secret protection extends to the underlying idea.³³³ Typically, this joint use is

accomplished by placement of copyright notices on confidential information such as company manuals or software that are used internally or licensed only on a confidential basis. Trade secrecy is then relied on to protect the underlying idea contained in the information. If the information subsequently is injected into the public domain, however, copyright protection may be used to protect the expression of the underlying idea.

It is clear that the appropriate type of protection depends upon the subject matter involved and the circumstances in which it will be used. Some information may be protected by either patent law or trade secrecy, while other information may be protectable only as a trade secret. When only the expression of an idea must be protected copyright may be sufficient, while in other cases, copyright and trade secret may be used concurrently.

VI. Conclusion

The protection of intellectual property is an old idea based on the premise that specific legal rights will spur discovery and creation of scientific and artistic advances. This protection is especially important today in high technology fields, such as electronics, where companies are reluctant to invest heavily in research and development absent some form of protection.

The patent law provides a powerful type of protection for many new inventions or discoveries, but such protection is limited to specific statutory classes. The problems arising from a lack of uniform interpretation and application of the patent law by different courts should be alleviated by the vesting of jurisdiction for all patent appeals in a single court.

Copyright provides automatic protection once an original work of authorship is created and fixed in a tangible medium of expression, but the extent of protection is very limited. The rights arising under copyright law also are subject to numerous explicit statutory limitations and exceptions. In addition, the fair use exception permits certain uses of protected works to be evaluated on a case-by-case basis to determine if they are permissible uses.

Trade secret protection, a product of common law, protects the sanctity of secret information used in a business to gain an advantage over competitors.

A final consideration with regard to protecting intellectual property is the need for worldwide protection. Patent protection must be applied for in each country in which protection is desired. Although similar protection is afforded by the patent law of most countries, differences exist. Copyright protection also is controlled by the national law of each country, but international agreements allow protection to be obtained automatically in most major countries. Trade secret law, while recognized in varying degrees in almost every country, is not highly developed outside the United States. It is clear nonetheless that intellectual property law is an important form of legal protection that can benefit businesses in both domestic and international markets when used effectively.

FOOTNOTES

1. One very early patent was granted in Venice in 1469 for book printing. Prager, *A History of Intellectual Property from 1545 to 1787*, 26 J. PAT. OFF. SOC'Y 711, 715 (1944). For an English translation of this patent, see *id.* at 750.

Many patents and copyrights were granted in Venice in the 1500s. *Id.* at 716. Trade secrecy was used as early as the 1300s to protect an improved method of making silk thread that afforded users a commercial advantage over competitors. Prager, *The Early Growth and Influence of Intellectual Property*, 34 J. PAT. OFF. SOC'Y 106, 120-21 (1952).

Trade secret law and practice also existed in Roman times. Jorda, *International Trade Secret Protection* (Protecting Trade Secrets 1983) 157 P.L.I. Pat, Copyright, Trademarks and Lit. Prop. Handbook Series 207 (1983). Furthermore, trade secret law is an old part of English common law. 2 A. Wise, *Trade Secret and Know-How Throughout the World*, § 2.01 (1981).

In the United States, patent law is codified at 35 U.S.C. §§ 1-376 (1982), and copyright law is codified at 17 U.S.C. §§ 101-810 (1982). Trade secret law is a function of state common law and some statutory enactments. See Restatement (First) of the Law of Torts § 757 comment a (1939); Uniform Trade Secret Act §§ 1-11, 14 U.L.A. 541 (1980) (adopted in Connecticut, Delaware, Indiana, Kansas, Louisiana, Minnesota, and Washington).

2. One of the main purposes of the patent system is to encourage disclosure for the purpose of increasing public knowledge. A. Choate & W. Francis, *Cases and Materials on Patent Law* 7 (2d ed. 1981); see *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480-81 (1974). See also *Cataphote Corp. v. Hudson*, 422 F.2d 1290, 1293 (5th Cir. 1970), *on remand*, 316 F. Supp. 1122 (S.D. Miss.), *aff'd*, 444 F.2d 1313 (5th Cir. 1971) (patent law establishes monopoly to encourage invention). Although the primary purpose of copyright law is often stated to be that of securing creative advances to the public, see 1 M. Nimmer on Copyright, § 1.03[A] at 1-30 to 1-30.1 (1983), this is achieved by providing rewards as incentives to creators. *Sony Corp. of Am. v. Universal Studios, Inc.*, 104 S. Ct. 774, 782 (1984). See also *Goldstein v. Cal.*, 412 U.S. 546, 555 (1973) (Congress may reward authors and inventors to encourage intellectual and artistic creations). The policies behind trade secret law are the encouragement of invention and the maintenance of commercial morality. *Brunswick Corp. v. Outboard Marine Corp.*, 79 Ill. 2d 475, 477, 404 N.E.2d 205, 207 (1980).

3. The patent law grants exclusive rights in an invention or discovery for 17 or 14 years. 35 U.S.C. §§ 154, 173 (1982).
 4. The copyright law provides exclusive rights in original works of authorship for the life of the author plus 50 years and for terms of up to 100 years in certain cases. 17 U.S.C. § 302 (1982).
 5. Trade secret protection generally lasts for as long as the protected information is secret. *Underwater Storage, Inc. v. U.S. Rubber Co.*, 371 F.2d 950, 954 (D.C. Cir. 1966).
 6. See generally Laskey, *The Patent Law-A Step Child in Its Own House?*, 7 PAT. L. REV. 13 (1975) (criticism of use of antitrust laws to diminish value of patents). For a general discussion of the tension between antitrust and patent law, see Levine, *The Shrunken Patent Domain in the Expanded Anti-trust Universe*, 34 J. PAT. OFF. SOC'Y 436 (1952). But see R. Nordhaus & E. Jurow, *Patent-Antitrust Law* 3 (1961), which notes both the granting of exclusive rights in some inventions and the passage of laws barring monopolies in the early American colonies. The judiciary's hostile view toward patents is illustrated by Justice Jackson's statement, "the only patent that is valid is one which this court [Supreme Court] has not been able to get its hands on." *Jungersen v. Ostby & Barton Co.*, 335 U.S. 560, 572 (1949) (Jackson, J., dissenting).
 7. In 1672 the colony of Massachusetts prohibited the making of reprints without the consent of the owner of the copy, and Connecticut allowed patent monopolies in certain circumstances. In addition, the colonial congress adopted state copyright statutes. Prager, *supra* note 1, at 737-38.
 8. See generally Forman, *Two Hundred Years of American Patent Law*, in *Two Hundred Years of English and American Patent, Trademark and Copyright Law* 26-28 (1977) (brief history of the constitutional power to protect writings and discoveries adopted as part of the Constitution).
 9. The Constitution states that Congress shall have the power "[t]o promote the progress of science in useful arts, by securing for limited time to authors and inventors the exclusive right to their respective writings and discoveries." U.S. CONST. art. 1, § 8, cl. 8.
 10. See Comment, *Legislation: President Proposes Antitrust Reforms in Attempt To Promote Innovation*, 26 Pat. Trademark and Copyright (BNA) No. 646, at 445 (Sept. 15, 1983) (President urged Congress to modify intellectual property laws to improve ability of American industries to compete in international marketplace). See also H.R. Rep. No. 1307, part 1, 96th Cong., 2d Sess. 1-2, reprinted in 1980 U.S. Code Cong. & AD. news 6460, 6460-61 (increased protection of new technology needed to increase productivity of American industries to make them more competitive with foreign companies).
- The protection of intellectual property has an effect on the economic development of our country. Gambrell, *Overview of Ownership Conflicts that Arise with Respect to Intellectual Property*, in *Sorting Out the ownership Rights in intellectual property: A Guide to Practical Counseling in legal Representation* 10-12 (1980). The need to protect intellectual property is evidenced by the fact that the cost of stolen technology to private business in the United States is \$20 billion a year. Hofer, *Business Warfare over Trade Secrets*, 9 Litigation 8 (1983).
11. See *Final Report of the National Commission on New Technological Uses of Copyrighted Works*, reprinted in 3 COMPUTER L.J. 53, 58 (1981-82) (cost of developing computer programs greatly exceeds the cost of their duplication) [hereinafter cited as *Final Report*]. See also 29 Pat. Trademark & Copyright J. (BNA) No. 705, at 28 (Nov. 15, 1984) (White House statement indicated cost of creating and marketing chips can be tens of millions of dollars, while others can copy these chips at a fraction of these costs).
 12. A new copyright act became effective January 1, 1978. See The Copyright Act of 1976, Pub. L. No. 94-553, 90 Stat. 2541 (codified at 17 U.S.C. §§ 101-702 (1982)). The Copyright Act was amended to clarify protection for computer software. See Computer Software Act, Pub. L. No. 96-517, § 10(a)-(b), 94 Stat. 3015, 3028 (1980) (codified as amended at 17 U.S.C. §§ 101, 117 (1982)). In addition, the Act was amended with regard to copyright royalties for rental of sound recordings. See Record Rental Amendment, Pub. L. No. 98-450, 98 Stat. 1727 (1984).
- Patent law was also amended recently. See Patent Amendments of 1984, Pub. L. No. 98-622 98 Stat. 3383. See also Drug Price Competition and Patent Term Restoration Act of 1984, Pub. L. No. 98-417, 98 Stat. 1585. Several additional amendments to the patent law have also been enacted. See, e.g., Pub. L. No. 96-517, 94 Stat. 3015 (1980) (codified as amended at scattered sections of 35 U.S.C. (1982)); Pub. L. No. 97-247, 96 Stat. 317 (1982) (codified as amended at scattered sections of 35 U.S.C. (1982)). See also 37 C.F.R. §§ 1.1 to 1.570 (1983) (revised regulations of the United States Patent and Trademark Office). A new Court of Appeals for the Federal Circuit, with exclusive jurisdiction over patent appeals from all federal district courts, was established. See Federal Courts Improvement Act of 1982, Pub. L. No. 97-164, 96 Stat. 25. Finally, a new type of intellectual property protection has been enacted to protect semiconductor chips. See The Semiconductor Chip Protection Act of 1984, Pub. L. No. 98-620, 98 Stat. 3347 (adding a new chapter 9 to 17 U.S.C.).
13. 35 U.S.C. §§ 1-376 (1982).
 14. *Id.* § 154. It is important to note that a United States patent is without extraterritorial effect.
 15. For the type of description of the invention that must be contained in a patent, see *id.* §§ 112, 113.
 16. *Photo Elecs. Corp. v. England*, 581 F.2d 772, 775 (9th Cir. 1978).

