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thesis entitled

INTELLECTUAL PROPERTY RIGHTS IN SOFTWARE:
THE U.S. vs.CHINA'S POSITION

presented by

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has been accepted towards fulfillment
of the requirements for

M.A. degree in Telecommunication

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Date 12-15-98

INTELLECTUAL PROPERTY RIGHTS IN SOFTWARE: THE U.S. vs. CHINA'S POSITION

By

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A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTER OF ARTS

Department of Telecommunication

1998

ABSTRACT

INTELLECTUAL PROPERTY RIGHTS IN SOFTWARE:
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By

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This report critiques literature discussing Intellectual Property Rights (IPRs) in China. It provides a framework for understanding the significance, and difficulty of curtailing software piracy in the Socialist country due to its unique social, political, economic, and legal environment. Thus, a contextual analysis is developed and compared to the U.S.

The analysis reveals that China suffers for normative dislocation, and extra-legal practices that are associated with its culture. It concludes that China is on the right track toward developing a strong anti-piracy regime, but requires more time, as well as economic, and legal assistance from developed states. Findings also reveal that IPRs cannot exist in the absence of strong enforcement mechanisms, and wide-spread collaboration among individuals and regimes that cooperate to better serve their own interest.

This publication is dedicated to those who have struggled to lay claim to their own "intellectual creation(s)". For those who have fallen, may they one day rise to reap the full benefits of their givens. Should they rightfully seek the world's most precious possessions, they will surely reject its peculiar ways.

Renae Kushner, 1996.

ACKNOWLEDGEMENTS

I would like to express my gratitude to the director of my thesis committee, Dr. Thomas F. Baldwin. His patience and enthusiasm for exploring the implications of Intellectual Property Rights and software piracy in China was a constant source of encouragement. Most importantly, his commitment to promoting the advancement of his students was demonstrated through unwavering support.

I would also like to acknowledge the support of Dr. Thomas Muth (Ph.D./J.D.). His guidance toward the development and final reading of this thesis is greatly appreciated. Finally, I would like to thank my wife, Vangie Bryant White. Her encouragement, patience and intellectual contribution was immeasurable.

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CHAPTER I

Introduction

For more than 100 years, the impact of Intellectual Property Law has been subject for considerable debate. At the center of the controversy are ongoing questions like: What constitutes Intellectual Property? Who should enforce Intellectual Property Rights? How should the rights be enforced? And perhaps the most important issue of all: Who stands to benefit most? Questions such as these underlies the perennial challenge for highly industrialized and less developed countries, as well as transitional corporations, especially manufacturers of packaged software.

The Software Industry

The software industry is among the fastest growing sectors in the world. Hailed as one of the greatest business success stories in recent history, increases in the sale of both hardware and software are expected throughout the current century. However, piracy threatens the industry's economic future (Blumenthal, 1995; BSA, 1996).

According to the Business Software Alliance (which is a consortium of software publishers), global software pirates accounted for more than $291.5 million each week in 1996 (BSA, 1996), while much of the activities leads to giving away the software (DeLoughry, 1994). Because software is a major input factor in computer operations, it is important for any country to observe a multitude of domestic practices that are off-set or affected by policy shifts in communication, and information technology. Thus, policies that

impact software will necessarily affect technology transfer, communication policy, educational goals and a host of other areas (Haq, 1987; Schware, 1992).

Traditionally, software manufacturers have relied on their own ability to protect their intellectual creations. Efforts to develop tamper proof products are made, but to little or no avail. Publishers soon realized that benefits derived through independent efforts were short-term because pirates are becoming more sophisticated in their operations and ability to replicate the unique signatures (holographic images, trademarks, Service Marks, etc.) of manufacturers. Additionally, manufacturers were penalized as efforts to control theft through internal mechanisms such as cryptography caused decreases in sales (Furger, 1995).

Software manufacturers initiated special licensing agreements by collaborating with retailers. The publishers also aligned themselves with special interest organizations (Business Software Alliance, Software Publishers Association, International Intellectual Property Alliance, Computer Professionals for Social Responsibility, etc.), and demanded that governments (both foreign and domestic) enact strict policies to eradicate piracy (Borzo, 1992; BSA, 1996; Fisher, 1994B; Furger, 1995; King, 1992; Lawrence, 1995). For the most part, this approach has been fairly successful.

Since the early 1990's, collaboration has allowed U.S. software manufacturers and retailers to recover substantial amounts of money (Borzo, 1992). However, this incentive-based approach does not stop the illicit activities altogether. Consequently, since 1984, Intellectual Property-related issues have been linked to trade among industrialized nations (Borzo, 1992; Sun, 1995).

U.S. Pressure on LDCs

The U.S. increased pressure on Less Developed Countries (LDCs) by threatening to invoke unilateral sanctions through Trade Related Aspects of Intellectual Property Rights (TRIPS) in accordance to the General Agreement on Tariff and Trade (GATT) (Davis Jr., 1991; Masterson, 1994; Sun, 1995). Developing nations have responded to the added pressure by adopting aggressive, proactive measures to deter the theft of software and other "soft technologies" (such as CD-ROM (CDs), Laser Disks (LDs), satellite transmissions and films). However, these efforts alone are not enough because developing nations are often too slow or unwilling to enforce existing laws that deter Intellectual Property Rights (IPRs) infringements.

Governments of LDCs are usually hard-pressed to find solutions to software piracy. They generally take a nationalistic approach toward IPRs (Merriman, 1991; Stanberry, 1990 a&b; Weinstein, 1985). These decisions are usually accompanied by substantial capital requirements for IPRs protection, weak domestic and international enforcement mechanisms, as well as technological constraints on domestic software production capabilities. In lieu of these circumstances, China is in a unique position.

China in Transition

China has long been criticized for its unwillingness to protect the interest of transnational software manufacturers. Leaders of Socialist states are often accused of being in compliance with pirates as violators either go unpunished or are subject to weak penalties (Awanohara, 1992; Fleming, 1994). Generally speaking, LDCs argue that information and ideas are free-flowing forms of expression which can not be owned by an

individual. Thus, soft technologies such as software should not be viewed as property (Branscomb, 1994; Stanberry, 1990). This concept is deeply rooted in China's culture and is symptomatic of more than a half century of social, political(Declet Jr., 1997; McCall, 1996). and economic reformation.

Since 1984, China has made significant strides to better its stance on Intellectual Property (Intellectual Property) in the eyes of the world community. In 1992, it signed a Memorandum of Understanding with the U.S., which was designed to modernize its Intellectual Property legislation. Subsequent agreements in 1995 and 1996 were designed to encourage the Socialist state to enforce its existing laws. By the end of 1996, China was undergoing rapid legislative reform and had a bilateral trade surplus of $39 billion and rising, second only to Japan's. Furthermore, they are vying for a spot in the World Trade Organization and Most Favored Nation status. Thus, their position on the protection of packaged software (and other soft technologies) may be paramount to the country's long-term economic stability, particularly if China is to be in the forefront of the information technology revolution (Laris, Clemetson, Lieu and Hirsh, 1997).

Our practical interest in China stems from two fairly recent developments. The first is America's international trade deficit consequences with respect to virtually every aspect to the economy. This has made the U.S. reorient its way of thinking about China. Although the Socialist state is not wealthy by Western standards, relatively small per-capita sales can amount to significant business. The second reason we have become oriented toward China, and its Intellectual Property Laws, is politically motivated. Approximately two decades ago, Sino-American relations were virtually non-existent.

Thoughts of transacting business with China was considered pointless, even by the most aggressive American companies (Sobel, 1989).

During the early 1970's, China opened its doors to both sides of the Pacific, making trade between them and the U.S. a reality. For American companies, understanding how China's social, political and legal environment impact software manufactures is crucial, particularly considering the increasing significance of international consumer markets. Furthermore, comprehending how cultural norms will necessarily affect the Socialists state's position on IPRs is critical for all highly developed countries (Corne, 1997; Sobel, 1989).

This paper critiques the literature discussing global IPRs. It provides a framework for understanding the significance of IPRs for the protection of packaged software, strong enforcement mechanisms, and wide-spread cooperation by comparing China's laws to those of the United States. The report also critiques China's position on IPR infringements; how punishment is imposed and to what degree it is effective, given its current public policy. It examines how China could establish an administrative body to settle disputes surrounding property rights violations (as they relate to international standards), and attempts to determine the feasibility of China's decision to adopt such public policies. The paper will also discuss the steps that are necessary for China's success by briefly examining the efforts and progress of countries (Taiwan, Singapore, South Korea, etc.) with similar problems and policies. Finally, the report will discuss how other nations could assist China.

CHAPTER II

Overview of China's Legal Framework

In contemporary China, economic modernization dictates reality. Since 1949, China's market socialism is both flexible and pragmatic. Around 1949, when the Chinese Communist Party came into power, the government denounced customary Confucian legal norms and created a Socialist legal system inundated with Western legal norms (Book of Six Codes, 1982; Corne, 1997; Ramjerdi and D'Amato, 1995). (The Book of Six Codes refers to an entire body of law including the constitution, criminal, civil, and commercial law.)

The extent to which these norms have affected traditional practices is highly questionable. However, they do have practical implications because their adoption tends to placate foreign investors. In the wake of these changes, the laws as they currently exist may be nothing more than a facade, given the Socialist state's local administrative implementation and enforcement of such normative public practices (Corne, 1997; LaKirtz, 1997).

According to Peter Corne (noted scholar and legal practitioner on Chinese law), China suffers from normative dislocation and is bound by the promises and failures of Chinese socialism. He further asserts that Maoist philosophy has, over time, weakened traditional Confucian norms, while its failure to fulfill its goals of Socialist utopia has left many Chinese disillusioned (Corne, 1997). Imported Western cultural norms are juxtaposed with local norms to exacerbate the normative vacuum caused by China's

Cultural Revolutions (see Chapter VI.), and has equally discredited Maoism (Corne, 1997; LaKirtz, 1997).

Administratively, government officials charged with the responsibility to draft, implement, and enforce new laws are free to apply provincial norms under the guise of carrying out their constitutional duties (Corne, 1997). In an atmosphere of legal dislocation, extra-legal norms such as wide-spread corruption and nepotism are poorly sanctioned and are able to flourish. For Corne, such administrative problems are at the root structural and stems from a variety of internal weaknesses, ideological constraints, and inadequate legal reform (Corne, 1997; LaKirtz, 1997).

Administrative Law

In China, administrative law concerns the specification, implementation and enforcement of central laws by various state organs. Since all law in China is public law, administrative law also regulates China's vast economy, as well as the relationship among its various actors (Corne, 1997; LaKirtz, 1997). Administrative law forms the largest branch of Chinese law, and comprises a multitude of legal concerns. Among them are organic law, civil servants law, administrative supervision, the law of administrative acts, and sectorial law. Of the five subcategories, sectorial law encompasses foreign investment, public security, industry, customs, fashion, finance, advertising, transportation, health, insurance, environmental, natural resources, labor, quality, culture, and patents. Although all the former subcategories of legal arms are important, this report will primarily focus on culture and patents (Corne, 1997; LaKirtz, 1997; Ramjerdi and D'Amato, 1995).

Administrative law's centrality is a function of China's constitutional design whereby power flows downward. In practice, law making in China is diffused (Corne, 1997; Declet Jr., 1997; Ramjerdi and D'Amato, 1995). Central power organs such as the National People's Congress (the highest level of legislative authority), its standing committee, and certain local people's congresses have the power to draft, present, examine, adopt and promulgate law. The law is specialized, and implemented by administrative organs such as the State Council's various departments, and local people's government (Corne, 1997; LaKirtz, 1997; Li, 1978; Ramjerdi and D'Amato, 1995).

Unlike their Western counterparts, administrative organs in China possess both inherent and conferred authority to draft rules and regulations. Consequently, administrative organs wield tremendous authority power in the Chinese legal system, acting as legislative, interpretive and enforcing bodies (Corne, 1997; Li, 1978; Ramjerdi and D'Amato, 1995). The possession of inherent lawmaking power by administrative organs is the consequence of the 1982, People's Republic of China Constitution, which reforms rather than replace China's preexisting central planning mechanism (Corne, 1997).

In an effort to calibrate socialism, and maintain central control over China's vast economy, lawmakers adopted a rationale that lends itself to the creation of laws that are inherently flexible, so that they may be adjusted to the vagaries of human behavior (Corne, 1997; Declet Jr., 1997; Li, 1978). Central policy decrees, roughly disguised as laws, permit administrative organs to flexibly adjust Western legal norms to fit with local reality. Devolution of quasi-legislative power to administrative bodies creates a system of law in which rules, regulations, and other normative documents often diverge and contradict one another (Corne, 1997; Li, 1978).

Each administrative organ spins a complex web of measures, opinions, orders, circulars, rules, regulations, notices and provisions. The effect of said policy is currently uncertain under Chinese law. Additionally, the meaning given to a particular document will greatly depend on whether or not the document is circulated internally, attached to an interdepartmental circular or issued to the public (Corne, 1997).

Administrative specialization, or the process by which the law is brought down to local reality by administrative interpretation and legal revision by lower administrative units is demonstrated by China's method of attracting foreign investment. The Joint Venture Law, created in 1979, allowed the country to benefit from the free flow of capital without restrictions. Neither the Joint Venture Law, as promulgated in 1979, nor its Implementation Regulations, as issued by the State Council, imposed any restrictions on the amount of money to be invested. However, application of investment practice is severely regulated (LaKirtz, 1997; Ramjerdi and D'Amato, 1995).

The Ministry of Foreign Trade and Economic Cooperation (MOFTEC), in reviewing and approving all foreign contributions of machinery, industrial property and proprietary technology place limitations at fifteen to twenty five percent of registered capital. It is worth noting, however, that a long standing internal MOFTEC decree specifies that such contributions may not exceed twenty percent of registered capital for joint ventures (LaKirtz, 1997 Ramjerdi and D'Amato, 1995). Consequently, the Joint Venture Law becomes familiar enough on its face to attract foreign investments, but remains loose enough to allow continued application of another set of normative values more familiar to officials charged with regulation. The aforementioned (hidden) practices

has expedited China's movement toward a market-driven economy since the mid 1970's (McCall, 1996; Ramjerdi and D'Amato, 1995).

China's Changing Economy

Following the death of communist leader Mao Zedong in 1976, China's new leaders decided (once again) to recognize limited private property rights as a means to accelerate economic growth. (McCall, 1996; Ramjerdi and D'Amato, 1995). The new leader, Chairman Deng Xiaoping, believed that increased application of modern technology to all sectors of the economy was needed for China to reach economic equality with the West. During the 1980's, the Socialist state modified its Marxist economy in favor of a dual system consisting of a one-party, autocratic political system, and a government-assisted, free market economy. This system reflected, not the adoption of capitalism, but rather, a return to Confucianism, which is the traditional philosophy of China (Corne, 1997; LaKirtz, 1997; Ramjerdi and D'Amato, 1995).

