Trade Secrets, Confidential Information, and the Criminal Law

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The author examines the extent to which property offences in the criminal law can be used to police the misappropriation of trade secrets and confidential information. After assessing the long-standing debate on whether information can be classified as property, he argues that answering the question one way or the other involves circular reasoning. When judges label information "property," it is to enable them to grant the desired remedies. Courts should instead ask more directly whether certain information should be protected under the circumstances. It follows that precedents holding that certain information is property in one area of the law should not be authoritative in others. The article then explores efforts made in Great Britain, Canada and the United States to apply criminal property offences to industrial espionage. Since these provisions presume the misappropriation or damage to tangible property, they are unsuitable to cases involving information. The author then suggests an alternative approach based upon the different types of values inherent in confidential information: "use value" and "monopoly value." Unfortunately, theft and vandalism provisions in existing criminal statutes protect only "use value," although it is the monopoly on information that is its primary source of value to the owner. The author concludes that legislation is required to define the *mens rea* and *actus reus* requirement in terms designed to protect the unique value of confidential information.

L'auteur évalue le potentiel qu'a le droit criminel de prévenir l'appropriation malhonnête de l'information confidentielle et des secrets commerciaux en la qualifiant d'atteinte au droit de propriété. L'auteur expose le long débat sur la question à savoir si l'information peut être l'objet d'un droit de propriété; il conclut que dans un cas comme dans l'autre la réponse implique un raisonnement circulaire. L'attribution du terme « propriété » par les juges dépend du résultat qu'ils veulent obtenir. Les tribunaux devraient plutôt centrer leur raisonnement sur l'importance de protéger ou non l'information en question dans les circonstances, sans se sentir liés par la jurisprudence antérieure qui aurait caractérisé autrement ce même type d'information dans un autre contexte juridique. L'auteur examine les décisions portant sur l'espionnage industriel rendues en Grande-Bretagne, au Canada et aux États-Unis, pour conclure que le droit criminel actuel est difficilement applicable parce que l'atteinte criminelle au droit de propriété présuppose qu'il porte sur une chose tangible dont on veut protéger la libre utilisation par son propriétaire. Dans le cas de l'information, il s'agit de protéger non pas seulement l'utilisation que peut cn faire son propriétaire, mais également le monopole qu'il a sur l'information. C'est en effet le monopole qui confère à l'information sa valeur et c'est en fonetion du monopole qu'il faudrait, selon l'auteur, repenser le droit criminel pour accorder une meilleure protection à l'information confidentielle.

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Synopsis

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Introduction

> If nature has made any one thing less susceptible than others of exclusive property, it is the action of the thinking power called an idea, ... Its peculiar character, too, is that no one possesses the less because every other possesses the whole of it. He who receives an idea from me receives instruction himself without lessening mine; as he who lights his taper at mine, receives light without darkening me.
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> — Thomas Jefferson[1]

Notwithstanding Jefferson's view of the nature of ideas, the law has historically recognized the need to keep certain types of information secret. In early societies, secrecy was important primarily for reasons of state. Indeed, the Ham-

[1]*Writings of Thomas Jefferson*, vol. 6, by H.A. Washington, ed., (1854) in *E.I. Du Pont de Nemours and Co.* v. *United States*, 288 F. 2d 904 (1961) at 910.

murabic Code of 2100 B.C. — generally considered the world's oldest written code of laws — contained a provision punishing those who were caught prying into "forbidden" secrets.[2] As manufacturing and trade increased in importance, secrecy also proved to be a valuable asset in the world of commerce. Manufacturers and merchants quickly realized that information that was hidden from competitors could provide a distinct advantage in manufacturing or commerce.[3] Those without the information, on the other hand, would naturally use any means at their disposal to obtain it. Because of the commercial advantages afforded by secret information, most legal systems of the time developed means to preserve secrecy.[4]

Today, we are in a period commonly referred to as the "Age of Information." Tremendous advancements in technology have made information vitally important to the workings of many commercial enterprises. Without the necessary "know-how"[5] to operate modern manufacturing and communications equipment, a business would be hard-pressed to survive.[6] Managing these vast quantities of information has consumed an increasing amount of energy. This trend is even reflected in the makeup of the labour force. By 1976 the number of people working in information-related industries in the United States surpassed the number of workers in traditional occupations.[7]

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[2]D.D. Fetterly, "Historical Perspectives on Criminal Laws Relating to the Theft of Trade Secrets" (1970) 25 Bus. Law. 1535 at 1535 n. 3. The sanction for the offence was the loss of an eye.

[3]In addition to its other functions, one purpose of the medieval system of guilds was to preserve secret business information (Institute of Law Research and Reform, Edmonton, Alberta, *Trade Secrets* (Report No. 46) (Edmonton: University of Alberta, 1986) at 39 [hereinafter *Trade Secrets Report*]).

[4]The law of the Roman Empire afforded a cause of action to a slaveholder whose secrets had been uncovered by bribery or other wrongful inducement of his slaves (A.A. Schiller, "Trade Secrets and the Roman Law: The Actio Servi Corruptit" (1930) 30 Columbia L. Rev. 837). This law addressed a serious problem of the time. Historians have documented instances of industrial espionage during the period of the Roman Empire (*Trade Secrets Report*, *ibid.* at 39).

The modern Anglo-American law of confidential information dates from the mid-nineteenth century. It is generally considered that the first Anglo-American case to recognize a cause of action for misappropriation of valuable commercial information is *Morison* v. *Moat* (1851), 9 Hare 241, 68 Eng. Rep. 492 [hereinafter *Morison*].

[5]The term "know-how" has become a term of art in the jurisprudence of intellectual property. It is generally used to refer to the skills acquired by a worker in the course of his employment. See generally S. Lowry, "Inevitable Disclosure Trade Secret Disputes: Dissolutions of Concurrent Property Interests" (1988) 40 Stanford L. Rev. 519.

[6]Indeed, information is one of the most valuable assets of many modern manufacturing and commercial firms. See R.G. Hammond, "The Misappropriation of Commercial Information in the Computer Age" (1986) 64 Can. Bar Rev. 342 at 344.

[7]Comment, "The Coming Jurisprudence of the Information Age: Examinations of Three Past Socioeconomic Ages Suggest the Future" (1984) 21 San Diego L. Rev. 1077 at 1099. It has been estimated that the production of information and information-processing systems is one of the three

As information has grown in importance, so have the benefits of secrecy. Because information plays such a crucial role in a technology-driven society, parties with exclusive knowledge of valuable information enjoy a tremendous advantage over their competitors. Nevertheless, the development of technology has also created a dilemma: although technology creates greater incentives to keep information secret, it also makes secrecy more difficult to maintain. Technology itself has produced a number of new devices which make the task of espionage much easier.[8] The increased reliance on computers has been a major factor in this phenomenon, since computers are quite accessible to the industrial spy.[9] As a result of these factors, the level of industrial espionage has risen sharply over the past few decades, generating an estimated annual cost to businesses in the United States alone of as much as twenty billion dollars.[10]

Historically, most modern legal systems have provided a civil remedy for the wrongful taking of secret information. While societies have not hesitated to resort to criminal penalties when government secrets are unearthed or revealed, they have proven less willing to use the criminal law to police private industrial espionage.[11]

The past 25 years have seen a reversal in this historical trend. The increase in espionage has given rise to a widely held perception that civil remedies, by

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or four most important sectors of both the Canadian and United States economies. See Hammond, *ibid.* at 347.

[8]The substantial increase in industrial espionage is not, of course, attributable entirely to advances in technology. Among the other significant factors is the increase in employee mobility among competitive firms. See *Trade Secrets Report*, *supra*, note 3 at 39-41.

[9]See Note, "Criminal Liability for the Misappropriation of Computer Software Trade Secrets" (1986) 63 U. Det. L. Rev. 481 at 482 [hereinafter "Criminal Liability"]. I will use the terms "industrial espionage" and "industrial spy" to refer to the act and actor, respectively, involved in the wrongful acquisition of the confidential information of another. These terms are somewhat misleading because this article is not limited to purely commercial information. See, for example, the case discussed in the text accompanying notes 75-81. These terms will nevertheless be used for want of a more exact alternative.

Although not limited to purely commercial information, this article will not discuss confidential information of an exclusively personal nature. The law's treatment of personal secrets involves a number of additional issues, not least of which is the evolving right of "privacy." Because these additional issues complicate the analysis, certain theories set forth in this article may not apply to such personal secrets.

[10]R. Eells & P. Nehemkis, *Corporate Intelligence and Espionage* (New York: MacMillan Publishing House, 1984) at 118. See also B.J. George Jr., "Contemporary Legislation Governing Computer Crimes" (1985) 21 Crim. L. Bull. 389 at 391, which discusses the cost to society of computer espionage.