17. See A. Choice & W. Francis, *supra* note 2, at 77; 12A R. Milgrim, Business Organizations, Milgrim on Trade Secrets, § 9.02[1], at 9-14 (1984).
18. 35 U.S.C. § 161 (1982). Although sexually reproduced plants are explicitly excluded from patent protection, the Plant Variety Protection Act, Pub. L. No. 91-577, 84 Stat. 1542 (1970), amended by Pub. L. No. 96-574, 94 Stat. 3350 (1980) (codified as amended at 7 U.S.C. §§ 2321-2582 (1982)), provides "patent-like" protection for sexually reproduced plants. The Act also provides for the issuance of certificates of plant variety protection, which entitle the plant breeder to exclude others from selling, offering for sale, reproducing, importing, exporting, or using the protected plant in producing another variety for 18 years from the issuance of the certificate. 7 U.S.C. § 2483 (1982). The Act is very similar to the patent law but it is administered by the Plant Variety Protection Office which is part of the Department of Agriculture. *Id.* § 2321. For general information about this Act, see H.R. Rep. No. 1605, 91st Cong., 2d Sess., *reprinted in* 1970 U.S. Code Cong. & Ad. News 5082 (legislative history of Act); I P. Rosenberg, patent Law Fundamentals, § 6.01[6], at 60-22 (2d ed. 1984).
19. 35 U.S.C. § 171 (1982).
20. *Id.* §§ 101-103. These sections set forth the statutory requirements for a utility patent.
21. *Id.* § 161.
22. *Id.* § 163. These rights last for 17 years from the issuance of a patent. *Id.* § 154.
23. *Id.* § 171. The term of a design patent is 14 years. For a general discussion of design patents, see I P. Rosenberg, *supra* note 18, § 6.01[5], at 6-25 to 6-31.
24. Schnadig Corp. v. Gaines Mfg. Co., 494 F.2d 383, 389 (6th Cir. 1974).
25. Hygienic Specialities Co. v. H.G. Salzman, Inc., 302 F.2d 614, 617 (2d Cir. 1962).
26. See, e.g., *In re Hall*, 69 F.2d 660, 661 (C.C.P.A. 1934) (new blending or arrangement of colors alone is not patentable).
27. See, e.g., *Smith v. Whitman Saddle Co.*, 148 U.S. 674, 679 (1893) (paper weight or ink stand that is a copy of well known building not patentable).
28. 35 U.S.C. §§ 101-102 (1982).
29. See *id.* § 135. For regulations used by the Patent and Trademark Office to determine who the first inventor is for purposes of determining who is entitled to receive a patent, see 37 C.F.R. §§ 1.201 to 1.2088 (1983).
30. See 35 U.S.C. § 102(c) & (g) (1982) (first inventor may lose right to apply for a patent if invention is abandoned, suppressed, or concealed). Although only the first inventor normally can obtain a patent on an invention, in some cases a subsequent inventor may obtain a patent on the same invention. An invention that is kept secret and eventually abandoned may be considered "lost art" that will not bar a subsequent inventor from getting a patent even though the later inventor is not the first inventor. *Gayler v. Wilder*, 51 U.S. (10 How.) 477, 496-98 (1850).
31. Invention requires both conception, which is the complete mental act of formulating the invention, and reduction to practice, which is actually constructing and using the invention. *Rohm & Haas Co. v. Dawson Chemical Co.*, 557 F. Supp. 739, 802-03 (S.D. Tex. 1983). See also *Rex Chain Belt, Inc. v. Borg-Wamer*, 477 F.2d 481, 487 (7th Cir. 1973).
32. "In general, conception is the mental activity of inventing or the creation or discovery and the new idea in a specific tangible means or way of carrying out the new idea." R. Croat & W. Francis, *supra* note 2, at 117.
33. *Farrand Optical Co. v. United States*, 325 F.2d 328, 331 (2d Cir. 1963) (general rule requires tests under actual working conditions). See also *Paine v. Inoue*, 195 U.S.P.Q. 598, 604 (Bd. Pat. Int. 1976) (must show invention is workable under actual conditions it is intended to operate under).
34. R. Croat & W. Francis, *supra* note 2, at 118; *Cord Tire Co. v. Dovan Chem. Corp.*, 276 U.S. 358 (1928), cited in *Farmhand v. Lanham Mfg. Co.*, 192 U.S.P.Q. 749, 756 (D.S.D. 1976) ("reduction to practice contemplates an actual and complete use of the particular invention for its intended purpose").
35. See *Solvex Corp. v. Freeman*, 199 U.S.P.Q. 797, 805 (W.D. Va. 1976) (invention need not be actually constructed and used to be patentable); *Ex parte Frank*, 191 U.S.P.Q. 412, 413 (P.T.O. Bd. App. 1975) (filing of application is constructive reduction to practice).
36. 35 U.S.C. § 101 (1982).
37. *Decker v. FTC*, 176 F.2d 461, 464 (D.C. Cir.), *cert. denied*, 338 U.S. 878 (1949).
38. I P. Rosenberg, *supra* note 18, § 8.03, at 8-7 (economic or commercial value of invention not relevant to utility). See generally *International Glass Co. v. United States*, 159 U.S.P.Q. 434, 440-41 n.8 (Ct. Cl. 1968) (successful reduction to practice establishes existence of invention without regard to commercial use of invention).
39. See, e.g., *Ex parte Murphy*, 200 U.S.P.Q. 801, 802 (P.T.O. Bd. App. 1977) (in many states even illegal use satisfies the utility requirement).
40. See *Technitrol Inc. v. Control Data Corp.*, 550 F.2d 992, 997 (4th Cir. 1977), *cert. denied*, 434 U.S. 822 (1978) (device has no utility if it does not work).

- 41 35 U.S.C. § 101 (1982). See also 42 U.S.C. § 2181(a) (1982) (bars obtaining a patent on an otherwise patentable invention "which is useful solely in the utilization of special nuclear material or atomic energy in an atomic weapon").
42. See *Diamond v. Diehr*, 450 U.S. 175, 177 (1981).
43. *Burr v. Duryee*, 68 U.S. (1 Wall) 531, 570-71 (1863).
44. See *Diamond v. Chakrabarty*, 447 U.S. 303, 309-11 (1980).
45. In *American Fruit Growers v. Brogdex Co.*, 283 U.S. 1, 11 (1931), a "manufacture" was defined as an article produced from raw or prepared materials as a result of giving such materials new forms, qualities, or properties.
46. *Conover v. Coe*, 90 F.2d 377, 379 (D.C. Cir. 1938) (arrangement of printed matter not patentable).
47. *Mackay Radio & Tel. Co. v. Radio Corp.*, 306 U.S. 86, 94 (1939) (scientific truth not patentable).
48. *Parker v. Flook*, 437 U.S. 583, 593 (1978) (discovery of law of nature not patentable).
49. *Diehr*, 450 U.S. at 191 (mathematic formula by itself not patentable).
- 50 *Conover*, 99 F.2d at 379 (method of doing business not patentable).
- 51 *The Greening Nursery Co. v. J & R Tool and Mfg. Co.*, 153 U.S.P.Q. 660, 662 (8th Cir. 1967).
- 52 *Dann v. Johnston*, 425 U.S. 219, 229 (1976) (must look to person reasonably skilled in an applicable art); *Robbins Co. v. Dresser Indus., Inc.*, 554 F.2d 1289, 1294 (5th Cir. 1977) (finds level of skill for mining engineers high since typical engineer has four years of college training in engineering).
53. The importance of the nonobviousness requirement and the difficulty of applying it is evidenced by entire books written on this requirement. See, e.g., J. Witherspoon, *Nonobviousness - The Ultimate Condition of Patentability* § (1980).
54. 35 U.S.C. § 103 (1982).
55. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).
56. Prior art is a technical term that describes the body of knowledge the person skilled in the field of the invention is held to know. It generally includes technical knowledge normally possessed by someone skilled in the field, and issued patents, books, and other publicly available documents that are relevant to the field of the invention even if not actually known by someone skilled in the field. See E. Kitch & H. Perlman, *Legal Regulation of the Competitive process* 891 (1979).
- See also *Union Carbide Corp. v. American Can Co.*, 220 U.S.P.Q. 584, 588 (Fed. Cir. 1984) (inventor presumed to know all art in his field of endeavor and only art from other fields that is reasonably pertinent to his invention). Prior art includes patents that an inventor with ordinary skill in the art would be aware of. *Id.* at 591 & n.6; *In re Van Wanderham*, 378 F.2d 981, 986 (C.C.P.A. 1967) (inventor held to know only information in relevant fields rather than information in all fields).
57. *Tokyo Shibaura Elec. Co. v. Zenith Radio Corp.*, 548 F.2d 88, 93 (3d Cir. 1977); *Parker v. Motorola, Inc.*, 524 F.2d 518, 531 (5th Cir. 1975).
58. *Swofford v. B & W, Inc.*, 395 F.2d 362, 367 (5th Cir.), *cert. denied*, 393 U.S. 935 (1968).
59. *Parker*, 524 F.2d at 531; *Tokyo Shibaura*, 548 F.2d at 93. See also *Union Carbide*, 220 U.S.P.Q. at 589.
60. *Graham*, 383 U.S. at 717-18 (secondary considerations may have relevance as indicia of obviousness or nonobviousness); *Union Carbide*, 220 U.S.P.Q. at 591 (obviousness determination requires consideration of all evidence including secondary considerations).
61. *Compare In re Lange*, 228 F.2d 245 (C.C.P.A. 1955) (commercial success can be relied on to establish patentability only when it is an otherwise doubtful case) with *StratoHex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530 (Fed. Cir. 1983) and *In re Sernaker*, 702 F.2d 989 (Fed. Cir. 1983) (evidence of secondary considerations, when present, always must be considered with regard to obviousness).
62. 35 U.S.C. § 102(a) (1982). See *Egbert v. Lippman*, 104 U.S. 333, 536 (1881) (a single well-defined case of public use is all that is required to establish public use).
63. 35 U.S.C. § 102(a) (1982).
64. *Id.* § 102(d). See also § 185, which bars issuance of U.S. patent if a foreign patent is applied for without first procuring a filing license for such foreign filing under 35 U.S.C. § 184 (1982).
65. *Id.* § 102(g).
66. *Id.* § 102(b)
67. See generally *Metallizing Eng'g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 520 (2d Cir.), *cert. denied*, 328 U.S. 840 (1946) (concealment of invention will result in loss of right to get patent); *International Glass*, 159 U.S.P.Q. at 440-41 (completed