Where capitalism supports self-gain, independent of social gain, Confucianism allows for the opportunity of self-gain only if it primarily helps society as a whole (Corne, 1997). China began to construct and enact its Intellectual Property Laws to coincide with its economic system by reorganizing private property rights. Between 1983 and 1990, the People's Republic revised its Patent, Trademark and Copyright Law (Chuanjie, 1989; Declet Jr., 1997; Ramjerdi and D'Amato, 1995).

Patent Law

China began working on and passed its newly revised Patent Law in 1984. By mid-August of 1989, the patent office received a total of over 108,000 patent applications, 22,000 of which were filed by foreigners. By 1989, the Chinese Patent Office had granted 27,000 patents, including 1,800 to foreign applicants. Eighty-three percent of those granted were Utility Patents, which covers "any new and useful process, machine or composition of matter" (Masterson, 1994). Since the passage of the revised Patent Law, increases in applications could be seen throughout the decade (Chuanjie, 1989; Ramjerdi and D'Amato, 1995).

Article 11 of the Chinese Patent Law provides that after the grant of a patent for an invention or a utility model, no entity or individual may exploit the patent by making use of, or selling the product's process for commercial purposes (Ramjerdi and D'Amato, 1995). The article further provides that after the Patent Office grants a Design Patent, no entity or individual may exploit the patent by making or selling the product by incorporating the patented design for commercial purposes (Chuanjie, 1989; Ramjerdi and D'Amato, 1995). In either case, ascertaining permission from the patentee is required to avoid infringement.

Trademark Law

Since 1983, China has made significant strides toward improving trademark protection. In 1988, China revised its Implementation Regulations, placing emphasis on trademark enforcement. By November 1, 1988, the Socialist state adopted the International Classification of Goods legislation (Chuanjie, 1989). According to the law

and the new Implementation Regulations, any person may lodge a complaint with, or report an offense to the competent administrative authority when infringement of an exclusive right occurs. China also promulgated detailed implementation rules under the trademark legislation.

The revised set of rules advocate the use of advanced technology to spur economic development. It also closes legislative gaps by addressing related issues in the area of trademark application processes, enforcement, and protection, which also includes remedies for counterfeiting and infringement (Chuanjie, 1989). However, China has a serious problem with enforcing these laws (see page 33-36). The country's apparent willingness to develop progressive legislation is almost meaningless unless it is willing to back-up the statues with strong enforcement mechanisms (Declet Jr., 1997; Li, 1978; Stanberry, 1990a).

The most severe problem with China's trademark legislation exists in the area of penalty imposition, because the punishment is not severe enough to deter pirates. Remedies includes having the offender proclaim his or her crimes publicly through self criticism; cancellation of the trademark; fines of less than 20 percent of the illegal turnover, or less than twice the amount of illegal profit; seizure of the false marks; and compensation. Generally speaking, stiff fines and harsh criminal penalties are considered to be necessary deterrents to trademark infringement (Declet Jr., 1997; Li, 1978; Stanberry, 1990a).

Copyright Law

The absence of specific copyright statue lead foreigners to believe that there is no protection available in China for material that other countries protect by Copyright Law. However, this is not the case. Current copyright protection is available under two areas of Chinese law: (1) provisions of both Constitutional and general issues of intellectual and other property and (2) administrative regulations for practices focusing upon author's right's and closely related subjects (Shen, 1989).

China's Constitution provides that: Citizens of the People's Republic of China have the freedom to engage in scientific research, literary and artistic creation, and other cultural pursuits (Shen, 1989). The state encourages creative endeavors conducive to the interests of the people when made by citizens engaged in education, science, technology, literature, art, and other cultural work.

Article 118 (of China's Constitution) provides that where the rights of the author, citizen, or legal person are infringed by such acts as plagiarizing, altering or passing off, he or it has the right to demand that infringements be ceased, its effects be eliminated and, any loss be compensated. Concomitant to these same measures, the People's Republic of China's Economic Contract Law recognizes the validity the authors have with publishers. China's inheritance law permits an author's heirs to inherit an interest in such agreements (Shen, 1989).

Additional regulations supplement the general provisions described above. Many are promulgated publicly, while others are reserved for internal circulation only. Both kinds of regulations govern the relationship between authors, publishers and end-users (Shen, 1989).

Authorship Rights Law

The Authorship Rights Law is arranged in six parts, containing a total of 56 articles. It's both sophisticated and progressive, because it affords some protection to software manufactures across a broad spectrum of authorship rights. Reflective of the Berne Convention, it guarantees authors of creative works both economic and moral rights over their creations (Declet Jr., 1997). Inclusive in these rights are:

(1) The right of publication, and/or whether or not to make a work public;

(2) The right of affixation of one's name, and right to demand acknowledgment of the author's identity in order to affix one's name to a work;

(3) The right of revision or to authorize others to revise a work;

(4) The right of protection of integrity of a work and from misrepresentation and/or distortion;

(5) The right to use and receive remuneration in the events one's work is photocopied, broadcast and/or projected, exhibited, distributed, televised, recorded or video, filmed, performed and/or adapted, annotated, edited, and the like.

Just as in U.S. Copyright Law, the Authorship Rights Law provides protection to an author and heirs for a period of 50 years beyond the author's life. It specifies injunctive relief, and defines specific remedies for copyright infringements while dividing them into categories. Infringing acts such as publishing a person's work without proper authorization requires the violator to compensate the owner of said work for losses (Declet Jr., 1997).

More harmful infringements, such as wide-spread commercial piracy, plagiarism, and publication of pirated work(s) have criminal penalties such as fines, confiscation of

work(s) and imprisonment associated with the activities (Declet Jr., 1997; Li, 1978). In 1994, China went further to provide up to three years of imprisonment for large scale piracy with a possible maximum prison stay of up to seven years for seriously large scale pirating operations.

Although the Authorship Rights Law is fully modernized by any standard (Declet Jr., 1997) (on the surface), it has been subject to substantial criticism. First, the legislation provides little in the area of economic redress. Secondly, it offers little to no protection for non-Chinese made products. Against this backdrop, the U.S. and China signed a Memorandum of Understanding on Intellectual Property in 1992, which required China to accede to the Berne Convention (Ramjerdi and D'Amato, 1995). The Berne principle of national treatment supersedes the discriminatory treatment accorded to foreign authors not published in China.

Although the Authorship Rights Law includes the protection of software, the Software Regulations section of the doctrine is by far more crucial for the protection of software products (Sobel, 1989). The Software Regulation section of the Authorship Rights Law accords the following rights to software authors:

(1) The right of publication or the right to decide whether or not to make the software public;

(2) The right of arbitration as a developer or the right to identify and the right to affix the developer's name to the software;

(3) The right of exploitation or right to use one's own software through such means as reproduction, reevaluation, distribution, revision, translation, and annotation, provided that the exercise of such rights shall not harm the public interest;

(4) The right to license and receive remuneration or the right to license others to use one's software by part or all of the means enumerated in item (3) and to receive remuneration for granting such license; and

(5) The right to assign or the right to assign others the exploitation rights and the licensing rights provided in item (4) and (5) (Software Regulations).

It is worth noting that the rights accorded under the Authorship Rights Law are not equal to those under the Software Regulations. The Software Regulations places more emphasis on economic rights, and less on moral rights (Declet Jr., 1997). Rights of attribution and publication are personal rights, and are therefore accorded unlimited duration. However, the rights of exploitation, licensing, and assignment are economic rights, and is protected for 25 years, and renewable for up to a maximum of 50 more years (Declet Jr., 1997, Simone, 1990; Ramjerdi and D'Amato, 1995). If a person receives the right to exploit someone else's software, but fails to register with the Software Registration Administration within three months, the software will lose all protection, irrespective of whether or not its covered by copyright. (Declet Jr., 1997).

An inherent shortcoming in China's Software Regulation section of the Authorship Rights Law is that the "fair use" provisions nullifies any protection the legislation could potentially offer transnationals. The provision provides for the re-use of incremental quantities of software for "such non-commercial purposes as classroom teaching, scientific research and carrying out the official duties of state agencies." Because so many of state's organs are either partially or fully controlled by China, this provision could easily be utilized by well connected pirates for wide-spread, government sanctioned theft (Declet Jr., 1997).

Summary

China's 50 year transformation from a Socialist state based on Confucianism, to one that includes Western norms, was spurred by the need to modernize and strengthen its economy. Accordingly, its government revised existing public policies to establish a legal framework that accommodates the vagaries of its people by adopting loosely interpreted rules that are thinly veiled as public policies or laws (Corne, 1997; Declet Jr., 1997; Ramjerdi and D'Amato, 1995). The so-called laws appeared progressive and lends credence to the nation that China is serious about Intellectual Property protection. However, close examination of the revised laws can only support a "prima-facie" case at best.

State organs facilitates national objectives by encouraging foreign investment through laws (such as the Joint Venture Law and Implementation Regulations) that reduces skepticism abroad. While the Joint Venture Law appears to indicate China's willingness to attract foreign interest, the law itself is in direct opposition to a long standing decree that was drafted to contain foreign investments. Tactics such as these have allowed the Socialist state to advance its domestic, economic agenda (Declet Jr., 1997).

China's 1984, Patent Law allowed the country to realize a record increase in new patents, while Trademark registrations also soared to new levels from 1984 to 1989 (Laris, Clemetson, Liu and Hirsh, 1997). It is also worth noting that the laws played a key role in increasing innovation, stimulating commercial and scientific research, technology transfer, and accelerating modernization through economic growth. However, problems with China's newfound initiative are apparent.

The Authorship Rights Law is designed to benefit Chinese nationals only. Although the Software Regulation section (under China's Authorship Rights Law) appears extremely progressive, allowances were made for the appropriation of a creator's work through highly subjective decrees. Thus, the "fair use" provision only serves to countermand any sincere efforts to advance the nation state toward full IPRs protection practices.

CHAPTER III

Definition of Intellectual Property and Its Importance

In What Ways Can We Understand Intellectual Property?

Generally speaking, "intellectual property rights is the ownership of the right to posses or otherwise use, or dispose of products created by human ingenuity" (GAO Report, 1995). With regards to Intellectual Property, piracy may be defined as "any unauthorized and uncompensated reproduction of someone else's creative intellectual achievement." This broad definition of Intellectual Property creates tremendous opportunities for producers to lay claim to a vast group of globally produced materials.

Intellectual Property covers everything from computer software and hardware to pharmaceuticals, movies, toys and the like. However, the scope of this report is limited to pirated software, and to a lesser degree, related "soft technologies" such as CD ROM, satellite transmissions and/or films. (Field, 1995a; Masterson, 1994; Office of U.S. Trade, 1995). Intellectual Property in the U.S. is distinguishable by several forms, among them are patents, trademarks and Service Marks, copyrights, and trade secrets (Field, 1995b; Office of U.S. Trade, 1995).

Patents

Utility Patents in the U.S. have a term of 17 years form the date of the grant, 35 U.S.C. 154; Design Patents have 14 years from the date of the grant, 35 U.S.C. 173. Only the U.S., the Philippines and Jordan have patent systems based on a "first to invent" standard, which means that the known creator of a "useful process, machine or

composition of matter" is protected under U.S. Patent Law if he or she can prove that they were the first creator of the process or product in question (Field, 1995b; Masterson Jr., 1994; Office of U.S. Trade, 1995; WIPO, 1995). All other national patents systems employ a "first to file" standard.

There are two primary international patent conventions. The Paris Convention for the Protection of Industrial Property (providing national treatment and a one year priority period for the filing of patent application in other Paris convention member states, but no required subject matter protection of minimum term). The second is the Patent Cooperation Treaty (permitting the filing of single international patents application which is then reviewed by the patent offices of individual countries) (Field, 1995b; Masterson Jr., 1994; Office of U.S. Trade, 1995; WIPO, 1995).

Trademarks and Service Marks

In the U.S., trademarks and service marks have a renewable term of 10 years. Prior to 1988, as a result of the Trademark Law Revision Act, there were 20 years protection granted to trademarks and service marks. However, two conditions must be met. The marks must be in use in interstate commerce, and a specimen proving use must be provided to the Patent and Trademark Office in Washington, D.C. The Paris Convention for the Protection of Industrial Property is the primary international convention protecting trademarks (Field, 1995b; Masterson Jr., 1994; Office of U.S. Trade, 1995; WIPO, 1995).

Copyrights

Copyrights, at least in the U.S., are used to protect artistic works. As of the first of January, 1987, the artist's work is protected for up to 50 years after the artists death. Unlike patents and trademarks, which requires filing in other countries in order to obtain protection in those countries, U.S. copyrighted works are automatically protected in all signatory countries to the Berne Convention for the Protection of Literary and Artistic Works (WIPO, 1995; Office of U.S. Trade, 1995). Berne Convention works that have a country of origin other than the U.S. are exempted from requirement that copyrights be registered at the Copyright Office before an infringement suit can be brought. These same rules currently applies for all works originating in the U.S. (Office of U.S. Trade, 1995).

Trade Secrets

In the U.S., trade secrets are creatures of the state. Each state has a body of law governing trade secrets. However, a number of states have adopted the Uniform Trade Secrets Act. Unlike patents, trade secrets do not authorize rights exclusively, but are dependent on the organization's ability to maintain secrecy. To compound the problem of international trade, many countries do not have laws protecting trade secrets (Office of U. S. Trade, 1995; Masterson Jr., 1994).

Definition of Software

Software encompasses a range of copyright-prone elements. Computer users are familiar with two basic categories of software applications. These are the business and educational programs that makes computers useful, and operating systems, which interacts

with hardware, and enable the programs to run. A more fundamental distinction is between "source code" and "object code" (Declet Jr., 1997)

Computer programmers, writing in languages like COBOL and Visual Basics create software which constitutes source code. The source code must then be translated into binary machine language. Microcode is object code, which is incorporated directly into the central processor (as oppose to object code, which is typically located on the magnetic disk drive). In the U.S., case law makes provision for the protection of images and the interaction there of on computer monitors. They create a unique feel and look which creates intangibles that when combined, may be protected under Copyright Law (Declet Jr., 1997).

Is IPRs Important and Why?

U.S. Position on Intellectual Property

Safeguarding against software piracy proves increasingly difficult as the proliferation, diffusion and convergence of microcomputers blurs the distinction between the various communication technologies (McDowell, 1995). Because software is a major input factor in computer operations, it is important for any country to observe a multitude of domestic practices that are off-set or effected by policy shifts in communication technology (Haq, 1987).

