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The Prosecution of Trade Secrets Thefts Under Federal Law

Peter J.G. Toren*

I. INTRODUCTION

The theft of trade secrets¹ has traditionally been litigated in the civil, as opposed to the criminal, forum.² For a variety of reasons, private parties have been reluctant to refer such cases to federal or state law enforcement authorities.³ However, the ever-increasing international

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- 1. A trade secret has been defined as "any formula, pattern, device or compilation of information which [is] used in one's business, and which [gives] him an opportunity to obtain an advantage over competitors . . . who do not know or use it . . . A trade secret is a process or device for continuous use in the operation of the business." Restatement (First) of Torts § 757 cmt. b (1939). The Restatement suggests six factors for courts to consider in determining whether a particular formula, pattern, device, or compilation is a protectable trade secret:
 - (1) the extent to which the information is known outside of an individual's business; (2) the extent to which it is known by employees and others involved in his business; (3) the extent of measures taken by him to guard the secrecy of the information; (4) the value of the information to him and his competitors; (5) the amount of effort or money expended by him in developing the information; (6) the ease or difficulty with which the information could be properly acquired or duplicated by others.

Id.

- 2. Without a doubt, the most famous trade secret is the process for manufacturing the syrup used in making Coca-Cola. Coca-Cola was accorded trade secret protection in 1920 because it had been continuously maintained as a trade secret since its founding in 1892. See Coca-Cola Bottling Co. v. Coca-Cola Co., 269 F. 796, 799, 805 (3d Cir. 1920).
 - 3. Some possible reasons that victims are reluctant to come forward are as fol-

competition for business and the growing concern that foreign countries are stealing trade secrets from American companies have begun to change this reluctance.⁴ The growing recognition that intellectual property, and trade secrets in particular, are important to the competitiveness and health of American industry has also heightened interest in this area.⁵

Other factors have also contributed to the increased awareness that companies are becoming more and more vulnerable to the theft of their proprietary information⁶ by unscrupulous competitors. For example,

lows: (1) criminal statutes do not adequately protect the rights of the victims; (2) prosecutors do not have the expertise to prosecute high-tech crimes; (3) the victim in a criminal prosecution gives up control of the case to the government; (4) in most instances even more information will inevitably be disclosed to the victim's competitors since the public enjoys a presumption of access to a criminal trial and pre-trial proceedings. See, e.g., Press-Enterprise v. Superior Court, 464 U.S. 501 (1984) (where the state opposed the motion to open the voir dire process to the public because press presence would affect juror candor); and (5) "it's just not worth the effort."

4. At the confirmation hearing of former Central Intelligence Agency Director Robert Gates, Senator Hollings (D.-S.C.) remarked that "we have moved from the Cold War to the Economic War." Nomination of Robert M. Gates to be Director of Central Intelligence: Hearings Before the Select Committee on Intelligence of the United States Senate, 102d Cong., 1st Sess. (1991) (question by Sen. Hollings to Robert M. Gates). Furthermore, according to then F.B.I. Director, William Sessions, "[e]conomic information like trade policies, financial trends, research-and-development results and corporate negotiating positions are all part of the big picture that is of strategic and tactical interest to other nations. Obviously, theft of this kind of information can affect a firm's—and our nation's—competitive position. Loss of this kind of information is perhaps more damaging than the theft of hardware or military technology." Sessions then added that "world power now is ranked by economic strength." Denise Worhach, High-Tech Companies Prime Targets for Spies, THE AUSTIN BUS. J., June 7, 1993, at 1.

5. According to Senator Rockefeller:

[O]ne of the most critical trade issues facing U.S. businesses around the world at the present time [is] intellectual property rights protection. Intellectual property is the seed corn that builds our national income, our social well-being, and our international competitiveness. When the intellectual property of Americans is not protected, our country loses not only jobs, production, and profits today, but also our ability to undertake the research and the investments that lead to further technological progress tomorrow. This hurts not only today's workers and investors, but also future generations of Americans.

138 Cong. Rec. S15965-01 1992 (daily ed. Oct. 1, 1992).

The importance of trade secret protection to the American economy was also expounded by Judge Richard Posner of the Seventh Circuit. He recently noted that trade secret protection is an important part of intellectual property and "[t]he future of the nation depends in no small part on the efficiency of industry, and the efficiency of industry depends in no small part on the protection of intellectual property." Rockwell Graphic Systems, Inc. v. DEV Indus., Inc., 925 F.2d 174, 180 (7th Cir. 1991).

6. Proprietary information, or confidential business information, has also been

there has been an increase in the number of engineers and other persons who have access to a company's trade secrets. In addition, employees change jobs more frequently today and, thus, have more opportunities and greater motivation to divulge the trade secrets of their former employers. Such disclosure might even be a condition of the new job. Finally, the ability to steal confidential information and trade secrets has become much easier because of computer technology. An employee involved in the theft of trade secrets no longer has to physically copy documents containing the trade secrets because a great deal, if not most, of scientific and technical information is now stored on computers. Thus, instead of copying hundreds of pages of information, an employee can download that material onto a single computer

recognized as property. See, e.g., Ruckelshaus v. Monsanto Co., 467 U.S. 986, 1001-04 (1984); Dirks v. SEC, 463 U.S. 646, 653 n.10 (1983); Board of Trade v. Christies Grain & Stock Co., 198 U.S. 236, 250-51 (1905). "Confidential information acquired or compiled by a corporation in the course and conduct of its business is a species of property to which the corporation has the exclusive right and benefit, and which a court of equity will protect through the injunctive process or other appropriate remedy." Carpenter v. United States, 484 U.S. 19, 26 (1987) (quoting 3 WILLIAM M. FLETCHER, CYCLOPEDIA OF LAW OF PRIVATE CORPORATIONS § 857.1 (perm. ed. rev. vol. 1986).

For the purposes of this Article, the terms "trade secret" and "proprietary information" are used interchangeably. It has been suggested that prior to the Supreme Court's decision in *Carpenter*, courts had "invariably accord[ed] more deference to trade secrets" than to proprietary information. 2 DAVID BENDER, COMPUTER LAW, SOFTWARE PROTECTION § 4A.0[4], at 12.1 (1993). However, the Supreme Court in *Carpenter* held that confidential information constitutes property pursuant to the mail and wire fraud statutes. 484 U.S. at 28. This suggests that while trade secrets and confidential information are not synonymous, they are close enough in meaning to be used interchangeably for the purposes of this Article.

- 7. With so many corporate relocations, mergers, acquisitions, restructurings, and firings, an employee's feeling of job security has been lost. Correspondingly, the employee no longer has a sense of loyalty to the corporation and is more easily motivated to betray his company's trade secrets. See White-Collar Crime Costs U.S. Companies \$100 Billion a Year, Business Wire, May 11, 1994; see also, William B. Bunker, Risk of Trade Secret Violations High in Technology Hiring Policies, L.A. Dailly J. (Supp. Cal. Republic) Feb. 12, 1991, at 23.
- 8. It is estimated that 58% of the losses to American companies in 1992 due to the misappropriation of trade secrets were caused by current or former employees. Kerry Fehr-Snyder, *Employers Stung by Stolen Trade Secrets*, Phoenix Gaz., June 1, 1994, at A1.
 - 9. See supra note 7 and accompanying text.
- 10. Download refers to the process of transferring data from one computer system, usually a large central computer system, to a smaller remote system. Webster's New World Dictionary of Computer Terms 118 (3d ed. 1988).

disk, which can be easily concealed in a breast pocket of a coat or shirt.¹¹ The information on the disk can then be sent or transmitted anywhere in the world without an employer becoming suspicious. Similarly, if a thief is able to log onto a company's computer system illegally he can download that company's trade secrets and transmit them to international computer networks.

These factors suggest that American corporations will increasingly turn to the criminal law system to try to protect their trade secrets. Therefore, federal criminal law and federal prosecutors must prepare for this high-tech challenge.

Section II of this article examines the scope of the problem facing the business community regarding the theft of trade secrets. ¹² Section III discusses existing federal criminal law and argues that it is illequipped to protect vital national interests in this area. ¹³ Accordingly, Section IV concludes that, as an initial step, Congress should amend 18 U.S.C. § 2314 and 18 U.S.C. § 2315¹⁴ to specifically criminalize the interstate transportation of stolen intangible property such as trade secrets. ¹⁵ Congress should also consider the passage of a specific statute designed to criminalize the theft of trade secrets. ¹⁶

II. SCOPE OF THE PROBLEM

It is becoming clear that in today's competitive commercial climate, companies must protect their trade secrets and proprietary information in order to keep their market share. Nevertheless, there is no doubt that the theft of trade secrets and proprietary information is becoming increasingly more widespread.¹⁷ Companies in the United States estimate that they lost \$1.8 billion in 1992 due to misappropriation of trade secrets.¹⁸ Foreign intelligence services are actively targeting American companies and stealing their trade secrets.¹⁹ Companies are also in-

^{11.} A 3.5 inch computer disk can store approximately 720 pages of double spaced type. Fehr-Snyder, supra note 8, at A1.

^{12.} See infra notes 19-28 and accompanying text.

^{13.} See infra notes 29-257 and accompanying text.

^{14. 18} U.S.C. § 2314 prohibits the interstate transportation of stolen goods, securities, moneys, fraudulent state tax stamps or articles used in counterfeiting. 18 U.S.C. § 2314 (1988 & Supp. V 1993). 18 U.S.C. § 2315 prohibits the interstate sale or receipt of stolen goods, securities, moneys or fraudulent state tax stamps. *Id.* § 2315.

^{15.} See infra note 259 and accompanying text.

^{16.} See infra notes 249-51 and accompanying text.

^{17.} See Kerry Fehr-Snyder, Valley Companies Face Threat of High-Tech Theft; TRW Goes on Offensive, Phoenix Gaz., June 1, 1994, at Al.

^{18.} Fehr-Snyder, supra note 8, at A1.

^{19.} France's intelligence service, the Direction Générale de la Sécurité Extérieure ("DGSE"), has been identified as the most "brazen offender," using complex and ille-

volving themselves in the theft of trade secrets from their competitors.²⁰

The on-going investigation of J. Ignacio Lopez de Arriotua for allegedly stealing documents and confidential information from General Motors (GM) and providing it to Volkswagen (VW), illustrates the importance of this issue. Lopez was a long-time GM employee, who in January of 1992 became the worldwide director of purchasing for the corporation. March of 1993, VW hired Lopez to oversee a massive cost-reduction plan. Within days of his departure from GM, seven GM co-workers joined him at VW. More importantly, according to GM, Lopez took "massive, massive amounts of data" with him that contained highly detailed information about GM's operation and strategies that would provide invaluable assistance to a competitor such as VW.

gal "tradecraft" worthy of John le Carré's famous spy novels. According to published reports, the DGSE can use any component of the French government in its spying. For example, conversations of American executives on Air France, France's national airline, on trans-Atlantic flights have been recorded by tiny microphones hidden in their seats. See Roderick P. Deighen, Welcome to Cold War II, Chief Executive (U.S.), Jan. 1993, at 42. The former head of France's intelligence agency has admitted that his organization gathered secret technology and marketing plans of private companies from around the world. See Ronald J. Ostrow & Paul Richter, Economic Espionage Poses Major Peril to U.S. Interests, L.A. TIMES, Sept. 28, 1991, at A1, A26. In addition to France, Germany and Japan have also been identified as having organizations that actively spy on American companies. Deighen, supra at 44.

- 20. For example, Pinkerton's, the private security firm, recently agreed to pay \$1.4 million to settle allegations that its investigators burglarized the offices of Advanced Power Systems, an industrial battery vendor, while spying for a rival company, Hi-Tech Systems. Emily Culbertson, *Industrial Espionage Case Settles; Pinkerton's to Pay \$1.4 Million*, THE LEGAL INTELLIGENCER, Apr. 25, 1994, at 11. Pinkerton's agents took and then turned over to Hi-Tech, most of Advanced Power Systems' customer files and a log book detailing bids offered to prospective customers. *Id.* Pinkerton's also planted an investigator in Advanced Power Systems' office building to spy on employees and root through its trash. *Id.*
- 21. See Joseph B. White & Richard B. Schmitt, U.S. Grand Jury Probes Charges Against Lopez, WALL St. J., Oct. 25, 1993, at A3.
- 22. Lopez is credited with saving several hundred million dollars annually in Europe and more than \$1 billion in the United States. Alex Taylor III, VW's Rocky Road Ahead, FORTUNE, Aug. 23, 1993, at 78.
- 23. VW's motive in hiring a proven cost-cutter such as Lopez is readily apparent; VW is in dire need of such assistance. Fortune Magazine stated: "VW's North American operations are a disaster. From its exalted status in 1970 as the leading import brand, with sales of 569,696 cars and vans . . . VW has shrunk to a tiny, unprofitable niche. [In 1992] it sold only 75,835 vehicles in the U.S." *Id.*

Lopez has admitted that he brought VW some sensitive GM documents but they were shredded before anyone at VW could use the information. A federal grand jury is reportedly hearing evidence to consider whether they will bring wire and mail fraud, and interstate transportation of stolen property charges against Lopez. According to the German prosecutors investigating the matter, data from GM's U.S. operations, including cost-cutting strategies for certain U.S. vehicles, was found at the Wolfsburg home of one of Lopez's associates. Prosecutors said that they also found information at VW's offices in Wolfsburg that appeared to have come from GM's German subsidiary, Adam Opel AG. Even if no charges are brought against Lopez, it is clear that he was in a position to provide, and might have provided, extremely valuable proprietary information to a major competitor of GM. This example certainly illustrates the dangers faced by American companies.