[11]See D.M. Zupanec, "Criminal Liability for Misappropriation of Trade Secret" 84 A.L.R. (3d) 967 (1978) at 971-72. Of course, the industrial spy may also commit an independent crime — such as breaking and entering or trespass — in the process of obtaining the confidential information. Nothing in this article is meant to suggest that these independent offences are unavailable in cases of industrial espionage. Because the penalties are usually quite small, however, these independent offenses may not provide the necessary deterrent in many cases of industrial espionage.

themselves, do not provide a sufficient deterrent to industrial espionage.[12] Because of this perception, a number of legal systems have experimented with the criminal law to provide a deterrent. Different systems have used different approaches.

Attempts to apply criminal law in Anglo-American countries have met with only limited success. Because the criminal statutes of most of these jurisdictions do not deal specifically with the misappropriation of information, prosecutors have been forced to fall back on other provisions of the criminal law. These prosecutors generally have relied on traditional property crimes, such as larceny and fraud. Unfortunately, information and knowledge do not coincide neatly with the law's traditional focus on tangible property. Because of these conceptual problems, some courts have refused to extend the criminal law's property offences to the realm of information.

The purpose of this article is to explore the extent to which the criminal law of property can be used to police the misappropriation of confidential information. In discussing this issue, the long-standing debate concerning the extent to which information can be classified as property will be examined. The first part of this article will attempt to demonstrate that this debate is unhelpful in resolving the fundamental question. The article then explores the efforts that have been made in Great Britain, Canada and the United States to apply property offences to industrial espionage. It will be argued that these offences have certain features that make them unsuitable for cases involving information. The final portion of this paper will suggest an alternative approach based upon the different types of values inherent in confidential information. It will be argued that existing property offences fail to protect these unique values.

It should be noted that the ensuing discussion is not confined to trade secrets, but will include all confidential information. The reasons for doing so are twofold. First, the analysis relies quite heavily on decisions from the Commonwealth countries. These countries, as a rule, do not distinguish between trade secrets and other types of confidential information, but instead treat the misappropriation of all types of confidential information under the single head of "breach of confidence."[13] Second, it is analytically consistent to speak of

[12]Fetterly offers several reasons for the reluctance of the United States courts to resort to the criminal law. In essence, he argues that the United States was attempting to divorce itself from the English experience with use of the criminal law in the commercial arena prior to the wholesale conversion to the philosophy of *laissez faire* during the Industrial Revolution. See Fetterly, *supra*, note 2 at 1539-44. He also suggests that the reluctance was due to the severe sanctions of the criminal law of the period. For example, as recently as the 19th century the theft of any item worth more than forty shillings was a capital crime (*supra* at 1544).

[13]For an excellent exposition of the English law of confidential information, see The Law Commission, *Breach of Confidence* (Report No. 110) (London: Her Majesty's Stationary Office, 1981) [hereinafter Law Commission]. Although acknowledging the separate development of a body of

trade secrets and confidential information in the same breath. As the Commonwealth approach recognizes, trade secrets are a subset of confidential information. Although this article will draw distinctions between trade secrets and other types of confidential information, it will do so only after isolating those characteristics of trade secrets that make them deserving of separate treatment.

I. Applying Property-Based Criminal Laws to the Misappropriation of Information

A. *Information as "Property"*

As the preceding discussion indicates, the value of confidential commercial information has risen significantly in the past few decades. Attempts to criminalize the misappropriation of such information are even more recent. It is therefore not surprising that most prosecutors have been unable to point to specific criminal statutes dealing with the problem. Instead, prosecutors have generally been forced to turn to other offences of more general application to deal with industrial espionage. At first glance, the provisions that lend themselves most readily to the problem are the property crimes of larceny, fraud and embezzlement.

The essential question in applying a property crime to industrial espionage is whether the information is indeed a form of property.[14] It is far too late for this article to do much more than summarize the debate and offer a few suggestions on the issue.

The dispute over the proprietary nature of confidential information can be traced to the middle of the eighteenth century, when the law of confidential information was emerging in its modern form. Many of the very early trade secret cases dealt with confidential information as a form of property right.[15] However, it was not until 1917 that the issue was clearly addressed by Justice Holmes speaking for the majority in *E.I. Du Pont de Nemours Powder Co.* v. *Masland*.[16] Instead of using a property analysis, Holmes reasoned that the law of trade secrets was primarily concerned with the conduct of the defendant in acquiring the information from the plaintiff.[17] The key question that courts must

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law relating solely to trade secrets in the United States, the English Law Commission felt that it was more useful to deal with all confidential information under a single legal regime (*supra* at 9 & 102-104).

[14]See text accompanying notes 22-50.

[15]See, for example, *Dean* v. *McDowell* (1878), 8 Ch.D. 345 at 354 and *Peabody* v. *Norfolk*, 98 Mass. 452 (1868).

[16]244 U.S. 100 (1917) [hereinafter *Masland*].

[17] The word property as applied to trade mark [sic] and trade secrets is an unanalyzed expression of certain secondary consequences of the primary fact that the law makes some rudimentary requirements of good faith. Whether the plaintiffs have any valuable

face in trade secret cases is whether the defendant violated a duty of "fair dealing." Under Holmes' view, commercial morality, not property, formed the basis for liability.[18]

As both sides to the debate have recognized, the portion of Justice Holmes' *Masland* opinion dealing with the proprietary aspects of trade secrets is *dictum*.[19] The debate centres on the extent to which this *dictum* accurately depicts the legal nature of confidential information.[20] On the one hand, there is a large contingent of judges and academics who argue that confidential information is property. This camp focuses on the fact that the law affords protection only to information that the owner[21] has attempted to keep secret. Non-confidential information receives no protection whatsoever.[22] A number of courts have built upon this observation to hold that trade secrets, or in some cases all types of

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secret or not, the defendant knows the facts, whatever they are, through a special confidence that he accepted. The property may be denied, but the confidence cannot be. 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 (see *ibid.* at 102).

[18]This notion of commercial morality was to come to the fore in *International News Service* v. *Associated Press*, 248 U.S. 215 (1918) [hereinafter *INS*]. Justice Pitney's opinion in *INS* relied heavily on the notion that there are certain moral limits on the scope of competition. See *supra* at 235-36. It is interesting to note that Justice Pitney's opinion also contained *dictum* discussing a property basis for the law of information. Pitney reasoned that, except in certain narrow circumstances, the news is the "common property" of all. *Supra* at 235.

[19]See *Ruckelshaus* v. *Monsanto Co.*, 467 U.S. 986 (1984) [hereinafter *Ruckelshaus*]. See also R. Callman, *The Law of Unfair Competition Trademarks and Monopolies*, 4th ed. (Wilmette, Il.: Callaghan & Co., 1983) c. 14.02 at 8-9; R. Milgrim, *Business Organizations: Milgrim on Trade Secrets*, (New York: Matthew Bender & Co., 1990), c. 1 at 2-4; A.S. Weinrib, "Information and Property" (1988) 38 U.T.L.J. 117 at 129-30. The *Masland* case actually dealt with the review of an order *pendete lite* enjoining the defendant from disclosing an alleged trade secret to third parties.

[20]A few commentators have indicated some uncertainty on the issue. See, for example, Note, "Limiting Trade Secret Protection" (1988) 22 Val. U.L. Rev. 725 at 743.

This split is reflected in the law of several of the non-common law industrialized countries. Most countries in Western Europe do not recognize the concept of a "trade secret," at least as that term is used in the United States. Nevertheless, they do provide protection for "manufacturing secrets" (also known as "industrial secrets") and, to a lesser extent, "commercial secrets." See generally N. Prasinos, "International Legal Protection of Computer Programs" (1986) 26 Idea 173 at 190-91. France also provides protection for *savoir faire*, a concept highly analogous to the common-law concept of "know-how" discussed *supra*, note 5. See Prasinos, *supra* at 213. Among the Western European countries, Italy treats both manufacturing secrets and commercial secrets as a form of property right. West Germany, on the other hand, treats neither as property. France takes a middle ground, treating manufacturing secrets (and any associated *savoir faire*) as a property right, while rejecting the property label for commercial secrets. See Prasinos, *supra* at 210-25.

In Japan, trade secrets are generally not considered a property right. See Prasinos, *supra* at 221.

[21]The term "owner" is of course misleading because it carries with it the baggage of property law. This article will use the term as a shorthand way of referring to the party with the legal right to protect confidential information. This will in most cases be the party with current control of the information.