invention is abandoned, suppressed, or concealed if it is not subject of patent application or public disclosure within reasonable time after completion).

68. To represent clients before the U.S. Patent and Trademark Office, one must have a technical background and pass an examination given twice a year by the Patent and Trademark Office. After passing the exam the representative will be registered as a patent attorney if he is also an attorney, or as a patent agent if he is not an attorney. 37 C.F.R. § 1.341 (1983).

69. See Ollerenshaw, *How To Perform a Patent Search: A Step by Step Guide for the Inventor*, 73 L. Library J. 1 (1980) (describes how to perform a manual patent search). See also W. Konoid, B. Tittel, D. Frei & D. Stallard, *What Every Engineer Should Know About Patents* 17-23 (1979) (describes types of patent searches).

70. Access to information about a myriad of technical databases and databases containing patents are available from the following companies: Dialog Information Services, Inc., 3460 Hillview Avenue, Palo Alto, Cal. 94304; System Development Corporation 2500 Colorado Avenue, Santa Monica, Cal. 90406; Bibliographic Retrieval Services, 1200 Route 7, Latham, N.Y. 12110; and Mead Data Central, 200 Park Avenue, New York, N.Y. 10166.

71. For the mandatory description and drawings of a patent application, see 35 U.S.C. §§ 112, 113 (1982). See also W. Konoid, *supra* note 69, at 24-28 (describes briefly how a patent application is prepared and what it contains).

72. 35 U.S.C. § 112(1982). See also Cohen, *The Patent Monopoly: What and Why*, in *Patents, Copyrights, Trademarks, and Trade Secrets for Corporate Counsel and General Practitioners* 20 (1979).

A claim is written in a highly stylized format, as illustrated by the following claim for an improved finger-operated pump sprayer such as the type used on a bottle of hair spray:

In a closure assembly for an open-top [sic] container having a perforated cap over said open top thereof mounting a spray unit including a barrel provided with a tubular extension passing coaxially upwardly through the perforation in said cap, a plunger reciprocally carried by the barrel and normally extending therebeyond and a spray head on the upper head of the plunger above said extension, the combination with said spray unit of an annular retainer telescoped over and secured to the extension above said cap and provided with external, circumferentially disposed screw threads and an annular continuous segment at the upper part of the retainer above said screw threads, and a cup-shaped hold-down member housing the head and holding the plunger depressed at substantially the innermost path of travel thereof within the barrel, said member being provided with internal screw threads complementally engaging said screw threads on the retainer and having an internal, circumferentially extending, continuous shoulder disposed to engage said segment around the entire periphery thereof and thereby present a liquid-tight seal located between the spray head and said threads on the retainer and said member respectively, said shoulder being spaced from the lower annular peripheral edge of the member a distance at least slightly less than the distance from the portion of said segment normally engaged by said shoulder, to the proximal upper surface of the cap whereby said lower edge of the member is maintained out of contacting relationship with the cap when the member is on the retainer in a position with said shoulder in tight sealing engagement with the segment.

Claim 1 from United States patent 2,870,943 issued on January 27, 1959, *reprinted in* R. Croat & W. Francis, *supra* note 2, at 91-92. See J. Landis, *Mechanics of Claim Drafting* (2d ed. 1974) for a detailed description of how patent claims are drafted.

73. See sample patent application in *Patents, Copyrights, Trademarks, and Trade Secrets for Corporate Counsel and General Practitioners* 660-79 (1979).

74. Croat & W. Francis, *supra* note 2, at 587-88. See generally W. Konoid, *supra* note 69, at 29-33 (describes the handling of a patent by the U.S. Patents and Trademark Office).

75. 35 U.S.C. §§ 131-132 (1982). See W. Konoid, *supra* note 69, at 30.

76. 35 U.S.C. § 132 (1982); 37 C.F.R. §§ 1.111, 1.133 (1983). See W. Konoid, *supra* note 69, at 30-32.

77. 37 C.F.R. § 1.113 (1983).

78. 35 U.S.C. § 134 (1982); 37 C.F.R. §§ 1.191 to 1.198 (1983) (procedure before Board of Appeals). See also W. Konoid, *supra* note 69, at 32.

79. 35 U.S.C. § 141 (1982) (appeal to Court of Appeals for the Federal Circuit); *id.* § 145 (appeal to U.S. District Court for the District of Columbia). See also 37 C.F.R. §§ 1.301, 1.303 (1983).

80. W. Konoid, *supra* note 69, at 32. See also Cohen, *supra* note 72, at 21. For copy of a U.S. patent issued for gunpowder charge and projectile container, see 1 P. Rosenberg, *supra* note 18, app. A3 to A7.

81. 35 U.S.C. § 154 (1982).

82. See W. Konoid, *supra* note 69, at 3. Assume X gets the first patent on a stool that has a seat and four legs. Then Y gets a patent on an improved stool that has a seat, four legs, and a chair back. Y can use his patent to prevent anyone from making, using, or selling a stool that has a seat, four legs, and a chair back, but Y cannot make, use, or sell the stool covered by his patent, because it will infringe X's patent. *Id.*

83. 1 P. Rosenberg, *supra* note 18, § 1.02, at 1-5.

84. R. Wincor & I. Mandell, copyright, *Patents and Trademarks: The Protection of Intellectual and Industrial Property* 43 (1980) (these notices simply inform the public that a patent application has been filed; legally enforceable patent rights do not arise until a patent has actually been *granted*). See 35 U.S.C. § 292 (1982) (use of these notices to deceive public when no application has been filed can result in a fine of up to \$500).

85. 35 U.S.C. § 154 (1982) (patent grants the "right to exclude others from making, using or selling the invention throughout the United States").

86. 2 P. Rosenberg, *supra* note 18, § 18.04, at 18-7. It should be noted, however, that just because a patent is granted in one country does not mean that it would be granted in another country, since countries have their own national patent systems.

87. 35 U.S.C. § 102(b) (1982).

88. Landis & Fanwick, *Foreign Patents*, 111 P.L.I. Pat., Copyright, trademarks and Lit. Prop. handbook Series 331, 335 (1979).

89. 2 P. Rosenberg, *supra* note 18, § 19.02[2], at 19-25. For example, Japan publishes patent applications within eighteen months of filing and the public can present information to patent office in opposition to patent application.

90. 35 U.S.C. § 122 (1982).

91. The interim between filing a patent application and issuance of a patent is almost three years. Bender, *Computer Software Licensing* (Protecting Trade Secrets 1983) 157 P.L.I. Pat., Copyright, trademarks and Lit. Prop. handbook Series 405, 424 (1983).

92. Despite modernization of the Patent and Trademark Office and resulting increases in efficiency, the deputy commissioner of patents and trademarks has indicated that the goal of the office is to achieve an eighteen-month pendency for applications by 1987. *Conference Reviews; PTO Rule Changes*, 26 Pat. Trademark & Copyright J. (BNA) No. 649, at 507 (Oct. 6, 1983).

93. See Bender, *supra* note 91, at 424 n. 1 (cost of obtaining a patent can be as high as one hundred thousand dollars).

94. See, e.g., 12A R. Milgrim, *supra* note 17, § 9.02[7][a], at 9-51 (to obtain patent protection of a moderately complex electronic invention in key industrial foreign nations could cost up to fifty thousand dollars).

95. See, e.g., Note, *Patent Law-Estoppel Doctrine of Licensee Estoppel Overruled; State Protection of Unpatented Inventions Questioned*, 45 N.Y.U. L. Rev. 386, 397 n.59 (1970). See also 12A R. Milgrim, *supra* note 17, § 9.02[91][iii], at 9-54 (Eighth Circuit invalidated most patents litigated before it, while Third Circuit favored patents).