III. SPECIFIC FEDERAL STATUTES

A. Introduction

There is only one federal statute that directly prohibits the misappropriation²⁹ or theft of a trade secret.³⁰ Case law, however, recognizes that under certain circumstances the theft of trade secrets and proprietary information may violate a number of federal criminal statutes which prohibit the misappropriation of property or goods. Individuals who misappropriate trade secrets or other proprietary information, or who knowingly assist others in such activity, can be prosecuted in federal courts for transporting³¹ or for receiving stolen property,³² for

^{25.} White & Schmitt, supra note 21, at A3.

^{26.} Id.

^{27.} Audrey Choi & Joseph B. White, GM Data Found at VW Offices, Prosecutors Say, WALL St. J., Apr. 28, 1994, at A6.

^{28.} Id

^{29.} As used in this Article, "misappropriation" is broader in meaning than theft and includes any action that interferes with the trade secret owners, including the unauthorized disclosure or use of a trade secret.

^{30. 18} U.S.C. § 1905 provides, *inter alia*, for misdemeanor criminal sanctions for the unauthorized disclosure of government information, including trade secrets, by a government employee. 18 U.S.C.A. § 1905 (West 1984 & Supp. 1994).

^{31. 18} U.S.C. § 2314 (1994). See e.g., United States v. Belmont, 715 F.2d 459 (9th Cir. 1983) (interstate sales of videotape cassettes of copyrighted motion pictures which had been copied "off the air"); United States v. Greenwald, 479 F.2d 320 (6th Cir. 1973) (interstate transfer of documents containing a chemical formula); United States v. Bottone, 365 F.2d 389 (2d Cir. 1966) (interstate transfer of secret drug manufacturing processes); United States v. Seagraves, 265 F.2d 876 (3d Cir. 1959) (interstate transfer of geophysical maps); United States v. Riggs, 739 F. Supp. 414 (N.D. Ill. 1990) (interstate transfer of intangible computer text file). But Cf. United States v.

wire fraud,³³ mail fraud,³⁴ "access device" fraud,³⁵ or for the unauthorized disclosure of confidential information.³⁶ Furthermore, if the tradesecret theft was accomplished by unauthorized access into a computer of a financial institution or a government agency or by networking computers in different states, it can be prosecuted under the Computer Fraud and Abuse Act of 1986.³⁷ Additionally, violations of these federal

Brown, 925 F.2d 1301 (10th Cir. 1991) (relying on Dowling v. United States, 473 U.S. 207 (1985), the court held that a computer program does not meet the "goods, wares, merchandise" language of § 2314).

32. 18 U.S.C. § 2314 (1994). This Article will also refer to this section as the "National Stolen Property Act." Section 2315 makes it unlawful to knowingly receive stolen "goods, wares, or merchandise" having a value of \$5000 or more. *Id.* § 2315. This section can be the basis for criminal liability in the same way as § 2314. Presumably, prosecution problems which are encountered under § 2314 would also be encountered under § 2315. Furthermore, because the elements of the two sections are similar and the standard of proof is identical, this Article will not distinguish between the sections and it should be assumed that the analysis of § 2314 also applies to § 2315.

33. Trade secrets or proprietary information have qualified as property for purposes of the federal wire fraud statute, 18 U.S.C. § 1343, in the following cases: Carpenter v. United States, 479 U.S. 1016 (1987) (confidential business information); United States v. Cherif, 943 F.2d 692 (7th Cir. 1991) (confidential banking information); Formax v. Hostert, 841 F.2d 388, 390 (Fed. Cir. 1988) (stolen manufacturing prints) United States v. Carpenter, 791 F.2d 1024 (2d Cir.), cert. granted, 479 U.S. 1016 (1986); United States v. Seidlitz, 589 F.2d 152, 160 (4th Cir. 1978) (involving stolen computer source code); United States v. Riggs I, 739 F. Supp. 414 (N.D. Ill. 1990) (involving network configuration information stolen intra-state, but transferred interstate after theft).

34. See Cherif, 943 F.2d at 701; Formax, 841 F.2d at 391.

35. 18 U.S.C. § 1029 (1988 & Supp. V 1993). This section generally prohibits the use of an access device such as a counterfeit credit card or account number to obtain money, goods, services, or any other thing of value. Thus, a defendant might be charged under this section if he used a counterfeit access code to obtain a company's trade secret, i.e., thing of value. However, because this section is not directly related to the issue at hand, and since there are no reported cases which specifically address its applicability in this area, this Article will not address § 1029 any further.

36. 18 U.S.C. § 1905 (1988 & Supp. V 1993). This section provides for misdemeanor sanctions for the unauthorized disclosure of government information, including trade secrets by a government employee. Section 1905, however, does not define the term "trade secrets." In the only reported decision under this section, the court in United States v. Wallington, 889 F.2d 573 (5th Cir. 1989), upheld the defendant's conviction for running background checks on several people whom defendant's friend suspected of drug dealing. However, because this section covers misdemeanor offenses, is only very infrequently used in prosecution and is limited in scope, this Article will not offer any further analysis of it.

37. 18 U.S.C. § 1030 (1988 & Supp. V 1993). The statute contains six separate

offenses, three felonies and three misdemeanors.

Under subsection 1030(a)(1), one is guilty of a felony if he "knowingly accesses a computer without authorization or exceeds authorized access, and by means of such conduct obtains [classified] information . . . with the intent or reason to believe that such information so obtained is to be used to the injury of the United States, or the advantage of any foreign nation." Id. § 1030(a)(1).

Under subsection 1030(a)(2), one is guilty of a misdemeanor if he "intentionally accesses a computer without authorization or exceeds authorized access, and thereby obtains information contained in a financial record of a financial institution, or of a card issuer... or contained in a file of a consumer reporting agency on a consumer." Id. § 1030(a)(2).

Under subsection 1030(a)(3), one is also guilty of a misdemeanor if he "intentionally without authorization, . . . access[es] any computer of a department or agency of the United States." *Id.* § 1030(a)(3).

The following section protects "Federal interest computers" which are defined in § 1030(e)(2) as computers used exclusively by the United States or a financial institution, computers that are used partly by the United States or a financial institution where the defendant's conduct affected the government's or financial institution's operation of the computer, or any computer "which is one of two or more computers used in committing the offense, not all of which are located in the same state." *Id.* § 1030(e)(2).

Pursuant to subsection 1030(a)(4), if one "knowingly and with intent to defraud, accesses a Federal interest computer without authorization, or exceeds authorized access, and by means of such conduct furthers the intended fraud and obtains anything of value" other than the use of the computer, he is guilty of a felony.

Subsection 1030(a)(5) was recently amended by Public Law No. 103-322. It now provides in general, that one is guilty of a felony if the individual "through means of a computer used in interstate commerce or communications, knowingly causes the transmission of a program, information, code, or command to a computer" without the appropriate authority and did so (1) intending to cause damage or (2) with reckless disregard of a substantial and unjustifiable risk that damage would be caused. The transmission must have "caused loss or damage to one or more other persons of value aggregating \$1,000 or more during any 1-year period." The subsection also provides for a civil cause of action by the party who was damaged. *Id.* § 1030(a)(5).

It should be noted that the amended subsection differs in a number of important respects from the old version: (1) it eliminated the term "federal interest computer" and replaced it with the term "a computer used in interstate commerce or communications;" (2) it eliminated the trepassing requirement since the old version required the defendant to "intentionally access a federal interest computer without authority," whereas, the amended subsection rquires that the transmission occur "without authorization; and (3) creates a civil cause of action for computer crime victims.

Subsection 1030(a)(6) makes it a misdemeanor to "knowingly and with intent to defraud traffics... in any password or similar information through which a computer may be accessed without authorization if (A) such trafficking affects interstate or foreign commerce; or (B) such computer is used by or for the government of the United States." Id. § 1030(a)(6).

This Article will not discuss this section in any great detail, because it is unlikely that theft of trade secrets will be solely charged under this section. The main goal of this section is to prohibit unauthorized access into a computer, and not to prohibit how illegally obtained information is used.

federal racketeering laws (RICO) because each of the aforementioned offenses can form the predicate offenses required for establishing a RICO violation.³⁸

B. 18 U.S.C. § 2314

The National Stolen Property Act provides, in pertinent part, as follows:

Whoever transports, transmits, or transfers in interstate or foreign commerce any goods, wares, merchandise, securities or money, of the value of \$5,000 or more, knowing the same to have been stolen, converted or taken by fraud . . .

Shall be fined not more than \$10,000 or imprisoned not more than ten years, or both.³⁰

This statute was enacted by Congress in 1934 to fill an enforcement gap in the National Motor Vehicle Theft Act (NMVTA).⁴⁰ Both statutes

By 1919, the law of most States against local theft had developed so as to include not only common-law larceny but embezzlement, false pretenses, larceny by trick, and other types of wrongful taking. The advent of the automobile, however, created a new problem with which the States found it difficult to deal. The automobile was uniquely suited to felonious taking whether by larceny, embezzlement or false pretenses. It was a valuable, salable article which itself supplied the means for speedy escape. "The automobile [became] the perfect chattel for modern large-scale theft.' This challenge could be best met through use of the Federal Government's jurisdiction over interstate commerce. The need for federal action increased with the number, distribution and speed of the motor vehicles until, by 1919, it became a necessity. The result was the National Motor Vehicle Theft Act.

Id. (citation omitted).

Congress acted to fill an identical enforcement gap when in 1934 it "extend[ed] the provisions of the [NMVTA] to other stolen property" by means of the National Stolen Property Act. See S. REP. No. 538, 73d Cong., 2d Sess. 1 (1934); H.R. REP. No. 1599, 73d Cong., 2d Sess. 1, 3 (1934); see also United States v. Dowling, 473 U.S. 207, 219 (1985).

^{38.} See 18 U.S.C. § 1961-1968 (1988 & Supp. V 1993); see also Rockwell Graphics Sys. v. DEV Indus., 925 F.2d 174, 175 (7th Cir. 1991); United States v. Drum, 733 F.2d 1503, 1505 (11th Cir. 1984); Van Dorn Co. v. Howington, 623 F. Supp. 1548, 1556 (D.C. Ohio 1985); United States v. Sam Goody, Inc., 506 F. Supp. 380, 391 (E.D.N.Y. 1981).

^{39. 18} U.S.C. § 2314 (1988 & Supp. V 1993).

^{40.} The National Motor Vehicle Theft Act (Dreyer Act), was enacted in 1919 and covered only stolen "motor vehicles." The National Motor Vehicle Theft (Dreyer) Act, ch. 89, 41 Stat. 324 (1919) (codified as amended at 18 U.S.C. § 232 (1994)). The Supreme Court in United States v. Turley, 352 U.S. 407, 413-14 (1957), provided a description of the need for this law:

were enacted pursuant to the commerce clause of the Constitution to aid the states in their detection and punishment of criminals who sought to evade state authorities by fleeing in stolen vehicles or with stolen property over state lines. Thus, transportation in interstate or foreign commerce is an essential element of every violation of 18 U.S.C. § 2314. This statute is, therefore, not applicable to intrastate misappropriation.

Several appellate courts have affirmed the convictions of defendants for the misappropriation of trade secrets under this section under certain circumstances, ⁴³ but, as will be discussed, a recent decision ⁴⁴ suggests that 18 U.S.C. § 2314's value in this area is extremely limited.

To determine whether the misappropriation of a trade secret is a violation of 18 U.S.C. § 2314, courts have examined two basic issues: (1) whether the trade secrets were "goods, wares and merchandise," and (2) whether they were worth more than \$5000, as required by the Act. To obtain a conviction, the government must also prove that the trade secrets were transported in "interstate or foreign commerce" and that the defendant knew that they were "stolen, converted or taken by fraud." This Article primarily discusses the first two elements of 18 U.S.C. § 2314, that is, whether the trade secrets are "goods, wares and merchandise" and whether they meet the \$5000 minimum threshold. The remaining two items will not be addressed because they do not present any difficult legal questions and are outside the scope of this Article.

