

Intellectual Property

A LANGURE Module

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Introduction

The goal of this lecture is to familiarize you with the concept of intellectual property. Additionally, it will briefly address the ethical dimensions of intellectual property. Before proceeding, the terms property and intellectual property must be defined. Property is an asset that can be owned. There are two broad types of property. The first type of property is tangible. Tangible property includes items that can be seen and touched. Tangible property includes what we commonly associate with property, real estate, cars, jewelry and clothing. Another type of property is intangible. Intangible property is what cannot be seen. Examples of intangible property include the ideas contained in books, journals, or music. It also includes the coding for computer software. These intangible forms of property are often called intellectual property.

Intellectual property, like real property is an asset. However, unlike real property, is not something your can feel, smell, or touch. In order for intellectual property to exist, of course an idea must first come into existence. It must then have some form of instantiation. This is the concrete expression of the idea. An example of instantiation occurs when an author envisions a story and then puts his/her idea on paper. Without this concrete expression, the idea is not intellectual property (Hefter & Litwitz, 1999).

Like real property, intellectual property comes with a bundle of rights. Ownership allows one to restrict access to intellectual property. This is what is called a negative right. Negative rights allow one to prohibit certain actions. Because access can be limited, it is possible to create value if others are interested in acquiring the idea. Ownership allows intellectual property to be bought and/or sold (positive rights.) It can also be temporarily rented out. For example, some computer software programs require the user to pay a periodic fee to maintain usage rights.

Historical Development and Ethical Dimensions

Within both the Greco-Roman and Judeo-Christian traditions, information and ideas were originally viewed as gifts from God or the gods (Hesse, 2002). As a result, knowledge could not be owned by any person or entity. Knowledge was a collective good. It was not viewed as something that could be bought or sold. Similarly, intellectual property rights have no historical basis in the pre-modern Islamic or Chinese traditions (Hesse, 2002).

The development of intellectual property rights began during the European Enlightenment of the 17th and 18th centuries. Two British authors, John Locke and Edward Young were particularly influential in nurturing this concept. In 1690, John Locke published his *Second Treatise*. It discussed natural property rights which include the ownership of a person's creations and ideas. Locke stated that "every Man has a Property to his own Person" (as cited in Hesse, 2002). Locke also argued that knowledge was the product of the senses' interpretation of nature. It was not derived from a divine being (Hesse, 2002).

Several decades later, Edward Young's *Conjectures on Original Composition* (1759) discussed how authors inject their personality into their works. Young believed that authorship constituted a higher form of labor. Thus, he argued that authors should have a perpetual right to their work. He differentiated between products of the mind and machines. Young believed that property protections for machines should be time limited (Hesse, 2002).

The writings of Locke and Young were influential on the European mainland (Hesse, 2002). French contributors such as Diderot argued that authors could own and sell intellectual property rights. A German, Johann Gottlieb Fichte brilliantly differentiated between copies of a work and its original manifestation. He held that the ideas contained in a work belong to society. However, the original unique expression of an idea belonged to its author (Hesse, 2002).

Another pillar of support for intellectual property rights exists within utilitarian philosophy (Hesse, 2002; Moore & Unsworth, 2005). Utilitarian philosophy addresses the relationship between the social benefits and social costs of an action. When social benefits outweigh the social costs, then the action should be encouraged. It is argued that intellectual property rights promote the greater good. Property protections provide incentives for the creation of new ideas and inventions (Moore & Unsworth, 2005). This promotes economic growth. This utilitarian thinking is expressed in the United States Constitution (Hesse, 2002; Moore & Unsworth, 2005). It states in Article I, Section 8 that Congress shall have the following power:

“To promote the Progress of Science and useful Arts, by
securing for limited Times to Authors and Inventors the

exclusive Right to their respective Writings and Discoveries;”

This enumerated power provides authorization for copyright and patent laws in the United States.

Natural property rights and social utilitarianism provide the philosophical underpinning of intellectual property laws. However, these philosophies are not without criticism. Social utilitarianism can sometimes conflict with natural rights (Hesse, 2002). Some people argue that the spread of knowledge is a greater social good than the author’s right to restrict its use. For instance, one could argue that photocopying and distributing booklets containing vital information on cancer prevention is more important than the author’s right to be paid for his/her effort. The counter argument is that the booklet is less likely to be written if the author’s right is not preserved.

Types of Intellectual Property

There are four general types of intellectual property law: copyright, patent, trademark, and trade secrets (U.S. Dept. of State, Bureau of International Information Programs, 2006). The various types of intellectual property law receive different legal treatment. They also face oversight from different government agencies. The following sections briefly address the various types of intellectual property law.