96. Federal Courts Improvement Act of 1982, Pub. L. No. 97-164, 96 Stat. 25 (newly established Court of Appeals for the Federal Circuit has exclusive jurisdiction over patent appeals from United States district courts). Prior to this Act, United States courts of appeals disagreed over many patent law issues. Compare *Moore v. Schultz*, 491 F.2d 294, 300 (10th Cir.), *cert. denied*, 419 U.S. 930 (1974) (obviousness is question of fact) with *Swofford*, 395 F.2d at 367-68 (obviousness is question of law). This difference has been resolved by the new Court of Appeals for the Federal Circuit. See *Union Carbide*, 220 U.S.P.Q. at 589 (obviousness is question of law).

97. See U.S. Const. art. 1, § 8, cl. 8.

98. See 17 U.S.C. § 102 (1982) for the subject matter covered by copyright.

99. *Sony*, 104 S. Ct. at 806-07 (Blackmun, J., dissenting); see also *id.* at 782 (creative advances are secured to public by providing rewards to creators as incentives to create); *Goldstein*, 412 U.S. at 555 (Congress may reward authors to encourage intellectual and artistic creations).

100. *Mazer v. Stein*, 347 U.S. 201, 217-18 (1954). See also 17 U.S.C. § 102(b) (1982) (copyright does not extend to underlying ideas); H.R. REP. No. 1476, 94th Cong., 2d Sess. 56, *reprinted in* 1976 U.S. Code Cong. & Ad. News 5659, 5670 [hereinafter cited as House Report 1476] ("copyright does not preclude others from using the ideas or information revealed by the author's work").

The distinction between protecting the form of expression as opposed to the underlying idea can best be understood by example. Assume a book explains a novel method of building a solar collector to heat water. The form of expression protected by copyright prohibits someone from photocopying the book. The underlying information that constitutes the method of building the collector, however, is not protected by copyright, and after reading the book, the copyright would not prevent the reader from actually building the collector. Patent protection, however, could extend to the method of building the collector and would prevent anyone from actually making or using the collector.

It is possible that the form of expression and underlying idea may merge when the idea can be expressed in only one way. Such a merger may bar copyright protection because to allow protection would amount to copyright protection of an idea. See *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240, 1253 (3d Cir. 1983), *cert. dismissed*, 104 S. Ct. 690 (1984) (merger of the form of expression and underlying idea in computer software). See Libott, *Round the Prickly Pear: The Idea-Expression Fallacy in a Mass Communications World*, 14 UCLA L. Rev. 735 (1967) (discussion of the difficulty of separating the idea and expression of the idea).

101. House Report 1476, *supra* note 100, at 129, 1976 U.S. Code Cong. & Ad. News at 5745.

102. See *supra* notes 91, 93, 94 and accompanying text.
103. Pub. L. No. 94-553, 90 Stat. 2541 (1976) (codified as amended at 17 U.S.C. §§ 101-810 (1982)).
104. House Report 1476, *supra* note 100, at 129, 1976 U.S. Code Cong. & Ad. News at 5745.
105. *Id.* Publication is defined as the distribution of the copyrighted work to the public by rental, lending, sale, or other transfer of ownership. A mere public performance or public display by itself does not amount to publication. 17 U.S.C. g 101 (1982).
106. House Report 1476, *supra* note 100, at 129, 1976 U.S. Code Cong. & Ad. News at 5745.
107. See *supra* note 9 and accompanying text. See *generally* 1 M. NIMMER, *supra* note 2, § 1.08[A], at 1-44; House Report 1476, *supra* note 100, at 51, 1976 U.S. Code Cong. & Ad. News at 5664.
108. *Burrow-Giles Co. v. Sarony*, 111 U.S. 53, 58 (1884).
109. *Id.*
110. *American Mutoscope and Biograph Co. v. Edison Mfg. Co.*, 137 F. 262, 266-67 (C.C.D.NJ. 1905).
111. *Mazer*, 347 U.S. at 217 (statuette used as lamp base copyrightable).
112. *Goldstein*, 412 U.S. at 561 (writing should be broadly construed and may include recordings of artistic performance). See *also Burrow-Giles*, 111 U.S. at 58 (writings include works not in existence at time Constitution enacted); *Walt Disney Prods. v. Air Pirates*, 581 F.2d 751 (9th Cir. 1978) (cartoon characters are copyrightable).
113. 17 U.S.C. § 102(a) (1982).
114. *Id.* § 102(a)(1). Literary works are broadly defined to be "works, other than audio visual works, expressed in words, numbers, or other verbal or numerical symbols or indicia." *Id.* § 101. Literary works include computer programs. *Apple Computer*, 714 F.2d at 1249. See 17 U.S.C. § 101 (1982) for a definition of "computer program" under the Copyright Act.
115. 17 U.S.C. § 102(a)(2) (1982). A definition of musical works is not provided in the Copyright Act because its definition is believed to be well settled. House Report 1476 *supra* note 100, at 53, 1976 U.S. Code Cong. & Ad. News at 5666-67. For a general discussion of musical works protected by the Copyright Act, see 1 M. Nimmer, *supra* note 2, § 2.05, at 2-53 to 2-58.
116. 17 U.S.C. § 102(a)(3) (1982). Dramatic works are not defined in the Copyright Act, but case law has established two essential requirements: (1) the work must relate a story; and (2) the work must provide directions so that a substantial portion of the story may be visually or audibly represented to an audience as actually occurring, rather than merely being narrated or described. 1 M. Nimmer, *supra* note 2, g 2.06[A], at 2-60.
117. 17 U.S.C. § 102(a)(4) (1982). Pantomimes and choreographic works are not defined in the Copyright Act or the legislative history. The legislative history, however, states that social dance steps and simple routines are not choreographic works. House Report 1476, *supra* note 100, at 54, 1976 U.S Code Cong. & Ad. News at 5667. For a discussion of pantomimes and choreographic works as copyrightable subject matter, see Nimmer, *The Subject Matter of Copyright Under the Act of 1976*, 24 UCLA L. Rev. 978, 1011-15 (1977); Comment, *Gloving to a New Beat: Copyright Protection for Choreographic Work*, 24 UCLA L. Rev. 1287 (1977).
118. 17 U.S.C. § 102(a) (5) (1982). "Pictorial, graphic and sculptural works include two dimensional and three-dimensional works of fine graphic and applied art, photographs, prints and art reproductions, maps, globes, charts, technical drawings, diagrams and models." *Id.* § 101. If the work is a useful article, the copyrightable design must be separable from the utilitarian aspect of the article.
119. *Id.* § 102(a)(6). "Audiovisual works are works that consist of a series of related images which are intrinsically intended to be shown by the use of machines or devices such as projectors, viewers, or electronic equipment, together with accompanying sounds, if any." *Id.* § 101. "Motion pictures are audiovisual works consisting of a series of related images which, when shown in succession, impart an impression of motion, together with accompanying sounds, if any." *Id.*
120. *Id.* § 102(a)(7). "Sound recordings are works that result from fixation of a series of musical, spoken, or other sounds, but not including the sounds accompanying a motion picture or other audiovisual works." *Id.* § 101.
121. Section 102(a) states that works of authorship include the categories discussed *supra* in notes 114-20, and § 101 defines "including" to be only illustrative. 17 U.S.C. §§ 101, 102(a) (1982).
122. *But see Nichols v. Universal Pictures Corp.*, 45 F.2d 119, 121 (2d Cir. 1930) (fully developed literary characters are protectable apart from the stories in which they originally appear). Such characters do not necessarily fall within the categories listed in 17 U.S.C. § 102(a) (1982).
123. 17 U.S.C § 102(a) (1982) (originality requirement). See *Universal Athletic Sales Co. v. Salkeld*, 511 F.2d 904, 908 (3d Cir. 1974), *cert. denied sub nom. Universal Athletic Sales Co. v. Pinchok*, 423 U.S. 863 (1975) (exceptional creativity or originality is not required; "a modicum of creativity may suffice").
124. *Trade-Mark Cases*, 100 U.S. 82, 93-94 (1879).

125. *Brown Instrument Co. v. Warner*, 161 F.2d 910, 910-11 (D.C. Cir. 1947). See also *John H. Harland Co. v. Clarke Checks, Inc.*, 219 U.S.P.Q. 515, 520-21 (11th Cir. 1983).

126. *E.H. Tate Co. v. Jiffy Enters., Inc.*, 16 F.R.D. 571, 573 (E.D. Pa. 1954) (directions that stated "Apply hook to wall" not copyrightable).

127. *Kitchens of Sara Lee, Inc. v. Nifty Foods Corp.*, 266 F.2d 541, 544 (2d Cir. 1959). See also U.S. Copyright Office Circular R32, *Blank Forms and Other Work Not Protected by Copyright* (Mar. 1982); U.S. Copyright Office Circular R34, *Copyright Protection Not Available for Names, Titles or Short Phrases* (Sept. 1982). But see Pattishall, *Protection of Labels Through Copyright Infringement and Unfair Competition Laws*, 56 Trade-mark Rep. 408 (1966) (discussing label protection).

128. See U.S. Copyright Office Circular R33, *Computing and Measuring Devices* (Sept. 1978).

129. See 35 U.S.C. §§ 101, 102 (1982). See also House Report 1476, *supra* note 100, at 51, 1976 U.S. Code Cong. & Ad. News at 5664 (originality requirement does not require novelty). See also *Mazer*, 347 U.S. at 218 (copyright protects originality rather than novelty).