1. Goods, Wares and Merchandise

In order to fall within the scope of the National Stolen Property Act, trade secrets must be goods, wares or merchandise.⁴⁷ Because a trade secret is intangible property,⁴⁸ the issue addressed by the courts is

^{41.} McElroy v. United States, 455 U.S. 642, 654 (1982); see also Dowling, 473 U.S. at 220.

^{42.} McElroy, 455 U.S. at 654; Dowling, 473 U.S. at 220.

^{43.} See supra note 31 and accompanying text.

^{44.} United States v. Brown, 925 F.2d 1301 (10th Cir. 1991).

^{45.} See 18 U.S.C. § 2314 (1988 & Supp. V 1993).

⁶ *Id*

^{47.} Id. The statute also includes "securities" and "money" within its scope. However, since trade secrets are very unlikely to fall within either of these two categories, they will be excluded from the discussion of this statute.

^{48.} The definition of an "intangible asset" is "[p]roperty that is a 'right' such as a patent, copyright, trademark, etc., or one which is lacking physical existence such as goodwill." BLACK'S LAW DICTIONARY 726 (6th ed. 1990). Historically, information, including trade secrets, was not regarded as property of any type. This is not to say that courts failed to protect trade secrets; courts rather looked to whether the defendant stood in confidential terms with the victim and whether he breached this confidence in acquiring or disclosing the trade secret. Under this analysis, the protection

whether purely intangible property is a good, ware or merchandise, or whether the trade secret must be embodied in a tangible item, that is itself also misappropriated to fall within the scope of 18 U.S.C. § 2314. For example, if the trade secret is written on paper which belongs to the corporation and is then misappropriated, courts have universally found a violation of this statute. However, if the trade secret is not embodied in a tangible item that is itself also stolen, *i.e.*, the thief memorizes the trade secret and recreates it using his own supplies or electronically sends it from his computer to a computer in another state, according to the court in *United States v. Brown*, there is no violation of 18 U.S.C. § 2314. On this issue, the *Brown* decision expressly repudiated *United States v. Riggs*, in which the district court found a violation of 18 U.S.C. § 2314 even though no tangible property was unlawfully taken. St

A variation on the *Brown* fact situation in which the thief temporarily deprives his employer of the use of the documents containing the trade secret warrants some consideration. An example of this would be where the thief removes the documents containing a trade secret from his employer, copies the documents using his own supplies and returns the documents to his employer after they have been copied.⁵² At least one court has held the trade secret to be within the scope of 18 U.S.C. § 2314.⁵³ However, *Brown* also raised serious questions about the validity of this position and suggested that this situation is no different

of trade secrets is derived from basic notions of fair and equitable conduct. See, e.g., E.I. DuPont de Nemours Powder Co. v. Masland, 244 U.S. 100, 102 (1917) ("Therefore the starting point for the present matter is not property or due process of law, but that the defendant stood in confidential relations with the plaintiffs, or one of them."). However, the new view, as is expressed in this Article, has accepted trade secrets as a type of property. See 1 R. MILGRIM, MILGRIM ON TRADE SECRETS § 2.01 (1994).

^{49.} See, e.g., United States v. Lester, 282 F.2d 750 (3d Cir. 1960), cert. denied, 364 U.S. 937 (1961); United States v. Seagraves, 265 F.2d 876 (3d Cir. 1959).

^{50. 925} F.2d 1301 (10th Cir. 1991); see infra notes 79-95 and accompanying text.

^{51. 739} F. Supp. 414 (N.D. Ill. 1990); see infra notes 56-78 and accompanying text.

^{52.} Of course, at some point, the trade secret must be converted into a tangible form since tangible evidence of theft is necessary to establish the misappropriation before a jury. Without evidence of the theft, the thief could probably successfully argue that a process or item stolen was independently created or created through the process of reverse engineering. It is unlikely that under those circumstances a jury would convict a person for theft. For a description of the practical considerations of prosecuting trade secrets in the federal system, see Cook, *The Benefits of Involving Law Enforcement in Trade Secrets Theft Case*, 14 LICENSING L. & BUS. REP. 5 (1992).

^{53.} United States v. Bottone, 365 F.2d 389 (2d Cir.), cert. denied, 385 U.S. 974 (1966).

from the misappropriation of the "naked trade secret." In other words, according to the *Brown* court, 18 U.S.C. § 2314 requires a physical identity between the items unlawfully obtained and those eventually transported, and hence some prior physical taking of tangible property. Thus, if no tangible property was misappropriated, the thief cannot be successfully prosecuted under 18 U.S.C. § 2314, nor, possibly for that matter under existing federal law.

a. United States v. Riggs⁵⁶

Defendants Robert J. Riggs and Craig Neidorf were indicted for wire fraud and interstate transportation of stolen goods. According to the indictment and pleadings, in 1988, Riggs gained unauthorized access to the Southern Bell Data Network (SBDN) and eventually to a sensitive portion of the computer that contained proprietary Southern Bell files, including the enhanced 911 (E911) file. E911 is a universal service for handling emergency calls in a municipality and its surrounding unincorporated areas. Riggs downloaded a copy of the E911 text file to his home computer located in Decatur, Georgia. He then made a copy of the file for his friend, Craig Neidorf, who was the co-editor of a computer hacker newsletter known as *Phrack*. Neidorf, in turn, downloaded the copy to his home computer at the University of Missouri. After revising the file to remove all references to Southern Bell, Neidorf published it in an issue of *Phrack*. The United States subsequently charged

^{54.} A naked trade secret is a trade secret that is not embodied in tangible property.

^{55.} Id.

^{56. 739} F. Supp. 414 (N.D. III. 1990).

^{57.} Id. at 416.

^{58.} Id. at 417. The computer file containing the E911 information carried the following warning: "Notice: Not for use or disclosure outside Bell South or any of its subsidiaries except under written agreement." The existence of the computer containing the information was not disclosed to the public and the public had no authorized access to any part of the computer. Few Bell South employees had authorization to enter the portion of the computer storing the E911 text file and it was further secured by a series of user identification numbers and passwords which further reduced the chances that an unauthorized user could access it. Id. at 417, 424.

^{59.} *Id.* Bell South maintained the E911 text file on a computer. The file could be printed out locally or transferred completely or partially to other remote Bell South locations at a moment's notice in order to assist Bell South employees in establishing and maintaining E911 services and responding to service trouble emergencies in the E911 system. *Id.* at 422.

^{60.} Id.

^{61.} Id.

^{62.} Id.

^{63.} Id.

Riggs and Neidorf with two counts of wire fraud,⁶⁴ two counts of the interstate transportation of stolen property⁶⁵ and three counts of violating the Computer Fraud and Abuse Act of 1986.⁶⁶

Neidorf challenged the indictment by arguing that the computerized text file could not be considered "goods, wares, [or] merchandise" under 18 U.S.C. § 2314 because that section should be narrowly read.⁶⁷ Additionally, Neidorf argued that Congress never intended 18 U.S.C. § 2314 to cover the theft of intangible computer data.⁶⁸ He relied primarily on *Dowling v. United States*,⁶⁹ to support his position.⁷⁰

The *Riggs* court rejected Neidorf's argument that he merely transferred electronic impulses across "state lines" as "disingenuous." The court cited a line of decisions that have upheld 18 U.S.C. § 2314 charges based on the wire transfer of fraudulently obtained money and rejected the defendants' argument that only electronic impulses, not actual money, crossed state lines. The court reasoned that in this case, like "the money in the case dealing with wire transfers of funds, the information in the E911 text file was accessible at Neidorf's computer terminal in Missouri before he transferred it... the mere fact that the information actually crossed state lines via computer-generated electronic impulses does not defeat a charge under 18 U.S.C. § 2314." The court then framed the issue as not whether electronic impulses are "goods, wares or merchandise" within the meaning of 18 U.S.C. § 2314, but "whether the proprietary information contained in Bell South's E911 text file constitutes a

^{64. 18} U.S.C. § 1343 (1988 & Supp. V 1993).

^{65. 18} U.S.C. § 2314 (1988 & Supp. V 1993).

^{66.} Riggs, 739 F. Supp. at 417-18; see 18 U.S.C. § 1030(a)(6)(A) (1988 & Supp. V 1993).

^{67.} Riggs, 739 F. Supp. at 420.

^{68.} Id. at 421.

^{69. 473} U.S. 207 (1985). The Supreme Court in *Dowling* dismissed the defendant's conviction on eight counts of the interstate transportation of "bootleg" Elvis Presley records. *Id.* at 209. The Court held that because the language of § 2314 "clearly contemplates a physical identity between the items unlawfully obtained and those eventually transported, and hence some prior physical taking of the subject goods," the interstate transportation of bootleg records is not a violation of § 2314. *Id.* at 216-18.

^{70.} See supra text at pages 64-66.

^{71.} Riggs, 739 F. Supp. at 420.

^{72.} Id. The court cited: United States v. Kron, 896 F.2d 1524 (8th Cir. 1990); United States v. Goldberg, 830 F.2d 459 (3d Cir. 1987); United States v. Wright, 791 F.2d 133 (10th Cir. 1986); United States v. Gilboe, 684 F.2d 235 (2d Cir. 1982), cert. denied, 459 U.S. 1201 (1983).

^{73.} Riggs, 739 F. Supp. at 420.

'good, ware or merchandise' within the meaning of the statute."⁷⁴ Not surprisingly, after presenting the issue in this manner, the court reasoned as follows:

[I]t is well-settled that when proprietary business information is affixed to some tangible medium, such as a piece of paper, it constitutes 'goods, wares, or merchandise' within the meaning of § 2314 . . . Therefore, in the instant case, if the information in Bell South's E911 text file had been affixed to a floppy disk, or printed out on a computer printer, then Neidorf's transfer of that information across state lines would clearly constitute the transfer of 'goods, wares, or merchandise' within the meaning of § 2314. This court sees no reason to hold differently simply because Neidorf stored the information inside computers instead of printing it out on paper. In either case, the information is in a transferable, accessible, even salable form.⁷⁶

The court was thus unwilling to read a "tangibility requirement" into the definition of "goods, wares or merchandise." ⁷⁶

Finally, the court opined that it was not necessary to resolve whether or not the E911 file constituted goods, wares or merchandise, because the ability of the defendant and others to access "the information in readable form from a particular storage place also makes the information tangible, transferable, salable and, in this court's opinion, brings it within the definition of 'goods, wares, or merchandise' under 18 U.S.C. § 2314."

Id. at 421.

The problem with this example, which illustrates the fallacy of the court's reasoning throughout this decision, is that the court is confusing intangibility with property that is difficult to measure or quantify.

The gas in the above example is technically tangible even if it is "imperceptible to the human senses." All gases are tangible property regardless of whether or not they can be sensed by humans. Certainly, one can measure and sell gases in a fixed quantity, whereas, a trade secret, if unrecorded in or on a tangible medium, only exists in the recesses of the human mind. This basic misunderstanding as to the meaning of tangible versus intangible property exhibited by the court in *Riggs* casts doubt on the court's conclusion that trade secrets are "goods, wares or merchandise" within the meaning of § 2314.

77. Id. at 422. At trial, the government dismissed the § 2314 count against Neidorf because it was learned that Ohio Bell was publicly disseminating a copy of their E911 text file that was virtually identical to Bell South's material. Since the informa-

^{74.} Id.

^{75.} Id. at 420-21.

^{76.} Id. at 421. In support of this position, the court gave the following example: For instance, suppose the existence of a valuable gas, used as an anesthetic, which is colorless, odorless, and tasteless - totally imperceptible to the human senses. If this gas is stored in a tank in Indiana, and a trucker hooks up to the tank, releases the valuable gas into a storage tank on his truck, and then takes the gas to Illinois to sell it for a profit, is there no violation of § 2314 simply because the gas is not technically tangible? This court is reluctant to believe that any court would construe § 2314 so narrowly.