The U.S. is the world's most technologically advanced nation, and leads developed countries in progressing toward a post-industrial, information-based economy (Declet Jr., 1997). Despite its tremendous overall trade deficit, America is the worlds leading exporter of Intellectual Property, with advanced technology and computer software comprising a vital component of this high-tech trade (BSA, 1998; Endeshaw, 1996; Hershey, Jr., 1996). The fact that its Intellectual Property exports constitutes a rare bright spot in the overall trade circumstances makes the U.S. especially sensitive to Intellectual Property theft abroad (Field, 1995a).

In 1996, the U.S. software market reached an all time high of $102.8 billion, making it the third largest industry in the U.S. economy; contributing $15.1 billion in taxes, and $36.4 billion in wages. In addition, the "ripple effect" of the software industry created more than 2 million jobs, and $83.7 billion in wages. Growing at an average rate of 12.5 percent annually, the software industry is clearly a critical segment to the overall strength of America's economy (BSA, 1998).

The International Intellectual Property Alliance estimates that American software manufacturers lost more than $322 million in China alone 1993 (Goldstein, 1994), while the Business Software Alliance estimated that $596 million were lost in the same market for the same year. (BSA, 1996; Goldstein, 1994). In 1991, the Software Publishers Association estimated that half or $2 billion of the $4 billion U.S. software industry is lost to global pirating activities annually (Wasch, 1991).

In striving for a better environment for the protection of IPRs, American firms have made a significant impact both domestically and internationally. At the international level, the most successful achievement was to make IPRs a major aspect of international legislation and negotiation (Davis Jr., 1991; Masterson, 1994; Sun, 1995). In 1986, when the trade ministers of the world launched the Uruguay Round Multilateral Trade Negotiations to the General Agreement on Tariffs and Trade, they added Intellectual Property, service, investment and the like to the international trade agenda (Declet Jr., 1997; Sun, 1995).

Because of the issue of sovereign immunity, American firms have traditionally encountered difficulties when seeking remedies against foreign governments, and their subsidized business entities. This was especially the case when the source of infringement took place outside of U.S. jurisdiction. Compounding the issue was that complaints that the State Department would not provide "diplomatic protection" on behalf of industries for political concern (Sun, 1995).

General System of Preference

Consequently, the U.S. Congress enacted a series of provisions in the trade law using the granting of Generalized System of Preference (GSP) status, and the threat of unilateral trade sanctions (Section 301 Provisions) as leverage to induce policy or practice change from other countries. This, in turn, has resulted in strong and negative reactions from almost every region of the world. From time to time, it intensified international relations with the threat of a trade war looming (McCall, 1996; Sun, 1995).

Section 301

The purpose of Section 301 is to provide domestic counterpart to the General Agreement on Tariffs and Trade consultation and dispute settlement procedures, as well as U.S. domestic authority to impose restrictions as retaliatory actions. If necessary, it can be used to enforce America's rights against unjustifiable, unreasonable, or discriminatory foreign trade practices that burden, or restrict commerce (Masterson, 1994; Sun, 1995). Actions under Section 301 may be taken on a nondiscriminatory basis, or solely against the products or services of the country involved, and with respect to any goods or sector, irrespective of whether they were involved in the particular act, policy or practice (Davis Jr., 1991; Masterson, 1994; McCall, 1996; Sun, 1995).

China is currently listed under Section 301, which is also referred to as the "Priority Watch List", and often called the "Priority Foreign Country List." (BSA, 1998; Davis, 1991; McCall, 1996; Sun, 1995). This means that they are known, and continued offenders of IPRs. According to the Business Software Alliance, in 1996, they were the only country listed (BSA, 1998; McCall, 1996).

If the U.S. Trade Representative determines that action is to be taken in the from of restrictions, it must give preference to tariffs over other forms of import restrictions, and consider substituting on an incremental basis an equivalent duty for any other form of import restriction imposed. Any action with respect to export targeting must reflect the full benefit level of the targeting over a period during which the action taken has an effect (Davis, 1991; Masterson, 1994; Sun, 1995). However, Section 301 under General Agreement on Tariffs and Trade has severe shortcomings.

Shortcomings in Section 301

The U.S. is limited in the actions it can take on trade issues, because *voting* consumers enjoy the import of *cheap* Chinese goods. Import companies rely on imported products from China to create *jobs* that are extended by powerful corporations seeking to expand their marketability. During a trade crisis in June, 1996, the U.S. threatened to invoke Section 301 to the tune of $2 billion in the wake of wide-spread pirating of CD ROM technology in China. Maintaining that it was in substantial compliance with a 1995, special agreement (to be discussed later) on Intellectual Property protection, the Chinese government countered by threatening reciprocal trade tariffs on American exports (Declet Jr., 1997; McCall, 1996).

The two sides ultimately reached a compromise. However, the conflict did raise the issue how much "teeth" Section 301 actually had, particularly when domestic markets becomes saturated. Compounding the issue was the possibility that economic expansion into the largest potential consumer market in the world would be cut-off (Declet Jr., 1997; McCall, 1996).

Legal scholars and practitioners note that Section 301 is nothing more than a "paper tiger", because it lacks substantial retaliatory means to curtail Chinese piracy (Davis, 1991; Stanberry, 1990a). As the most recent trade crisis indicates, the proposed tariffs on China represented approximately 4% of the total China/U.S. $50 billion in trade for 1996 (Declet, 1997). Furthering the notion that the U.S. is somewhat short-sighted in its approach toward software protection is the fact that the technology is only protected by Copyright Law.

U.S. Copyright Act.

Theoretically, software could be protected by a separate doctrine, specifically designed for the protection of the technology itself (just as China's Authorship Rights Law includes a section on Software Regulation). It could also be covered by a patent, or as it is in this case, copyright legislation. The fact that section 102 of the Copyright Act omits specific language to cover software creates problems. Included in the Act is protection for sound recordings, motion pictures, dramatic, literary and musical works, which include pantomime and choreography (Sobel, 1989; Office of U.S. Trade, 1995).

To interpret that software is covered within the Copyright Act, one must refer to the legislation's unique definition of "literary work". It is within this definition that the inclusion of works..... expressed in "works, numbers or other verbal or numerical symbols, irrespective of material objects...(including) tapes, disks or cards, in which they are embodied." Those already familiar with the nature of computer programs may interpret "literary works" to include software (Sobel, 1989).

Another section of the act explicitly references the issue of copying material by stating that "despite a copyright owner's exclusive right to reproduce the copyrighted work, it is not an infringement for the owner of a computer program to make another copy of that program" under certain circumstances (Sobel, 1989). Quite obviously, the preceding statements suggests that the Copyright Act may be used to protect software. However, the fact that software is covered by legislation designed to protect works of expression and ideas raise a serious issue.

Software is a utilitarian tool, designed for specific functions for tasks that are usually well defined. Thus, the technology leaves little doubt as to whether or not it creates expression or ideas. Here is where the real problem emerge. In deciding infringement lawsuits the courts are required to apply legal principles that were developed with dramatic, literary, and artistic works in mind, because the U.S. does not have a separate Software Directive or legislation. (Sobel, 1989; Wu, 1989). This forces the courts to misapply or distort the principles during the review or argument process. The results of this application leads to a clear dichotomy of ideas and expression (Sobel, 1989).

This dichotomy has no useful purpose in software infringement cases, because software does not embody ideas in any traditional sense. Yet, the U.S. is compelled by its own limitation to apply a principal, which lends substantive value toward protecting core elements of software, to define the technology in terms of ideas in order to distinguish them from expressions. The results are formalistic and threatens to damage the value of the idea/expression dichotomy for future cases (Sobel, 1989; Wu, 1989).

Proponents for strong Intellectual Property Rights protection are vying for a global solution. Thus, observers say that the answer lies in China's willingness to align itself with regimes such as the WIPO, World Trade Organization and/or General Agreement on Tariffs and Trade. Needless to say, this creates special challenges, because the international organizations have specified, mandatory remedies for IPRs infringement that the Socialist state has yet to apply (Declet Jr., 1997; McCall, 1996; Stanberry, 1990a&b).

What is WIPO?

The World Intellectual Property Organization originated in 1883, when the Paris Convention for the Protection of Industrial Property was adopted, and to 1886, when the Berne Convention for the Protection of Literary and Artistic works was adopted. Both conventions provided for the establishment of a secretariat to encourage the protection of Intellectual Property globally (Merriman, 1991; Rozek, 1978; Stanberry, 1990a). However, the nature of the World Intellectual Property Organization, as a secretariat, limits its ability to apply pressure to those who infringe upon the IPRs of others, because it lacks the necessary enforcement mechanisms (Merriman, 1991; Rozek, 1978; Stanberry, 1990a&b; Stith, 1997).

In December, 1996, two treaties were approved by delegates to the World Intellectual Property Organization's Diplomatic Conference in Geneva Switzerland. The first was entitled "World Intellectual Property Organization Provisional Treaty on Protection of Literary and Artistic Works" (Copyright Treaty), updates to the Berne Convention by expressly recognizing computer programs as literary works and by

recognizing the rights of reproduction, communication, and making them available to the public (Stith, 1997).

Because the U.S. already recognized these laws, no changes were necessary. The copyright legislation also included language described by critics as "fuzzy", which many say was designed to prevent the development of technologies that circumvent protection against unauthorized copying. For example, it is unclear if double deck VCRs would be prohibited, because the primary use of the technology is for unauthorized copying of videotapes (BSA, 1998; Stith, 1997). In the U.S., such technology is currently allowed, because the device also support legitimate business practices (BSA, 1998).

Another important aspect that the World Intellectual Property Organization Diplomatic Conference overlooked was the adoption of any agreements relating to database protection. The European Union adopted a "Database Directive", which extended protection to compilations of data, such as the names and addresses in a telephone book. They also lobbied unsuccessfully in favor of extending the directive world-wide through a database treaty. Although the idea of a world-wide treaty was rejected, the European Union was successful in extending protection on arrangements, which by reason of selection or arrangement of their contents, constitutes "intellectual creations." However, this protection does not extend to the data or material itself (Stith, 1997).

WTO and GATT

Since 1986, China has been seeking admission to the World Trade Organization, and its predecessor, the General Agreement of Tariffs and Trade, which the U.S. has blocked. Observers say that America's willingness to accept the Socialist state into the international regime would accelerate its movement toward the adoption of strong Intellectual Property protection and trade practices. Additionally, it would further the United State's goal of fostering free trade, which Section 301 decidedly does not protect (Declet Jr., 1997; Sun, 1995).

Allowing China to join the World Trade Organization, and General Agreement on Tariffs and Trade would cause China to be bound by the Trade Related Aspects of Intellectual Property Rights Agreement. Thus, providing a standard of protection offered by member states, with their principles of national treatment, prescribed dispute resolution settlement processes, and minimal standards of Intellectual Property protection (Declet Jr., 1997). The General Agreement on Tariffs and Trade solution includes bringing together high-level officials who can place the issue in a "trade" context, tie it into other investment issues, and take actions which will be binding. It also offers significantly enhanced remedies against infringement, including a requirement that member sates provide criminal penalties for commercial piracy (Declet Jr., 1997; Sun, 1995).

With regard to infringement of copyrights, China's provisions for criminal sanctions against piracy already meets the Trade Related Aspects of Intellectual Property Rights standards for criminal remedies. Permitting China to accede to an international accord requiring strict penalties for piracy would transform discussions about weak enforcement mechanisms; from a struggle among two nations with diverging interests into

a multinational question of China's willingness to comply with its obligations under international law (Declet Jr., 1997).

Problems with Technology Transfer

The flooding of international markets with Chinese-made counterfeits of CD-ROM software, which are sold using authentic packaging such as forged holograms, and illegal trademarks equates to enormous losses for software manufacturers (BSA, 1996; D'Alessio, 1995; Greenberg, 1995). The high profit margins, and relative ease with which the CDs can be copied, and smuggled are responsible for the boom in this illegal trade. Pirates of packaged software are becoming more sophisticated (Blass, 1992; BSA, 1996; Greenberg, 1995; King, 1992). In fact, they are so well organized and professional about their operations, their replicated programs quite often fool the legitimate manufacturers themselves (Blass, 1992). This presents special challenges for American firms.

Transferring technology to, or within any environment where the protection of Intellectual Property is uncertain pose significant risks to an innovating firm's ability to collect rents (Chaunjie, 1989; Ramjerdi and D'Amato, 1995; Vishwasrao, 1994). When host countries are unwilling, or unable to protect the interest of transnational software publishers, special challenges are presented for both the manufacturer and hosting nation state (Wu, 1989). A good example is Microsoft's ordeal with Chinese pirates and officials.

Microsoft in China

The Microsoft Corporation hired a private investigator to track down a software counterfeiter creating fake products that looked so much like the original, it was hardly detectable. The investigator, Steven McVeigh, was able to trace the source of the product to the Shenzhen Reflective Institute of Southern China, which is an arm of China's Shenzhen University. McVeigh found that the pirated holograms, used for Microsoft's software exclusively, were being transported to the Pacific-Rim area (Blass, 1992; Goldstein, 1994; King, 1992).

A Microsoft salesperson uncovered the tip of a software counterfeiting ring in a software store in Taipei, Taiwan (Quellette, 1995). The thieves proved to be a wide-ranging organization, and had distributed pirated versions of Microsoft's MS DOS 5.0 operating system in English, French, German, Italian and Swedish. Microsoft initially felt secure that its latest version of operating systems could not be duplicated (Betts, 1995; Browing, 1992; King, 1992 Quellette, 1995).

After a two year legal battle the State Administration of Industry and Commerce, which is the agency charged with overseeing trademark and copyright protection in China, ruled in Microsoft's favor. The Chinese institute was found guilty of shipping 220,000 fake holograms to Taiwan-based counterfeiting rings. Microsoft sought damages in the sum of $22 million, based on an average packaged software cost of $100.00 However, they were awarded $250.00, which was subsequently increased to $2,500.00 (Forney, 1996; Goldstein, 1994).

Further investigation revealed that the State Administration of Industry and Commerce discovered documents suggesting that at least 650,00 holograms were shipped

from the Taiwan-based operation, while 3 million additional orders had been placed. Although Microsoft vigorously pursued the counterfeiting ring for years, they were willing to settle for less than "their fair share" of monetary compensation in the interest of establishing legal precedence (Goldstein, 1994). However, this was not to come.