130. *Alfred Bell & Co. v. Catalda Fine Arts*, 191 F.2d 99, 102-03 (2d Cir. 1951) (originality means copyrighted work owes its origin to the author; originality is a prohibition against copying).

131. See *Mazer*, 347 U.S. at 217-18.

132. See *supra* note 30 and accompanying text.

133. 17 U.S.C. § 102(a) (1982).

134. See House Report 1476, *supra* note 100, at 52-53, 1976 U.S. Code Cong. & Ad. News at 5665-66. See *Final Report*, *supra* note 11, at 88.

135. 1 M. Nimmer, *supra* note 2, § 1.01[B][2][a], at 1-23.

136. 17 U.S.C. § 301 (1982). With regard to preemption, see generally House Report 1476, *supra* note 100, at 130-34, 1976 U.S. Code Cong. & Ad. News at 5746-49. See, e.g., *Wainwright v. Crow*, 720 F.2d 1224 (11th Cir. 1983), *cert. denied*, 105 S. Ct. 89 (1984) (copyright law preempts state criminal law action for selling bootleg recording of copyrighted record albums).

137. 17 U.S.C. § 106 (1982).

138. *Id.* §§ 107-118.

139. *Id.* § 106(1).

140. *Id.* § 106(2).

141. *Id.* § 106(3).

142. *Id.* § 106(4).

143. *Id.* § 106(5).

144. For definitions of "copies" and "phonorecords," see *id.* § 101. Phonorecords include phonograph records, open-red tape, cartridges, cassettes, and piano rolls. See also 2 M. Nimmer, *supra* note 2, § 8.05[A], at 8-85 n.4.

145. A ROM is a small electronic device that produces specific outputs in response to externally supplied data. These outputs result in the execution of certain instructions within the computer.

146. See *Apple Computer*, 714 F.2d at 1249.

147. 17 U.S.C. § 108 (1982).

148. *Id.* § 115. The Copyright Act established the Copyright Royalty Tribunal to set the amount of royalties. *Id.* §§ 801-810.

149. *Id.* § 114.

Sound recordings are works that result from the fixation of a series of musical, spoken, or other sounds, but not including the sounds accompanying a motion picture or other audiovisual work, regardless of the nature of the material objects, such as discs, tapes or other phonorecords, in which they are embodied.

Id. § 101. In addition, commercial establishments that rent sound recordings for home copying must pay royalties. Rental Record Amendment of 1984, Pub. L. No. 98-450, 98 Stat. 1727 (amending 17 U.S.C. §§ 109, 115 (1982)).

150. 17 U.S.C. § 117 (1982). This exception, however, only applies to use of the program by the owner in the owner's computer. It does not permit the production of copies of the program which are then provided to others for use in their computers. See *Apple Computer v. Formula Int'l, Inc.*, 594 F. Supp. 617 (C.D. Cal. 1984); *Micro-Sparc, Inc. v. Amtype Corp.*, 28 Pat. Trademark & Copyright J. (BNA) No. 697, at 595 (D. Mass. Sept. 20, 1984).

151. See *Final Report*, *supra* note 11, at 62. Generally, computers use machine language although computer programs are written in a higher level language. Therefore, the computer must translate or convert the high level language into machine language before it can utilize the program. This conversion constitutes the making of a copy that would violate the reproduction right absent the exception contained in 17 U.S.C. § 117 (1982).
152. See 17 U.S.C. § 101 (1982) (definition of "derivative" works for the types of adaptations that are covered by the adaptation right).
153. *Id.* § 114.
154. *Id.* § 114(b).
155. *Id.*
156. *Id.* § 117.
157. House Report 1476, *supra* note 100, at 62, 1976 U.S. Code Cong. & Ad. News at 5675.
158. See *id.*
159. 17 U.S.C. § 106(1) (1982).
160. *Id.* § 106(2). See *also* definition of "derivative" works. *Id.* § 101.
161. *Id.* § 103.
162. *Id.* See *Germany* House Report 1476, *supra* note 100, at 57-58, 1976 U.S. Code Cong. & Ad. News at 5670-71.
163. House Report 1476, *supra* note 100, at 62, 1976 U.S. Code Cong. & Ad. News at 5675-76.
164. 17 U.S.C. § 106(3) (1982). Any unauthorized public distribution is a copyright infringement. See House Report 1476, *supra* note 100, at 62, 1976 U.S. Code Cong. & Ad. News at 5676.
165. 17 U.S.C. § 109(a) (1982)
166. See House Report 1476, *supra* note 100, at 79, 1976 U.S. Code Cong. & Ad. News at 5693.
167. 17 U.S.C. § 106(1) (1982). *Id.* § 106(2).
168. *Id.* § 101 (defining a public performance).
170. *Id.* § 106(3).
171. See, e.g., *id.* § 114(a) (performance right does not apply to sound recording).
172. At least one commentator feels that the focus of "public" is not necessarily the size or location of the audience, but rather the availability of the copyrighted work to the public with the intent that members of the public will then perform the work, to the disadvantage of the copyright owner, even if such performance is in private. On this basis, public companies that rent prerecorded videocassettes may be liable for violation of the performance right as a consequence of their rental and subsequent use of the cassettes by individual customers. See 2 M. Nimmer, *supra* note 2, § 8.14[C], at 8-143 to 8-144.
173. 17 U.S.C. § 110(1) (1982).
174. *Id.* § 110(2).
175. *Id.* § 110(3). See *generally* House Report 1476, *supra* note 100, at 84-85, 1976 U.S. Code Cong. & Ad. News at 5698-99.
176. 17 U.S.C. § 110(6) (1982).
177. *Id.* § 110(7).
178. *Id.* § 110(8)
179. *Id.* § 110(9)
180. *Id.* § 110(4).
181. *Id.* § 110(10).
182. *Id.* § 118 (parties must agree on license royalties or they are determined by the Copyright Royalty Tribunal).
183. *Id.* § 116.
184. *Id.* § 111.
185. *Id.*
186. *Id.* § 111(d).

187. See *id.* § 101 for definitions of "display" and to "publicly display."

188. *Id.* § 109(b). Section 109(b) was redesignated § 109(c) by Pub. L. No. 98450, 98 Stat. 1727 (1984).

189. 17 U.S.C. § 110(1) (1982).

190. *Id.* § 110(2).

191. *Id.* § 110(3).

192. *Id.* § 111.

193. *Id.* § 107.

194. *Id.* The legislative history of the Act indicates that quotation of excerpts in a review or criticism for purposes of illustration, quotation of short passages in scholarly works for clarification of the author's observation, or reproduction of materials for educational purposes may all be fair uses of copyrighted works. See House Report 1476, *supra* note 100, at 65-66, 1976 U.S. Code Cong. & Ad. News at 5678-79. See also Guidelines for Classroom Copying in Not-for-Profit Educational Institutions, *reprinted in id.* at 68-74, 1976 U.S. Code Cong. & Ad. News at 5681-88.

195. *Sony*, 104 S. Ct. at 807 (Blackmun, J., dissenting).

196. See *Keep Thomson Governor Comm. v. Citizens for Gallen Comm.*, 457 F. Supp. 957, 960 (D.N.H. 1978); *Quinto v. Legal Times of Washington, Inc.*, 506 F. Supp. 554, 560 (D.D.C. 1981).

197. 17 U.S.C. § 107 (1982).

198. 3 M. Nimmer, *supra* note 2, § 13.05[A], at 13-56 to 13-57 & nn.15, 16.

199. *Triangle Publications, Inc. v. Knight-Ridder Newspapers, Inc.*, 626 F.2d 1171, 1174 (5th Cir. 1980); House Report 1476, *supra* note 100, at 66, 1976 U.S. Code Cong. & Ad. News at 5680. See also *Sony*, 104 S. Ct. at 791 n.29, 806 (Blackmun, J., dissenting).

200. *Meeropol v. Nizer*, 560 F.2d 1061, 1068 (2d Cir. 1977). One very recent and well known application of the fair use doctrine involved the "Betamax case" in which the Supreme Court determined that the videorecording of copyrighted television shows for the purpose of time-shifting amounted to a fair use. *Sony*, 104 S. Ct. at 779 (time-shifting defined to be practice of videorecording programs to view once at a later time and then erasing them).

The Court reached its conclusion by looking at the four factors enumerated in the Act. See *supra* note 197 and accompanying text. The Court determined that recording for private home use was a noncommercial, nonprofit activity that merely enabled a viewer to select an alternative viewing time for a work that the viewer was already invited to view free of charge, and there was no demonstrable effect upon the potential market for the copyrighted programs. The Court also noted that the fact that a work was recorded in its entirety was not relevant under the circumstances of this case. *Sony*, 104 S. Ct. at 792-93. *But see Quinto*, 506 F. Supp. at 560 (reprinting 92% of story precludes claim to fair use defense). The significance of *Sony* becomes apparent in view of the fact that over twelve million videorecorder units have been sold in the last five years. An estimated twenty-five million will be sold by the end of 1986. Paris, *Coming Distractions*, *Forbes*, July 16, 1984, at 46.

201. 17 U.S.C. § 201(a) (1982). A joint work requires an intent by the joint authors to merge their respective contributions into a single work at the time of creation of the contributions. The joint authors do not have to work together, and their contributions need not be equal. *Id.* § 101 (defining "joint work"). Each joint author is considered a tenant-in-common of the joint work. Each can unilaterally use or grant a nonexclusive license in the work, subject to a duty of accounting to the other joint authors with regard to their share of the proceeds. House Report 1476, *supra* note 100, at 121, 1976 Code Cong. & Ad. News at 5736.