Copyright

Copyright refers to the legal protection of original works of authorship. This covers items such as literary works, music, computer software, plays/theatre, and movies. Copyright does not cover the ideas expressed in such works. However, it covers the way ideas are expressed. Copyright protections are automatically provided to the author of both published and unpublished works at the moment they are affixed in a tangible medium. Copyright protections are statutorily grounded in Article 17 of the United States Code. The copyright holder has the exclusive right to the following with his/her work (US Copyright Office, 2004a):

1. To reproduce the work
2. To prepare derivative works
3. To sell, lend, distribute copies or transfer ownership
4. To perform the work publicly
5. To display the copyrighted work publicly

For works created after January 1, 1978, the duration of the copyright is the author's life plus seventy years (US Copyright Office, 2004a).

Authorship determination is a seemingly simple task. Either a person authored a piece or he/she did not. However, an important authorship exception exists for "works made for hire." As a general rule, if an employee creates a work under the scope of his/her employment, then the employer is the author and copyright holder (US Copyright Office, 2004b). This doctrine is of utmost importance to academia given that authorship is central to the profession. University policies on copyright ownership may vary dependent whether the work is created by faculty, staff or students. For instance, at

North Carolina State University, faculty members generally own the copyright of their works provided that the university did not provide exceptional support in its creation (NCSU, 2006). However, the university owns the copyright of work authored or created by staff as part of their employment (NCSU, 2006). Students own the copyright to their work. However, if a work was created during the instructional process the student is not granted full copyright protection. For example, he/she may not be allowed to use class or lab notes for commercial purposes (NCSU, 2006). Additionally, students do not receive copyright if the work was created as a function of employment or the product of externally funded research. In the previous examples, it is important to note that the employer (North Carolina State University) elected to create internal policies affecting copyright ownership. Universities are not obligated to transfer copyright ownership to employees or students. *Policies are likely to vary from institution to institution.*

There are other limitations to copyright protections. One of importance in academia is the doctrine of fair use. Fair use doctrine is a limitation on exclusive copyright ownership. It allows for use of a copyrighted work for the purposes of criticism, teaching, news reporting, scholarship, and research. There are several factors that determine if fair use is applicable (US Copyright Office, 2006):

1. The purpose of the usage: is it commercial, or nonprofit/educational?
2. Nature of the copyrighted work
3. The portion used in relation to the work as a whole
4. The effect on the value of the copyrighted work

Copyright protections are the subject of various international treaties. The Berne Convention for the Protection of Artistic Property and the Universal Copyright

Convention provide a loose framework that gives a small degree of international standardization in this area. However, not all countries are signatories to these treaties. There is no international copyright that protects authors regardless of geographic location. Copyright protections are dependent on the laws of each country.

Patents

Patents are property rights given to the developer of an invention. Patents are issued by the United States Patent and Trademark Office (USPTO). There are three types of patents (USPTO, 2005):

1. *Utility patents*: for the discovery of new machines or processes or the improvement of existing machines
2. *Design patents*: for original ornamental designs made for manufacture
3. *Plant patents*: for the invention or discovery of distinct and new varieties of plants. The inventor must also be able to asexually reproduce this plant.

Unlike copyright, an inventor must apply for patent protection. If the application is granted, the inventor's patent lasts twenty years. A patent allows the inventor "the right to exclude others from making, using, offering for sale, or selling" the invention in the United States (USPTO, 2005). It also grants the inventor power to prohibit others from importing the invention into the United States. The holder of a patent is responsible for its enforcement. Patent infringements may be pursued in the federal court system (USPTO, 2005).

Trademarks

The United States Patent and Trademark Office is involved in another area of intellectual property, trademarks. Trademarks are words, or symbols that indicate the provider of a good or service. It is used to distinguish between providers (USPTO, 2005). For example, the golden arches logo is identified with the fast food chain, McDonalds. McDonalds holds a trademark on this logo along with phrases such as “Chicken McNuggets” and “You deserve a break today.” Trademarks allow the owner to prevent others from using the same symbol or phrase. However, it does not allow the holder to prohibit another provider from selling the same good or service. For instance, McDonalds can keep other fast food restaurants from using the term, “Chicken McNuggets.” It cannot keep other fast food restaurants from selling fried chicken nuggets. Trademarks can be registered with the USPTO when service providers are engaged in interstate or international commerce.

Trade Secrets

Trade secrets are the last intellectual property category. Trade secrets are information that gives its holder a competitive advantage in the marketplace (U.S. Department of State's Bureau of International Information Programs, 2006). Examples of trade secrets include formulas, patterns, processes, techniques, or procedures (Hefter & Litwitz, 1999). Perhaps the most famous trade secret is the formula for Coca-Cola. Unlike patents and copyrights, trade secrets are not creatures of statute. There is no governmental agency that addresses them. However, the owner of a trade secret may be entitled damages if another person or entity improperly discloses a trade secret (Hefter &

Litwitz, 1999). Trade secrets are valuable only as long as the information remains confidential.