[22]Milgrim, *supra*, note 19, c. 1 at 63-64.

confidential information, are property in a wide variety of contexts.[23] Certain commentators have seized upon these cases as establishing a general theory of property rights in confidential information.[24]

In recent years, the property view has taken a stronger hold of United States jurisprudence, as evidenced by the United States Supreme Court decision

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[23]United States: *Formulabs, Inc.* v. *Hartley Pen Co.*, 275 F.2d 52 (9th Cir. 1960), cert. denied 363 U.S. 830 (1960) (holder has right to intervene in lawsuit affecting information); *Ferroline Corp.* v. *General Aniline & Film Corp.*, 207 F.2d 912 (7th Cir. 1953) [hereinafter *Ferroline Corp.*], cert. denied 347 U.S. 953 (1954) (can be protected by injunction); *E.B. Muller & Co.* v. *FTC*, 142 F.2d 511 (6th Cir. 1944) [hereinafter *E.B. Muller & Co.*] (a customer list, as "property," may be protected from a *subpoena duces tecum*); *Herold* v. *Herold China & Pottery Co.*, 257 F. 911 (6th Cir. 1919) [hereinafter *Herold*] (can be protected by injunction); *Anaconda Co.* v. *Metric Tool & Die Co.*, 485 F.Supp. 410 (E.D. Pa. 1980); *Zotos International, Inc.* v. *Kennedy*, 460 F.Supp 268 (D.D.C. 1978) (trade secret is "property" right for purposes of due process requirements); *Darsyn Laboratories, Inc.* v. *Lenox Laboratories, Inc.*, 120 F. Supp. 42 (D. N.J.), aff'd 217 F.2d 648 (3d Cir. 1954), cert. denied 349 U.S. 921 (1955) [hereinafter *Darsyn*] (can be protected by injunction); *Roberts* v. *Gulf Oil Corp.*, 147 Cal. App. 3d 770, 195 Cal. Rep. 393 (1983) [hereinafter *Roberts*] (trade secrets are property which can be the subject of a *subpoena duces tecum*); *Olschewski* v. *Hudson*, 87 Cal. App. 282, 262 P. 43 (1927) (can be protected by injunction); *Murphy* v. *Murphy*, 28 Ill. App. 3d 560, 328 N.E.2d 642 (1975) (customer list can be property right); *Miller* v. *Ortman*, 235 Ind. 641, 136 N.E.2d 17 (1956) (trade secret may be protected by contract); *Mountain States Tel. & Tel. Co.* v. *Dep't of Public Service Reg.*, 634 P.2d 181 (Mont. 1981) ("obvious" that commercial trade secrets are property for purposes of fourteenth amendment); *Consolidated Boiler Corp.* v. *Bogue Electric Co.*, 58 A.2d 759 (N.J Ch. 1948) [hereinafter *Consolidated Boiler Corp.*] (because a trade secret is a "property" right, a contract can be as restrictive as necessary without constituting an unreasonable restraint on trade); *Sachs* v. *Cluett, Peabody & Co.*, 31 N.Y.S.2d 718, 177 Misc. 695 (1941) [hereinafter *Sachs*], order rev'd 265 A.D. 497, 39 N.Y.S.2d 853 (N.Y. A.D. 1943), aff'd 291 N.Y. 772, 53 N.E.2d 241 (1944) (can be protected in equity, contains *dictum* stating that secret processes are "property" for other purposes); *Van Products Co.* v. *General Welding & Fabricating Co.*, 419 Pa. 248, 213 A.2d 769 (1965) (rejects *Masland dictum*); *Brown* v. *Fowler*, 316 S.W.2d 111 (Tex. Civ. App. 1958) (can be protected by injunction); *Microbiological Research Corp.* v. *Muna*, 625 P.2d 696. For additional cases so holding, see the vast array of cases cited in Milgrim, *supra*, note 19, c. 1 at 8 n. 15.

Commonwealth: *DeBeer* v. *Graham* (1891), 12 N.S.W.R. (Eq.) 144; *Franklin* v. *Giddins*, [1978] Qd. R. 78 (the tangible embodiment of a secret is "property" which can be the subject of a turnover order); *Boardman* v. *Phipps*, [1967] 2 A.C. 46; *F.C.T.* v. *United Aircraft Corporation* (1943), 68 Commonwealth L. Rep. 525; *In re Keene* (1922), 2 Ch. 475 (information is property for purposes of bankruptcy); *Cincinnati Bell Foundry Co.* v. *Dodds* (1887), 19 Weekly L. Bull. 84; *Prince Albert* v. *Strange* (1849), 1 H. & Tw. 1, 2 DeG. & Sm. 652 (private drawings can be protected by injunction against dissemination).

The leading United States and Commonwealth cases on whether secret information is property for purposes of the criminal law are discussed at text accompanying notes 75-155.

[24]The strongest argument in support of the property theory is advanced in Milgrim, *supra*, note 19, c. 1 at 60. A number of other commentators also champion this theory. See, for example, M. Jager, *Trade Secrets Law*, (New York: Clark Boardman Co., Ltd., 1985) c. 4 at 12.1-20; D.F. Libling, "The Concept of Property: Property in Intangibles" (1978) 94 L.Q. Rev. 103 at 118; S Ricketson, "Confidential Information — A New Proprietary Interest? (Part I)" (1977) 11 Melbourne U.L. Rev. 223 at 241-422.

in *Ruckelshaus*.[25] The Court held that government regulations, which require commercial entities to reveal valuable trade secrets,[26] constitute a taking of property and therefore require compensation under the fifth amendment of the United States Constitution.[27] Although the Court eventually refused to give Monsanto the relief it sought,[28] the broad language used suggests that a trade secret can indeed be property.

Justice Blackmun, writing for the majority, discussed the nature of a trade secret and found it to be analogous to other forms of property.[29] Blackmun J. relied heavily on the fact that the laws protecting trade secrets give the holder of the secret the right to exclude others — "one of the most essential sticks in the bundle of rights that are commonly characterized as property."[30] This right of exclusivity gave Monsanto a valuable economic edge over its competitors, which would be destroyed if the information was made available to others.[31] This "economic edge" was held sufficient to give Monsanto property rights in the underlying information.

The majority opinion in *Ruckelshaus* has lent considerable support to the "information as property" camp. Several other American courts have relied upon *Ruckelshaus* when concluding that confidential information is property in

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[25]*Supra*, note 19.

[26]In *Ruckelshaus* the Court faced a challenge to certain provisions of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 61 Stat. 163, as amended, 7 U.S.C. §136 *et. seq.* The provision at issue required an applicant for registration of products covered by FIFRA to disclose the chemical contents of the product and any test results relating to the product to the Environmental Protection Agency ("EPA"). In order to prevent redundant testing, FIFRA authorized EPA to use the information submitted by the original applicant in evaluating subsequent applications submitted by others for similar products; provided that the subsequent applicant compensated the original applicant for use of the information (§3(c)(1)(D)). The Court viewed these provisions as tantamount to a compulsory license of the original applicant's data (*supra*, note 19 at 992).

The Monsanto Company sought to register a new pesticide under FIFRA, and filed certain supporting data with EPA. Because the data concerning the pesticide in question was allegedly a valuable trade secret, Monsanto sued the EPA in federal court to challenge the data disclosure provisions. The gist of Monsanto's claim was that the compulsory licensing provisions of FIFRA constituted a "taking" of Monsanto's "property." Monsanto sought declaratory and injunctive relief to prevent the EPA from enforcing the provisions (*supra* at 997-98).

[27]*U.S. Const.* amend. V.

[28]The Court held that although Monsanto's claim was valid with respect to some of the information that it had submitted to EPA, it could not obtain equitable relief. Instead, Monsanto's proper course of action would have been to seek compensation for the wrongful taking under the provisions of the Tucker Act, 28 U.S.C. §1491. See *Ruckelshaus*, *supra*, note 19 at 1018-19.

[29]*Ibid.* at 1002-03. The Court cited case authority indicating that trade secrets are assignable. They can form the *res* of a trust, and can pass to a trnstee in bankruptcy.

[30]*Ibid.* at 1011 (quoting *Kaiser Aetna* v. *United States*, 444 U.S. 164 (1979) at 176).

[31]*Ibid.* at 1012.

other contexts.[32] The U.S. Supreme Court itself recently confirmed the property rationale of *Ruckelshaus* in *Carpenter* v. *United States*,[33] explored below.[34]

Others reject the view that confidential information is a species of property, arguing — much as Holmes argued in *Masland* — that the conduct of the defendant in either obtaining or disclosing the information is the essence of the various causes of action.[35] Lacking some evidence of objectionable conduct by the defendant, information will not be protected by the courts, regardless of secrecy or commercial value. This additional *scienter* requirement distinguishes information from tangible property, which is protected against all taking, intentional or otherwise. Because of this difference, many courts[36] and commentators[37] have

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[32]See *Sheets* v. *Yamaha Motors Corp., U.S.A.*, 849 F.2d 179 (5th Cir. 1988); *Formax, Inc.* v. *Hostert*, 841 F.2d 388 (Fed. Cir. 1988) [hereinafter *Formax*].