202. 17 U.S.C. § 201(b) (1982)

203. *Id.* § 104(a). See *id.* § 101 for a definition of "publication."

204. *Id.* § 104(b).

205. *Id.* § 302(a). For a joint work the term is the life of the last surviving author plus fifty years. *Id.* § 302(b). For works made for hire, anonymous works and pseudonymous works the term is seventy-five years from the date of publication or one hundred years from the date of creation, whichever expires first. *Id.* § 302(c).

206. *Id.* § 401 (a).

207. *Id.* § 401(b). The date can be omitted in some cases for pictorial, graphic, or sculptural works. See *id.* § 401(b)(2).

208. *Id.* § 402. The symbol ["P" in a circle] was adopted as the international symbol for protection of sound recordings by the "Phonograms Convention" at Geneva on October 29, 1971. Some sound recordings may contain both a sound recording notice and a conventional copyright notice when copyright is claimed in both the sound recording and, for example, the printed text or art work appearing on the phonorecord. See House Report 1476, *supra* note 100, at 145, 1976 U.S. Code Cong. & Ad. News at 5761.

209. The address for the Copyright Office is: Register of Copyrights, Copyright Office, Library of Congress, Washington, D.C. 20559.

210. 17 U.S.C. § 407(a) (1982). The copies are deposited for the use of the Library of Congress. *Id.* § 407(b). The Copyright Office, by regulation, can alter deposit requirements. *Id.* § 407(c). See, e.g. 37 C.F.R. § 202.20(c)(2)(vii) (1983) (requires only first and last twenty-five pages of a computer program to be deposited, together with the page containing a copyright notice).

211. 17 U.S.C. § 407(d) (1982).

212. *Id.* § 408.

213. *Id.* § 411.

214. *Id.* § 410(c).

215. *Id.* § 505 (court can award attorney's fees at its discretion).

216. *Id.* § 504(c) (copyright owner can elect to receive statutory damages in lieu of actual damages and profits. The amount of statutory damages must be at least \$250 but not more than \$10,000, with the actual amount set by what the court deems to be just. The court has the discretion to increase the award up to \$50,000 if willful infringement is found).

217. Registration is easily and inexpensively accomplished by completing short, easy-to-understand forms provided by the Copyright Office, which are then submitted by mail with appropriate copies of the work.

218. 28 U.S.C. § 1338(a) (1982) (district courts have original and exclusive jurisdiction of copyright matters).

219. Copyright registration, however, within five years of first publication establishes prima facie validity of copyright. 17 U.S.C. § 410(c) (1982).

220. Transfer can be for the copyright or limited to only some of the exclusive rights of the copyright owner. *Id.* § 101. A valid transfer must be in writing and recorded in the Copyright Office to establish copyright ownership. *Id.* §§ 204(a), 205(d).

221. *Selle v. Gibb*, 567 F. Supp. 1173, 1180 (N.D. 111. 1983).

222. A showing of substantial similarity may be sufficient to establish a prima facie case of infringement when the similarity between the two works is striking and substantial. *Champion Map Corp. v. Twin Printing Co.*, 350 F. Supp. 1332, 1336 (E.D.N.C. 1971).

223. Authorized copying would occur if defendant had permission to copy the work, or if one of the exceptions, such as fair use, permitted copying.

224. 17 U.S.C. § 502 (1982).

225. *Id.* § 503(b).

226. *Id.* § 504(b).

227. *Id.* § 504.

228. *Id.* § 505.

229. *Id.*

230. 3 M. Nimmer, *supra* note 2, § 17.02, at 17-5.

231. The major international copyright treaty is the Universal Copyright Convention, of which the United States is a signatory. It provides that each member country must provide the same protection to U.S. authors as provided by each country to its own nationals. The full text of this Convention is found in Universal Copyright Convention, Sept. 6, 1952, 6 U.S.T. 2731, T.I.A.S. No. 3324.

The Buenos Aires Convention provides copyright protection for U.S. nationals in member countries provided an appropriate U.S. copyright notice plus the phrase "All Rights Reserved" is used on published copies of the copyrighted work. The full text of this Convention is reprinted in 4 M. Nimmer, *supra* note 2, at app. 28.

The Universal Copyright Convention abrogates the need to rely on the Buenos Aires Convention in all but a few South American countries. See Rinaldo, *The Scope of Copyright Protection in the United States Under Existing Inter-American Relations: Abrogation of the Need for United States Protection Under the Buenos Aires Convention by Reliance upon the UCC*, 22 Bull. Copyright Soc'y Y 417 (1975).

See 4 M. Nimmer, *supra* note 2, at app. 20 for a list of countries that extend copyright protection to American nationals. See generally *id.* § 17.04, at 17-9 to 17-22 for a detailed discussion of foreign copyright rights extended to foreign authors.

The other major copyright treaty, of which the United States is not a signatory, is the Berne Convention. This treaty, originally signed in 1886, has been revised numerous times. See 4 *id.* at app. 27 for the most recent version of this Convention. Although the United States is not a member of this Convention, most major countries have signed the original Convention or a subsequent revision. See *id.* at app. 22 for a list of member countries to the Berne Convention. Protection for U.S. nationals, however, can be obtained under the Berne Convention if the work is first published in a member country or if the work is simultaneously published in the United States and a member country. See generally 3 *id.* § 17.04[D], at 17-11 to 17-20. Berne Convention coverage, however, is not necessary for most new works since most major countries, including the United States, are signatories of the Universal Copyright Convention.

232. One exception is sound recordings, which are covered by United States copyright law but not the Universal Copyright Convention. See 2 M. NIMMER, *supra* note 2, § 7.07[B], at 7-22 n.12. This deficiency has been partially corrected by the Convention for the Protection of Producers of Phonograms Against Unauthorized Duplication of Their Phonograms. See 4 *id.* at app. 23 for a list of countries that have ratified this Convention.

233. 3 *id.* § 17.09, at 17-36.

234. It should be noted that the Universal Copyright Convention only recognizes the symbol "©" and not the alternative forms of "Copyright" or "Copr." allowed in the United States. The Universal Copyright Convention does not require the use of a copyright notice, but rather it permits the copyright notice to be a substitute for any formalities, such as deposit and registration or first publication in the nation in which protection is sought, which may be required by a foreign nation that is a member of the Universal Copyright Convention. See 2 M. Nimmer, *supra* note 2, § 7.07[B], at 7-21 to 7-24. Most major European nations do not require any formalities as a condition of copyright; but see *id.* § 7.07[B], at 7-23 n.17 for a partial list of member countries that require formalities. Use of the Universal Copyright Convention notice fully satisfies the formalities required by these countries.

The phrase "All Rights Reserved" ensures compliance with the Buenos Aires Convention, and therefore, provides protection in the few countries that are members of the Buenos Aires Convention but not the Universal Copyright Convention. 3 *id.* § 17.04[C], at 1711.

235. This know-how does not have to possess the degree of novelty required by patent law. Some minimal degree of novelty must exist, however, for the know-how to be a trade secret. The extent of the novelty may be sufficient if it shows that the information is not a matter of public knowledge. See *CPG Prod. Corp. v. Mego Corp.*, 214 U.S.P.Q. 206, 213 (S.D. Ohio 1981); *Anaconda Co. v. Metric Tool & Die Co.*, 485 F. Supp. 410, 422 (E.D. Pa. 1980). See also *Cataphote*, 444 F.2d at 1315 (trade secret must have at least a modicum of originality).

236. See 12A R. Milgrim, *supra* note 17, § 9.03[1], at 9-65 (trade secret law domain of state common law). Some states, however, have adopted statutes to deal with trade secrets. See, e.g., Uniform Trade Secrets Act §§ 1-11, 14 U.L.A. 541 (1980).

237. *E.g. Smith v. Dravo Corp.*, 203 F.2d 369, 373 (7th Cir. 1953) (almost any knowledge or information that is kept secret and used to conduct a business qualifies as a trade secret). See, e.g., *Zoecon Indus. v. American Stockmen Tag Co.*, 713 F.2d 1174, 1179 (5th Cir. 1983) (customer lists are protectable as trade secrets). See generally *Kewanee*, 416 U.S. at 482 ("the maintenance of standards of commercial ethics and the encouragement of invention are the broadly stated policies behind trade secret law").

238. *Kewanee*, 416 U.S. at 475-76

239. 12A R. Milgrim, *supra* note 17, § 9.03[1], at 9-65.

240. Restatement, *supra* note 1, at § 757 comment b.

241. 12A R. Milgrim, *supra* note 17, § 9.03[1], at 9-65. For a listing of cases following the Restatement, see 12 R. Milgrim, *supra* note 17, § 2.01 n.2, at 2-3 to 2-10.

242. *Smith*, 203 F.2d at 373.

243. *Painton & Co. v. Bourns, Inc.*, 442 F.2d 216, 222 n.2 (2d Cir. 1971). See also *Sinclair v. Aquarius Elecs., Inc.*, 42 Cal. App. 3d 216, 220, 116 Cal. Rptr. 654, 658 (Ct. App. 1974) (court said Judge Friendly's definition was in harmony with definition in Restatement, *supra* note 1, at § 757 comment b).