It is worth noting that the U.S. has unsuccessfully tried pressuring the Chinese government into closing its CD factories by threatening to impose 100% tariffs on Chinese exports (D'Alessio, 1995). Equally important is the fact that none of the violators were subject to harsh criminal punishment or fines, although Microsoft is a signatory to the Berne Convention (McCall, 1996). It's quite possible that the pirates were well connected with various state organs. Thus, the "fair use" provision in the 1991, Authorship Rights Law could also have been interpreted in their best interest. Even if that was the case the relatively recently revised Authorship Rights Law of 1994 requires that wide-spread commercial pirates face up to three years in prison.

Summary

This chapter provided a definition of Intellectual Property toward establishing a framework for understanding the importance of IPRs. It also demonstrated the need for strong enforcement mechanisms to protect packaged software. The U.S. obviously has significant economic stakes in this matter because software comprises an increasing and vital part of the American economy. However, it is besieged by ineffective, domestic laws with useless unilateral provisions. The mere imposition of Section 301 on China may cause more harm than good to the U.S. economy. Compounding the problem is the fact that America must rely on the loose interpretation of its Copyright Act to protect a

technology that, at its core element, is arguably not necessarily included under U.S. Copyright Law (McCall, 1996).

Proponents for strong IPRs enforcement mechanisms argue that China's acceptance into a global regime would accelerate its compliance under international law, thereby, eliminating the fundamental U.S. vs. China conflict. But this argument does not always hold true, particularly when considering the nature of global regimes such as the World Intellectual Property Organization. Because the World Intellectual Property Organization is a secretariat, it lacks the necessary enforcement mechanisms to combat software piracy (McCall, 1996). In addition, the regime has done little to better its position toward protecting software globally.

During a 1996 Diplomatic Conference in Geneva Switzerland (McCall, 1996; Stith, 1997) the World Intellectual Property Organization failed to incorporate specific language relevant for the protection of software in its "Provisional Treaty on Protection of Literary and Artistic Work". Instead, the treaty inveigles with "fuzzy" language that is subject to multiple interpretation. Furthermore, unlike the European Union, the World Intellectual Property Organization completely ignored the possibility of including copyright protection for computer databases under the "Database Directive" (Stith, 1997). Thus, setting the stage for further litigation and prolonged settlement disputes among its signatories.

China's accession to the World Trade Organization would more likely eliminate much of the debate regarding enforcement mechanisms, and prescribe remedies such as mandatory jail time for commercial pirates. This is because under the General Agreement on Tariffs and Trade, prescribed negotiations would necessarily bring trade and

investments into the equation. Thus, providing stronger protection to companies such as Microsoft when doing business in traditionally unregulated environments. However, even China's acceptance to the World Trade Organization cannot stop the illicit activities completely.

The case involving Microsoft revealed inherent problems with the Socialist states' attitude toward penalty imposition. Harsher punishment should have been applied because China is a signatory of the Berne Convention, and has a Memorandum of Understanding with the U.S. which should afford fair and equal treatment for all American firms. Thus, China's acceptance to the World Trade Organization may only serve to shift the balance of power in favor of transnationals, and their respective governments, but it would not necessarily change the Socialist country's practices, nor the attitudes of its people.

CHAPTER IV

What Transnationals are Saying About IPRs

Leaders of transnational software firms are quick to point out that the most severe shortcoming with protecting IPRs in China is in the area of penalty imposition (Stanberry; 1990a; Stith, 1997). Because most Socialist and Southern Nations are poor, and tend to be less developed, they typically align themselves with regimes with inherently weak enforcement mechanisms (Stanberry, 1990a&b; WIPO, 1995; Human Development Report, 1995). The obvious purpose for this is to create an illusion of being in compliance of IPRs globally.

Transnationals advocate for stronger IPRs protection for more practical reasons. Among them is its necessity for growth and continued protection. Another is to assure profitability and finally, the manufacturers suggest alternatives strategies for both governments and transnational firms to consider.

Among the 128 World Intellectual Property Organization signatories as of April 30, 1992, only five (Angola, Liberia, Somalia, Sierra Leone and Yemen) or roughly 4% were non-members of the Paris Convention while twenty-six (Angola, Bangladesh, Burkina Faso, Burindi, Central African Republic, Chad, Gambia, Guinea, Guinea-Bissau, Haiti, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Niger, Rwanda, Somalia, Sierra Leone, Sudan, Togo, Uganda, Yemen, Zaire, Zambia) or approximately 21 percent were among the poorest nations (Human Development Report, 1995) on the planet. Of the remaining nations, a majority are disproportionately located on the African Continent, Pacific-Rim and in the South (WIPO, 1995; Human Development Report, 1995).

From the perspective of the firm, a LDC's position toward a particular regime strongly suggests its sentiments toward IPRs, and how enforcement is to be carried out. To this end, signatories of the World Intellectual Property Organization may offer some degree of comfort to transnational firms because their membership suggests that they are open to the possibility of protecting the "intellectual creations" of others. In practice, however, signatories of WIPO only, and no other convention, tend to create environments where piracy flourishes (Rozek, 1987; Stanberry, 1990a&b; Weinstein, 1985). Circumstances such as these tend to discourage domestic software development.

Necessary for Growth and Protection

Software manufacturers claim that IPRs are necessary to foster free trade and growth. They further assert that by allowing technological piracy, developing countries stifle indigenous innovation. The supporting notion is that if developing nations would protect Intellectual Property, long-term benefits would be realized through increased flow of free ideas, information technology unto the developing country, greater rents for economic development and over time, benefits would surpass short-term costs of complying with Intellectual Property protectionism (Stanberry, 1990a&b).

Increased Profitability

The American software industry is a global industry that supports a vibrant growing trade system and endorses the principles of free and fair trade. Approximately 70 percent of the U.S. software industry's revenues are generated from foreign markets -- making equitable trade practices a critical tool in ensuring the industry's continued

viability. By the year 2000, China's population is expected to reach 1.25 to 1.3 billion, and will continue to be the single largest population on the planet for any nation (Ernst and Young, 1994). Needless to say, this presents tremendous opportunities for American software firms wishing to expand, thereby, increasing their profit potential (BSA, 1996; Ernst and Young, 1994; Ramjerdi and D'Amato, 1995).

Trade-off Alternatives

Several possibilities exist for multinational firms and developed nations to assist China with efforts to combat piracy abroad. Among the many possibilities, the strongest arguments could be made for the following initiatives:

(1) An obvious strategy would be to involve local creative industries in foreign markets in the fight against piracy. Many foreign industries benefit from Intellectual Property Laws, and are natural allies of the U.S. and international advocates lobbying for stronger anti-piracy enforcement (Stanberry, 1990a).

(2) Where there is no local industry creating Intellectual Property, interests in stronger protection could be created by selecting a few of the foreign country's most successful pirates and appointing them "authorized distributors". Thus, pirates would become stake holders interested in the adoption of enforcement of effective Intellectual Property Laws (Stanberry, 1990a).

(3) Another way to develop local stake holders would be for developed states to bid on the rights to license locally created Intellectual Property. Royalty payments could be split among the local creator and his or her government. Thus, both the creator and host government would have direct interest in protecting IPRs (Stanberry, 1990a).

(4) Another possible approach for developed nations and industries is to help the local economy during the period of adjustment after the adoption of Intellectual Property Laws. This type of assistance would have more usefulness in small, LDCs that are not yet highly involved in international trade. However, it could still be done in larger states by setting prices at an affordable level for consumers in foreign markets, thereby, facilitating the flow of innovative technologies. Although lower prices will not necessarily reduce piracy, it will rebut the government's assertion that piracy is needed to provide the local citizenry with a product that is needed and out of their cost range (Kitch, 1994; Stanberry, 1990a).

What Nation States are Saying About IPRs

Nation states that are eager for economic development fear that protecting Intellectual Property will leave them at a permanent disadvantage, facing prohibitively high prices for technologies, and creative works needed to modernize (Li, 1987; Rozak, 1978; Stanberry, 1990b; Sobel, 1989). Contrary to conventional wisdom, prices are not automatically higher where Intellectual Property is protected. In some instances, environments with strong IPRs enforcement mechanisms in place will encourage new entry by competing firms. The competition, in turn, will lead to lower prices.

Extraordinary high prices tend to encourage theft while discouraging domestic development. If prices are extremely low, there is less chance of piracy. However, lower prices equate to reduced profit margins and minimize the firm's competitive advantages, because economic barriers (usually discouraging entry by new firms) have been removed (Rozak,1978; Stanberry, 1990b).

Costly

When permitted, pirates do not sell at prices less than the market will bear. In areas where illicit activities prevents new entry by competing firms, pirates often charge in excess of monopoly prices. In markets where Intellectual Property is protected, competition keeps legitimate sellers from taking advantage of their protected status. Thus, they can't charge more than the market will bear or they will lose sales, because many products will have substitutes. Any abuse of prices is best addressed through pro-competition laws that enables a country to remedy each allegation of abuse on a case-by-

case basis. If prices increase, that's society's cost for rewarding risk-taking innovations (Rozak, 1978; Stanberry, 1990b).

Limits Domestic Productivity

The apparent advantages of theft are more an illusion than real. By encouraging the development of Intellectual Property and protecting against its unauthorized use, any nation can and should be regarded as investing in "knowledge capital". By failing to adopt their own domestic knowledge producing capabilities, most LDCs stifle future generations with lower quality and less diversity of goods, inflated prices, lower labor productivity and competence (Stanberry, 1990b; Subramanian, 1991).

Constrains Competition

China shares with other nations certain disincentives to vigorously enforce IPRs. Developing nations typically view Intellectual Property Laws as a restriction on their ability to obtain and use the technological information necessary for their economic development. They also argue that technological information should be easily accessible and provided at a minimal cost, because knowledge is the common heritage of mankind and because "Third World development is in the interest of all nations." The Chinese also views the importation of Intellectual Property as the Developed World's means of dominating and exploiting developing countries and the payment of royalties as fostering a negative balance in trade (McCall, 1996; Stanberry, 1990b).

Increases Dependency

Less Developed Countries argue that accepting technology from transnationals creates perpetual dependency. The underlying belief is that to legitimately support the objectives of the firms, LDCs must adopt strong IPRs regimes, develop legal and technological infrastructures, increase educational goals and a host of other areas (Haq, 1987; Schware, 1992). Thus, foreign capital will also be needed. The acceptance of foreign capital brings forth its own set of problems and objectives for both the host state and transnational firm. However, not all LDCs hold the same view about IPRs. Rather than fearing the possibilities of becoming perpetually dependent on developed nations, some LDCs accept assistance in hope of stimulating their own economy and gaining greater autonomy through successful trade relations. This was the case with Singapore (Stanberry, 1990b; Subramanian, 1991).

Increases Growth Opportunity

A report by the International Intellectual Property Alliance in 1984, called Singapore the "world's capital of piracy". Today, Singapore is a success story (Stanberry, 1990a). The country's willingness to base its' economy on the high-technology industry prompted it to pass a comprehensive Copyright Law in 1987, which replaced existing policies from the colonial period (Ernst and Young, 1994). It increased penalties by two and a half times, from two years to five years in jail and $900.00 (U.S.) to $45,000.00 (U.S.) in penalties for copyright infringement. Although Singapore's Copyright Law is not fully enforced today, Western pressure, particularly in the area of computer software, film, video tape and the like remains strong (Stanberry, 1990a).

Singapore adopted effective Intellectual Property protection reform without economic downturn. This was a classic example of a country that protected its domestic film industry, but failed to provide protection for foreign products until the U.S. and Great Britain arranged bilateral deals to protect their products (Ogan, 1988). As a result, its' music, movie, computer and software industry is vibrant. According to the Business Software Alliance, in 1994, Singapore had one of the lowest piracy rates of all countries at 58 percent (BSA, 1998; Stanberry, 1990b) (see Appendix A & Chapter VI. under Methodology for Determining Loses).

It is worth noting that not all Pacific-Rim basin countries were as successful as Singapore. Both Taiwan and South Korea adopted similar laws, but were unsuccessful, because they failed to back them with the proper enforcement mechanisms (Hoffman and Marcou, 1990). According to the Business Software Alliance, in 1994, Taiwan reportedly had a piracy rate of 72 percent while South Korea's was substantially higher at 78 percent (BSA, 1998). (See Appendix A.)

Why China is Positioned to Resist Global Cooperation

China is positioned to resist global change for several reasons. First, the Socialist state has a skilled labor force that is capable of developing a knowledge-based, economy-driven state of its own, which affords some degree of autonomy. Secondly, it is among the top 11 exporting countries in the world (as of 1992), suggesting that its products are highly sought after. China also offers tremendous opportunity to transnationals seeking to expand, because it has the largest potential consumer market in the world and finally, the country has an abundance of low-wage workers. Thus, transnationals seeking to optimize profitability could tap into an enormous supply of cheap labor.

Domestic Production Capabilities

China has some of the best software engineers in the world (Ramjerdi and D'Amato, 1995). In general, the highly-skilled and college-educated are to be found in major cities (Ernst and Young, 1994). This is also where most of China's most sophisticated piracy rings operate due to the urban universities, research institutions, corporations and ministries (Ramjerdi and D'Amato, 1995), which also house some of the most sophisticated replication technology in the world.

Trade Surplus

One reason for the accelerated growth in China is the opening of its economy to foreign trade and investment. When exports increased, foreign exchanged bottlenecks were removed (Weinstein, 1985; Ramjerdi and D'Amato, 1995). In 1992, China was the

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eleventh largest trading nation in the world, up form fifteenth in 1991. It's global exports increased from $7 billion in 1975 to $59 billion in 1988 and from $72 billion in 1991 to $85 billion in 1992. Global imports increased from $5 billion in 1975 to $27 billion in 1988 and from $63 billion in 1991 to $80 billion in 1992. China's total trading share of the GNP went from 9 percent in 1978 to 36 percent in 1991 (Ramjerdi and D'Amato, 1995).

The increased trade between China and the U.S. has had a substantial impact on both economies. Between 1979 and 1987, America became China's third largest trading partner. Within a ten year span, from 1979 to 1989, U.S. investments in China had grown to $10 billion (Wu, 1989). For China, the value of exports to the U.S. was $5 billion in 1990 and $6 billion in 1991. In addition, the Socialist state has realized a global trade surplus since 1990, particularly with the U.S. In 1992, Chinese trade surplus with the U.S. reached a record $18 billion (Laris, Clemetson, Liu and Hirsh 1997; Ramjerdi and D'Amato, 1995). By 1996, it's bilateral surplus reached $39 billion world-wide, which is second only to Japan (Laris, Clemetson, Liu and Hirsh 1997).

Market Size

When transnational firms endeavor to increase the sales of goods and services, they must concentrate their effort on their potential consumer market. Conventional wisdom suggests that the larger your target market, the greater the possibility of incremental sales. Thus, no advanced nation can afford to ignore a market the size of China (Wu, 1989).