[33]U.S., 108 S. Ct. 316 (1987) [hereinafter *Carpenter* cited to S. Ct.].

[34]The *Carpenter* decision is explored in depth at text accompanying notes 138-50.

[35]If the defendant is a competitor of the owner of the information, the wrongful act will typically be the acquisition of the information by improper means. A cause of action can also exist, however, in cases where the defendant's acquisition of the information was perfectly proper. Take, for example, the situation where an employer entrusts an employee with a trade secret. In such cases, the objectionable conduct is the defendant's disclosure of the information to others in breach of a duty of confidence.

[36]United States: *Northern Petrochemical Co.* v. *Tomlinson*, 484 F.2d 1057 (7th Cir. 1973); *Monolith Portland Midwest Co.* v. *Kaiser Aluminum & Chemical Corp.*, 407 F.2d 288 (9th Cir. 1969); *Chemical Foundation, Inc.* v. *General Airline Works, Inc.*, 99 F.2d 276 (3d Cir. 1938), cert. denied 305 U.S. 654 (1938) (invention is not "property" subject to execution); *International Industries, Inc.* v. *Warren Petroleum Corp.*, 99 F. Supp. 907 (D. Del. 1951), aff'd 248 F.2d 696 (3d Cir. 1957), cert. dismissed 355 U.S. 943 (1958); *Jet Spray Cooler, Inc.* v. *Crampton*, 377 Mass. 159, 385 N.E.2d 1349 (Mass. 1979); *Kubik, Inc.* v. *Hull*, 56 Mich. App. 335, 224 N.W.2d 80 (1974) [hereinafter *Kubik*]; *Wiebold Studios, Inc.* v. *Old World Restoration, Inc.*, 19 Ohio App. 3d 246, 484 N.E.2d 280 (1985). See also the dissent of Justice Brandeis in *INS*, *supra*, note 18 at 251-56.

Commonwealth: *Oxford* v. *Moss* (1979), 68 Crim. App. Rep. 183, 185-86; *Coco* v. *A.N. Clark (Engineers) Ltd.* (1969), R.P.C. 41, 47-48; *Morison*, *supra*, note 4.

[37]See Law Commission, *supra*, note 13 at 9; A. Coleman, "Trade Secrets and the Criminal Law in Canada" (1988-81) Eur. Intell. Prop. Rev. 15 at 18; Hammond, *supra*, note 6 at 349-52 and at 373 where the author writes: "Indeed, it would be helpful if the word [property] were banished altogether from this arena."; R.G. Hammond, "Theft of Information" (1984) 100 L.Q. Rev. 252 at 256-60 [hereinafter "Theft of Information"]; R.G. Hammond, "Quantum Physics, Econometric Models and Property Rights to Information" (1981) 27 McGill L.J. 47 at 53-56 [hereinafter "Quantum Physics"]; G. Jones, "Restitution of Benefits Obtained in Breach of Another's Confidence" (1970) 86 L. Q. Rev. 463 at 466 & 473; R. Klitzke, "Trade Secrets: Important Quasi-Property Rights" (1986) 41 Bus. Law. 555 at 556 & 563-67; J. Stuckey, "The Equitable Action for Breach of Confidence: Is Information Ever Property?" (1981) 9 Sydney L. Rev. 402 at 404-11; D. Wiesner & A. Cava, "Stealing Trade Secrets Ethically" (1988) 47 Md. L. Rev. 1076 at 1080-81; Note, "Theft of Trade Secrets: The Need for a Statutory Solution" (1981) 120 U. Penn. L. Rev. 378 at 383-84 [hereinafter "Statutory Solution"]; Note, "Trade Secret Protection for Mass Market Computer Software: Old Solutions for New Problems" (1987) 51 Alb. L. Rev. 293 at 311.

The National Conference of Commissioners on Uniform State Laws similarly appears to have based the Uniform Trade Secrets Act upon a policy of maintaining standards of commercial ethics, instead of the protection of a "property" interest. See comments to Uniform Trade Secrets Act §1.

argued against protecting trade secrets and other types of confidential information under the legal rules pertaining to tangible property.

However, it is the author's view that the debate cannot be resolved by simply determining whether information is property. Clearly, the *per se* property view is too broad. There are several conceptual difficulties with extending all of the rules governing tangible personal property to the realm of information. The above quote from Jefferson illustrates the primary difficulty; namely, that information by its very nature is incapable of exclusive possession. One can share an idea with any number of others without diminishing the usefulness of that information.[38] Therefore, unlike tangible personal property, someone can "take" an idea from another without the original holder ever realizing that a "taking" has occurred.[39] Because most of the traditional rules of property focus on possession and use, they often do not make sense in a world where exclusive possession is the exception instead of the norm.[40]

There are also strong policy objections to applying property rules to information. Property rights involve some degree of exclusivity. Treating information as a form of property may lead to it being locked up in the hands of a small segment of society.[41] This runs counter to the widely held notion that new ideas — which can be shared with no direct loss to the holder — should form part of the common pool of knowledge.[42] Although the law creates no obligation to share new ideas with others, any exclusive legal rights to information should disappear once the holder elects to disseminate the protected knowledge to soci-

[38]Of course, even though the utility of information to the owner does not change as additional people discover the secret, the value of that information to the owner may be affected. A later segment of this article will point out the subtle, but important, difference between utility and value. See text accompanying notes 158-61.

[39]This feature also makes it difficult to determine who "owns" a given bit of information. See "Quantum Physics," *supra*, note 37 at 54.

[40]Professor Hammond also lists other conceptual problems that arise when treating information as property. In addition to those discussed above, he notes, *inter alia*, that (a) information often does not depreciate with use, (b) once used, information can quite easily enter the public domain, (c) since creation of information in a modern technological society is often a joint activity, apportionment of any rights of "ownership" is difficult, and (d) the "exclusion" of others from confidential information can be obtained only at a considerable cost to society (*ibid.*). In addition, it has been suggested that treating confidential commercial information as property could detrimentally affect the mobility of labour (*Trade Secrets Report*, *supra*, note 3 at 122).

[41]This problem has been recognized by other commentators (see, for example, "Quantum Physics," *supra*, note 37 at 69-70).

[42]Professor Hammond, among others, has argued that a sound legal policy concerning information should encourage dissemination of that information to society (*ibid.* at 55-56). See also Note, "Electronic Crime in the Canadian Courts" (1986) 6 Oxford J. Leg. Stud. 145 at 150.

ety at large.[43] Societal progress, especially in today's "Age of Information," is largely dependent upon the free flow of information.[44]

Even if not all confidential information can be labelled as property, several commentators have argued that a subclass of confidential information — trade secrets — does deserve a *per se* property treatment.[45] As explored in greater depth below,[46] trade secrets exhibit certain special characteristics that distinguish them from confidential information in general. The U.S. Supreme Court in *Ruckelshaus* relied heavily upon these special characteristics in defining a trade secret as a form of property. Nevertheless, important differences exist between trade secrets and tangible property. Like other forms of confidential information, the conceptual and policy arguments against property-based treatment still exist. Trade secrets present a further conceptual difficulty. Although the holder of a trade secret may have a right to prevent disclosure in certain circumstances, this right disappears as soon as the "secret" becomes public knowledge — for example, if another person independently generates and discloses the underlying idea. As others have recognized, it is difficult to treat as property something that disappears when it is revealed to the public.[47] Therefore, trade secrets are no more deserving of a *per se* property treatment than confidential information in general.

Members of the anti-property camp, however, have also oversimplified the issue. In certain situations, the existing rules of property can be used to protect confidential information. To draw any meaningful distinctions, one must recognize that the term property is a conclusion not an analysis. To argue that "*X* is property, *ergo*, it should be protected" is simply a circular argument.[48] One

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[43]"The general rule of law is, that the noblest of human productions — knowledge, truths ascertained, conceptions, and ideas — become, after voluntary communication to others, free as the air to common use" (*INS*, *supra*, note 18 at 250, Brandeis J. (dissenting)).

The patent and copyright laws are, of course, an exception to this *desideratum*. Under the patent and copyright laws, individuals are given exclusive rights in inventions and works of art. Nevertheless, the patent and copyright laws are not inconsistent with the goal of dissemination of information. They instead represent a decision to allow a limited monopoly to certain individuals in return for dedication of the invention or work of art to the public at the end of the period of exclusivity. In the end, society will benefit from the individual's creative activity.