It should be noted at this point that the *Riggs* court was arguably elevating form over substance. Whereas there is no doubt that defendants Riggs and Neidorf misappropriated the computerized text file, 18 U.S.C. § 2314 is not directed towards the act of theft but to criminalizing interstate *transfer* of stolen goods, wares or merchandise. In each of the examples cited by the *Riggs* court, stolen *tangible* property was *transported* interstate. In contrast, the computer text file was transmitted across interstate lines by Riggs in the form of electronic signals and only became tangible property when the electronic signals were printed on paper. Thus, the court in *Riggs* did not address the real issue of whether purely intangible property is "goods, wares or merchandise." Instead, the court determined that the acts of the defendants should be covered by 18 U.S.C. § 2314 because, logically, most types of stolen intangible property should not be treated differently from stolen tangible property.⁷⁶

b. United States v. Brown⁷⁹

In *United States v. Brown*, the Tenth Circuit repudiated the reasoning of *Riggs*. The grand jury indicted Brown for violating 18 U.S.C. § 2314 by transporting computer programs, software, and a source code interstate from Georgia to New Mexico. Brown moved to dismiss the indictment arguing that pursuant to *Dowling v. United States*, the government failed to allege that he transferred in interstate commerce "physical goods, wares [or] merchandise" within the meaning of 18 U.S.C. § 2314. At an evidentiary hearing on this issue, the prosecutor admitted that he could not prove the defendant made a copy of the source code using for example, the company's hard disk, or that the defendant had in

tion was in the public domain, it could not be a trade secret.

^{78.} This rationale may seem valid on it face; however, an application of the rule would clearly lead to results not foreseen or intended by Congress. For example, § 2314 would apply under certain circumstances to the interstate transportation of patent-infringing goods. So, for example, if a person "steals" an idea that is protected by a patent and then ships in interstate commerce an article manufactured in accord with the stolen patented specifications, he or she could be successfully prosecuted under § 2314 according to the reasoning of the *Riggs* court. Congress surely did not intend to criminalize patent infringement through the back door. Dowling v. United States, 473 U.S. 207, 227 (1985).

^{79. 925} F.2d 1301 (10th Cir. 1991).

^{80.} Id. at 1308.

^{81.} Id. at 1303.

^{82.} Id.

his possession any tangible property belonging to the company.⁸³ The trial court ruled that the source code by itself "is not the type of property which is contemplated . . . within the language of the statute, goods, wares or merchandise."⁸⁴

Citing *Dowling*, the Tenth Circuit agreed. In *Dowling*, the defendant was convicted of violating 18 U.S.C. § 2314 following his interstate distribution of bootlegged Elvis Presley records. The Supreme Court reversed the conviction, holding that it was not Congress' intention that the National Stolen Property Act function as a criminalization of copyright infringement. The Supreme Court emphasized that its decision did not deal with initial procurement accomplished by theft or fraud and that the courts have never required that the items stolen and transported remain in entirely unaltered form. The court asserted, however, that:

[T]hese cases and others prosecuted under § 2314 have always involved physical "goods, wares [or] merchandise" that have themselves been "stolen, converted or taken by fraud." This basic element comports with the common-sense meaning of the statutory language: by requiring that the "goods, wares [or] merchandise" be "the same" as those "stolen, converted or taken by fraud" the provision seems clearly to contemplate a physical identity between the items unlawfully obtained and those eventually transported, and hence some prior physical taking of the subject goods.⁵⁰

The *Brown* court, quoting this language, held that "[p]urely intellectual property," such as the source code appropriated by the defendants, is not the type of property covered by 18 U.S.C. § 2314. The court stated that "[i]t can be represented physically, such as through writing on a page, but the underlying, intellectual property itself, remains intangible" and, thus, "cannot constitute goods, wares, merchandise... which have been stolen, converted or taken within the meaning of §§ 2314 or 2315." The *Brown* court also stated that the *Riggs* decision was errant in light of the Supreme Court's decision in *Dowling*. The court in *Brown*, however, did distinguish a situation in which the defendant illegally appropriates a tangible item containing an intangible component, such as a chemical

^{83.} Id. at 1305.

^{84.} Id. at 1306-07. (quoting Record II at 73, Brown (NO 90-2066)).

^{85.} Brown, 925 F.2d at 1308; see Dowling v. United States, 473 U.S. 207 (1985).

^{86.} Dowling, 473 U.S. at 209.

^{87.} Id.

^{88.} Id. at 215 n.7.

^{89.} Id. at 216.

^{90.} Id. (dictum).

^{91.} United States v. Brown, 925 F.2d 1301, 1307 (10th Cir. 1991).

^{92.} Id. at 1307-08.

^{93.} Id. at 1308.

formula written on a stolen piece of paper. The court suggested that such a situation violates 18 U.S.C. § 2314, even where the value of the paper is insignificant and is almost wholly derived from the intangible component. The court suggested that such a situation violates 18 U.S.C. § 2314, even where the value of the paper is insignificant and is almost wholly derived from the intangible component.

c. Prior decisions

At least one author, William Cook, 66 argues that the Brown decision is erroneous and that the phrase "goods, wares and merchandise," as used in section 2314, covers intangible property. 97 In support of this position, Cook cites to a number of other cases that he considers contrary to Brown.* Cook also argues that the Brown court's reliance on Dowling was misplaced.99 However, most of the decisions cited by Cook as precedents are distinguishable from the Brown decision in that they involve the misappropriation of intangible property embodied as part of a tangible item.100 In other words, the defendants in this line of cases were convicted under 18 U.S.C. § 2314 for the interstate transport of a stolen tangible item which derived its value from the intangible property contained therein. 101 This is exactly the situation that the Brown court distinguished from the facts of that case 102 and, thus, Cook's reliance on these cases is misplaced. Moreover, the Supreme Court in Dowling expressly overturned the line of cases which found that the interstate transportation of unauthorized copies of copyrighted material is a violation of 18 U.S.C. § 2314.100 Cook mistakenly cites these cases as still good law.104

For example, the Third Circuit in United States v. Seagraves 105 and

^{94.} Id. at 1307-08 n.14.

^{95.} Id. (citing United States v. Stegora, 849 F.2d 291, 292 (8th Cir. 1988)).

^{96.} See Cook, Federal Law and the Interstate Transfer of Stolen Computer Data: Riggs and Brown, 8 Computer L. & Security Rep. (Mar/Apr. 1992).

^{97.} Id. at 79-80.

^{98.} Id. at 78-79.

^{99.} Id. at 79-80.

^{100.} See, e.g., United v. Belmont, 715 F.2d 459 (9th Cir. 1983) (pirated films on videotape), cert. denied, 465 U.S. 1022 (1984), and cert. denied, Hampshire v. U.S., 467 U.S. 1215 (1984).

^{101.} See generally Dowling v. United States, 473 U.S. 207 (1985).

^{102.} United States v. Brown, 925 F.2d 1301, 1307-08 (10th Cir. 1991).

^{103.} Dowling, 473 U.S. at 213 n.6.

^{104.} Cook, supra note 96, at 78-80.

^{105. 265} F.2d 876 (3d Cir. 1959).

United States v. Lester¹⁰⁶ affirmed the defendants' convictions under 18 U.S.C. § 2314. These two cases arose out of a common factual background involving the theft of geophysical maps from Gulf Oil which were then sold and transported in interstate commerce. 107 In Lester, as in Seagraves, the defendants argued that, in many instances, the original maps were not transported in interstate commerce, but rather copies, made on the victim's own copying equipment with the victim's supplies. were actually transported. 108 Many of the original maps were never removed from the premises of Gulf Oil. Thus, according to the defendants, they did not steal or transport in interstate commerce any "goods, wares or merchandise."109 The court rejected this argument and instead focused on the market value of the copied maps which derived their value from the intangible information contained on them. 110 Citing Black's Law Dictionary, the court in Seagraves stated that the "[t]he term 'goods, wares, merchandise' is a general and comprehensive designation of such personal property or chattels as are ordinarily a subject of commerce."111 Since there was evidence that a market existed for the copies, the maps, including the copies, were considered goods, wares, or merchandise within the meaning of 18 U.S.C. § 2314. These cases are distinguishable from Brown because the defendants misappropriated both the intangible and tangible components which were embodied in the same object, i.e., the copies of the stolen map. 112

The Fifth Circuit in *Hancock v. Decker*¹¹³ affirmed the conviction of a defendant under Texas law for stealing copies of a computer program from his employer.¹¹⁴ The evidence established that the defendant used his employer's copying machine to make copies of fifty-nine computer programs developed by his employer.¹¹⁵ The defendant removed the copies from his employer's office and offered to sell them to a client for

^{106. 282} F.2d 750 (3d Cir. 1960), cert. denied, 364 U.S. 937 (1961).

^{107.} Seagraves, 265 F.2d at 878; Lester, 282 F.2d at 752.

^{108.} Lester, 282 F.2d at 755.

^{109.} Id.

^{110.} Id.

^{111.} Seagraves, 265 F.2d at 880.

^{112.} Id. at 877; Lester, 282 F.2d at 752.

^{113. 379} F.2d 552 (5th Cir. 1967). The matter was before the Fifth Circuit on a petition for a writ of habeas corpus filed by a state prisoner.

^{114.} Id. at 553. Defendant was prosecuted under a theft of property statute. Since this decision, Texas has enacted § 31.05 of the Penal Code which expressly prohibits the theft of trade secrets even if the defendant does not misappropriate tangible property but merely "communicates or transmits" the trade secret. See, e.g., Schalk v. Texas, 823 S.W.2d 633 (Tex. Crim. App. 1991) (quoting Tex. Penal Code Ann. § 31.05 (West 1994)).

^{115.} Hancock, 379 F.2d at 552.

five million dollars.¹¹⁶ The defendant claimed on appeal that he did not steal any property worth more than fifty dollars from his employer.¹¹⁷ The Fifth Circuit first indicated that similar federal court rulings under 18 U.S.C. § 2314 supported the state conviction and then properly cited the *Seagraves* decision, because, as in *Seagraves*, the defendant in *Hancock* actually misappropriated tangible items.¹¹⁸ The *Hancock* decision is, therefore, entirely consistent with *Dowling*.

Relying on Seagraves, the Sixth Circuit in United States v. Greenwald¹¹⁹ held that the original documents containing trade secrets for the formulation of fire retardation processes were "goods, wares or merchandise" within the meaning of 18 U.S.C. § 2314.¹²⁰ It should be emphasized both that the defendant in this case, as in Seagraves, was apprehended with the original documents in his possession,¹²¹ and as noted by the court "[g]iven... the appropriation of original documents containing such wrongful formations, the normal, ordinary and logical import of the statutory language dictates the conclusion that the documents here are 'goods, wares or merchandise' within the meaning of the Act." Again, the court was focusing on the physical identity between the stolen original documents and those documents that were transported in interstate commerce.

Similarly, the Seventh Circuit in *United States v. Kenngott*¹²³ upheld the defendant's conviction for violating 18 U.S.C. § 2314 by causing persons to transport money in interstate commerce by fraudulently promis-

^{116.} Id.

^{117.} Id.

^{118.} Id. Another Fifth Circuit decision, United States v. Smith, 686 F.2d 234 (5th Cir. 1982), is also consistent with the ruling in Hancock. See supra notes 96-98 and accompanying text. In Smith, the Fifth Circuit held that the defendant did not violate § 2314 by "taping copyrighted works off the air and then distributing the works in interstate . . . commerce." Smith, 686 F.2d at 238-39. The court reasoned that because a copyright is independent of both its physical manifestation and the very thing that is copyrighted and is purely intangible in nature, it is not a good, ware or merchandise within the "normal, ordinary, and logical reading of the language of section 2314." Id. at 241. The court also discussed in detail the legislative history of § 2314 which it claimed supports its determination that Congress never intended for copyright infringement to be covered by § 2314. Id. But cf. United States v. Belmont, 715 F.2d 459 (9th Cir. 1983), cert. denied, 465 U.S. 1022 (1984).

^{119. 479} F.2d 320, 322 (6th Cir.), cert. denied, 414 U.S. 854 (1973).

^{120.} Id.

^{121.} Id.

^{122.} Id.

^{123. 840} F.2d 375 (7th Cir. 1987).

ing to purchase bonds for those persons.¹²⁴ According to the court, such promises do not fall within the meaning of the term "spurious representations" as used in 18 U.S.C. § 2314's exclusionary provision.¹²⁵ More importantly, after analyzing the issue of whether intangible property is included within the meaning of 18 U.S.C. § 2314, the court stated "we are not aware of any case applying any portion of 18 U.S.C. § 2314 to something completely intangible. Thus, construing the term 'spurious representation' to apply to documents fraudulently passed off as genuine meshes with the statutory scheme."¹²⁶ None of the above cases, therefore, are contrary to the *Brown* court's decision as Cook claimed.¹²⁷ In each case the defendant misappropriated a tangible item, albeit paper with a *de minimis* value that contained an intangible item, namely, the trade secret with a value exceeding the statutory minimum of five thousand dollars.

Cook also cites Second Circuit law in support of his position that the theft of intangible property can be the basis of prosecution under 18 U.S.C. § 2314. ¹²⁸ However, closer examination of these cases also reveals that they are factually dissimilar from *Brown*. In the Second Circuit, the seminal decision on this issue is *United States v. Bottone*, ¹²⁹ holding that the interstate transfer of copies of secret drug manufacturing processes violated 18 U.S.C. § 2314. ¹³⁰ The defendants removed pa-

^{124.} Id. at 377.