China has the world's largest population. With 1 billion people at the end of 1991, it accounted for nearly one-quarter of the world's total population. During the 1980s', the

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annual population growth rate fluctuated between 1.3 percent and 1.7 percent. In recent years, the rate has stabilized at 1.3 percent. The population is projected to reach 1.25 to 1.3 billion by the year 2000 (Ernst and Young, 1994).

Cheap Labor

As the attention of the firm is turned to labor costs, wages and benefits are of the utmost importance. In contemporary China, the average workers' monthly income is derived through domestic employment and is set at approximately RMB 200 to RMB 300 or the U.S. equivalent of $23.00 to $35.00 dollars respectively. However, workers employed by the Foreign Investment Enterprises are usually paid higher than those of state run entities. As a rule, Foreign Investment Enterprises must set a wage standard of not less than the average wage of employees of local state-run enterprises operating in a similar industry (Ernst and Young, 1994).

For white collar workers in Foreign Investment Enterprises and representative offices, the estimated annual salary for clerical staff is RMB 12,100 ($116.00 U.S.); for professional staff, RMB 16,600 ($159.00 U.S.); and for managers, RMB 24,900 ($238.00 U.S.). Most Foreign Investment Enterprises operates on a 24 hour, six days a week basis, with seven paid public holidays annually. Additionally, three days of paid marriage leave and 56 days of paid maternity are allowed. Although these wages are extremely low and the working conditions endured by the Chinese people are excruciating (Ernst and Young, 1994), the opportunity for transnationals to tap into what appears to be an almost endless supply of cheap labor is tremendous.

Summary

Transnational firms are quick to point out that China's most severe problem is in the area of penalty imposition, which is why the Socialist state aligned itself with the World Intellectual Property Organization. Furthermore, transnationals maintain that strong IPR's' protection is necessary for fostering growth and increasing profitability. Thus, several possibilities for LDCs are presented. Among them is to: align themselves with local creative industries that are natural allies; co-opt successful pirates and make them stakeholders; license foreign nationals as stakeholders and share the profits; and finally, assist local industries and governments by providing financial support during the adoption of a strong IPRs regime (Stanberry, 1990a).

Nation states eagerly point out that costs, limitations to domestic production capabilities and constraints to competition leads to increased dependency. However, not all LDCs ascribe to the same notion. Singapore opted to accept the assistance of the U.S. and Great Britain and was successful in adopting a strong regime for protecting IPRs. Today, Singapore boasts of a vibrant economy. However, not all developing countries are as successful. Both Taiwan and South Korea attempted to adopt strong IPRs legislation, but were unsuccessful, because they failed to provide adequate enforcement mechanisms (Stanberry, 1990a).

China is unique, because the Socialist state has a well educated population, capable of advancing a knowledge producing country. It has a strong economy, the largest potential consumer market in the world and an abundance of cheap labor. Thus, China is a relatively autonomous state with markets so attractive, they can not be ignored by

foreign firms nor governments seeking to increase profitability or expand its sphere of influence respectively.

CHAPTER V

What China Must Do to Establish and Enforce IPRs

To establish and maintain an effective national public policy on IPRs, China's principal organs must proactively adopt and enforce measures to protect the interests of foreign firms. Thus, it must follow through with its 1995 Action Plan, which outlines both immediate and long-term solutions. Additionally, enforcement efforts are required of all the People's Government provinces, directly administered municipalities, autonomous regions, cities, and government ministries.

Establish a Timetable for Objectives

In 1995, China set forth an Action Plan outlining immediate and long-term projects to enforce IPRs by exercising existing and expanded authority. The key short-term project of this plan included the institution of a special enforcement period. During this period, intensive action was to be taken to investigate and punish violators, with special attention given to high-level infringement actions against the manufacturer, reproducer and distributor of infringed products (Yi, 1995).

Long-term (3-5 years), sustained enforcement is to be carried out by the State Council's Working Conference on IPR'S, other working conferences, enforcement task forces and ad hoc groups. Their primary objective was to coordinate efforts to provide effective enforcement of IPRs and punishment within each province, directly administered municipality, autonomous region and city. Administrative organs, including Chinese

Customs, State Council's Departments, police and other relevant agencies also participated in this initiative (Yi, 1995).

State Council's Working Conference

The State Council established a Working Conference on Intellectual Property Rights, which through forceful measures centrally organizes and coordinates protection and enforcement of all IPRs throughout the country. The State Council is also responsible for assuring that substantial reductions are observed. For the purpose of drawing up the plan, IPRs includes copyright and related rights, trademarks, patents, protection against unfair competition, including protection of undisclosed information and other relevant subject matter . The State Council's Working Conference includes departments in charge of science, technology, foreign trade and economic cooperation, foreign affairs, press and publication, culture, broadcast, film, television, justice, public security, patent, copyright, industrial and commercial administration and customs. (McCall, 1996; Yi, 1995).

The primary responsibilities of the State Council's Working Conference on IPRs are:

A. To coordinate, study and decide on major policies and measures for the effective protection and enforcement of IPRs and to coordinate and organize enforcement activities among provinces, directly administered municipalities, government regions, ministries and departments as well as cities.

B. To monitor the implementation of the laws and regulations on IPRs to organize and instruct relevant authorities within regions and departments to substantially reduce IPRs infringements.

C. To instruct and organize relevant authorities within regions and departments to provide education and publicity for laws regarding IPRs; to foster a greater understanding of IPRs protection among people throughout the country; to improve enforcement skills of leading officials at various levels of government as well as skills of enforcement personnel (McCall. 1996).

D. To provide instructions so that administrative, civil and criminal processes for sanctions are applied consistently and uniformly to all Chinese and foreign persons as well as public, private and nonprofit entities that engage in IPRs infringement (McCall, 1996; Yi, 1995).

E. The State Council's Working Conference will direct and coordinate work of Intellectual Property working conferences, which the People's Governments of at least 22 provinces, directly administered municipalities and autonomous regions and major cities, including Guangdong, Beijing, Shanghai, Tianjin, Wuhan, Nanjing, Shenzhen, Jiangsu, Zhejiang and Fujian will organize to carry out (Yi, 1995). Activities within their jurisdiction will be at the direction of the State Council's Working Conference so that effective enforcement is achieved throughout the country (McCall, 1996; Yi, 1995).

The State Council's Working Conference will issue directions to the provincial, directly administered municipalities, autonomous regions, city bodies, coordinating and guiding IPRs to formulate Action Plans, provide information and education (McCall, 1996).

1995 Action Plan

In 1995, an Action Plan outlining immediate and long-term projects to enforce IPRs by exercising existing and expanded authority was implemented. The key components included the institution of a special enforcement period in which intensive action would be taken to investigate and punish violators. Special attention is to be given to large scale operations (Yi, 1995).

The following is an outline of the 1995 Action Plan:

A. Each Action Plan or work program shall provide for effective enforcement, eliminate interference by local protectionism and ensure complete implementation of said plans. The State Council's Working Conference will receive these plans within three months after the issuance of the Action Plan and will address or enforce any problems outstanding at that time.

B. In the immediate future, the focus must be to select key regions and problems where serious efforts shall be made to investigate, tackle cases and punish criminals.

C. The provinces, regions and cities working conferences shall issue follow-up reports each quarter for the first year and semi-annually subsequently. Beginning on June 1, 1995, Action Plans and work programs were published as soon as they were issued (McCall, 1996).

D. Included in each report will be the name of a contact person in the working conference who will accept responsibility for the carrying out and enforcement of the Action Plan in each territory.

The State Council's Working Conference on IPRs established an office within the State Science and Technology Commission to prepare for and handle the day-to-day functions of the conference.

A. The Office of the State Council's Working Conference on IPRs established a system of Liaison Officers. The liaisons make reports to the Working Conference regularly regarding directions taken and provides effective enforcement on IPRs in their region. They also relay information on instructions, spirit and work duties from the State Council's Working Conference .

B. Provincial, regional, municipal and city working conferences established local offices to carry out the day-to-day functions, consistent with that of liaisons.

The Enforcement Task Forces were designed to carry out specific duties as well. Although their assignment is not as comprehensive as the State Council's Working Conference, they are crucial to China's success. Among them are:

A. Each task force shall have all the necessary legal authority to use its resources to initiate and carry out investigations of any suspected infringement of IPRs.

B. When property rights violations are suspected, with reasonable cause, task force members may search any premises, review records of evidence and seal all suspected goods or tools predominantly used to make the fake products to use as evidence.

C. When the task force is found to be correct, they may impose fines, revoke permits used by the operator of illegal or for legitimate purposes and confiscate any implements or materials directly used in the violation without offering any compensation.

The task force has the authority to order the infringement stopped while the case is being processed. In severe criminal cases, the suspects will be held over for criminal prosecution. Fines will be commiserate to the level of piracy that occurred.

All sub-central levels on Intellectual Property protection and enforcement authorities participating in the enforcement task will have aggressive ex officio actions (actions on their own authority without the permission of the copyright holder) against all types of IPRs infringement. Upon its establishment, an enforcement unit must select a contact person, publish their telephone number and keep the victim of the illicit activity informed of progress with their case. Additionally, foreign victims are to be accorded the same right (access to their case information) as Chinese citizens (Yi, 1995).

Ad Hoc Groups act within areas where the situation is very serious. The groups are given direct enforcement rights on specific forms of Intellectual Property, particularly audio-visual products (which includes CDs, LDs, audio and video tapes, sound recordings and motion pictures). They are also given the rights to computer software in any form. This includes video games, as well as networks, hard drives, CD-ROM and other media. Each Ad Hoc group was given the same authority as Enforcement Task Force members (Yi, 1995).

The State Council's Working Conference and Enforcement Tasks Forces will continue to work over a prolonged period or approximately 3-5 years. This plan was implemented on March 1, 1995. However, the interim (period prior to the implementation of the State Council's Working Conference and task force) has been regarded as a Special Enforcement Period. Thus, actions were taken to eliminate piracy, counterfeiting and other forms of infringements of Intellectual Property (McCall, 1996; Yi, 1995).

During the special enforcement period, nation-wide information and education campaigns were underway. Emphasis was placed on enforcement in key cities likely to have high levels of infringement activity. Here, special attention was given to places where contraband was produced, distributed and sold, particularly CDs, LDs and CD-ROM producing factories. Those found in violation were subject to punishment commensurate with the level of infringement.

In respect to trademark prosecution, intense investigations were given to the most significant cases. Severe penalties were imposed and widely publicized. The Chinese Government hopes that the publicly will act as a deterrent, while facilitating much needed publicity about their efforts to reduce the illicit activities (Yi, 1995).

By July 1, 1995, Chinese officials concluded their first investigation series on software producing entities. Immediately thereafter, relevant units engaged in the reproduction of publications, exports, leasing operations and the like were investigated and violators were closed down. With special regard to computer software, entities found in violation (public, profit and nonprofit) were subject to the same penalties, irrespective of their connections to various state organs (McCall, 1996; Yi, 1995). Orders to enact tighter control over software reproduction was passed-down to sub-central departments while special punishment was given to repeat offenders. Punishment included severe fines, revocation of license for legitimate manufactures and/or jail time.

Because trademark infringement is illegal, the State Council's Working Conference began investigating and punishing violators with vigor. Trademark agents, once only allowed to act on behalf of Chinese citizens, were authorized to act on behalf of foreign entities as well. This authority was expanded to include joint ventures, wholly-owned

subsidiaries and any foreign licensee of Chinese interests. China's National Copyright Administration and State Administration for Industry and Commerce also have key roles that are similar to organs previously mentioned (Yi, 1995).

China's National Copyright Administration is responsible for the administration and maintenance of all copyright protection for computer software, audio-visual products, books, general publications and all other literary works. The National Copyright Administration also directs and oversees enforcement efforts as part of an enforcement task force, which is also comprised of local administrative agencies. Each task force is charged with the responsibility of investigating and punishing copyright violators (Yi, 1995).

The State Administration of Industry and Commerce have a Trademark Office, which oversee registrations and administration throughout the country. If there is reason to believe that a trademark contract is inconsistent with the law, the Trademark Office will review the contract to assure its validity. The office also punishes trademark violators and counterfeiters, as well as handle the appeal of trademark infringement cases (Yi, 1995).

It is important to note that although China's 1995 Action Plan was extremely comprehensive, it was not thorough. Not only does the plan omit mandatory penalties for software piracy, but it virtually ignores the penalty issue altogether. Needless to say, this suggests that the Socialist country is far from compliance with global regimes that advocates strong IPRs protection.

How Far is China from Global Cooperation?

Efforts to fully and immediately modernize its stance on IPRs will require that China receive assistance from advanced nations (such as the U.S.), while adhering to global standards set forth by regimes like the World Intellectual Property Organization, the United Nations' Education, Scientific and Cultural Organization and the like. In addition to providing on-going consultation and training, capital requirements to initiate such a bold plan of action should be forwarded by countries with a vested interest in China's successes and failures.

U.S. Federal Trade and Customs Agents developed an aggressive training and advisory assistance package for IPRs enforcement in China (McCall, 1996). The first phase of their initiative includes sending four advisory teams to Guangzhou, Beijing and Shanghi to train Chinese Customs Agents. Emphasis in training focused on preventive measures (McCall, 1996; Yi, 1995) such as:

(1) Identifying Intellectual Property infringing merchandise through physical examination and a verification process.

(2) Assisting Chinese officials in designing a centralized recording device to register copyright and trademark rights.

(3) Advising Chinese officials on investigative techniques.

(4) Advising the Socialist state on seizure and forfeiture techniques.

(5) Providing input on regulatory guidelines and,

(6) Establishing contracts for future Customs-to-Customs cooperation.

The Federal Bureau of Investigations, in cooperation with the State Council's Working Conference on IPRs, the Ministry of Public Security and the Supreme People's

Procuratorate, entered into discussion on several areas of mutual interest. These discussions primarily focus on criminal investigation procedures to enhance prosecutions of IPRs violators.

In a letter written on February 26, 1995, Mickey Kantor (U.S. Trade Representative) acknowledged the mutual understanding that China's Minister of Foreign Trade and Economic Cooperation (Office of U.S. Trade Report, 1995; Wu, 1989; Yi, 1995) and the U.S. had reached. In the letter, China acknowledged the need for "cooperative, reciprocal assistance" among them and the U.S. Customs Service, Department of Justice and Patent and Trademark Office. Additionally, the letter also suggested that China is not at all comfortable with the way they are viewed by the rest of the world (Yi, 1995).