[44]See B. Kaplan, *An Unhurried View of Copyright* (New York: Columbia University Press, 1967) at 2 and D.G. Baird, "Common Law Intellectual Property and the Legacy of *International News Service* v. *Associated Press*" (1983) 50 U. Chi. L. Rev. 411 at 415.

[45]The American commentators, in accordance with the American custom of treating trade secrets under different rules than other confidential information, typically focus their attention exclusively on trade secrets. See sources cited in notes 24 and 37. The Alberta Institute also limited its study to trade secrets, even though Canadian law has tended to follow the more inclusive English approach. See *Trade Secrets Report*, *supra*, note 3.

[46]See text accompanying notes 159-62.

[47]J. Stedman, "Trade Secrets" (1962) 23 Ohio St. L.J. 4 at 21.

[48]The tautological nature of the term property is also discussed in Callman, *supra*, note 19, c. 14.02 at 9-10 (arguing that "property" is merely a "magic word" for recognizing an exclusive right

should instead ask whether *X* should be protected under the particular facts and circumstances, and second, what form such protection should take. It is only after deciding that *X* is to be protected in a certain fashion in a given fact situation that one can meaningfully employ the term "property." In other words, *X* is "property" only if some legal rule will afford the holder of *X* exclusive rights with respect to a certain class of people.[49] Viewed in this light, the law of "property" focuses on the relationships between people, not the protection of things.[50]

What distinguishes property rights from other types of rights is the class of people excluded from *X*. Although a precise definition of what constitutes a property right is far beyond the scope of this article, such a right must at the very minimum exclude some people who are not in privity with the holder of *X*.[51] Without this minimum requirement, there is no discernable difference between property rights and contractual rights.[52] In brief, people do not have a property right unless the law protects them in their use of *X* against third parties, even when those third parties have not agreed to respect the owner's rights.

Under the foregoing analysis, then, the answer to the question of whether *X* is property depends upon the context in which the question is asked. Something may be property in some situations, but not in others. It is therefore meaningless to conclude that all of the law's rules governing property can be applied

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in a pecuniary value); "Quantum Physics," *supra*, note 37 at 57-58; "Theft of Information," *supra*, note 37 at 257; D. Vaver, "Civil Liability for Taking or Using Trade Secrets in Canada" (1981) 5 Can. Bus. L.J. 253 at 262-63. See also Stuckey, *supra*, note 37 at 405-406, who argues that information can be property for limited purposes.

[49]A number of commentators have argued that a right is a "property" right only if it affords the holder of *X* rights of exclusivity as against the entire world, not merely a limited class of people. See *Trade Secrets Report*, *supra*, note 3 at 110; Stuckey, *ibid.* at 405. Under this view, the laws protecting confidential information could rarely, if ever, give rise to a property right. Since under Anglo-American law the holder of confidential information is not protected against one who independently comes up with the same information, the rights of that holder would not satisfy this definition of a property right. See Stuckey, *supra*. In the long run, this may be a more workable definition. Nevertheless, the modern trend seems to label even non-universal rights of exclusivity as "property" rights. See S. Ricketson, "Confidential Information — A New Proprietary Interest? (Part II)" (1978) 11 Melbourne U. L. Rev. 289 at 305-306. In accordance with the modern trend, this article will use the less stringent definition of a property right set out in the text.

[50]See, for example, *Curry* v. *McCanless*, 307 U.S. 357 (1939) at 366 ("[Intangible property] rights are but relationships between persons, natural or corporate, which the law recognizes by attaching to them certain sanctions enforceable in courts."); B. Ackerman, *Private Property and the Constitution* (New Haven: Yale University Press, 1975) at 26; Weinrib, *supra*, note 19 at 129 (the label "property" is simply a recognition that the law imposes a requirement of good behaviour).

[51]Ackerman, *ibid.* at 27; Ricketson, *supra*, note 49 at 306.

[52]It is interesting to note that the "contract" analogy is often used — especially in the Commonwealth countries — as the basis for protecting confidential information. See Jones, *supra*, note 37 at 463.

to confidential information without first determining why it is important to attach the label property to the right under the given facts. The *Ruckelshaus* case provides a good example. The fifth amendment prohibits the federal government from depriving someone of property without just compensation. As recognized by both sides in the *Ruckelshaus* litigation, this provision is potentially applicable to governmental actions that destroy the confidentiality of someone's information. In order to resolve the issue, the analysis should focus on why the fifth amendment treats property differently than other types of interests that a person may hold. Generally speaking, people have certain unique rights in their property that do not exist in their non-property interests.[53] Because the fifth amendment limits its protection to property, it only covers situations in which otherwise applicable law[54] grants rights to the holder which are of sufficient importance to merit protection against government actions. If interests in confidential information are sufficiently similar to the interests that the fifth amendment was enacted to protect, one may conclude that the information is property for the purposes of the fifth amendment.

At this point, however, the analysis should stop. It is important to realize that the decision in *Ruckelshaus* to apply the label property to confidential information is binding only for purposes of the fifth amendment. Therefore, even assuming that *Ruckelshaus* reached the correct conclusion in that case, the decision is of little precedential value in determining whether the same information is property under tax laws.[55] The reasons for affording special treatment to prop-

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[53]It may be sufficient, for example, if the owner has the right to exclude others from using the item.

[54]Although both the fifth and fourteenth amendments to the United States Constitution protect "property," the courts will look beyond the Constitution — normally, to state law — to determine whether a particular interest is property under those provisions. See *Ruckelshaus*, *supra*, note 19 at 1001; *Board of Regents* v. *Roth*, 408 U.S. 564 (1972).

[55]The proprietary nature of trade secrets for purposes of the law of income taxation was a hotly-debated issue while the United States federal income tax laws provided preferential treatment for gains realized upon certain sales of "capital assets." See generally B.M. Harding Jr., "Obtaining Capital Gains Treatment on Transfers of Know-how" (1984) 37 Tax Law. 307. When Congress abolished the preferential treatment in 1986, the issue of whether information could be property became less significant for purposes of income tax law. Nevertheless, the issue may still arise in some cases. The issue also remains relevant outside the realm of the federal income tax. There is still some debate over the extent to which a trade secret is "property" for the purposes of *ad valorem* taxation. See *Roberts*, *supra*, note 23 (treats trade secret as property); *Registrar & Transfer Co.* v. *Director of Division of Taxation*, 157 N.J. Super. 532, 385 A.2d 268 (Ch. 1978), rev'd 166 N.J. Super. 75, 398 A.2d 1335 (trade secret is not property); Milgrim, *supra*, note 19, c. 6 at 50 n. 3, (sales and use taxes); *Commerce Union Bank* v. *Tidwell*, 538 S.W.2d 405 (Tenn. 1977) (sales tax); *State* v. *Central Computer Services*, 349 S.2d 1160 (Ala. 1977) (estate and use taxes); Milgrim, *supra*, note 19, c. 1 at 31.

The Commonwealth decisions have also exhibited some disagreement. See *Musker* v. *English Electric Co.* (1964), 41 Tax. Cas. 556; *Jeffrey* v. *Rolls-Royce Ltd.* (1962), 40 Tax. Cas. 443 [hereinafter *Jeffrey*]; *F.C.T.* v. *United Aircraft Corp.* (1943), 68 Commonwealth L. Rep. 525.

erty may be altogether different under tax laws than under the fifth amendment. Because of these differences, *Ruckelshaus* should not be deemed binding precedent in the realm of taxation.[56]

A number of courts and commentators have failed to grasp that the label property is merely a conclusion. A good deal of the literature advocating a *per se* view of confidential information as property has supported that conclusion merely by citing a string of cases from the law of bankruptcy, wills, and other unrelated areas of the law.[57] A classic example can be seen in the cases dealing with the availability of an injunction to prohibit the dissemination of information. The equitable remedy of injunction has traditionally been available only to protect property interests.[58] Because an injunction is also typically the remedy of choice in confidential information litigation,[59] many courts have had to determine whether such information is property. Most courts of equity have concluded that the information is property, and can therefore be protected by injunction.[60]

Modern commentators often cite these injunction cases as support for the property theory.[61] The problem, of course, is that these commentators have failed to treat these opinions for what they were; namely, attempts to fit information into an existing pigeonhole of the law. The property analysis in the injunction cases is simply a means to an end. Because an injunction appears to be a particularly appropriate remedy for the misappropriation of information, judges are willing to label the information as property in order to grant the desired remedy. What these cases really decide, then, is that information may in certain instances be protected by injunction.[62] This in no way implies that the

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[56]See Lord Radcliffe's opinion in *Jeffrey*, *ibid.* After concluding that information was "property" for purposes of the tax laws, Lord Radcliffe made it clear that his conclusion did not necessarily support an overall view of information as property. See *supra* at 492.