^{125.} Id. at 379-82. Section 2314 expressly states that its ambit does not include any "falsely made, forged, altered, counterfeited or spurious representation of an obligation or other security of the United States, or of an obligation, bond certificate, security, treasury note, bill, promise to pay or bank note issued by any foreign government or by a bank or corporation of any foreign country." 18 U.S.C. § 2314 (1988 & Supp. V 1993).

^{126.} Kenngott, 840 F.2d at 380.

^{127.} See supra notes 96-99 and accompanying text.

^{128.} See Cook, supra note 96, at 76; see also United States v. Gilboe, 684 F.2d 235, 239 (2d Cir. 1982), cert. denied, 459 U.S. 1201 (1983) (holding that the electronic transfer of fraudulently-obtained funds is a violation of § 2314); United States v. Bottone, 365 F.2d 389, 393-94 (2d Cir.), cert. denied, 385 U.S. 974 (1966) (holding that the interstate transportation of copies of secret material violated § 2314); United States v. Gallo, 599 F. Supp. 241, 245 (W.D.N.Y. 1984) (stating that "[t]he law of this circuit is that intangible rights can be the basis of prosecution under 18 U.S.C. § 2314"); United States v. Steerwell Leisure Corp., Inc., 598 F. Supp. 171, 174 (W.D.N.Y. 1984) ("Judge Friendly's opinion for the Second Circuit in United States v. Bottone, stated in no uncertain terms that intangible rights embodied in tangible objects which are not themselves stolen can be the basis of a prosecution under 18 U.S.C. § 2314") (citations omitted); United States v. Sam Goody, Inc., 506 F. Supp. 380, 389 (E.D.N.Y. 1981) (stating that in Bottone the Second Circuit held that the intangible aggregation of sounds embodied on a tangible medium is a good, ware or merchandise within the purview of § 2314).

^{129. 365} F.2d 389 (2d Cir.), cert. denied, 385 U.S. 974 (1966).

^{130.} Id. at 394-95.

pers describing manufacturing processes from their place of employment and made copies outside the office. ¹³¹ They returned the originals and the copies were then transported in interstate commerce. ¹³² In upholding the defendants' convictions, Judge Friendly stated:

when the physical form of the stolen goods is secondary in every respect to the matter recorded in them, the transformation of the information in the stolen papers into a tangible object never possessed by the original owner should be deemed immaterial. It would offend common sense to hold that these defendants fall outside the statute simply because, in efforts to avoid detection, their confederates were at pains to restore the original papers to [their employer] and transport only copies or notes, although an oversight would have brought them within it.¹⁵³

Bottone held that the theft of purely intangible goods is a violation of 18 U.S.C. § 2314.¹³⁴ The Bottone court, however, made a distinction between the interstate transportation of copies containing trade secrets and the situation where a thief memorizes the trade secret and places it in writing only after crossing a state boundary. The court suggested that the latter situation would not be within the ambit of 18 U.S.C. § 2314.¹³⁵ In dicta, the Bottone court recognized that tangible property must be transported across a state line to constitute a violation of 18 U.S.C. § 2314.¹³⁶ This distinguished Bottone from Riggs in which only intangible property in the form of electronic signals was transported.

As noted by Cook,¹³⁷ the same circuit, in *United States v. Gilboe*,¹³⁸ held that the interstate electronic transfer of fraudulently-obtained funds, was a violation of 18 U.S.C. § 2314.¹³⁹ The court noted that the issue was one of first impression, but indicated that it did not "regard it as a difficult one."¹⁴⁰ The court reasoned that

[E]lectronic signals in this context are the means by which funds are transported. The beginning of the transaction is money in one account and the ending is money in another account. The manner in which the funds were moved does not affect the ability to obtain tangible paper dollars or a bank check from the receiving account The primary element of this offense, transportation, 'does not re-

^{131.} Id. at 391.

^{132.} Id.

^{133.} Id. at 394.

^{134.} Id. at 391.

^{135.} Id.

^{136.} Id. at 393 (dictum).

^{137.} See Cook, supra note 96, at 78.

^{138. 684} F.2d 235 (2d Cir. 1982), cert. denied, 459 U.S. 1201 (1983).

^{139.} Id.

^{140.} Id.

This case however is clearly different from *Brown* and *Riggs* because 18 U.S.C. § 2314 explicitly makes it a crime to transmit stolen money in interstate commerce. He issue faced by the *Gilboe* court was whether the electronic transfer of funds across a state line violates 18 U.S.C. § 2314 and not whether intangible property is goods, wares or merchandise. He plain language of the section indicates that the *Gilboe* court was correct, but it does not follow that the *Brown* court was wrong. The two situations are simply factually dissimilar.

At least two other circuits, the Ninth¹⁴⁴ and Eleventh,¹⁴⁵ have held that theft of purely intangible property is covered by 18 U.S.C. § 2314. Each of these cases, however, concerned the application of 18 U.S.C. § 2314 to interstate shipments of bootlegged and pirated sound recordings and motion pictures whose unauthorized distribution infringed valid copyrights. 46 For example, in *United States v. Belmont*, 47 the court held that the interstate transport of illegal "off the air" videotape copies of motion pictures protected by copyright violated 18 U.S.C. § 2314.148 The court specifically rejected defendant's argument that 18 U.S.C. § 2314 distinguishes between the interstate transportation of "stolen copies" and the interstate transportation of "off the air" copies. 140 The Ninth Circuit stated that, "[w]e do not find the distinction meaningful in terms of the purpose of the statute."150 However, as noted, the Dowling Court specifically held that 18 U.S.C. § 2314 does not reach the interstate transportation of unauthorized copies of copyrighted goods. 161 Thus. these cases which hold otherwise no longer have any value as prece-

^{141.} Id.

^{142.} Id.; see 18 U.S.C. § 2314 (1988 & Supp. V 1993).

^{143.} Gilboe, 684 F.2d at 238.

^{144.} See United States v. Belmont, 715 F.2d 459, 461-62 (9th Cir. 1983), cert. denied, 465 U.S. 1022 (1984); United States v. Drebin, 557 F.2d 1316, 1328 (9th Cir. 1977), cert. denied 436 U.S. 904 (1978).

^{145.} See United States v. Gottesman, 724 F.2d 1517, 1520 (11th Cir. 1984).

^{146.} See, e.g., United States v. Drum, 733 F.2d 1503, 1506 (11th Cir.), cert. denied, 469 U.S. 1061 (1984) (illegal reproduction and interstate transportation of legitimately acquired copyrighted works); Gottesman, 724 F.2d at 1520 (unauthorized videotape cassettes of copyrighted motion pictures); Belmont, 715 F.2d at 461-62 (interstate transport of illegal "off the air" videocopies of motion pictures); United States v. Berkwitt, 619 F.2d 649, 656-58 (7th Cir. 1980) (sound recordings); United States v. Whetzel, 589 F.2d 707, 710 n.10 (D.C. Cir. 1978) (sound recordings); United States v. Gallant, 570 F. Supp. 303, 310-14 (S.D.N.Y. 1983) (sound recordings); United States v. Sam Goody, Inc., 506 F. Supp. 380, 385-91 (E.D.N.Y. 1981) (sound recordings).

^{147. 715} F.2d 459 (9th Cir. 1983).

^{148.} Id. at 461-62.

^{149.} Id. at 461.

^{150.} Id.

^{151.} Dowling v. United States, 473 U.S. 207, 226 (1984).

dents.

Furthermore, the *Dowling* Court also stated that cases involving the theft of intangible property under 18 U.S.C. § 2314 "have always involved physical 'goods, wares, [or] merchandise' that have themselves been 'stolen, converted or taken by fraud'.... [T]he provision clearly seems to contemplate a physical connection between the items unlawfully obtained and those eventually transported, and hence some prior physical taking of the subject goods." While this language is dicta, it suggests what the Court's position might be if called upon to determine whether the theft of purely intangible property violates 18 U.S.C. § 2314. ISS

It seems likely, therefore, that regardless of whether the theft of a trade secret is prosecutable under 18 U.S.C. § 2314, the language of *Dowling* and *Brown* will have a very strong adverse impact on whether a United States Attorney's Office will attempt to decide to prosecute such a case. ¹⁵⁴ In light of the important nature of these cases, this suggests that Congress should consider amending 18 U.S.C. § 2314 and 18 U.S.C. § 2315 to specifically include the interstate transportation of stolen intangible property.

2. Value

In order to fall within the scope of 18 U.S.C. § 2314, the misappropriated "goods, wares, or merchandise" must have a minimum "value" of \$5000. This requirement in the case of stolen intangible property is not always easy to establish because the market value of a trade secret is

^{152.} Id. (dictum).

^{153.} See id. at 207.

^{154.} See id.; see also United States v. Brown, 925 F.2d 1301, 1301 (10th Cir. 1991).

^{155.} Value is defined in § 2311 as "the face, par, or market value, whichever is the greatest, and the aggregate value of all goods, wares, and merchandise, securities, and money referred to in a single indictment shall constitute the value thereof." 18 U.S.C. § 2311 (1988 & Supp. 1994).

^{156.} Id. § 2314. According to the legislative history of the Act, the monetary threshold was enacted to avoid overtaxing the Department of Justice:

It is believed that it would place too great a burden on the Department of Justice to ask it to undertake to apprehend and prosecute every person violating the substantive provisions of such a law without regard to the amount of property involved. The minimum valuations fixed in the bill required to give the Federal Government jurisdiction are the figures asked and recommended by the Attorney General.

H.R. 1462, 73d Cong., 2d Sess. 2 (1934).

frequently not readily ascertainable. Certainly, if there is a market for the trade secret before it is stolen, *i.e.*, the knowledge has been licensed or sold, there is no difficulty in placing a value on the trade secret. However, because trade secrets are often stolen at the development stage, the problem becomes determining the value of an item that has never been sold or marketed. As should become clear from the following discussion, courts have not adopted a uniform approach in resolving this issue.

In a case that was decided almost forty years ago, *Abbott v. United States*,¹⁵⁷ the defendant was convicted of violating 18 U.S.C. § 2314 for the interstate transportation of stolen geographical maps.¹⁵⁸ Over a period of approximately two years, defendant had paid \$3000 to \$4000 for between twenty to forty maps.¹⁵⁹ The appellate court reversed defendant's conviction on the ground that the government never established interstate transportation or market value, which are two prerequisites for conviction.¹⁶⁰ The court pointed out that the government expert himself testified that "he knew of no market for their sale in the well-defined meaning of the term"¹⁶¹ and that Congress never intended for market value under 18 U.S.C. § 2314 to include "cost of production, cost of replacement, value to the owner, [or] value to one who might have use of it under special circumstances."¹⁶² According to the court, "market value depends on a market, whether formal or informal, in which willing buyers bargain with willing sellers."¹⁶³

The *Abbott* court did, however, uphold the defendant's conviction under the mail fraud count, ¹⁶⁴ acknowledging that the object of the scheme was to acquire valuable property, i.e., the geological maps. Moreover, the court recognized that the maps "were papers of almost inestimable practical value" and they had a "negative" value ¹⁶⁵ which continued only so long as they were in the exclusive possession of their rightful owner. ¹⁶⁶ Thus, the Fifth Circuit, while denying that the government had established that the maps were worth at least \$5000, admitted they were intrinsically very valuable.

^{157. 239} F.2d 310 (5th Cir. 1956).

^{158.} Id. at 311.

^{159.} Id. at 311-12.

^{160.} Id. at 312, 315.

^{161.} *Id.* at 312, 31

^{162.} Id. at 313.

^{163.} Id.

^{164.} Id. at 315; see 18 U.S.C. § 1341 (1988 & Supp. V 1993).

^{165.} Abbott, 239 F.2d at 314. The maps had value to their owner only if they remained confidential. Id. Their value was lost or diminished the moment a map lost its confidentiality because a person could then profit from the information contained in the map at the expense of the company. Id.

^{166.} Id.

In United States v. Seagraves, 167 the court found that the \$5000 minimum had been established by the very fact that the defendants paid at least that much for the maps, and expert testimony proved that the value of certain individual maps alone was well over \$5000.168 Thus, the court measured value as the price the buyer in the case was willing to pay the seller. In United States v. Lester, 169 the court measured value in the same manner, rejecting the defendant's argument that because there was no readily ascertainable market, the goods could not have been worth the \$5000 statutory minimum. 170 The court reasoned that, in the rare case in which there are exceptional goods without a readily ascertainable market value, "any reasonable method may be employed to ascribe an equivalent monetary value to the items."171 Thus, in Lester, it was reasonable to ascertain the value of the approximately 2000 maps purchased from the fact that the buyers agreed to pay \$2500 dollars each plus a one sixteenth royalty.¹⁷² Clearly, the value of the maps met the statutory minimum of \$5000.