244. Restatement, *supra* note 1, at § 757 comment b.

245. *Id.*

246. *Id.* In *Forest Laboratories v. Pillsbury Co.*, 452 F.2d 621, 624 (7th Cir. 1971), and *Abbott Laboratories v. Norse Chem. Corp.*, 33 Wis.2d 445, 463-64, 147 N.W.2d 529, 53839 (1967), each court stated that these factors should be examined when determining if a trade secret exists. See also Arnold, *Trial Tactics in Trade Secret Cases* (Protecting Trade Secrets 1983) 157 P.L.I. Pat., Copyright, Trademarks and Lit. Prop. Handbook Series 11, 17-26 (1983) (12 factors to evaluate in determining existence of a trade secret).

247. The information must be kept secret and must not be known outside the trade secret owner's business. *Underwater Storage*, 371 F.2d at 954 (once trade secret is disclosed, the rest of the world may have right to use it). See also *Packard Instrument Co. v. Reich*, 213 U.S.P.Q. 322, 327 (111. App. Ct. 1980) (even though process kept secret, it is not trade secret if process is known and used by outside world).

248. *Cherne Indus., Inc. v. Grounds & Assoc., Inc.*, 278 N.W.2d 81, 90 (Minn. 1979) (information must provide a competitive advantage).

249. See *Syntex Ophthalmics, Inc. v. Novicky*, 214 U.S.P.Q. 272, 277 (N.D. Ill. 1982) (restriction of confidential reports to employees who needed access to them was a key security precaution).

250. See generally *Pretty, A Comprehensive Program of Precautions To Forestall Loss of Trade Secret* (Protecting Trade Secrets 1983) 157 P.L.I. Pat., Copyright, Trademarks and Lit. Prop. Handbook Series 167, 181-94 (1983) (general discussion of employee nondisclosure agreements). For nondisclosure agreements approved by the courts, see *Sperry Rand Corp. v. Pentronix, Inc.*, 311 F. Supp. 910, 917 (E.D. Pa. 1970); *Syntex*, 214 U.S.P.Q. at 274.

251. Such restrictive covenants must be reasonable, however, and will be scrutinized by courts to balance the right of an employee to market his skills freely against the right of an employer to protect trade secrets. See *Winston Research Corp. v. Minnesota Mining*

& Mfg. Co., 350 F.2d 134, 137-38 (9th Cir. 1965); *Air Prods. & Chems., Inc. v. Johnson*, 219 U.S.P.Q. 458, 461-65 (Pa. Ct. Comm. Pleas 1981).

252. See *Texas Urethane, Inc. v. Seacrest Marine Corp.*, 403 F. Supp. 612, 617 (S.D. Tex. 1975) (to preserve secrecy, materials delivered by supplier color-coded without identification of materials).

253. *Drill Parts & Serv. Co. v. Joy Mfg. Co.*, 439 So.2d 43, 49-50 (Ala. 1983) (question of fact under the circumstances if putting trade secret information in a trash bin is abandonment of the trade secret). *But see Tennant Co. v. Advance Machine Co.*, 355 N.W.2d 720 (Minn. Ct. App. 1984) (one-half of a million dollars in damages awarded to plaintiff in response to defendant finding plaintiff's confidential information by rummaging through plaintiff's trash bin).

254. Absolute secrecy is not required. Rather, reasonable measures to maintain secrecy must be undertaken. See *E. I. duPont de Nemours & Co. v. Christopher*, 431 F.2d 1012, 1017 (5th Cir. 1970) (plaintiff was not required to take precautions against aerial surveillance to protect trade secrets, because such precautions would be unreasonable).

255. See *National Rejectors, Inc. v. Trieman*, 152 U.S.P.Q. 120, 134 (Mo. 1966) (having employees sign covenants not to compete and warning of existence of trade secrets are factors in determining if adequate security precautions necessary to establish a trade secret have been taken).

256. *Underwater Storage*, 371 F.2d at 954; *Packard Instrument*, 213 U.S.P.Q. at 327.

257. Arnold, *Basic Considerations in Licensing*, in *The Law And Business of Licensing* 2A74 to 2A-75 (R. Goldscheider & T. Arnold ed. 1981).

258. See *Management Science Am., Inc. v. Cyborg Sys., Inc.*, 6 Computer L. Serv. Rep. (Callaghan) 921 (N.D. 111. 1978).

259. See *id.* at 922 n.1 (disclosure of the software, subject to a confidential agreement, to more than 1,300 customers did not necessarily destroy confidential nature of the software).

260. *Zoecon*, 713 F.2d at 1178 (in employment relationship a confidential relationship may be implied by nature of the relationship).

261. *J. Irizarry v. Puente v. President & Fellows of Harvard College*, 248 F.2d 799, 802 (1st Cir. 1957) (unsolicited letter sent to defendant by plaintiff, which disclosed plaintiff's idea, did not establish confidential relationship between plaintiff and defendant); *Laughlin Filter Corp. v. Bird Machine Co.*, 319 Mass. 287, 289-90, 65 N.E.2d 545, 546 (1946) (confidential relationship cannot be thrust upon someone merely because proprietary information is involved).

In addition, a nondisclosure agreement puts an employee on notice that trade secrets are involved. *Eastern Marble Prod. Corp. v. Roman Marble, Inc.*, 204 U.S.P.Q. 229, 232 (Mass. 1977). Also, acknowledgment by an employee in a nondisclosure agreement that certain trade secrets were not previously known may help undermine a later claim that the trade secrets were not secret information. See *Kodekey Elecs., Inc. v. Mechanex Corp.* 486 F.2d 449, 455 (10th Cir. 1973); *Rapco Foam, Inc. v. Scientific Application, Inc.*, 479 F. Supp. 1027, 1029-30 (S.D.N.Y. 1979).

262. Secrecy can be maintained despite wide dissemination of trade secrets provided such secrets are disclosed in confidence. See *Chicago Bd. of Trade v. Christie G & S Co.*, 198 U.S. 236, 250-51 (1904). At some point, however, the amount of confidential disclosure must equal public disclosure. Otherwise, it is theoretically possible for information confidentially licensed to every member of the public, to simultaneously constitute a trade secret and public information. The amount of confidential disclosure that will equal public disclosure is unclear because the issue has not been squarely addressed by the courts.

263. *Compare Data Gen. Corp. v. Digital Computer Controls, Inc.*, 357 A.2d 105, 114 (Del. Ch. 1975) (dissemination of confidential diagrams to 6,000 people does not destroy secrecy provided such disclosure is in confidence), *with Crown Indus., Inc. v. Kawneer Co.*, 335 F. Supp. 749, 761 (N.D. 111. 1971) (unrestricted disclosure of trade secret to a third party on a nonconfidential basis can destroy trade secret protection).

264. *Cataphone*, 422 F.2d 1290, *on remand*, 316 F. Supp. 1122, *aff'd*, 444 F.2d 1313 (trade secret protected from illegal misappropriation for as long as kept secret); *Aktiebolaget Bofors v. United States*, 194 F.2d 145, 147 (D.C. Cir. 1951) (property right in unpatented trade secret exists as long as owner does not disclose secret).

265. *Kewanee*, 416 U.S. at 476.

266. *Id.* Gilburne & Johnston, *Trade Secret Protection for Software Generally and in the Mass Market*, 3 computer L.J. 211 233 (1982).

267. *Kewanee*, 416 U.S. at 476.

268. 1 P. ROSENDERG, *supra* note 18, § 3.01, at 3-3 to 3-4.

269. *Id.* at 3-6; *Kewanee*, 416 U.S. at 475 (trade secret cannot be information that is public knowledge or general knowledge in the trade or business); *Underwater Storage*, 371 F.2d at 954 (once trade secret disclosed the rest of the world may have right to use it).

270. 12 R. Milgrim, *supra* note 17, § 4.01, at 4-1 to 4-2.

271. "The first issue to be determined in every trade secret case is not whether there was a confidential relationship or breach of contract . . . but whether, in fact, there was a trade secret to be misappropriated." *Lowndes Prods., Inc. v. Brower*, 259 S.C. 322, 327, 191 S.E.2d 761, 764 (1972). See also *Frodge v. United States*, 180 U.S.P.Q. 583, 587 (Ct. Cl. 1974); *Kubik, Inc. v. Hull*, 56 Mich. App. 335, 224 N.W.2d 80 (1974). This is very important because judicial opinions often focus so heavily on the confidential

relationship that a reader might assume the breach of a confidential relationship by itself is actionable absent the existence of a trade secret.

272. See F. Jacer, 1984 Trade Secret Law Handbook 47 (1984).

273. *Id.*

274. *Id.* at 53. The tort theory is followed by the Restatement. See Restatement, *supra* note 1, at § 757 and accompanying comments.

275. For example, different conflict of laws rules and different statutes of limitations may apply depending upon characterization of the action as a tort or contract action. F. Jacer, *supra* note 272, at 55. The right to trial by jury may also depend upon whether the action is based on contract or tort. 12A R. Milgrim, *supra* note 17, § 7.03[2], at 7-27.

276. Punitive damages may be available under a tort theory but not under a contract theory. 12A R. Milgrim, *supra* note 17, § 7.03[2], at 7-27.

277. *Id.* at 7-26. See Posser & Keeton, Prosser & Keeton on Torts § 1 29 (5th ed. 1984) (general discussion of the tort of interference with contractual relations).

278. This action generally requires: (1) existence of contract between plaintiff and third parties; (2) knowledge of this contract by defendant; (3) intentional unjustified inducement by defendant to breach this contract; (4) a subsequent breach of the contract by the third party; and (5) resulting damages to plaintiff. *Walt Peabody Advertising Serv., Inc. v. Pecora*, 393 F. Supp. 328, 331 (W.D. KY. 1974).

It may be advisable in many cases to notify employers of former employees that these employees possess knowledge of trade secrets and are subject to nondisclosure agreements, so that in an action for interference with contractual relations the subsequent employer cannot assert lack of knowledge of the existence of a contractual confidential relationship.