[57]*Carpenter*, *supra*, note 33 at 320; *E.B. Muller & Co.*, *supra*, note 23; *Consolidated Boiler Corp.*, *supra*, note 23; *Sachs*, *supra*, note 23; Jager, *supra*, note 24, c. 4 at 16; Limiting Trade Secret Protection, *supra*, note 20 at 742.

[58]See Callman, *supra*, note 19, c. 14.02 at 10; Milgrim, *supra*, note 19, c. 1 at 60-62; Stuckey, *supra*, note 37 at 405.

[59]From a practical standpoint, an injunction offers a number of advantages over the retroactive remedy of damages. Most importantly, the holder of the information can prevent any further loss of confidentiality, thereby preserving the value of the secret. In addition, because the various causes of action for the loss of confidential information focus on whether there has been some objectionable conduct on the part of the defendant, an equitable remedy seems particularly appropriate in such cases.

[60]See *Herold*, *supra*, note 23; *Ferroline Corp.*, *supra*, note 23; *Darsyn*, *supra*, note 23; *Sachs*, *supra*, note 23; see *Kubik*, *supra*, note 36 (equity intervenes in trade secret cases to "foster the integrity of confidential relationships.")

[61]See, for example, Milgrim, *supra*, note 19, c. 1 at 60-62.

[62]Stuckey, *supra*, note 37 at 418, supports the view that an injunction should be available, and would allow the court to make an analogy to the law of property to reach that end.

same information should be treated like tangible personal property in other areas of the law.[63]

Because of these difficulties, commentators have suggested that the label property is of little use, and should be abandoned when dealing with confidential information.[64] As a practical matter, however, this would be impossible. To date, neither the courts nor the legislatures have created a separate legal hierarchy to deal with all aspects of the protection of information. Although there are doctrines and statutes that govern certain aspects of the problem,[65] the courts must usually look to the existing body of law for ways to protect information. This general law, however, constantly draws distinctions based upon whether something is or is not property.[66] Therefore, unless society is willing to create a parallel legal hierarchy to protect information, the courts must continue to face the issue of whether information can be classified as property under existing statutes and common law rules. The alternative would be to deny any sort of protection to information.[67]

Regardless of the outcome of the debate, in certain areas such as the injunction cases the analogy has worked quite well. The problems arise when courts blindly rely upon precedent in cases which present different factual, legal, and policy circumstances.[68] The extent to which the property offences of

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[63]Vaver, *supra*, note 48 at 274-75 ("However convenient the terminology [property], it must not be used as a substitute for analysis or to attribute characteristics pertaining to one sort of 'property' to the special nature of confidential information."); *Trade Secrets Report*, *supra*, note 3 at 137-38; "Electronic Crime in the Canadian Courts," *supra*, note 42 at 149.

[64]See Coleman, *supra*, note 37 at 18; "Statutory Solution," *supra*, note 37 at 384; Hammond, *supra*, note 6 at 373.

[65]The statute books are replete with provisions designed to deal with bits and pieces of the overall problem of confidential information. The provisions of FIFRA covering trade secrets at issue in the *Ruckelshaus* decision are but one example. See *supra*, note 26. In addition, the turnover provisions of the *Freedom of Information Act* make an exception for "trade secrets and commercial or financial information obtained from a person and privileged or confidential" (5 U.S.C. §552(b)(4)). Certain state criminal provisions specifically covering trade secrets are discussed at text accompanying notes 199-212.

Although numerous specific provisions exist, there is no *sui generis* body of law which recognizes the unique characteristics of information. Professor Hammond has argued that the law must create new legal rules and principles if it is to protect information adequately. See "Quantum Physics," *supra*, note 37; Coleman, *supra*, note 37 at 18.

[66]In *Ruckelshaus*, for example, the government's actions could be challenged under the fifth amendment only if the information was capable of classification as "property," as that term is used in the amendment.

[67]Some commentators have argued that legal regimes other than property law could be applied to information. The Alberta Institute treats trade secrets as a type of "entitlement," borrowing from Professor Calabresi. See *Trade Secrets Report*, *supra*, note 3 at 141. See also "Quantum Physics," *supra*, note 37 at 52, which suggests that information is a societal resource, and that the law pertaining to natural resources could therefore be closely analogous.

[68]These differences are discussed above at text accompanying notes 38-44.

criminal law can be used to police industrial espionage is one of these problem areas. Although Anglo-American law draws sharp distinctions between the bailiwicks of the criminal and civil law, there are a number of conceptual similarities. Therefore, the reasoning of the civil cases may prove useful, even though the conclusions reached in those cases are not binding.

B. Specific Applications of Criminal Offences

The increased frequency of industrial espionage has troubled courts and legislatures alike, because such activity is inimical to basic notions of "fair play" that society imposes even upon competing enterprises. There is a widespread sentiment that even in a capitalist society minimum standards of conduct exist, which define the permissible scope of competition.[69] Because the actions of the industrial spy fall below this minimum, the law should deter those who contemplate appropriating the creative activity of others.[70]

As discussed above, Anglo-American law has relied primarily upon civil remedies to police the area of industrial espionage.[71] Recent cases, however, reveal a marked increase in the use of criminal law. In the United States, the impetus for this change came in the 1960s with a highly-publicized rash of industrial espionage in the pharmaceutical industry. Although the origin of the change is not as clear, the Commonwealth countries have experienced a similar increase in the use of criminal law. This trend reflects both the enhanced value that modern society places in confidential information and a growing frustration with the limits of traditional civil remedies.[72]

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[69]It is often claimed that the fundamental purpose of the law's protection of confidential commercial information is the preservation of commercial morality. See *Wiebold Studios, Inc.* v. *Old World Restoration, Inc.*, 19 Ohio App. 3d 246, 484 N.E.2d 280, 284 (1985); *Boardman* v. *Phipps* (1967), 2 A.C. 46, Upjohn J. (dissenting); Jones, *supra*, note 37 at 465-66; Klitzke, *supra*, note 37 at 556; Wiesner & Cava, *supra*, note 37 at 1080-81; *Restatement of Torts*, §756, comment a. This is perhaps most eloquently stated in the majority opinion in the United States Supreme Court's *INS* decision. Indeed, the *INS* majority would take the concept of commercial morality one step further. Justice Pitney's opinion implies that the existence of competition between two people creates a higher duty of "fair dealing" than would exist between non-competitors. See *INS*, *supra*, note 18 at 235-36 & 239-40.

[70]Failure to provide this adequate deterrent, the argument continues, will also significantly decrease the incentive for commercial enterprises to generate useful information.

In recent years, some economists have expressed doubt as to whether the legal protection of patents, copyrights, and trade secrets actually provides a significant incentive to engage in creative activity (see discussion in "Theft of Information," *supra*, note 37 at 262). The only empirical evidence relates to the Netherlands' abolition of its patent system from 1869 to 1912. Although there was a small decline in the level of innovation during that period, the evidence was not conclusive (*Trade Secrets Report*, *supra*, note 3 at 114).

[71]Zupanec, *supra*, note 11 at 971-72; *Trade Secrets Report*, *supra*, note 3 at 126. The possible reasons for this reluctance to use the criminal law are discussed *supra*, note 12.

[72]It is admittedly open to debate whether the misappropriation of information is a proper subject for the criminal law, or whether society should rely solely upon the civil law to provide the needed

Some Western European countries have enacted specific criminal statutes dealing with industrial espionage.[73] Most Anglo-American jurisdictions, however, have not followed suit. Accordingly, many of the prosecutions in those latter countries have proceeded under more general provisions of criminal law. Prosecutors typically turn first to the property offences, most commonly, some form of larceny, fraud, and vandalism/mischief. From a purely conceptual point of view, the *acti rei* of these property offences provide the closest analogy to the acts that society is trying to punish. For example, both the crime of larceny and the act of industrial espionage involve the appropriation of something of value that was previously under the exclusive control of another. Therefore, in the absence of a separate body of criminal law relating to information, it is logical to attempt to prosecute industrial spies under a property offence.

Certain formidable obstacles exist to any attempt to apply general property offences to the misappropriation of information. Property crimes were originally created to protect tangible personal property. The resulting legal rules concentrate upon those characteristics of tangible personalty that are most valuable to society. Because information does not necessarily share all of these important characteristics, certain key elements of property offences must be stretched to the breaking point if they are to be extended to industrial espionage.