In *United States v. Bottone*, ¹⁷³ the court adopted the *Seagraves* and *Lester* approach and indicated that the value of stolen chemical formulae could be easily ascertained because European drug manufacturers were willing to pay "five and six figures" for them. ¹⁷⁴

In *United States v. Greenwald*,¹⁷⁵ the Sixth Circuit held that the evidence showed that there was an established, viable, "albeit limited," market among chemical companies for the type of formulae misappropriated.¹⁷⁶ Furthermore, chemical companies routinely exchanged these formulae through licensing agreements or sales, and in this case, the evidence further established that the defendant had negotiated to sell the formulae for \$40,000.¹⁷⁷ Taken together, these two factors clearly showed that the trade secrets were worth more than the

^{167. 265} F.2d 876 (3d Cir. 1959).

^{168.} Id. at 880.

^{169. 282} F.2d 750 (3d Cir. 1960).

^{170.} Id. at 754-55.

^{171.} Id. at 755.

^{172.} Id. at 755 n.3.

^{173. 365} F.2d 389 (2d Cir.), cert. denied, 385 U.S. 974 (1966).

^{174.} Id. at 393.

^{175. 479} F.2d 320 (6th Cir.) (involving a defendant who was convicted for stealing secret chemical formulae and attempting to sell them to his employer's competitors), cert. denied, 414 U.S. 854 (1973).

^{176.} Id. at 321-22.

^{177.} Id. at 322.

Finally, in *United States v. Stegora*,¹⁷⁹ the Eighth Circuit affirmed the conviction of an employee of the 3M Company under 18 U.S.C. § 2314. Stegora sent letters to his employer's competitors that offered them an opportunity to buy information about a new medical product. ¹⁸⁰ The letters also enclosed samples of this product, a synthetic casting material used by doctors to set broken bones. ¹⁸¹ In analyzing the value of this product, the court noted that ordinarily the value of stolen property is measured by its market value. ¹⁸² However, the court, citing *Lester*, stated that with an "exceptional type of goods . . . any reasonable method may be employed" to determine value. ¹⁸³ Thus, development costs, revenues and a "thieves' market" are acceptable methods to determine value under 18 U.S.C. § 2314. ¹⁸⁴

In *Stegora*, 3M proved that its cost of research, development and marketing the casting material was more than one million dollars. ¹⁸⁵ An expert witness also testified that such costs were the proper measure of the product's value. ¹⁸⁶ Further, he testified that a license to produce the cost would generate \$150,000 for every million dollars sold. ¹⁸⁷ Finally, other evidence introduced at trial showed that the product was worth much more than \$5000 in a "thieves market." ¹⁸⁸ Thus, the court had "no difficulty" in concluding that the government satisfied the statutory requirement of \$5000. ¹⁸⁹

The trend of the above cases suggests that the monetary requirement of the National Stolen Property Act will not normally be a substantial obstacle to prosecution. It is extremely unlikely that in today's world where, for example, old baseball cards are worth thousands of dollars, a valuable commercial product could be developed or licensed for less than \$5000, or that it is worth less than that amount in a thieves' market. While *Abbott* suggests that the Fifth Circuit requires the existence of an actual market in order to meet the monetary requirement, ¹⁹⁰ that holding is almost forty years old, and it seems unlikely that the circuit would

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178. Id.
179. 849 F.2d 291 (8th Cir. 1988).
180. Id. at 292.
181. Id.
182. Id.
183. Id. at 292.
184. Id.
185. Id. at 292.
186. Id.
187. Id.
188. Id. at 292.
189. Id.
190. See Abbott v. United States, 239 F.2d 310, 312-13 (5th Cir. 1956).
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continue to follow such a limited test.

C. Sections 1341 and 1343

The federal wire and mail fraud statutes proscribe devising any scheme involving use of the mails or interstate wire transmission for obtaining "property" by false pretenses or representations. ¹⁹¹ Appellate courts have upheld convictions under either one of the two statutes in situations involving the theft of trade secrets even without a finding of a violation of 18 U.S.C. § 2314. ¹⁹² The broader scope results from the use of the word "property" in 18 U.S.C. § 1341 and § 1343 as compared to the far narrower phrase "goods, wares and merchandise" used in 18 U.S.C. § 2314. Courts have not had difficulty finding that "property" includes intangible property. ¹⁸³ However, as discussed, a serious question exists as to whether intangible property can be considered goods, wares or merchandise. ¹⁹⁴ These statutes provide a basis for prosecution when mail or wire are used in a misappropriation scheme. ¹⁹⁵

191. Section 1341 provides in pertinent part:

Whoever, having devised or intending to devise any scheme or artifice to defraud, or for obtaining money or property by means of false or fraudulent pretenses, representations, or promises . . . places in any post office or authorized depository for mail matter, any matter or thing whatever to be sent or delivered by the Postal Service or takes or receives therefrom any such matter or thing, or knowingly causes to be delivered by mail according to the direction thereon, or at the place at which it is directed to be delivered by the person to whom it is addressed, any such matter or thing, shall be fined not more than \$1,000 or imprisoned not more than five years, or both.

18 U.S.C. § 1341 (1988 & Supp. V 1993).

Section 1343 provides in pertinent part:

Whoever, having devised or intending to devise any scheme or artifice to defraud, or for obtaining money or property by means of false or fraudulent pretenses, representations, or promises, transmits or causes to be transmitted by means of wire, radio, or television communication in interstate or foreign commerce, any writings, signs, signals, pictures, or sounds for the purpose of executing such scheme or artifice, shall be fined not more than \$1,000 or imprisoned not more than five years, or both.

Id. § 1343.

192. See e.g., Abbott v. United States, 239 F.2d 310 (5th Cir. 1956) (holding evidence insufficient concerning the value of property and interstate transportation but upholding the mail fraud conviction).

- 193. See supra notes 120-45 and accompanying text.
- 194. See supra notes 96-145 and accompanying text.
- 195. The mail and wire fraud statutes have been identically construed with respect

The broad reach of these two sections is illustrated by the Supreme Court decision in *Carpenter v. United States*. ¹⁹⁶ The Supreme Court held in that case that an employee's use of his employer's confidential information for private gain violated 18 U.S.C. § 1341 and § 1343 in that the defendant obtained property by defrauding his employer. ¹⁹⁷ The defendant in *Carpenter* authored the "Heard on the Street" column for *The Wall Street Journal* which offered stock tips. ¹⁹⁸ Although this column contained no inside information on the companies discussed, it had the potential of affecting the stock prices of those companies because of the "quality and integrity" of the information contained in the column. The defendant passed advance information on the column to two co-conspirators who executed pre-publication trades and earned profits of approximately \$690,000.

In an earlier 1987 decision, *McNally v. United States*, ¹⁹⁰ the court ruled that the mail fraud statute did not include schemes to defraud citizens of their intangible right to honest government, but rather was limited to protection of "property" rights. ²⁰⁰ The defendant in *Carpenter* argued that *McNally* meant that intangible rights could not be the subject of a violation of the mail or wire fraud statutes. ²⁰¹ The Court disagreed, indicating that "*McNally* did not limit the scope of 18 U.S.C. § 1341 to tangible as distinguished from intangible property rights. ²⁰² According to the court, misappropriation of confidential business information was distinguishable from the facts in *McNally*. The court squarely held that confidential information is "property" subject to the protection of the

to the issues discussed herein. See United States v. Von Barta, 635 F.2d 999, 1005 n.11 (2d Cir. 1980), cert. denied, 450 U.S. 998 (1981); United States v. Louderman, 576 F.2d 1383, 1387 n.3 (9th Cir), cert. denied 439 U.S. 896 (1978).

^{196. 484} U.S. 19 (1987).

^{197.} Id. at 28.

^{198.} Id.

^{199. 483} U.S. 350 (1987).

^{200.} Id. at 356. The decision in McNally was overturned by Congress the following year with the passage of 18 U.S.C. § 1346 which states: For the purposes of this chapter, the term "scheme or artifice to defraud" includes a scheme or artifice to deprive another of the intangible right of honest services. 18 U.S.C. § 1346 (1988). Courts have held that this amendment restores the mail fraud and wire fraud provisions to their pre-McNally status. United States v. Johns, 742 F. Supp. 196, 216 (E.D. Pa. 1990), affd, 972 F.2d 1333 (3d Cir. 1991); United States v. Berg, 710 F. Supp. 438, 442 (E.D.N.Y. 1989). This amendment thereby criminalizes schemes to defraud another of the right to loyal and faithful services, regardless of whether the scheme caused the alleged victim to lose money or property. See generally Johns, 742 F. Supp. at 216; Berg, 710 F. Supp. at 442. Thus, a defendant who discloses the trade secret of his employer and uses mail or wire could be charged with a violation of § 1341 or § 1343 for depriving his employer of his honest and faithful services.

^{201.} Carpenter, 484 U.S. at 25.

^{202.} Id.

mail and wire fraud statutes.203

The court rejected the defendants' arguments that they neither interfered with their employer's use of the information nor disseminated it to the public.²⁰⁴ The court reasoned that the fact that the Wall Street Journal had been deprived of its right to exclusive use of its columns was sufficient for finding fraud because "exclusivity is an important aspect of confidential business information." The confidential business information in question was the schedule and contents of the daily column. The newspaper's policy and practice was to keep those things in confidence, a fact known to the defendant.²⁰⁶ Thus, *Carpenter* stands for the proposition that the disclosure of confidential information for gain is a violation of the mail and/or wire fraud statutes, assuming of course, that mail or wire, or both, were used in the commission of the offense.

In *United States v. Seidlitz*,²⁰⁷ the defendant used his knowledge of his former employer's computer system to enter the system and download computer data.²⁰⁸ The court held that the software was a trade secret, even though similar programs were in the public domain.²⁰⁹ The court reasoned that because the defendant's former employer had invested substantial sums to modify the system for its own needs and the employer took steps to prevent persons other than clients and employees from using the system, it was of competitive value.²¹⁰ Accordingly, the appellate court found that there was sufficient evidence from which a jury could conclude that information stored in the computer system was "property" within the meaning of 18 U.S.C. § 1343.²¹¹

Furthermore, by statutorily reversing the *McNally* decision through its enactment of 18 U.S.C. § 1346,²¹² Congress provided a possible alternative theory under which a defendant may be prosecuted for misappropriation of trade secrets. Under 18 U.S.C. § 1346, a corporate employee may be prosecuted for misappropriating a trade secret under limited

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203. Id. at 28.
204. Id. at 26.
205. Id. at 26-27.
206. Id. at 22.
207. 589 F.2d 152 (4th Cir. 1978), cert. denied, 441 U.S. 992 (1979).
208. Id. at 154.
209. Id. at 160.
210. Id.
211. Id.
212. 18 U.S.C. § 1346 (1988); see supra note 200.
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circumstances even if it cannot be proven that he was motivated by personal gain. This theory is not premised on the assumption that the trade secret is property of some type, but rather on the understanding that a corporate employee owes a fiduciary duty to his employer which he breaches by misappropriating the trade secret. The defendant violates the mail or wire fraud statutes not by defrauding his employer of the trade secret, but by defrauding the employer of the right to loyal and faithful services.²¹³

Prior to the Supreme Court's decision in *McNally*, appellate courts applied the "intangible-rights" doctrine to a wide range of situations in which beneficiaries were deprived of their right to honest and faithful services.²¹⁴ To establish fraud, the prosecution did not need to prove that the victim of the fraud was directly harmed. Rather, the test was whether the defendant both breached a duty owed to a beneficiary and failed to disclose material information.²¹⁶

213. United States v. Johns, 742 F. Supp. 196, 216 (E.D. Pa. 1990), affd, 972 F.2d 1333 (3d Cir. 1991); United States v. Berg, 710 F. Supp. 438, 442 (E.D.N.Y. 1989) ("Section 1346... may be viewed as restoring the law to its state prior to McNally").

214. See, e.g., United States v. Sivano, 812 F.2d 754 (1st Cir. 1987) (requiring honest services of local government officials); United States v. Clapps, 732 F.2d 1148 (3d Cir.), cert. denied, 469 U.S. 1085 (1984) (applying mail fraud statute to dishonest election scheme); United States v. Margiotta, 688 F.2d 108 (2d Cir. 1982), cert. denied, 461 U.S. 913 (1983) (holding that local government official has duty to disclose material information to the public); United States v. Bronston, 658 F.2d 920 (2d Cir. 1981), cert. denied, 456 U.S. 915 (1982) (concealing material information from a client); United States v. Louderman, 576 F.2d 1383 (9th Cir. 1978), cert. denied, 493 U.S. 896 (1978) (depriving the phone company and its patrons of their right to privacy). Most of the pre-McNally cases involving the intangible rights doctrine involved bribery or other misfeasance by public officials. The requisite "scheme or artifice to defraud" was found in the deprivation of the public's right to honest and faithful government.

