
The Transfer of Intellectual Experience

By

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INTRODUCTION

In the last decade of the twentieth century the global political structure appears to be experiencing a return to the multi-polar balance of power which characterized international political relations during the first decades of the twentieth century. Moreover, the return to a world of multi-polar sovereign states is accompanied by the evolution of transportation, information, and communication systems which have combined to form a "global infosphere." No longer are sovereign states mutually distinct. Rather, their connection in this "re-tribalized" world is grounded in technology. The basis of this technology is science; and the product of science is intellectual property. Therefore, in Hobbesian absolutist terms, the strategic power of a sovereign state in a multi-polar world can be quantified in terms of the level of advancement of the intellectual property of its citizens and the means that a sovereign state uses to protect its strategic power, intellectual property. This article will refine the definition of intellectual property, discuss United States' Government policy with regard to the transfer of technology abroad, and explore related issues which abound in the global infosphere.

INTELLECTUAL PROPERTY DEFINED

As science advances, the lines between the tangible and the intangible become indistinct. The watchword of intellectual property is amorphous—lacking rigid form. Intellectual property "is not a concrete form that characterizes the area of real property, [but] the force of intellectual property is its abstract quality."¹ A most succinct characterization of intellectual property has been formulated by Judy Winegar Goans in her article "Protecting American Intellectual Property Abroad":

Intellectual property refers to a broad collection of rights relating to things such as books, films, inventions, trademarks and designs. It has two main branches: (1) Industrial property, covering inventions, trademarks, industrial designs, and protection against unfair competition, and (2) Copyright, which concerns literary, musical, artistic, photographic, and cinematographic works.²

While the foregoing definition of intellectual property is compelling, there remains another area of intellectual property which the definition fails to address. That area involves what may be termed *intellectual experience*. For our purposes, intellectual experience may be defined as the inherent knowledge accumulated by an individual (entity or corporation) through education and the subsequent application of education in an area of expertise. Intellectual experience can be found in all areas, from plumbing to nuclear science. Intellectual experience is the intangible commodity which forms the basis of perceived comparative advantage.

¹Arthur R. Miller and Michael H. Davis, *Intellectual Property: Patents, Trademarks And Copyright*, Nutshell Series (St. Paul, Minn: West Publishing Company, 6 1983), p. 1.

²Judy Winegar Goans, "Protecting American Intellectual Property Abroad," *Business America*, 27 Oct 1986, p.3.

The common metaphor, "knowledge is power" best characterizes intellectual experience. The conclusion can be drawn that the more knowledge the citizens of a sovereign state possess, the more powerful the sovereign state. Knowledge can be quantified by the profits of its application. Profits may be economic. Germany and Japan have effectively applied intellectual experience to their manufacturing industries in the last decades, transforming them into world economic powers. Profits may also be militaristic. Both the United States and the former U.S.S.R. effectively applied intellectual experience to their respective military-industrial complexes in the last decades. The result was a bi-polar world balance of power, with the effects of the confrontation between the two superpowers impacting on all of the other nations of the world.

In terms of technology transfer, intellectual experience, as applied to "dual use" technology (i.e., technology possessing both military and commercial capabilities), as well as to arms sales, is an intangible commodity which should be protected by the sovereign state. In a speech entitled "Considerations that Affect the Future of Industrial Society," Mr. Maynard C. Anderson, Assistant Deputy Under Secretary of Defense (Security Policy), described an international business venture which exemplifies the need for mechanisms to protect intellectual experience. He characterized a business venture as, "the kind of situation that stimulates our concern for the 'intangibles' that are 'traded' across borders—the research, engineering, design, management, marketing and sales data. . . . The challenge must be to ensure that trading of the commodity is not detrimental to the best interests of your nation."³

U.S. LAW CONCERNING THE TRANSFER OF TECHNOLOGY EMBODIED IN INTELLECTUAL EXPERIENCE

The United States has established extensive rules relating to the transfer/export of commodities and technology. For the purpose of this discussion, only those laws and regulations relevant to the export of technology will be addressed.

The Export Administration Act (EAA), 50 U.S.C. §§ 2401-2410 (1982) deals with the restriction of the flow of information relative to critical technologies as identified by the Department of Defense on the *Militarily Critical Technologies List*. The *International Traffic In Arms Regulations*, (ITAR) 22 C.F.R. Ch 1, §§ 120-129, codifies Section 38 of the Arms Export Control Act, 22 U.S.C. 2278 (1982) which authorizes the President to control the export and import of defense articles and defense services. [§120.1] Concurrently evaluated, these prohibitions provide strict regulation of the export of militarily critical goods and technologies. However, neither regulate intellectual experience.