Violations of Intellectual Property Laws

If your intellectual property rights are violated, it is generally your responsibility to assert your rights. Depending on the type of intellectual property involved, you may have a variety of ways to respond to violations. Copyright and trademark infringement carry civil penalties such as injunctions prohibiting continued violations and/or monetary damages. Serious cases of copyright infringement may also result in criminal prosecution by the federal government. Patent infringements are subject to only civil penalties. Therefore, a patent holder is solely responsible for enforcing his/her legal rights. Until recently, only civil remedies were available for the punishment of trade secret violations. However, under the Espionage Act of 1996, the federal government may undertake criminal prosecutions for trade secret theft.

In all cases of intellectual property violation, negotiation is the simplest and cheapest possible remedy. Sometimes, intellectual property violations occur as the result of innocent mistakes. A simple phone call or friendly letter notifying the perpetrator might be enough to resolve the problem. Litigation is also an option. As previously mentioned, copyright, patent, and trademark violations are actionable in the federal court system. Alternative dispute resolution (ADR) is another means of resolving these issues. There are two general types of ADR, mediation and arbitration. Mediation is a process where the parties mutually reach an agreement with the help of a facilitator. Arbitration involves a third party determining the outcome of a dispute. Universities often have

committees that investigate and arbitrate internal intellectual property disputes. It is important to review and understand the policies at your university.

Conclusion

Intellectual property is a complex topic. Its complexity is driven by two factors. The first factor is the intangible nature of ideas. Second, there are the sometimes competing, sometimes complementary philosophical traditions of natural law and utilitarianism. The legal system attempts to balance these forces by providing ownership rights to authors and inventors. However, the legal framework also provides important limitations on ownership such as the fair use doctrine and time limitations. Because academia is based on the creation and dissemination of ideas, it is vital that scholars understand the ethics, law and regulations surrounding intellectual property. This article provided a brief overview of these areas. However, it is important to monitor the evolution of this field throughout your career. Additionally, since regulations differ among academic institutions and employers, you should familiarize yourself with the regulations which apply to you.

*The authors contributed equally to this essay. The order of the authors' names was determined by a flip of a binary indicating device.

Resources

Hefter, L. & Litwitz, R. (1999). Protecting intellectual property. *Prosperity Paper Series*. U.S. Department of State, Bureau of International Information Programs. Retrieved May 22, 2006 from <http://usinfo.state.gov/products/pubs/archive/prosper/prosper7.htm>

Hesse, C. (2002). The rise of intellectual property, 700 B.C.—A.D. 2000: an idea in the balance. *Daedalus*, 131(2), 26-46.

Locke, J. (1690) *Second Treatise*.

Moore, A. & Unsworth, K. (2005). Information ethics: An introduction. In Moore, A. (Ed.), *Information ethics: Privacy, property, and power*. Seattle WA: University of Washington Press.

North Carolina State University. (2006). Copyright regulation - Copyright implementation pursuant to copyright use and ownership policy of the University of North Carolina. Retrieved May 22, 2006 from http://www.ncsu.edu/policies/governance_admin/gov_gen/REG01.25.3.php

North Carolina State University Libraries, Scholarly Communication Center. <http://www.lib.ncsu.edu/scc/main.html>

U.S. Code, Title 17-Copyright. <http://www.access.gpo.gov/uscode/title17/title17.html>

U.S. Copyright Office. <http://www.copyright.gov>

U.S. Copyright Office. (undated). *Copyright in general*. Retrieved January 14, 2006 from, <http://www.copyright.gov/help/faq/faq-general.html#what>

U.S. Copyright Office. (undated). *Copyright law of the United States of America and related laws contained in Title 17 of the United States Code; Circular 92*. Retrieved January 14, 2006 from <http://www.copyright.gov/title17/92chap1.html#107>

U.S. Copyright Office. (2004a). *Copyright basics*. Retrieved January 14, 2006 from <http://www.copyright.gov/circs/circ1.html#wci>

U.S. Copyright Office. (2004b). Works made for hire under the 1976 Copyright Act. Retrieved May 20, 2006 from <http://www.copyright.gov/circs/circ09.pdf>

U.S. Copyright Office. (2006). Fair use. Retrieved May 22, 2006 from <http://www.copyright.gov/fls/fl102.html>

U.S. Department of State, Bureau of International Information Programs. (2006). Field, T. *Focus on Intellectual Property*. Retrieved May 22, 2006 from <http://usinfo.state.gov/products/pubs/intelprp/>

U.S. Patent and Trademark Office. <http://www.uspto.gov>

U.S. Patent and Trademark Office. (2005). *General information concerning patents*. Retrieved January 14, 2006 from <http://www.uspto.gov/web/offices/pac/doc/general/index.html#ptsc>

World Intellectual Property Organization. <http://www.wipo.int/index.html.en>

World Intellectual Property Organization. (2004). *World intellectual property handbook: Policy, law and use*: WIPO publication no.489(e). Retrieved January 14, 2006, from <http://www.wipo.int/about-ip/en/iprm/index.htm>

Young, E. (1759). *Conjectures on Original Composition*.