A public official's non-disclosure of material information has also been held to satisfy the fraud element. For example, in United States v. Bush, 522 F.2d 641 (7th Cir. 1975), cert. denied, 424 U.S. 977 (1976), the failure of a city public official to disclose his ownership interest in a corporation he recommended to the city was deemed fraudulent. Id. at 646. The court held that the duty to disclose was incident to the defendant's duty as an employee of the city. Id. His employer had the right to negotiate for and award a contract with "all relevant facts" before it. Id. at 648.

The rationale applied to public officials has been extended into the area of commercial deprivations. For example, in *Louderman*, 576 F.2d at 1387-88, two debt collectors were convicted of wire fraud for misrepresenting themselves to the telephone company and the post office in order to obtain information that deprived subscribers and box holders of their privacy. The court recognized a prosecutable fraud in the deprivation of the phone company and post office patrons of their intangible right to privacy for which they were paying. *Id.* at 1387.

215. "The additional element which frequently transforms a mere fiduciary breach into a criminal offense is a violation of the employee's duty to disclose material information to his employer." United States v. Von Barta, 635 F.2d 999, 1006 (2d Cir.

Particularly illustrative of this theory is *United States v. Kelly*, 216 in which two defendants were charged with, inter alia, mail fraud. The indictment alleged that by using their company's computer time and storage facilities for the development of a private business venture without authorization, the defendants defrauded Univac of their loyal and faithful services as employees.217 The allegations included that defendants used the mails in furtherance of their fraudulent scheme by mailing promotional materials.²¹⁸ The court upheld defendants' convictions and dismissed the defendants' post-trial assertions that they did not violate 18 U.S.C. § 1341 because the government failed to prove that the goal of the fraudulent scheme was to obtain money or some tangible property right from Univac. The court stated that it is well established that a private employee may be convicted of mail fraud for failure to render honest and faithful services to his employer when combined with a scheme to deceive, mislead or conceal material information.²¹⁹ The court pointed out that the defendants extensively used their employer's computer facilities for their own gain, which was against company policy, and took steps to conceal their use from their employer. Thus, the evidence was more than sufficient to sustain the jury's determination that the defendants acted with intent to defraud.220

In *United States v. Siegel*,²²¹ the Second Circuit extended the *Kelly* rationale to its seemingly farthest possible reach. The court held that nondisclosure of the breach of fiduciary duty by the employee satisfied the requirement of failing to disclose material information.²²² The court indicated that by failing to inform the employer of the unauthorized disclosure to another party of material information, the employee breached his fiduciary duty.²²³ Therefore, under *Siegel*, the conduct prohibited by

¹⁹⁸⁰⁾ cert. denied, 450 U.S. 998 (1981), (reinstating the indictment of a bond trader in a powerful and trusted position for wire fraud and conspiracy based on evidence that he withheld information about the thin capitalization of a trading firm in which he had an interest).

^{216. 507} F. Supp. 495 (E.D. Pa. 1981).

^{217.} Id. at 497.

^{218.} Id.

^{219.} Id. at 500.

^{220.} Id. at 503.

^{221. 717} F.2d 9 (2d Cir. 1983).

^{222.} Id. at 14-15.

^{223.} Id. The Second Circuit concluded that the jury could have found that the defendants acted "in breach of their fiduciary duties to act in the best interest of the corporation and to disclose material information." Id.

the mail and wire fraud acts is an undisclosed breach of duty owed to a fiduciary.

Based on the above decisions, it is reasonable to conclude that under the recently resurrected intangible rights theory, a person who misappropriates a trade secret from his employer and thereby breaches his fiduciary duty may be prosecuted under 18 U.S.C. § 1341 or § 1343. The government must prove that the defendant took steps to actively conceal the misappropriation and that mail or wire was used in the commission of the offense. The United States, however, does not have to prove that the defendant realized any financial gain from the theft or attempted theft. The issue is not whether the trade secret is property for the purposes of the mail and wire fraud statutes, but whether the defendant defrauded another party of the intangible right of honest services. Of course, the scope of these statutes in such a situation is severly limited because they are only applicable if the person who missappropriates the trade secret owes a fiduciary duty to the owner of the trade secret.

Finally, it should be noted that the requirement that the mail be utilized in the scheme to defraud has not been rigidly applied. The court in Abbott v. United States²⁴ affirmed the conviction of the defendant for mail fraud under 18 U.S.C. § 1341 even though there was was no evidence that the object of the scheme to defraud, i.e., geophysical maps were sent through the mails. The court held that because the defendant had mailed checks as payment for the maps, it was irrelevant that the maps had not been transmitted through the mails. The court reasoned that unless money was paid, no copies of maps were to be taken or delivered. As such, sending and paying money was the "complete essence and fulfillment of the scheme." This suggests a prosecution for violation of 18 U.S.C. § 1341 will lie as long as the mail is used in the misappropriation scheme in a more than casual or incidental manner.

D. "Property" Under Other Federal Statutes

The issue of whether pure information constitutes protectable property under federal criminal statutes also arises under statutes other than those described above. Courts have generally held that information is an item of value, the mere taking of which violates federal law. This suggests, of course, that if Congress amended 18 U.S.C. § 2314 to include "property," the theft of intangible property could be successfully prosecuted under that section. Further, state courts have generally adopted the view that the theft of pure information is a prosecutable offense.²²⁶

^{224. 239} F.2d 310 (5th Cir. 1956).

^{225.} Id. at 315.

^{226.} State courts have generally been even more expansive in their interpretation of

This trend bodes well for the prosecution of the theft of pure trade secrets under the appropriate statutes.

1. 18 U.S.C. § 641

Section 641²²⁷ provides in pertinent part that whoever, without authority, misappropriates any "thing of value" of the United States or who "receives... the same with intent to convert it to his use or gain, knowing it to have been embezzled, stolen, purloined or converted," is guilty of a crime.²²⁸ The legislative history of 18 U.S.C. § 641 does not mention the application of the statute to the theft of pure information.²²⁹ The predecessors to 18 U.S.C. § 641 date back to 1875. The legislature codified 18 U.S.C. § 641 in its present form in 1948 during the same time it revised the criminal code.²³⁰ As might be expected, the nineteenth century legislative history of the predecessor statutes does not address the application of the statute to government information, probably because Congress at that time could not have foreseen the is-

property to include intangible property such as computer programs. For example, in *Hancock v. State*, 402 S.W.2d 906, 908 (Tex. Crim. App. 1966), the court held that "property," as used in the crime of theft, included computer programs. *See also*, National Surety v. Applied Systems, Inc., 418 So. 2d 847 (Ala. 1982); Indiana v. McGraw, 459 N.E.2d 61 (Ind. Ct. App. 1984).

227. The statute provides in full as follows:

Whoever embezzles, steals, purloins, or knowingly converts to his use or the use of another, or without authority, sells, conveys or disposes of any record, voucher, money, or thing of value of the United States or of any department or agency thereof, or any property made or being made under contract for the United States or any department of agency thereof; or

Whoever receives, conceals, or retains the same with intent to convert it to his use or gain, knowing it to have been embezzled, stolen, purloined or converted-

Shall be fined not more than \$10,000 or imprisoned not more than ten years, or both; but if the value of such property does not exceed the sum of \$100, he shall be fined not more than \$1,000 or imprisoned not more than one year, or both.

The word "value" means face, par, or market value, or cost price, either wholesale or retail, whichever is greater.

18 U.S.C. § 641 (1988 & Supp. IV 1992).

228. Id.

229. United States v. Lambert, 446 F. Supp. 890 (D. Conn. 1978), affd sub nom. United States v. Firard, 601 F.2d 69 (2d Cir. 1979).

230. Id. at 892-93.

sue.²³¹ However, federal courts generally have held that the phrase "thing of value" includes intangible as well as tangible property.²³²

In United States v. Girard, 233 the Second Circuit upheld the conviction of one defendant, Paul Lambert, who was an employee of the Drug Enforcement Administration in Washington, D.C. 234 Lambert was charged with selling information regarding the identity of informants and the status of narcotics investigations. 235 There was no evidence that suggested that Lambert misappropriated tangible property of any kind. The information was stored in a DEA computer. After reviewing the legislative history of the statute and finding it unhelpful, the court concluded that the trial court correctly relied on prior cases that indicated that "thing of value" covers intangibles as well as tangibles. 236 The district court initially discussed United States v. Bottone 227 which, as already noted, concluded that copies were goods within the meaning of 18 U.S.C. § 2314.²³⁸ The trial court reasoned that if copies were goods under the provisions of 18 U.S.C. § 2314, and if § 2314 is narrower in scope than 18 U.S.C. § 641, it is more likely that the intangible information should be deemed to be a good under 18 U.S.C. § 641.²³⁹

The trial court in Girard also relied on United States v. Digilio, 240 in

^{231.} Id. at 893.

^{232.} See id. at 893-95. Section 876 also contains the phrase "thing of value." 18 U.S.C. § 876 (1982). This section, in general, prohibits extortion of "money or [any] thing of value." Id. In United States v. Zouras, 497 F.2d 1115 (7th Cir. 1974), the court held that testimony is clearly a thing of value and that "[t]he mere fact that the value could not easily be translated into a monetary figure does not affect its character for purposes of § 876." Id. at 1121.

^{233. 601} F.2d 69 (2d Cir. 1979).

^{234.} Id. at 73.

^{235.} Id. at 70.

^{236.} *Id.* at 70-71. The court indicated that the phrase "thing of value" is found in many criminal statutes throughout the United States, and it has "in a sense become words of art" and has come to mean both intangible as well as tangible property. *Id.* at 71. The court further stated:

For example, amusement is held to be a thing of value under gambling statutes. Sexual intercourse or the promise of sexual intercourse, is a thing of value under a bribery statute. So also are a promise to reinstate an employee and an agreement not to run in a primary election.

Id. (citations omitted).

^{237. 365} F.2d 389 (2d Cir.), cert. denied, 385 U.S. 974 (1966); see supra notes 164-65 and accompanying text.

^{238.} United States v. Lambert, 446 F. Supp. 890, 894 (D. Conn. 1978), aff'd sub nom. United States v. Firard, 601 F.2d 69 (2d Cir. 1979) (citing Bottone, 365 F.2d at 393-94).

^{239.} Id. at 894 n.4.

^{240. 538} F.2d 972 (3d Cir. 1976), cert. denied sub nom. Lupo v. United States, 429 U.S. 870 (1977).

which the defendants were prosecuted for photocopying FBI records and selling them to subjects of investigations.²⁴¹ The *Digilio* court declined to address the government's contention that the deprivation of exclusive possession of the information contained in the records violated 18 U.S.C. § 641. The court reasoned that since the defendant made the copies during government office time, with government machines and on government paper, the copies themselves were government property. The court added, however, that it did not intend to imply a complete rejection of the government's broader interpretation of 18 U.S.C. § 641, and, in fact, stated "much can be said in favor of the government's argument."²⁴²

After considering these three decisions, the *Lambert* district court saw "no reason to restrict the scope of 18 U.S.C. § 641 to the theft of government paper and ink, or to unauthorized reproductions. The phrase 'thing of value' in 18 U.S.C. § 641 in conjunction with the explicit reference to 'any record', was found to cover the content of such a record."²⁴³ Similarly, the court in *United States v. Jeter*²⁴⁴ held that information constitutes government property or a "thing of value" under 18 U.S.C. § 641.²⁴⁵

The issue of information as property under 18 U.S.C. § 641 has also arisen in the prosecution of espionage cases. In this area, information has been deemed an item of value, the mere taking of which violates federal law. The Fourth Circuit in *United States v. Fowler*²⁴⁶ upheld the

^{241.} Lambert, 446 F. Supp. at 894 (citing Digilio, 538 F.2d at 976). The trial court also distinguished United States v. Rosner, 352 F. Supp. 915 (S.D.N.Y. 1972). In Rosner, the defendants were charged under § 2071 for removing grand jury minutes from the U.S. Attorney's Office in the Southern District of New York, photocopying them and then returning them. Id. at 919. The court reversed defendant's conviction under § 2071 because the purpose of that section "is to prevent any conduct which deprives the Government of the use of its documents, be it by concealment, destruction, or removal" and the documents in this case were neither impaired nor destroyed and were returned after they were photocopied. Id. at 919-22. The court in Rosner, however, noted that the Government would likely have met with greater success had the defendants been indicted for violating § 641, under which the transmission of the information contained in the documents might be considered as larcenous as the taking of the documents themselves. Id. at 922.

^{242.} Id. at 978.