279. *Junker v. Plummer*, 320 Mass. 76, 78, 67 N.E.2d 667, 669 (1946).

280. See *generally* *Hahn & Clay v. A. O. Smith Corp.*, 212 F. Supp. 22, 31 (S.D. Tex. 1962) (secrecy agreement must be construed to cover only methods and processes that are secret and confidential); *Mostek v. Inmos, Ltd.*, 303 U.S.P.Q. 383, 389 (N.D. Tex. 1978) (secrecy agreement does not prevent former employee from using skills and talents acquired or enhanced while working for former employer).

281. 12A R. Milgrim, *supra* note 17, § 7.08[1], at 7-178.

282. *Id.* at 7-181 to 7-182 (injunction may be against misappropriator of trade secret or in some cases against the third party using the trade secret).

283. See *Underwater Storage*, 371 F.2d at 954 (once secrecy is vitiated, the trade secret vanishes).

284. 12A R. Milgrim, *supra* note 17, § 9.03[9], at 9-100 to 9-101. The usual rules for obtaining a preliminary injunction apply in the case of misappropriated trade secrets, *id.* at § 7.08, at 7-178 n.2, although courts may grant injunctions more readily in the case of trade secret misappropriation than in other contexts due to the destruction of all economic value of a trade secret that can result from prolonged public exposure. See *generally id.* at § 9.03[9], at 9-100 to 9-101.

285. *Brunswick*, 79 111.2d at 477, 404 N.E.2d at 207. See also 12A R. Milgrim, *supra* note 17, § 7.08[1], at 7-185 n.12. A longer injunction may be granted in appropriate cases. See *id.* at 7-188 n.12.2.

286. *Kubik*, 56 Mich. App. at 350, 224 N.W.2d at 95 (injunctive relief denied but damages allowed); *Walker Employment Serv., Inc. v. Parkhurst*, 300 Minn. 264, 268, 273, 219 N.W.2d 437, 439, 442 (1974) (damages available even though injunctive relief unavailable).

287. *E.g. Cherne*, 278 N.W.2d at 95 (both injunction and damages awarded against defendants who breached both their covenants not to compete and their obligation not to disclose confidential information); *Bettinger v. Carl Berke Assoc., Inc.*, 455 Pa. 100, 105 314 A.2d 296, 298-99 (1974) (injunction and damages allowable).

288. 12A R. MILGRIM, *supra* note 17, § 7.08[3], at 7-229 to 7-231. See *generally* Annot., 11 A.L.R.4th 12 (1981).

289. *Northern Petrochemical Co. v. Tomlinson*, 484 F.2d 1057, 1060-61 (7th Cir. 1973); *Mann v. Tatge Chem. Co.*, 201 Kan. 326, 339, 440 P.2d 640, 650 (1968) (fraud oppression or wanton disregard required to support award of punitive damages).

290. See 35 U.S.C. § 285 (1982) (allows award of attorney's fees in exceptional patent cases); 17 U.S.C. § 505 (1982) (allows award of attorney's fees in copyright infringement suits at the discretion of the court).

291. *Jorda*, *supra* note 1, at 209. This may be partially related to the failure of most foreign case law to be reported. See Note, *Research Sources in International and Commercial Law*, 9 N.C.J. Int'l. & Com. Rec. 319 (1984) (most foreign jurisdictions only publish a fraction of the number of judicial opinions published in the United States).

292. See *supra* notes 237, 243 and accompanying text.

293. *Mesne & Ampere Elec. Mfg. v. Milenkovic*, [1973] Vict. R. 784 (1972) (Australian court), *reprinted in* 1 A. Wise, *Trade Secrets and Know-How Throughout the World*, app. 11 at 3-159 to 3-186 (1981 rev.); *Ansell Rubber Co. v. Allied Rubber Indus. Ltd.*, [1967] Vict. R. 37 (1966) (Australian court), *reprinted in* 1 A. Wise, *supra* note 293, app. I at 3-137 to 3-157.

294. See, e.g., Jorda, *supra* note 1, at 246-48 (France differentiates between "secrets de fabrique," which are industrial secrets, and "secrets de commerce," which are commercial secrets).
295. *Id.* at 246.
296. See *id.* at 247; 3 A. Wise, *supra* note 293, § 3.01[5], at 3-27 n.68.
297. 3 A. Wise, *supra* note 293, § 4.01[1], at 4-9 to 4-10, and § 4.01[1][d], [e], at 4-16 to 4-18.
298. 4 A. Wise, *supra* note 293, § 5.01[1], [2], at 5-7 to 5-8.
299. *Id.* § 8.01, at 8-5.
300. See generally 2 A. Wise, *supra* note 293, § 2.02, at 2-11 to 2-21.
301. *Id.* § 2.03, at 2-23 to 2-29.
302. See *id.* English law will protect confidential information even if it is not secret. American law, however, requires secrecy. See *supra* note 249 and accompanying text.
303. 1 A. Wise, *supra* note 293, §§ 4.01 to 4.02, at 4-3 to 4-5 (Taiwan); *id.* § 2.01, at 2-3 (India).
304. Jorda, *supra* note that 221. See also *CPG Prod.*, 502 F. Supp. at 44 (court noted that trade secret protection not available in Mexico).
305. See *supra* notes 240-41 and accompanying text.
306. See *supra* note 236.
307. See *supra* note 237 and accompanying text.
308. *Kewanee*, 416 U.S. at 482-91 (trade secret law can be used to protect both patentable and unpatentable subject matter).
309. *Id.* at 475-76.
310. See *supra* note 264 and accompanying text.
311. 35 U.S.C. § 101 (1982) (to be patentable invention must be "new and useful process, machine, manufacture or composition of matter, or any new and useful improvement thereof"). For a discussion of these statutory categories, see *supra* notes 42-45 and accompanying text.
312. See *Smith*, 203 F.2d at 373 (almost any information or knowledge that is kept secret and used to conduct a business qualifies as a trade secret).
313. 35 U.S.C. §§ 101-103 (1982). See also *Kewanee*, 416 U.S. at 476-78.
314. 35 U.S.C. § 154 (1982).
315. See *supra* note 237 and accompanying text.
316. See *supra* note 35 and accompanying text.
317. See *supra* note 101 and accompanying text.
318. See *supra* notes 247, 254-56 and accompanying text.
319. See *supra* notes 91-94 and accompanying text.
320. See *supra* note 205 and accompanying text.
321. 17 U.S.C. §§ 401, 402 (1982).
322. See *supra* note 100 and accompanying text (distinction between patent and copyright protection). See also *supra* notes 238, 264-67 and accompanying text (trade secret law protects an underlying idea from misappropriation but not from reverse engineering or independent development).
323. See *supra* notes 130-31 and accompanying text.
324. 12A R. Milgrim, *supra* note 17, § 8.02[1], at 8-3. It should also be noted that some works of authorship, such as certain works of art, may be protected by a design patent or by copyright. *Mazer*, 347 U.S. at 201. Both design patent and copyright protection may be obtained simultaneously in the same work. In *re Yardley*, 493 F.2d 138', 1393 (C.C.P.A. 1974).
325. 35 U.S.C. § 122 (1982).
326. See, e.g., *Modern Controls, Inc. v. Andreadakis*, 578 F.2d 1264, 1269 n.10 (9th Cir. 1978) (although product patented, method of manufacture could be trade secret); *Reinforced Earth Co. v. Neumann*, 201 U.S.P.Q. 205, 207, 208, 211 (D. Md. 1978) (earth wall retaining system patented, but computations, plans, methods, and designs to implement system for particular project were trade secrets).

327. See, e.g., Leuzzi, *Process Inventions: Trade Secret or Patent Protection*, 66 J. PAT. OFF. Soc'y 159 (1984) (discussing whether to use patent or trade secret law to protect process inventions).

328. Compare 35 U.S.C. § 154 (1982) (17 years of protection for utility and plant patents) with *United States v. Dubilier Condenser Corp.*, 289 U.S. 178, 186 (1933) (inventor may keep invention secret and reap its benefits indefinitely).

329. See, e.g., *Management Science*, 6 Computer L. Serv. Rep. (Callaghan) 922 n. 1 (proprietary software confidentially licensed to more than 1,300 customers).

330. Although Coca-Cola is a widely marketed product, its formula has been maintained as a trade secret for many years because it defies analysis. *W. Konoid*, *supra* note 69, at 81; 12 R. Milgrim, *supra* note 17, § 5.04[2], at 5-91 n.12.

331. 12A R. Milgrim, *supra* note 17, § 9.02[9][b][i], at 9-53 (courts have invalidated more than 75% of litigated patents in the past). This situation may change, however, now that all patent appeals are heard by a single federal appeals court as opposed to the prior system where the various U.S. courts of appeals heard patent appeals from the district courts within their circuits. See *supra* note 96 and accompanying text.

332. See 12A R. Milgrim, *supra* note 17, § 9.03[7], at 9-97 (stating belief that trade secret rights are upheld at least 75% of the time).

333. *Warrington Assoc. v. Real-Time Eng. Sys.*, 522 F. Supp. 367, 368 (N.D. Ill. 1981). See also *Technicon Medical Information Sys. v. Green Bay Packaging, Inc.*, 687 F.2d 1032 (7th Cir. 1982), *cert. denied*, 103 S. Ct. 732 (1983); *Warrington Assoc. v. Kellogg Citizens Nat'l Bank*, 215 U.S.P.Q. 375 (E.D. Wisc. 1981).