In exchange for China's cooperation and sharing of information (first, on a quarterly basis for eight months, thereafter, once annually) with U.S. officials regarding the progress of IPRs enforcement efforts, the U.S. would: (1) Assist China by sending representatives from its Patent and Trademark Office to train them in Intellectual Property registration techniques. (2) Consult with China's Government with respect to "any" area of trademark registration and evaluative techniques and; (3) Provide information and statistics on U.S. prosecution and administrative court decisions. On the basis of the foregoing, Chinese officials requested that the U.S. immediately remove China from its "priority watch list" as a Section 301 consideration (Yi, 1995).

It is worth noting that Section 301 priority status, as it relates to China, is virtually insignificant. However, strong Chinese interest in being removed from the "priority watch list" may (Yi, 1995) suggest that the Socialist state is concerned about its image in the

eyes of the world, because they are preparing to both cooperate and compete globally. This notion can not be easily dismissed, particularly considering China's relentless efforts to gain membership into the World Trade Organization and continued interests in maintaining its Most Favored Nation status with the U.S.

Although the U.S. is in the forefront of the efforts to curtail Chinese IPRs violations, it is not alone. For almost two decades, China proactively pursued other avenues of gaining support among international regimes. As early as 1979, when China considered formulating a special Copyright Law, the government initiated its first official contact with the World Intellectual Property Organization in Beijing around 1981 (Declet Jr., 1997; Shen, 1989).

China began preparing for new Copyright Law and organized training courses for Chinese Nationals in conjunction with Western legal practitioners. By 1996, more than 71 Western law firms established satellite offices in some of China's major cities. Among them were Shanghai, Beijing, Shenzhen, Haikou and Guangzhow (Adams, 1996) They also received assistance from experts at the World Intellectual Property Organization, United Nations' Educational, Cultural and Scientific Organization and other foreign associations sending representatives to union meetings and seminars held by international copyright regimes. Since the resurgence of IPRs protection 1995, China has made significant strides in drafting and enforcing Intellectual Property Laws across a multitude of industries (Declet Jr., 1997; Shen, 1989).

Seven plants producing infringing products have been closed, business licenses revoked and more than two million infringing CDs, LDs and copies of computer software have been seized and destroyed. Intermediary technologies used to create the illegal

products were reportedly destroyed and/or seized (Declet Jr., 1997; Yi, 1995). Under the Chinese Government's Action Plan, these effort will only intensify. To date, investigation of all production lines suspected of producing infringing CDs, LDs and CD-ROMs have been completed (Declet Jr., 1997;).

In support of U.S. and Chinese customs officials, the Asian Development Bank granted $500,000.00 in aid (Yi, 1995). Thus far, China appears to have full cooperation from the U.S. and special interests in Asia. They also appear to be working diligently with global regimes such as the United Nations' Education, Scientific and Cultural Organization, the World Intellectual Property Organization and ultimately, the World Trade Organization. However, there are significant obstacles to be overcome.

The piracy rate in China in 1996, just one year after its crusade to reduce software piracy began, exceeded $703 million in losses to the software industry. A primary portion of these losses are attributable to the continued large scale production and export of illicit CD-ROM products. Although the closure of a significant number of plants is a solid start, the remaining plants in operation have tremendous production capacity and must be shut down (BSA, 1998). End-user piracy within businesses and homes has also expanded and contributed heavily to the approximate 98 percent piracy rate in 1996, which is second only to Indonesia and Kuwait with 99 percent and tied with Ecuador, Oman, Thailand and Vietnam for the same year. (see Appendix A.)

It is also worth noting that although Chinese officials pursued an aggressive stance on IPRs enforcement, the end results were an increase in piracy from 97 percent in 1994 to 98 percent in 1996. However, in 1995 (the year the plan was implemented) the Socialist country experienced a 1 percent reduction; down from 97 percent to 96 percent

(BSA, 1998). Thus, the apparent affects of the Action Plan was short-termed and suggests that more attention needs to be focused on end-user enforcement.

System of Checks and Balances

China must endeavor to restructure its regulatory framework to accommodate the progressive public policies outlined in its 1995 Action Plan. Its judiciary must: (1) have enough legal specialists capable of grappling the complexities of IPRs and infringement cases; (2) achieve the necessary autonomy to get beyond bribery and intimidation; and (3) impose severe penalties. The latter may correct what is considered by many to be China's biggest problem.

The earliest Intellectual Property legislation of the People's Republic of China came after the communist victory in 1949, and dealt with the problem of replicating Soviet models. These problems persisted until November 3, 1963, as the country pressed for self-reliance and industrialization. Patents were revoked as ideologically unacceptable and inventions were considered to be property of the state without question. The "system of checks and balances between courts were completely abolished" as civil disputes were handled by informal or nonjudicial agencies and the *People's Daily* openly praised lawlessness.

Shortage of Legal Experts

In 1974, a benchmark in the American legal system was passed when the number of lawyers in America reached 400,000. What that meant at the time was that for every 500 person, one was a lawyer. Since most law school graduates are 24 years old and if we arbitrarily defined an adult as a person over the age of 24, that would mean that one out of every 250 adults in the U.S. were lawyers. Equally important is that there were more than

100,000 law students in the U.S. during the same period. Clearly the national trend in the U.S. was leaning toward having a larger percentage of the population function as lawyers (Li, 1978). In China, a vastly different picture emerges.

The greatest number of lawyers ever claimed by the Socialist state was 3,500 in 1956. Many of these legal practitioners stopped practicing law in the Western sense around the 1950's. It is ironic that a country with four times the population as the U.S. could have only 1 to 2 percent of its number of lawyers. In 1978, out of the four law schools operating in China, Peking University (the largest school) had approximately 200 students. The consequences of not having a sufficient cadre of legal practitioners are quite clear (Li, 1978).

Even if China wanted to adopt America's legal theory and structure, the Chinese legal system would function quite differently, because it would be staffed by a few thousand, as oppose to 400,000 legal practitioners. In addition, China only have a small number of specialists. Thus, it should not necessarily consider constructing a complex legal system (such as that of the U.S.), because the greater the complexity, the greater the need for legal specialists (Li, 1978).

With so few legal specialists, the Chinese legal system must be simple in structure, method and content so that relatively untrained people or even members of the general public can participate in the legal process. Simplicity goes beyond the logical conclusion. The Chinese maintain that the law "ought" to be simple, otherwise, how can the masses of people understand or easily use the law. The underlining principal is that the law should be and indeed must be simple, so that the masses can use it to carry out their wishes and not be subjugated to rules understood by the legal profession alone. This philosophy is

consistent with China's traditional Marxist and Socialist theory (Corne, 1997; Ramjerdi and D'Amato, 1995; Li, 1978).

Legal Autonomy

The relationship among the judges and Chinese Communist Party is problematic, because the latter may appoint, reappoint or dismiss the former. Party interference with the judicial system is wide-spread and allegations of political favoritism discourages judges from responding to instances of administrative abuse. When judges do act, administrative officials simply refuses to comply with court instructions and ignore formal judgment (Declet Jr., 1997). Compounding the problem is the fact that Chinese judges are paid very little (relative to the West) and are reportedly susceptible to bribery. They are inadequately trained and many have no formal legal education prior to their appointment to the bench. (Declet Jr., 1997; Li, 1978; Stanberry, 1990a).

Furthermore, under China's one party system of government, the Chinese courts are viewed as organs of the state and Communist Party. It is customary for court personnel to discuss the handling of very important cases with party officials (Declet Jr., 1997). Thus, Chinese courts possess functional independence, but lacks structural independence within the current constitutional framework.

Penalty Imposition

The final and perhaps the most important aspect to China's legal dilemma involves the Socialist state's unwillingness to impose severe penalties for IPRs infringement. A prime example was discussed in Chapter III. with regard to the Microsoft Corporation.

Another good example involves a major American computer giant, I.B.M.(Stanberry, 1990a).

Jerome Cohen, a partner in the New York-based law firm of Paul, Weill, Rifkind, Wharton and Garrison, believes that there are some encouraging signs in the enforcement of China's Trademark Law, including raids on companies that infringed on I.B.M. products. Five corporations (operating within an economic zone) were found to have purchased, assembled and sold fake I.B.M. computers. The Chinese government fined the companies $180.00 (U.S.) and ordered them to remove the fake logos and destroy the packages containing fake I.B.M. logos. It is worth pointing out that the Chinese government did observe more computers in the location of the illicit activity. However, the counterfeiters were never fined for having the technology, because the labels were not on them during the seizure (Stanberry, 1990a).

As previously pointed out (in Chapter II under the Trademark section), stiff fines and harsh criminal penalties are considered necessary to deter trademark infringement. China's remedies of having the offender proclaim his or her crimes publicly through self criticism; cancellation of the trademark; fines of less than 20 percent of the illegal turnover or less than twice the amount of illegal profit; seizure of the false marks; and compensation are far too little to be effective (Corne, 1997; Ramjerdi and D'Amato, 1995; Li, 1978; Stanberry, 1990b). Thus, the nation state must attempt to bring balance to its legal system through the direction of the centralized governing body (such as the State Council's Working Conference), which will ensure that all penalties are commensurate to the crimes and consistently applied on an equal basis.

Incentive-Based Cooperatives

As China's government makes its transition toward an open market economy, free of IPRs violations, it could learn a great deal from American officials and experts within the software community. For the U.S., efforts to minimize the affects of pirating proved costly when software manufacturers worked alone. Although methods of protecting their Intellectual Property varied, the results were fairly similar. At the risk of designing strong anti-pirating tools within their industrial property, manufacturers experienced reductions in sales (Furger, 1995) and were forced to seek alternate strategies. Subsequently, software publishers found greater success through wide-spread collaboration among software retailers, publishers or manufacturers and end-users.

Design Engineering

Describe tried to protect its Describe program for OS/2 word processors by shipping upgrade disks that became useless after 6 months. Thereafter, registered users would receive new copies while a much smaller company, SoftCop, released its version of electronic surveillance. The tool allows the developer to lock entire applications until the software is registered. Regular customers of the respective companies canceled their orders while citing the inconvenience of having to call the manufacturer or having their system(s) lock-up as the primary reason (Fuger, 1995).

Software metering packages are used in a growing number of companies wishing to minimize unnecessary software expenditures. These firms' systems, such as Express Systems' Express Meter, are typically deployed on an organization's application server and

distributed among concurrent users according to licensing agreements. Concurrent licensing involves determining the total number of users that will possibly work with a software package, regardless of the number of potential installations (Fisher, 1994a).

Another technology, SoftTrack, which is based on NetWare, works with all the major operating systems, including DOS, MacIntosh, OS/2 and Windows NT. Licensees of SoftTrack may distribute the software across a network on an as-needed basis and to multiple servers. For example, if five eligible users request an application from a server that only has three licenses, two may be taken from another. For vendors of metering packages the solution is a mixed blessing as the technology limits pirating, but also reduces sales due to its inherent sharing properties (Fisher, 1994a; Hildebrand, 1991.

Alliance Among Software Retailers

In 1988, software firms such as Autodesk, Inc., Aldus, Corp., and Adobe Systems, Inc. initiated programs designed to minimize software piracy. The companies offers 20 to 30 percent commissions to retailers who identify offenders. Once found to be in violation of Copyright Law, the firm or offender is asked to purchase the software. A commission on that purchase price is paid to the resaler. Autodesk recovered more than $8 million from the time the program was initiated in 1988 until 1992. Retailers received more than 1.5 million dollars during the same time period (Borzo, 1992; Hildebrand, 1991).

Software publishers found some success through wide-spread collaboration among retailers. This is evident when considering that a single manufacturer (Autodesk) recovered more than $8 million dollars (from 1988 until 1992) (Borzo, 1992). It is important to note, however, that the incentive-based program can only serve to off-set the

firms' financial loses (Borzo, 1992; Lawrence, 1995). It is highly unlikely that this type of program or any program for that matter, can eradicated software piracy altogether. Thus, transnational firms have formed software consortiums and aligned themselves with special interest organizations to combat the problems of international piracy.

Alliances Among Software Publishers

Software piracy is prevalent in the U.S., despite the presence of the Federal Copyright Act (Boulton, 1996). The Software Publishers Association is a trade group, which works with federal marshals to inspect companies suspected of software piracy. Since 1989, the Software Publisher's Association has cooperated with law enforcement agencies to enforce Copyright Laws governing software applications. From 1988 to 1991, the Software Publisher's Association launched more than 70 raids on businesses and was proven to be wrong in their assertions only once during the three year time span (Fitzgerald, 1991).

The Software Publishers Association secures warrants and visits suspected firms unannounced to conduct audits of a company's software server and every microcomputer in the establishment. Under current law, the Software Publisher's Association is entitled to collect up to $100,000 in fines and legal fees for each instance of copyright infringement. However, trade groups such as the Software Publisher's Association usually settle for an amount equal to the assessed value of the pirated software (BSA, 1996; Fitzgerald, 1991; Radding, 1992).

As a preventive measure, the organization assists companies in purchasing or securing software already cleared for sale. Information system professionals who attempt

to keep their firms in line with the law may not be targeted if only a few workers copy software. The Software Publisher's Association is primarily interested in firms that blatantly go against software laws (Fitzgerald, 1991; Radding, 1992).

The Business Software Alliance is a Washington, D.C. based organization comprised of software manufacturers in collaboration to guard against the piracy of software world-wide. Since its inception in 1988, the Business Software Alliance has filed more than 600 law suits against suspected software copyright violators. The organization promotes continued growth of the industry through its international programs designed to eradicate software piracy (BSA, 1996). On behalf of the personal computer software industry, the Business Software Alliance conducts enforcement, education and public policy activities in more than 60 countries, including the U.S. (Boulton, 1996; BSA, 1996).

The Business Software Alliance is increasing its efforts to halt software piracy, which its director of enforcement, Bob Kruger, considers to be the greatest threat to the industry. According to the Business Software Alliance, in 1995, software publishers were losing over $2.8 billion to piracy annually. During that same year, the organization estimated that one in every three programs being used were pirated. This figure also accounts for losses due to counterfeited products that made it to the mainstream market, as oppose to the black market. To date, the Business Software Alliance have recovered more than 3,500 pirated Computer Aided Design programs in addition to other relatively inexpensive application packages (Boulton, 1996; Greenberg, 1995).

The Computer Professionals for Social Responsibility promotes the interest of the software industry. They also advocate on behalf of computer hardware manufacturers as

well. Usually they hold training seminars and develop outreach programs to teach the general public the importance of using computers responsibly. In essence, the organization acts as a clearinghouse for information (Browing, 1992).

Among the many government policies which affects the industry is the ban on the export of encrypting technology, which industry officials believe has forced companies to transfer their operations abroad. This shift in development efforts allows other countries, instead, to gain expertise in the area of encrypting technology. This issue, coupled with increased computer piracy, has the U.S. software industry imposing greater pressure on policy-makers (Browing, 1992).