A great amount of judicial time and effort has been expended in attempting to mold property offences to the misappropriation of information. Therefore, this article will rely upon case law to illustrate the problems. In a series of decisions from Great Britain and Canada, the courts have wrestled with the logical difficulties and reached divergent conclusions. A review of these cases will be useful since there are marked similarities between the relevant criminal statutes of Great Britain and Canada.[74]

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deterrence. This somewhat more fundamental issue is well beyond the scope of this article. For a taste of the debate, compare the views of the law reform committees in New Zealand (which argues in favour of criminal sanctions) and Great Britain (which argues against use of the criminal law), summarized in the *Trade Secrets Report*, *supra*, note 3 at 189-91. The report went on to conclude, after a detailed discussion, that criminal sanctions were both proper and necessary (*supra* at 128-33 & 218-20). See also E.W. Kitch, "The Law and Economics of Rights in Valuable Information" (1980) 9 J. Leg. Stud. 683 at 692-93; C. Webber, "Computer Crime or Jay-Walking on the Electronic Highway" (1983-84) 26 Crim. L.Q. 217 at 235-36; "Criminal Liability," *supra*, note 9 at 490.

[73]France, West Germany, and Switzerland have also experimented with criminal sanctions against industrial espionage (see generally Fetterly, *supra*, note 2 at 1539). The Swedish Commission on the Protection of Trade Secrets also recommended the adoption of strong criminal penalties (*Trade Secrets Report*, *supra*, note 3 at 131). See also *Remington-Rand Corp.* v. *Business Systems, Inc.*, 830 F.2d 1260 (3d Cir. 1987), which discusses a provision of the Netherlands Penal Code punishing employees who breach the confidence of their employers' secrets.

[74]In both Great Britain and Canada, the criminal law is a matter of predominantly national instead of local concern. Although Canada, like the United States, is a federation of semi-independent provinces, the Canadian Constitution, unlike that of the United States, specifically

The first case of note is the British decision in *Oxford* v. *Moss*.[75] In *Oxford*, an engineering student at Liverpool University surreptitiously obtained a copy of an upcoming exam paper, read it, and returned it to the file. Once the student's act was uncovered, he was charged with theft of the information set forth on the examination paper.[76] Although it was clear that the student had performed the acts alleged, the Divisional Court upheld the magistrate's dismissal of the case. Justice Smith's majority opinion focused on the two key elements of the offence of theft, namely, whether the information was property, and if so, whether the defendant intended to deprive Liverpool University of that property. In his view, the facts of the case failed to satisfy either element. Smith first found that the exam paper did not satisfy the definition of property under the *Theft Act*.[77] Unfortunately, his opinion did not discuss the issue in depth, but simply stated that information fell outside the statutory definition.[78]

Most of Smith's opinion focused on the intent element of the offence. Smith reasoned that because the examination paper had been returned to the file, the student at worst intended to borrow the examination paper in order to gain an unfair advantage over his classmates.[79] The student's actions accordingly were not intended to deprive the university of possession of the test questions, nor resulted in any actual deprivation. Even though the student had almost certainly destroyed the utility of the examination questions, the university retained full ability to possess and use the information. Justice Smith therefore concluded that even though the student's conduct was "to be condemned, and to the layman ... would readily be described as cheating,"[80] it was not conduct that would support a prosecution for the offence of theft.[81]

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grants the exclusive power to enact general criminal statutes to the federal government (*Constitution Act, 1867* (U.K.), 30 & 31 Vict., c. 3, s. 91(27)). Further, Canadian criminal law has borrowed quite heavily from that of Great Britain.

[75](1979), 68 Crim. App. Rep. 183 [hereinafter *Oxford*].

[76]The student was charged under s. 1 of the *Theft Act* (U.K.), 1968, c. 60. Except as discussed *infra*, note 77, s. 1 codifies the main features of the common-law offence of larceny.

[77]Section 4(1) of the *Theft Act*, *ibid.* defines "property" to include "money and all other property, real or personal, including things in action and other intangible property."

At common law, larceny was confined to the taking of tangible personal property. Most jurisdictions today define the "property" that can be the subject of larceny in a much more inclusive fashion. For example, the United States Model Penal Code defines property as "anything of value," a definition that encompasses both tangible and intangible property (Model Penal Code §223.0). Therefore, the fact that information is intangible does not in and of itself remove industrial espionage from the reach of modern theft statutes. Nevertheless, as will be discussed below, the intangibility of information does make it difficult to apply certain elements of the offence.

[78]*Oxford*, *supra*, note 75 at 185-86.

[79]*Ibid.* at 185.

[80]*Ibid.*

[81] Wien J. also wrote a short opinion in the case. His opinion focused solely on the issue of whether the information was property, and did not reach the additional element of "deprivation."

The Canadian courts have built upon *Oxford* in several criminal cases. The first case to be decided was *R.* v. *Kirkwood*,[82] a decision of the Ontario Court of Appeal. In *Kirkwood*, the defendant copied videotapes which he had obtained from various sources, and rented or sold the copies to others. These acts led to an indictment under the fraud provisions of the *Criminal Code*.[83] Although the labels of the two offences are different, the provisions of the *Theft Act* at issue in *Oxford* and the fraud provisions that were applied in *Kirkwood* deal with the same fundamental evil — a wrongful taking of property possessed by another.[84] The primary difference between the offences of theft and fraud relates to the means by which the appropriation is accomplished.[85]

Notwithstanding the similarity between the governing provisions, the court in *Kirkwood* found that the defendant could be prosecuted under the fraud provisions. Justice LaCourcière delivered the opinion of the court, most of which dealt with defining the circumstances constituting fraud.[86] In the latter part of the opinion, however, LaCourcière focused upon the element of deprivation. Because Kirkwood had merely copied the videotapes, LaCourcière found that the original owner had not been deprived of his tapes or the material on those tapes. Nevertheless, Kirkwood had deprived the owner of something of value; namely, the right to earn a profit from commercial sale or rental of the original videotapes. LaCourcière therefore ruled that the deprivation element could be satisfied if the defendant either deprived the victim of something in the victim's

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On the former issue, Wien J. agreed that the confidential information did not satisfy the s. 4 definition (*ibid.* at 186).

[82](1983), 5 C.C.C. (3d) 393, 42 O.R. (2d) 65, (Ont. C.A.) [hereinafter *Kirkwood* cited to C.C.C.].

[83]R.S.C. 1970, c. C-34, s. 338(1) [hereinafter *Criminal Code, 1970*] as am. S.C. 1974-75-76, c. 93, s. 32. See now R.S.C. 1985, c. C-46, s. 380(1) [hereinafter *Criminal Code, 1985*].

[84]Compare *Theft Act*, *supra*, note 76, s. 1(1): "A person is guilty of theft if he dishonestly appropriates property belonging to another with the intention of permanently depriving that other of it; ..." to the *Criminal Code, 1985*, s. 380(1): "Every one who, by deceit, falsehood or other fraudulent means, whether or not it is a false pretence within the meaning of this Act, defrauds the public or any person, whether ascertained or not, of any property, money, or valuable security, ...".

The defendant's actions in *Kirkwood* almost certainly constituted an offence under the criminal provisions of Canadian copyright laws. The *Trade Secrets Report*, *supra*, note 3 at 95, offers a plausible explanation for the Crown's decision to proceed under the general fraud provisions instead of the more specific copyright provisions. Under the copyright law then in force, the maximum fine for defendant's actions would have been a mere $10 per copy, and $200 for the entire transaction.

[85]At common law, a defendant committed larceny when he deprived the victim of property without the victim's consent. Fraud, on the other hand, was present in the situation where the victim consented to the deprivation, but the consent was wrongfully obtained.

[86]An important issue in *Kirkwood* was whether fraud could exist in the absence of a prior relationship between the parties. The court held that it could, as long as the defendant acted "dishonestly" (*supra*, note 82 at 397-98). Another interesting feature of the *Kirkwood* decision is that it erodes the distinction between the theft and fraud provisions of the *Criminal Code, 1970*. Typically, the offence of fraud required some proof of a relationship between the parties. In finding that *Kirkwood* had satisfied the "fraud" element by acting "dishonestly," the court has created a potential for overlap between the theft and fraud provisions (*Trade Secrets Report*, *supra*, note 3 at 97-98).

possession, or diverted to the defendant something that the victim was entitled to receive.[87] In essence, LaCourcière found the requisite property interest not in the information itself, but in the victim's right to receive income from the information.[88]

Three days following its *Kirkwood* decision, the Ontario Court of Appeal ruled upon a fact situation even closer to *Oxford* in *R.* v. *Stewart*.[89] The court in *Stewart* (C.A.) was called upon to construe not only the fraud provisions, but also the theft provisions of the *Criminal Code, 1970*.[90] Stewart, a consultant, was approached by an official of a union which was attempting to organize the work force of a large hotel complex. The union official hired Stewart to obtain the names, addresses, and telephone numbers of all of the hotel's employees. The defendant contacted a security worker at the hotel, and offered to pay him two dollars for each name.[91] Stewart was subsequently arrested and charged with the offences of counselling mischief, fraud, and theft of information. Although the trial court acquitted Stewart on all three counts, the prosecution appealed only the fraud and theft issues.[92]

Unlike the unanimous decision in *Kirkwood*, the Ontario Court of Appeal split on the applicability of both the fraud and theft provisions. Justices Cory and Houlden ruled in favour of the prosecution, while LaCourcière — who had written the opinion of the court in *Kirkwood* sustaining prosecution — dis-

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[87]*Kirkwood, supra*, note 82 at 399, relying upon *R.* v. *Olan, Hudson, and Hartnett*, [1978] 2 S.C.R. 1175, 41 C.C.C. (2d) 145 [hereinafter *Olan*] and *R.* v. *Renard* (1974), 17 C.C.C. (2d) 355 (Ont. C.A.).