The substance of the EAA relies on the *Militarily Critical Technologies List* for determining the scope of its enforcement. The *List* identifies goods and technologies which could be used to create critical technology for military use. The difficulties arise in the area of export and re-export of such technology. The EAA expressly limits its scope to, "militarily critical goods and technologies and the mechanisms through which such goods and technologies may be effectively transferred." [§2404(d)]

The ITAR, 22 C.F.R. Ch 1, specifically defines technical data to exclude information concerning general scientific, mathematical or engineering principles, but includes, among other types of data, the following:

³Maynard C. Anderson, "Considerations that Affect the Future of Industrial Security," International C⁴ Programs Technical Symposium, Air Force Association, Boston, 11 Jun 1992.

Information which is directly related to the design, engineering, development, production, processing, manufacture, use, [or] operation . . . of defense articles. This includes, for example, . . . blueprints, drawings, photographs, plans, instructions, computer software and documentation. [§120.2]

The ITAR identifies exports of unclassified technical data as permissible without a license, "if the export is in furtherance of a manufacturing license or technical assistance agreement which has been approved in writing by the Office of Defense Trade Controls." [§124.3] Within the guidelines of the ITAR,

A license is required for the oral, visual or documentary disclosure of *technical data* (emphasis added) to foreign nationals in connection with visits by U.S. persons to foreign countries, visits by foreign persons to the United States, or otherwise. A license is required regardless of the manner in which the technical data is transmitted. [§125.2(c)]

The category of exceptions to these regulations is discovered in distinguishing purely general academic information or knowledge from that which could be used for the development of a critical technology. This distinction may be further blurred when evaluating potential dual-use technology. There exists instances where national security could be at odds with Constitutionally guaranteed personal freedoms.

HYPOTHETICALS: THE INNOCENT TRANSFERS

Since the end of World War II, growing numbers of American citizens have been earning Bachelor of Science degrees in colleges and universities throughout the United States. The technical and engineering knowledge which belongs to this class of individuals is staggering. Knowledge gained in the university is generally academic information. Yet, such knowledge represents a complete tool kit which, when applied to its area of specialization, greatly advances the technology. The comparative advantage of its possessor is also advanced. The challenge for the United States is to prevent the international propagation of intellectual experience which could be used to its detriment without infringing the personal freedoms guaranteed to its citizens in The Bill of Rights. Consider the following hypotheticals:

A U.S. citizen with intellectual experience in Ada computer programming is recruited by the Italian concern, Page Europa, to research Ada programming techniques. Page Europa may then apply these techniques to the development of a commercial air traffic control application which it is marketing in an Eastern European sovereign state. At some point in the future, after the acquisition and installation of that air traffic control system, hostilities between that Eastern European sovereign state and the U.S. ensue, and the air traffic control system is used militarily against the U.S. In this hypothetical situation, has a transfer of technology occurred? *YES*. Was that transfer of technology prohibited by U.S. law? *NO*. Does the U.S. suffer damage by the transfer of that technology? *YES*. Could the U.S. have prevented that transfer of technology without infringing the constitutional rights guaranteed to the citizen who developed the Ada programming techniques used by Page Europa? *NO*.

In a similar situation, Krupp, the German steel and appliance manufacturer, recruits a young American woman who holds a Bachelor of Science degree in mechanical engineering. Her job is to design and set up a manufacturing line for kitchen appliances in a Berlin manufacturing plant. Some short time after the successful conclusion of the engineer's work and her return to America, the Franco-German Alliance becomes more aggressive and the sovereignty of each European state is threatened. The Krupp manufacturing plant is converted to an arsenal, making use of the technologically advanced manufacturing line. The United States, a NATO member, is preparing

for hostilities. Has a transfer of technology occurred? *YES*. Was the transfer of technology prohibited by U.S. law? *NO*. Does the U.S. suffer damage by the transfer of that technology? *YES*. Could the U.S. have prevented that transfer of technology without infringing upon the Constitutional rights guaranteed to the citizen who designed the technologically advanced manufacturing line? *NO*.

CONCLUSION

A multi-polar, global infosphere and economy are replacing a floundering bi-polar world. The survival of sovereign states depends greatly on their individual ability to cultivate, maintain, and protect a solid base of intellectual experience from which strides in transportation, information, and communications systems can be achieved. In a global economy, there are many business opportunities for individuals (and concerns) possessing such intellectual experience outside the borders of the United States. The number of Americans working overseas is steadily increasing. However, it is incumbent upon each individual to operate within the complex arena of the technology transfer regulations of the United States, especially with regard to amorphous intellectual experience. Failure to be cognizant of disclosures of intellectual experience to foreign concerns could endanger the security of the United States in an emerging multi-polar balance of power.

ABOUT THE AUTHOR

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