Alliances Among End-Users and the Government

In the Pacific-Rim basin, developing nations have successfully pursued aggressive and proactive measures to maintain Intellectual Property protection (Hoffman and Marcou, 1990). Governments assessed taxes on blank video cassettes, thereby, forming a virtual alliance with end-users. The idea is that the tapes may be used to smuggle pirated videos. Although this technique will not stop piracy, tax revenues gained through the preemptive measures can help off-set potentially lost revenues (Nevos and Waldman, 1984).

Summary

The Chinese Government appears to be making significant strides toward bettering its standing in the eyes of the world community. It's 1995 Action Plan charted a course of short and long-term strategies. The plan was promulgated with the full support of the

U.S. justice and trade authorities, as well as Asian banks and numerous global regimes. National organs were mobilized and guided by a central body (Communist Party Working Committee) to assure that the state's will is carried out at every level. However, China still has far to go.

Although 1995 was a relatively successful year in the area of IPRs protection, the effects were short-termed as domestic piracy began to rise the following year. By 1996, China had a piracy rate of 98 percent. Thus, the country must now reorient its way of thinking about its nation's course to eradicate both commercial and end-user piracy. This will not be an easy task.

China suffers from a lack of expert legal knowledge, because the country is so large. The local citizenry is left to interpret and enforce the law at the very basic level, while its judiciary is subject to intimidation and bribery. Furthermore, Chinese judges are too close to the Communist Party, which renders the courts ineffective, because their ability to impose severe punishment is substantially compromised. The mere possibilities of punishing commercial pirates is synonymous to handing down punishment to the state. Thus, China's judiciary must be restructured in an effort to establish a proper "checks and balance" system.

China should follow the lead of U.S. software publishers. Just as the Socialist state experienced with the implementation of its 1995 Action Plan, American firms realized short-term reductions in piracy, at the cost of long-term growth. The most significant gains for U.S. software manufacturers were realized when commissions were offered to retailers who reported software infringements. Perhaps China could do the same among its citizenry.

China's population is highly fragmented. and most of the population live in rural areas. Thus, a great deal of territory must be covered by Chinese officials to substantially reduce piracy. However, the Chinese people are well disciplined and highly patriotic. It would be in the government's best interest to offer some form of incentive to report end-user piracy. Just as retailers were able to work with manufacturers, the Chinese government could form "virtual partnerships" with its citizenry by making them stakeholders in the endeavor. This approach is not only sound, but it is absolutely necessary.

Most likely the Chinese government knows the location of the commercial pirates and is never really concerned about their activities. With increased end-user piracy, China's government has little choice but to appeal to its people on a broad scale. This is because the end-users are fragmented, increasingly mobile and more difficult to catch than large-scale organizations.

CHAPTER VI

Other Issues to Consider

The cultural differences among various nations have significant influence on how Intellectual Property is viewed. Quite often, governments of Socialist states and LDCs are nationalistic in their approach toward IPRs (Merriman, 1991; Stanberry, 1990 A&B; Weinstein, 1985). This is, of course, the case with China. Rather than protecting the interest of foreign firms, developing states have had a cultural barrier to understanding the significance of adopting a strong IPRs regime (Merriman, 1991; Stanberry, 1990 A& B; Weinstein, 1985).

China should be viewed within its cultural context. Over time, this could serve the country well as it attempts to adopt a strong IPRs regime. In addition to examining how culture plays a significant role in the global piracy scheme, one must also consider the inherent biases in reporting, the methodology used to determine piracy rate(s) and subsequently, scrutinize the accuracy of the information.

Cultural Barriers

In 1949, when the Communists took over China, the Chinese Communist Party abolished all laws and the judicial system of the Nationalist Regime and the Kuomintang's Complete Book of Six Codes (Corne, 1997; Ramjerdi and D'Amato, 1995). The old system was replaced with Marxism, Leninism and Mao Tsetung's theory of State, Law and the "New Democracy's" policy. As a result, China's Communist government was faced with the dilemma of dealing with inventions. According to Marxist ideology, the

invention of an individual is considered a social production. The idea of granting exclusive right to an individual (to profit from) is inconsistent with a Socialist society (Ramjerdi and D'Amato, 1995).

After Mao's death on September 9, 1976, and concurrent fall of the Gang of Four (which is considered the end of the Cultural Revolution and Mao's isolationist policy), the view toward a whole range of economic and legal issues began to shift away from orthodox Marxist ideas that were popular between 1950 and 1978. Around 1978, Deng Xiaoping lead the movement of the Chinese economy from a Soviet-styled centralized and monolithic, political, socio-economic system, in which control over capital, human resources, information and economic decision making was in the hands of the political elite, toward a more open, market-driven economy (Corne, 1997; McCall, 1996; Ramjerdi and D'Amato, 1995). Thus, another plateau in the turning point of the People's Republic of China was reached .

Deng's announcement for "Economic Structure" proposed that China develop a commodity (market) driven economy, which would be regulated by central "guidance." Thus, the plan called for a dual strategy of economic reforms and cautious political changes, thereby, causing the process of marketization to be gradual (Ramjerdi and D'Amato, 1995). Problems of ideological incompatibility become more apparent as China, a Socialist state (almost devoid of customary Western legal normative understanding) attempts to accept the ideas of marketization (compatible enough with that of the West), while rejecting the philosophical foundation upon which it is based (competitive capitalism, individualism, etc.) (Corne, 1997; Ramjerdi and D'Amato, 1995).

Biases in Reporting

For the purpose of reporting piracy world-wide, special interest organizations such as the Business Software Alliance, Software Publisher's Association, International Intellectual Property Alliance and the like rely heavily on the assistance they receive from concerned citizens, which usually turns out to be disgruntled employees (BSA, 1996; Fitzgerald, 1991; Riley, 1994). However, each of the respective agencies are inclined to serve their own best interests, because most of the consortiums are composed of software manufacturers and distributors. Thus, not only are the figures of software theft likely to be inflated, but one can expect a gross disparity in reported levels of infringement, even among similar agencies. A good example would be the inconsistent figures reported by the International Intellectual Property Alliance and the Business Software Alliance with respects software piracy in China for that same year (see U.S. Position on Intellectual Property in Chapter III.). In addition, the basis on which information is reported is highly subjective.

Method for Determining Loses

Each year the total dollars lost due to piracy is estimated on the basis of legitimate software usage in specific countries. Estimates are based on software and hardware shipments in a particular country. Retail prices of software are used, reflecting losses to the entire software industry, which include the distribution channel as well as the publishers. Hardware and software shipments are obtained from numerous commercially-available resources (BSA, 1996). In determining software losses world-wide, the following equation is used:

- Software units divided by hardware units = applications per PC.
- Estimated number of applications (varies country to country, based on published estimates) per PC minus actual applications per PC.
- Illegal application per PC divided by estimated number of applications per PC = estimated percentage of illegal applications in use (subtract this amount from 100 percent to obtain the percentage of legal use).
- Illegal applications per PC multiplied by the average retail price (varies country to country) multiplied by hardware units = dollar(s) lost to piracy, reflecting losses to the entire software industry.

Accuracy of Information

It is highly unlikely that the information reported is close to actual figures. First, consider that during discussions on IPRs and infringement, trade representatives quite often cite industrial organizations and their unfavorable reports (including their loss estimates) to sustain its investigations (Sun, 1995). Furthermore, much of the computation used to determine various levels of piracy is based on estimates. Finally, we must consider that there are strong incentives for software alliances to misrepresent figures.

From the position of the firm, reports of high-level piracy create negative sentiments toward the host nation. This, in turn, lends itself to propaganda, which may or may not work in the best interest of the firm (McCall, 1996). On the other hand, where piracy is almost non-existent or unreported, competing domestic firms will likely emerge. The end results will be that the transnational that is currently entrenched may lose its

dominant position over time (to either foreign or domestic firms). Ultimately, it would lose market share and the ability to control its own pricing due to competition. Hence, a reduction in autonomy would be eminent.

Summary

China needs more time to make its gradual shift toward an open, market-driven economy. Although its relatively recent attempt to accelerate newly adopted principals (that will be more palatable to highly industrialized countries) began in the early 1970s, for the most part, China's current stance on Intellectual Property stems from a half century of social, political and economic upheaval. Needless to say, legal training (such as that extended by the U.S., United Nations' Education, Scientific and Cultural Organization, World Intellectual Property Organization and the like) and funding (such as support from Asian Banks) is necessary as well (Declet Jr., 1997).

The need to establish more reliable ways of reporting IPR violations is apparent. Although the current system allows for input from those most affected by piracy (software consortium), it also leaves significant room for personal bias and flawed reporting methods. Software manufacturers and special interest organizations often investigate and report unverifiable findings of piracy, which lends continued support for government sponsored investigations (Sun, 1995), particularly if the level of piracy is extremely high.

CHAPTER VII

Thesis Statement and Summary

Global IPRs can not exist in the absence of wide-spread collaboration and strong enforcement mechanism among people, governments and regimes that cooperate to better serve their own interests.

To understand IPRs in relation to software piracy in China, one should consider the contextual factors affecting our view of China. These factors reveal the inherent contradictions that propel two very powerful nations (China and U.S.) on an interception course. The results of such a proposition has yet to be contemplated fully. However, there is no dispute that in this critical path lies diverging views with competing philosophies.

The common theme is the need to act in its own best interest or take a nationalist position toward IPRs. The former proposition for China represents an abandonment of government sanctioned, extra-legal normative practices and adhering to global regimes such as the World Intellectual Property Organization and World Trade Organization. For the U.S., it represents movement toward modernization and practices more consistent with that of the advancing Socialist state and rest of the world.

China's 50 year transformation was initiated by cultural imperatives that presented special challenges to the nation state's ultimate objective, which was to spur economic development. Accordingly, its government revised existing public policies to establish a regulatory framework that accommodates the vagaries of its people. It adopted loosely interpreted rules, thinly veiled as public policies or laws (Corne, 1997; Declet Jr., 1997;

Ramjerdi and D'Amato, 1995). State organs facilitated national objectives by encouraging foreign investments through laws (Joint Venture Law) that reduce skepticism abroad.

A revised Patent Law allowed the country to realize record increases in new patents from 1984 to 1989. The country also made significant strides toward improving its Trademark legislation since 1983 (Laris, Clemetson, Liu and Hirsh, 1997). Concomitant to the aforementioned measures, the laws played a key role in increasing innovation, stimulating commercial and scientific research, assisting in programs of service, technology transfer and accelerating modernization through economic growth. By the early 1980s, the Socialist state had clearly advanced its domestic and economic agenda (Declet Jr., 1997).

Problems existed for several reasons. While the Joint Venture Law appears to indicate China's willingness to attract foreign investment, the law itself is in direct opposition to long standing decrees that were drafted to contain foreign investments. Its Authorship Rights Law, which is considered to be very modernized, was drafted to benefit Chinese nationals only. Although the Software Regulation section (under China's Authorship Rights Law) appears extremely progressive, allowances were made for the appropriation of a creator's work through highly subjective decrees. Thus, the "fair use" provision only serves to countermand any sincere efforts to advance the nation state toward full IPRs protection practices.

The U.S. has significant economic stakes in the preceding matters, because software comprises an increasing and vital part of America's economy. However, it is also besieged for several reasons. First, it relies heavily on China as a trading partner as both exports and imports have increased since the early 1970's. Secondly, U.S. citizens

enjoy the benefits derived from cheap labor abroad. Thus, cheap labor equals inexpensive products, which translate to favorable votes for incumbent politicians and increased profit margins for American business. Needless to say, these circumstances are very good for the economy.

American businesses suffer more than any other nation at the hands of software pirates. This presents special challenges, because the U.S. has little to no way of redressing wide-spread pirating activities other than imposing sanctions (such as Section 301) against the offending nation state. However, to do so against China would cause more harm than good to the U.S. economy, because China is such an important trading partner. Thus, America must seek the assistance of global regimes.

Proponents for strong IPRs enforcement mechanisms argue that China's acceptance into a global regime would accelerate its compliance under international laws, thereby, removing the fundamental U.S. vs. China conflict. However, this argument does not always hold true, particularly when considering the nature of global regimes such as the World Intellectual Property Organization. Because, the World Intellectual Property Organization is a secretariat, it lacks the necessary enforcement mechanisms to combat software piracy (McCall, 1996).

During a 1996, Diplomatic Conference in Geneva Switzerland (McCall, 1996; Stith, 1997) the World Intellectual Property Organization failed to incorporate language that is relevant for the protection of software in its "Provisional Treaty on Protection of Literary and Artistic Work". Furthermore, unlike the European Union, the World Intellectual Property Organization completely ignored the possibility of including copyright protection for computer databases under the "Database Directive" (Stith, 1997).

Thus, setting the stage for further litigation and prolonged settlement disputes among its signatories.

China's accession to the World Trade Organization would more likely eliminate much of the debate regarding enforcement mechanisms and prescribe remedies, such as mandatory jail time for commercial pirates. This is because under the General Agreement on Tariffs and Trade, prescribed negotiations would necessarily bring trade and investments into the discussion. Thus, stronger protection for transnational software firms would more likely be extended on an equal basis.

In response to the criticism form the world community, China stepped-up its efforts to reduce software piracy and drafted a bold and progressive Action Plan in 1995. For the most part, the plan appeared to work in the short-run. China was able to galvanize many state organs at the basic level and appointed a centralized body to oversee the progress of implementing and enforcing IPRs. However, just one year after the plan was initiated, in 1996, China realized a record level of piracy from end-users.

Solutions to resolve the problem of software piracy will not be easy, because China lacks the necessary legal expertise to handle such complex matters. Lawyers in general are very scarce and the government must rely on the citizenry to interpret and apply the law at the basic level throughout the provinces. In addition, its judiciary is subject to bribery and intimidation. Most importantly, the Socialist state has a tendency to impose weak fines or punishment for IPRs violations. Much of the problem with weak penalty imposition stems from the judiciary's relationship with the Communist party, which translates to a lack of structural independence. Another is associated with the state's limited ability to comprehend the significance of adopting a strong IPRs regime.

Many developing nations are eager to point out that cost, limitations to domestic production capabilities and constraints to competition leads to increased dependency. However, not all LDCs ascribe to the same notion. Singapore opted to accept the assistance of the U.S. and Great Britain and was successful in adopting a strong IPRs regime. Today, Singapore boasts of a vibrant economy. Both Taiwan and South Korea attempted to adopt strong IPRs legislation, but were unsuccessful, because they failed to provide adequate enforcement mechanisms.