^{243.} Lambert, 446 F. Supp. at 895. The court also indicated that this finding is consistent with a similar determination in *United States v. Friedman*, 445 F.2d 1076 (9th Cir.), cert. denied sub nom. Jacobs v. United States, 404 U.S. 958, (1971) (upholding the conviction of a defendant charged with unauthorized photocopying and releasing of grand jury transcripts).

^{244. 775} F.2d 670 (6th Cir. 1985), cert. denied, 475 U.S. 1142 (1986).

^{245.} Id. at 682.

^{246. 932} F.2d 306, 310 (4th Cir. 1991).

defendant's 18 U.S.C. § 641 conviction for using information from classified reports to prepare unclassified reports for his employer, Boeing. The defendant in *Fowler* did not misappropriate original government documents, but rather made copies. Nevertheless the Court held that the copies were "things of value" within the meaning of 18 U.S.C. § 641 and could be converted. Importantly, the Court added that even if it accepted the defendant's argument that pure information was converted, the defendant violated 18 U.S.C. § 641 "because information is a species of property and a thing of value."

E. State Law

Unfortunately, if the theft of a trade secret is not prosecutable under federal law, there is often no recourse under state law. Every state in the Union recognizes trade secrets as property that the law may protect from theft; however, the manner in which the states chooses to protect them varies. Thirteen states have statutes specifically covering theft of trade secrets;²⁵⁰ eight states include trade secrets as valuable property in their

OKLA. STAT. tit. 21, § 1732 (1990); 18 PA. CONS. STAT. ANN. § 3930 (1983); TENN. CODE

^{247.} Id. at 309-10.

^{248.} The court relied on an earlier Fourth Circuit decision, United States v. Samuel Morison Loring, 844 F.2d 1057, 1076-77 (4th Cir.), cert denied, 488 U.S. 908 (1988), that upheld defendant's conviction under § 641 for selling one classified reconnaissance photograph to Jane's Defence Weekly, an international publisher of defense information. Id. The court did not reach the issue of whether pure information constitutes property because in this case defendant actually stole photographs and reports which he sold to a third party for personal gain. Id. at 1080. Thus, there was no transfer of pure information but actual government property. Id. The court in Fowler did not distinguish between these two factually dissimilar situations, but merely noted that Morison "provides sound precedent for affirming the district court's denial of [the defendant's] motion to dismiss the indictment." Fowler, 932 F.2d at 310. 249. Id. at 310. Cf. United States v. Tobias, 836 F.2d 449 (9th Cir. 1988) (cryptographic cards used by the Navy to code and decode messages were tangible property within meaning of "theft" of the Government Property Statute); United States v. Truong Dinh Hung, 629 F.2d 908, 923-28 (4th Cir. 1980) (defendants were convicted of espionage for transmitting classified information). In a separate concurrence by Judge Winter in Truong Dinh Hung stated that § 641 does not apply to intangible property. Truong Dinh Hung, 629 F.2d at 927 (Winter, J., concurring). In reaching this conclusion, Judge Winter was primarily concerned with the breadth of the section and how it "would sweep aside many of the limitations Congress has placed upon the imposition of criminal sanctions for the disclosure of classified information." Id. at 927 (Winter, J., concurring). However, Judge Winter did not state that § 641 can never be applied to thefts of government information, but rather that the issue "should be decided upon a case-by-case basis." Id. at 928 (Winter, J., concurring). 250. ALA. CODE § 13A-8-10.4 (Supp. 1992); ARK. CODE ANN. § 5-36-107 (Michie 1987); CAL. PENAL CODE § 499C (Deering Supp. 1992); COLO. REV. STAT. § 18-4-408 (West 1986); Fla. Stat. Ann. § 812.081 (West 1976); Ga. Code Ann. § 16-8-13 (1992); La. REV. STAT. ANN. §§ 14:73.1-2 (West 1986); MICH. COMP. LAWS § 752.771-72 (1991);

statutes governing crimes against property;²⁵¹ two states include trade secrets in their computer crime statutes;²⁵² two states list trade secrets separately from other property in their larceny statutes;²⁵³ and twenty-four states and the District of Columbia make no explicit mention of trade secrets in their penal statutes.²⁵⁴ The statutes that make no mention of trade secrets are similar to federal law in that they require the state to prove that trade secrets fit within the definition of property in order to prosecute.

More importantly, only twenty states have statutes that are applicable to intangible as well as tangible trade secrets. Of these, only eight have criminal statutes that expressly deal with trade secrets.²⁵⁵ The remaining twelve states do not have any criminal statute expressly applicable to the theft of trade secrets but, nevertheless, have criminal statutes which may be applicable to some instances of trade secret theft, be it state or federal.²⁵⁶ This means that there is potentially no criminal sanction for theft of a trade secret involving purely intangible property in thirty jurisdictions in the United States.²⁵⁷

Ann. § 39-14-138 (1991); Tex. Penal Code Ann. § 31.05 (West 1994); Wis. Stat. Ann. § 943.205 (West 1982).

^{251.} Del. Code Ann. tit. 11, § 857 (1987); Ind. Code § 35-41-1-23(a)(9) (1986); Me. Rev. Stat. Ann. tit. 17-A § 352(1)(F) (West 1964); Md. Code Ann., Crim. Law § 340(h)(11) (1992); Minn. Stat. Ann. § 609.52(1) (West Supp. 1994); N.H. Rev. Stat. Ann. § 637:2(I) (1986); N.J. Stat. Ann. § 2C:20-1g)(West Supp. 1992); Utah Code Ann. § 76-6-401 (1990).

^{252.} MISS. CODE ANN. §§ 97-45-1 to -11 (1992); WYO. STAT. §§ 6-3501 to -502 (1988). 253. MASS. ANN. LAWS ch. 266 § 30 (Law. Co-op. 1992); N.Y. PENAL LAW §§ 155.00, 155.30, 165.07 (McKinney 1988) (trade secrets subsumed with "secret scientific material").

^{254.} Alaska, Ariz., Conn., D.C., Haw., Idaho, Ill., Iowa, Kan., Ky., Mo., Mont., Neb., Nev., N.M., N.C., N.D., Or., R.I., S.C., S.D., Vt., Va., Wash., W. Va.

^{255.} Colorado has one of the most comprehensive criminal statute applicable to the theft of trade secrets and it protects intangible as well as tangible trade secrets. In addition, the Colorado statute does not limit trade secrets to scientific or technical trade secrets but is also applicable to "confidential business information or financial information, listing of names, addresses, or telephone numbers, or other information relating any business or profession which is secret and of value." COLO. REV. STAT. § 18-4-408 (West 1986). However, all violations of this statute are a class one misdemeanor. There is no requirement under the Colorado statute to prove the market value of the trade secret in order to determine the seriousness of the defendant's criminal culpability. Michael A. Epstein, *Criminal Liability for the Misappropriation of Trade Secrets, in Milgrim on Trade Secrets B5-154* (Matthew Bender ed. 1984 & Supp. 1993).

^{256.} See Epstein supra note 255, at B5-154.

^{257.} Alaska, Ca., Conn., D.C., Fla., Ga., Haw., Ill., Md., Mass., Mich., Minn., Mont.,

IV. RECOMMENDATION

As described above, there are primarily three federal criminal statutes²⁵⁸ that apply to the theft of trade secrets. However, the above discussion also makes clear that after the Brown decision, there are certain situations that a United States Attorney's Office might very well decline to prosecute under 18 U.S.C. § 2314, even if someone misappropriates an extremely valuable trade secret. Certainly, if the United States Attorney's Office could establish fraud, they would have a vehicle for prosecution. However, the reach of these statutes are limited. For example, a defendant may be motivated by a reason other than an expectation of gain, such as spite, and thus escape prosecution under the statute. Similarly, if the mail service or wire service was not used in the commission of the offense, that person could escape prosecution under federal law. Furthermore, because not all states have criminal statutes applicable to the theft of trade secrets, it is entirely possible that a theft of trade secrets involving a loss to the victim of millions of dollars might not be prosecuted under either federal or state laws. In light of the importance of trade secrets to American companies and to the economic viability of the United States, the legislature must close this enforcement gap.

As an initial step, Congress should amend 18 U.S.C. § 2314 and 18 U.S.C. § 2315 to specifically include the interstate transportation of stolen *intangible* property. This could easily be accomplished by replacing the words "goods, wares, merchandise" with the word "property." The amended portions of each statute would read as follows:

§ 2314 (proposed)

Whoever transports, transmits, or transfers in interstate or foreign commerce any *property*, securities or money, of the value of \$5,000 or more, knowing the same to have been stolen, converted or taken by fraud...

Shall be fined not more than \$10,000 or imprisoned not more than ten years, or both.

§ 2315 (proposed)

Whoever receives, possesses, conceals, stores, barters, sells, or disposes of any *property*, securities, or money of the value of \$5,000 or more, or pledges or accepts as security for a loan any *property*, or securities, of the value of \$500 or more, which have crossed a State or United States boundary after being stolen, unlawfully converted, or taken knowing the same to have been stolen, unlawfully converted, or taken . . .

Shall be fined not more than \$10,000 or imprisoned not more than ten years or both.

Neb., Nev., N.M., N.Y., N.C., Ohio., Ok., Penn., P.R., R.I., S.C., Tenn., Vt., Va., W. Va., Wis., Wy.

^{258. 18} U.S.C. §§ 1341, 1343, 2314 (1988 & Supp. V 1993).

Congress should also make it clear in the legislative history of this amendment that courts should broadly define the word "property" to include intangible property and that this meaning is consistent with the other sections described above that prohibit the unlawful taking of property. Section 2314, as amended above, would clearly encompass a factual situation in which there is no physical connection between the items unlawfully obtained and those eventually transported, as well as a situation similar to the one in *Brown*, in which intangible property in the form of electronic signals is transported across state lines. There is simply no rational reason why, the unlawful misappropriation of a naked trade secret that could be worth millions of dollars cannot be successfully prosecuted under 18 U.S.C. § 2314, nor for that matter under any federal law.²⁵⁹

If, after the amendment of 18 U.S.C. § 2314, Congress determines that further steps are necessary to protect American industry from the theft of trade secrets, Congress should next enact new comprehensive legislation that criminalizes the theft of trade secrets. Congress could pattern such a statute after a presently existing state statute, such as the Texas statute, ²⁵⁰ which has been successfully used to prosecute the theft of

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^{259.} It should be noted at this point that amending § 2314 in the manner suggested would not affect *Dowling v. United States*, 473 U.S. 207 (1985). The interstate transportation of material, such as videotape cassettes, containing unauthorized copies of copyrighted motion pictures could not be prosecuted under § 2314. As noted in *Dowling*, "interference with copyright does not easily equate with theft, conversion, or fraud" as those terms are used in § 2314. *Id.* at 217. The same reasoning would apply to patents and trademarks that are already given protection by federal law and where infringement of such rights is more related to interference with the rights of the lawful owner than the actual physical theft of property. Of course, if Congress so intended, it could easily extend the coverage of an amended § 2314 to copyrights, trademarks and even patents. There are certainly strong arguments in favor of an allencompassing § 2314. This issue, however, is beyond the scope of this Article.

^{260.} Texas Penal Code § 31.05 states as follows:

⁽a) For purposes of this section:

^{(1) &}quot;Article" means any object, material, device, or substance or any copy thereof, including a writing, recording, drawing, sample, specimen, prototype, model, photograph, microorganism, blueprint, or map.

^{(2) &}quot;Copy" means a facsimile, replica, photograph, or other reproduction of an article or a note, drawing or sketch made of or from an article.

^{(3) &}quot;Representing" means describing, depicting, containing, constituting, reflecting, or recording.

^{(4) &}quot;Trade secret" means the whole or any part of any scientific or technical information, design, process, procedure, formula, or improvement

trade secrets. The enactment of a specific statute would be a strong message that the theft of trade secrets from American businesses will not be tolerated.

V. CONCLUSION

In order to protect technology and to reward investment in new products, Congress must amend 18 U.S.C. § 2314 and § 2315, as suggested above, to include the theft of intangible property, such as trade secrets. In addition, if Congress determines that after amending §§ 2314 and 2315, the theft of trade secrets remains undeterred and American businesses continue to suffer, Congress should enact entirely new legislation which expressly and explicitly criminalizes the theft of trade secrets.

that has value and that the owner has taken measures to prevent from becoming available to persons other than those selected by the owner to have access for limited purposes.

⁽b) A person commits an offense if, without the owner's effective consent, he knowingly:

⁽¹⁾ steals a trade secret;

⁽²⁾ makes a copy of an article representing a trade secret; or

⁽³⁾ communicates or transmits a trade secret.

⁽c) An offense under this section is a felony of the third degree. Tex. Penal Code Ann. § 31.05 (West 1994).