China should follow the lead of U.S. firms. Just as the Socialist state had experienced in 1995, American firms experienced short-term reductions in piracy at the cost of long-term growth. If the Chinese Government could galvanize special interest groups, the possibility of minimizing the software piracy is strong. Among its many strengths, the government has the ability to control its citizenry, because they are highly patriotic. Because end-user piracy may be the greatest challenge facing the nation state over time, the formation of "virtual partnerships" would probably fare well with the proper incentives in place.

China needs much more time to make it's gradual shift toward an open, market-driven economy. Although its relatively recent attempt to adopt new principles (more compatible with that of highly industrialized countries) began in the early 1970s, China's current overall stance on Intellectual Property stems from a half century of social, political and economic upheaval. The best possible support that other nations can offer China is patience until attitudes change, and the necessary systems of enforcement are put in place.

China needs time to recover from its Cultural Revolutions, and to adjust to the ways of more advanced societies; accepting assistance from legal practitioners, and

experts in the West (U.S. Customs, FBI, etc.). It also needs time to adhere to the standards of conduct as prescribed by the World Trade Organization, United Nations' Education, Scientific and Cultural Organization, World Intellectual Property Organization and the like. Needless to say, financial assistance is necessary as well (Declet Jr., 1997).

Additionally, the need to establish more reliable ways of reporting IPRs infringements is apparent. Although the current system allows for input from those most affected by piracy (software consortium), it also leaves significant room for personal bias and flawed reporting methods. This is demonstrated by the inconsistent reports of piracy loses in Chapter III.

Software distributors, manufacturers and special interest organizations often investigate and report findings of illicit activities or piracy. Reporting inflated levels of piracy serves the transnational's best interests. This is because the U.S. government (or most likely any government of a highly-industrialized nation) will sponsor costly investigations. In addition, reports of high-levels of piracy may discourage new entry by competing firms. This, in turn, helps to preserve the entrenched position, market share and autonomy of the transnational firm.

Software piracy will continue as long as there are benefits (monetary or not) to be realized. The important question is whether or not the interests of both the host country and transnational firm can be preserved. Thus, bringing us back to the age old questions that impose the perennial challenges for highly industrialized and less developed states.

APPENDIX

APPENDIX

BSA Software Loss (In Dollars) and Piracy Estimates by Country for 1994.

COUNTRY	LOSS	PIRACY RATE
Argentina	208,220,000	74%
Australia	1 27,543,294	37%
Austria	66,830,624	48%
Bahrain	6,940,000	96%
Belgium	77,304,687	46%
Bolivia	12,460,806	95%
Brazil	550,936,140	77%
Bulgaria	30,900,000	95%
Canada	254,533,200	58%
Chile	70,414,496	84%
Colombia	90,765,000	81%
Commonwealth of Independent States	10,413,000	97%
Cyprus	3,847,500	91%
Czech Republic	107,550,000	83%
Denmark	89,818,500	46%
Ecuador	7,013,200	98%
Egypt	38,910,344	85%
El Salvador	13,142,700	97%
Finland	48,098,063	43%
France	771,460,734	57%
Germany	1,874,741,352	50%
Greece	79,231,445	80%
Guatemala	8,520,000	94%
Honduras	4,652,592	89%
Hong Kong	132,688,750	62%
Hungary	101,500,000	85%
India	127,527,600	82%
Indonesia	118,320,000	99%
Ireland	44,525,803	.82%
Israel	42,329,763	74%
Italy	404,382,500	96%
Japan	2,075,809,729	67%
Jordan	3,382,500	96%
Kenya	647,600	96%
Korea	545,926,907	78%
Kuwait	14,094,000	99%

Lebanon	1,607,526	95%
Malaysia	96,207,600	89%
Malta	2,916,000	90%
Mauritas	2,397,600	93%
Mexico	200,213,302	78%
Morocco	23,200,000	81%
Netherlands	215,867,250	78%
New Zealand	105,436,670	55%
Nicaragua	6,664,500	99%
Nigeria	8,820,000	85%
Norway	80,518,875	52%
Oman	9,566,100	98%
Pakistan	8,600,000	96%
Panama	4,410,000	78%
Paraguay	16,110,080	96%
P. R. of China	526,740,300	98%
Peru	18,898,200	90%
Poland	201,000,000	91%
Russian Federation	540,564,400	94%
Saudi Arabia	101,000,000	90%
Singapore	44,752,650	58%
South Africa	64,102,400	68%
Spain	239,529,767	73%
Sweden	151,106,006	52%
Switzerland	94,491,000	52%
Taiwan	231,703,570	72%
Thailand	174,232,070	98%
Turkey	158,736,097	97%
United Kingdom	543,516,297	43%
United Arab Emirates	39,019,968	93%
United States	2,876,922,400	35%
Uruguay	18,201,713	90%
Venezuela	104,271,936	71%
Vietnam	292,500	98%

BIBLIOGRAPHY

BIBLIOGRAPHY

Adams, Edward A. (1996). Firm Joins Legal "Gold Rush" in China. ***The National Law Journal***, col. 5 (1).

Awanohara, Susumu. (1992). Roll of Dishonor: Asian Countries heads list of US targets. ***Far Eastern Economic***, Review, 155(19), p. 46.

Betts, Mitch. (1995). Dirty Rotten Scoundrels: There are pirates, snoops and copyright outlaws among you. ***Computerworld***, 29(21), 1(4).

Blass, Anthony. (1992). Case for Sherlock Holmes. ***Far Eastern Economic Review***, 155 (48), p. 58.

Blumenthal, Ralph. (1995). Growing Threat of Cyber Thieves in the Intellectual Marketplace. ***The New York Times***, 144(11), 11(N) and 13(L).

Borzo, Jeanette. (1992). Software firms establish programs to weed out piracy. ***Infoworld***, 14(28), p. 91.

Boulton, Sandy. (1996). Software pirates walk the plank. ***Mechanical Engineering CIME***, 118(1), 34 (1).

Branscomb, Anne Wells. Who Owns Information (New York: Basic Books, 1994. p. 1-26.)

Browing, Graeme. (1992). Software Hardball. ***National Journal***, 24(3), p. 20-62.

Business Software Alliance. (1995). Annual Survey Report: Washington, D.C.

Business Software Alliance. (1996). Annual Survey Report: Washington, D.C.

Business Software Alliance. (1998). Annual Survey Report: Washington, D.C.

Chaunjie, Zhou. (1989). Technological Transfer and Protection of Intellectual Property in China. ***Loyola L.A. International & Comparative Law Journal.*** Vol. 12:1 p. 68-78.

Corne, Peter Howard. (1997). Foreign Investment In China: The Administrative Legal System. ***Emory International Law Review***. Vol. 11. p. 267-274.

Daly, James. (1991). Software lawsuits prompts questions on patents. ***Computerworld***, 37 (1), p. 87.

Davis, Theodore H. Jr. (1991). Combating piracy of intellectual property in international markets: A proposed modification of the special 301 action. ***Vanderbuilt Journal for Transnational Law***, 24, p. 506-533.

D'Alessio, Vittoria. (1995). Chinese Pirates Target Software on CD. ***New Scientist***, 145 (1961), 21(1).

Declet, Rafael A. Jr. (1997). Protecting Intellectual Property in China: The Persistent Problem of Software Piracy. ***New York International Law Review***. Vol. 10 No. 2.

DeLoughry, Thomas. Jr. (1994). 2 Students Arrested for Software Piracy. ***The Chronicle for Higher Education***, 40(33), A32(1).

Endeshaw, Assafa (1996). A Critical Assessment of the United States-China Conflict on Intellectual Property, 6ALB. L.J. ***Science and Technology*** p. 295, 296.

Ernst and Young. Doing Business in China, (New York: Yew York, 1994, p. 8-65.)

Field, Thomas G, Jr.: Mining the information age. [Online] Available http://www.fplc/edu/careers.htm, February 2, 1995a.

Field, Thomas G, Jr.: So you have an idea. [Online] Available http://www.fplc/edu/tfield/Idea.htm, February 2, 1995b.

Fisher, Lawrence M. (1994a). Using software metering to save money and stay legal. ***New York Times***, 143(3), pF8(L), col. 1.

Fisher, Lawrence M. (1994b). Will user be the big looser in software patent battles? ***The New York Times***, 143(3) F7(N) and F7(L).

Fitzgerald, Michael. (1991). Are You on the SPA's List? ***Computerworld***, 25(30), 33(2).

Fleming, Heather M. (1994). Computer exports would gain. ***Congressional Quarterly Weekly Report***, 52(29), 2006(1).

Forney, Matt. (1996). Now We Get It. ***Far Eastern Economic Review***, 59(7), 40(4).

Furger, Roberta. (1995). Copyright protection, coming to a PC near you. ***PC World***, 13(2), p. 33.

General Accounting Office (GAO). Annual Report. Washington, D.C. 1995.

Geoffrey, Lawrence J., Jr. (1995). Digital Technology May Revolutionize Global Commerce. ***The National Law Journal***, 18(8), p. col. 23.

Greenberg, Ilan. (1995). Getting Tough on Information System Crimes. ***Infoworld***, 17(18) 27(1).

Haq, Khadija. Informatics for Development. (North South Roundtable. 1987. p. 3-11.

Hershey, Robert D. Jr. China has become Chief Contributor to United States Trade Gap. ***New York Times.*** August 21, 1996, p. A1.

Hildebrand, Mary J. (1991). How you can keep pirated software from coming to your firm. ***Computerworld***, 25(1), p. 76.

King, Harriet. (1992). Microsoft Nails Some Pirates: an international far eastern chase catches counterfeiters. ***The New York Times***, ·141, pF7(N) pF7(L), col. 1.

Kitch, Edmund R. (1994). The Patent Policy of Developing Countries. ***Pacific Basin Law Journal.*** Vol. 13 (166) p. 166-178.

LaKirtz, Robb M. (1997) Foreign Investment in China: The Administrative Legal System. ***Emory International Law Review.*** Vol. 11. p. 268-274.

Laris, Michael; Clemetson, Lynette; Liu, Melinda and Hirsh, Michael. (1997). A Fast Drive to Riches. ***Newsweek.*** March 3, p. 36-48.

Lawrence, Andy. (1995). Publish and Be Robbed? ***New Scientist***, 145(6), p. 32.

Li, Victor H. Law Without Lawyers. (Boulder: Westview Press, Inc., 1978. p.7-9.)

Masterson, John T. Jr. (1994). IPRP and Enforcement; An Overview. ***Office of the Chief*** Counsel for International Commerce.

McCall, Andrew J. (1996). Copyright and Trademark Enforcement in China. ***The Transnational Lawyer.*** Vol. (9.) p. 588-608.

McDowell, Stephen, D. (1995). The decline of the licensee Raj; Indian software export policies. ***Journal of Communication*** 45 (4) p. 24-48.

Merriman, James. (1991). Battling motion picture pirates in turbid international waters. ***Case Western Reserve Journal of International Law***, 23, p. 623-646.

Office of U.S. Trade Report. (1995). Patent and Trademark Office. Washington D.C.

Ogan, Christine L. (1988). Developing Policy for Eliminating International Video Piracy. ***Journal of Broadcasting & Electronic Media***, ·32 (2) p. 163-182.

Ogan, Christine L. (1985). Media Diversity and communications policy: Impact of VCRs and satellite TV. ***Telecommunications Policy***, ·11, p. 63-73.

Quellette, Tim. (1995). Software Pirates Treasure Windows 95. ***Computerworld***,29(39), 28(1).

Radding, Alan. (1992). Companies Scared Straight. ***Infoworld***, 14(52), 43(1).

Ramjerdi, Hamideh and D'Amato, Anthony. (1995). The Intellectual Property Rights Law of the People's Republic of China. ***N. C. International & Commerce Regulation***. Vol. 21. P. 168-185.

Riley, W. D. (1994). You Wanna Look at My What??? ***Datamation***, 40(23), 35(1).

Rozek, Richard P. (1987). Protection of intellectual property rights: Research and development decisions and economic growth. ***Contemporary Policy Issues***, 5, p. 57-63.

Schware, Robert. (1992). Software Industry Entry Strategies for Developing Countries: A Walking on Two Legs Proposition. ***World Development***. Vol.20 (2), p. 143-164.

Shen, Yuanyuan. (1989). China's Protection of Foreign Books, Video Tapes and Sound Recording. ***Loyola L.A. International & Comparative Law Journal.*** Vol. 12:1 p. 78-85.

Simone, Joseph T. (1990). Copyright for the People's Republic of China. ***Patent, Trademark & Copyright***. p. 45-50.

Sobel, Lionel S. (1989). Technological Transfer and Protection of Intellectual Property in China. ***Loyola L.A. International & Comparative Law Journal.*** Vol. 12:1 p. 61-67.

Stanberry, Kurt. (1990a). Forging a new international frontier in intellectual property rights. ***World Competition***, Vol. 13 (3), 105-125.

Stanberry, Kurt. (1990b). Piracy of Intellectual Property. ***Society***, Sept.-Oct., 1990. p. 35, 40.

Stern, Richard H. (1993). Glitches left in copyright system. ***IEEE Micro***, ·13(3), p. 75.

Stith, Clark D. (1997). International Intellectual Property Rights. ***Business Transactions and Disputes***. Vol. 31., NO.2. p. 311-315.

Subramanian, Arvind. (1991). The International Economics of IPR Protection: A Welfare Theoretic Trade Policy Analysis. *World Development*. Vol. 18 (8) p. 945-956.

Sun, Andy Y. (1995). International Intellectual Property and Trade Disputes: Multilateral Dispute Settlement Process and The Use of Unilateral Trade Sanctions Under U.S. Law. Special Libraries Association: Washington D.C. p.1-21.

UNESCO. (1995). Human Development Report. United Nations.

Vishwasrao, Sharmila. (1994). Intellectual Property Rights and the Mode of Technology Transfer. ***Journal of Development,*** *Economics*, 44 (4), p. 381-402.

Wasch, Keneth A. (1991). Before the spa comes knocking....: clean your corporate house by sweeping out software improprieties. ***Computerworld,*** 25(30), p. 80.

Weinstein, Judith S. (1985). International satellite piracy: The unauthorized interception and retransmission of United States programs-carrying satellite signals in the Caribbean, and legal protection for United States program owners. ***Georgia Journal of International and Comparative Law***, 15 (1), p. 1-27.

World Intellectual Property Organization (WIPO). (1995). An Industrial Report.

Wu, Theodore W. (1989). Practical Aspects of Technological Transfer in China. ***Loyola L.A. International & Comparative Law Journal.*** Vol. 12:1 p. 86-90.

Yi, Wu. (1995). A letter written to Micky Kantor regarding 1995, Action Plan to curtail Intellectual Property theft. ***Minister of Foreign Trade and Economic Cooperation***. p. 15-41.