[88]Professor Coleman argues that this aspect of the *Kirkwood* decision could have a profound impact on intellectual property law. Because the court's opinion relies upon the loss of potential profit that the owner can derive from information, Coleman argues that it could lead to a significant extension of the penalties for copyright infringement (Coleman, *supra*, note 37 at 16).

[89](1983), 5 C.C.C. (3d) 481, 42 O.R. (2d) 225 (Ont. C.A.) [hereinafter *Stewart* (C.A.) cited to C.C.C.] rev'd *Stewart* v. *R.* (1988), 41 C.C.C. (3d) 481, 50 D.L.R. (4th) 1 (S.C.C.) [hereinafter *Stewart* (S.C.C.) cited to C.C.C.]. The Supreme Court's reversal is discussed below at text accompanying notes 116-24.

[90]The primary theft provision at issue was *Criminal Code, 1970*, s. 283(1), now *Criminal Code, 1985*, s. 322(1). The relevant portions provided as follows:

> 283(1) Every one commits theft who fraudulently and without colour of right takes, or fraudulently and without colour of right converts to his use or to the use of another person, anything whether animate or inanimate, with intent,
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> (a) to deprive, temporarily or absolutely, the owner of it or a person who has a special property or interest in it, of the thing or of his property or interest in it,
>
> . . .
>
> (d) to deal with it in such a manner that it cannot be restored in the condition in which it was at the time it was taken or converted.

[91]*Stewart* (C.A.), *supra*, note 89 at 484.

[92]The offence of mischief was later to be used with success in a case of industrial espionage presenting somewhat different circumstances; see below, text accompanying notes 125-30.

sented.[93] The decision in *Stewart* (C.A.) analyzes the property question in more depth than *Kirkwood*. First, although the theft statute differs from the fraud provisions insofar as it defines the subject matter as "anything, whether animate or inanimate, ..." instead of property, all three Justices acknowledged that prior decisions had incorporated concepts of property into the definition. Therefore, in order to apply either the theft or the fraud provisions to Stewart's actions, the Justices had to find some form of property right which Stewart had taken from the hotel. Cory and Houlden found that the property element was satisfied for purposes of both the theft and fraud provisions. Although the opinions focus on theft, they incorporate the same basic arguments when discussing fraud. It is notable that neither Justice found the property right in the potential profits that could be derived from the information, as the same court had done only three days earlier in *Kirkwood*. Indeed, since the list of employees had no real commercial value — except possibly to the union which sought the information — such a theory would have proven problematical.[94] Both Justices instead argued that the information was itself property for purposes of the fraud and theft provisions of the *Criminal Code, 1970*. Houlden's opinion cited the British *Exchange Cases*[95] and the American *Chicago Board of Trade* case[96] — all civil cases — as establishing a general principle that confidential commercial information was a species of property.[97] Although Houlden recognized that his conclusion was inconsistent with *Oxford*, he nevertheless argued that the cited precedent was binding.[98]

Cory's opinion for the most part agreed with Houlden. In two respects, it is arguable that it went further. First, Cory's opinion suggested an alternative property argument. In Cory's view, the defendant's acts destroyed the hotel's ability to protect the list under Canadian copyright laws. Cory therefore rea-

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[93]Neither Justice Cory nor Justice Houlden had sat on the appellate panel in *Kirkwood*. It is interesting to note that Justice LaCourcière had indicated in *dictum* in his opinion in *Kirkwood* that the offence of theft might not apply to the facts in that case. See *Kirkwood*, *supra*, note 82 at 399-400. Professor Coleman finds it difficult to reconcile LaCourcière's opinions in the two cases. See Coleman, *supra*, note 37 at 17. The approach to the problem set forth in Parts II and III of this article suggests that *Kirkwood* and *Stewart* are indeed factually distinguishable.

[94]Both parties had conceded that the hotel had not lost any commercial advantage by the loss of secrecy. See *Stewart* (C.A.), *supra*, note 89 at 492. The value of the list was also relevant in the case insofar as the offence of counselling theft required that the property have a value in excess of $200. Houlden's opinion finessed this issue by noting that the defendant had offered the security guard an amount well in excess of $200 to obtain the list. See *supra* at 495-96.

[95]*Exchange Telegraph Co. Ltd.* v. *Gregory & Co.*, [1896] 1 Q.B. 147; *Exchange Telegraph Co., Ltd.* v. *Central News, Ltd.*, [1897] 2 Ch. 48; and *Exchange Telegraph Co. (Ltd.)* v. *Howard and London & Manchester Press Agency (Ltd.)*, [1906] 22 T.L.R. 375.

[96]*Board of Trade of City of Chicago* v. *Christie Grain & Stock Co.*, 198 U.S. 236 (1905) [hereinafter *Chicago Board of Trade*].

[97]*Stewart* (C.A.), *supra*, note 89 at 493-94.

[98]*Ibid.*

soned that the hotel had been deprived of a property right not only in the information itself, but also in the rights afforded authors under copyright laws.[99]

Even more significantly, Cory intimated that all information, regardless of its confidentiality, might be treated as a form of property, provided that the original holder had expended time and effort in compiling it.[100]

In addition to finding that the information was property, the court also had to face the additional element of intent for the theft charge. The *Criminal Code, 1970* requires proof that the defendant had acted with one of an enumerated list of intents.[101] Houlden's opinion was the only one to deal with this issue. He reasoned that Stewart's intent satisfied s. 283(1)(d), which states:

> (d) to deal with it [the property] in such a manner that it cannot be restored in the condition in which it was at the time it was taken or converted.

In Houlden's view, Stewart had destroyed the confidentiality of the information. Although the information itself remained in the hands of the hotel, its character had been forever changed.[102] Accordingly, the prosecution had satisfied all of the elements of the offence of theft under s. 283(1).

As indicated above, LaCourcière wrote a dissenting opinion. Unlike Cory and Houlden, LaCourcière undertook separate analyses of the theft and fraud charges, eventually concluding that neither offence was satisfied. For the theft charge, LaCourcière relied upon *Oxford* and other English cases for the proposition that confidential information was not property under the statute. The civil cases discussing confidential information as a form of property were, in LaCourcière's view, inapposite.[103] Although theft was not limited to tangible property, LaCourcière felt that it would clearly exceed Parliament's intent if the theft statute were extended to confidential information.[104]

The fraud count presented LaCourcière with an issue of greater complexity. A prior decision of the Supreme Court had construed the fraud provision to extend not only to situations where the defendant deprived the victim of property, but also to cases in which the defendant caused "prejudice to the economic interest of the victim."[105] Although the portion of the opinion dealing with theft resolved the property issue, the broader prejudice rationale could potentially apply to the facts of *Stewart* (C.A.). On this issue, LaCourcière relied upon the fact that the hotel had no intention to use the list of employees in "a commercial

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[99]*Ibid.* at 498-501.

[100]*Ibid.* at 497-98.

[101]The intents are enumerated in subsections (a) through (d) of *Criminal Code, 1970*, s. 283(1) (now *Criminal Code, 1985*, s. 322).

[102]*Stewart* (C.A.), *supra*, note 89 at 495.

[103]*Ibid.* at 489.

[104]*Ibid.* at 491.

[105]*Olan, supra*, note 87.

way."[106] Stewart accordingly had in no way caused any prejudice to the economic interest of the hotel.[107] This argument allowed LaCourcière to distinguish *Stewart* (C.A.) from *Kirkwood*, because in *Kirkwood* the information contained on the videotapes was clearly intended to be used for commercial gain.

The sharp differences between the majority and dissenting opinions in *Stewart* (C.A.) reflect the basic conflict between policy and statutory interpretation. On the one hand, policy dictates that society sanction the defendant's appropriation of the information. As Cory recognized, considerable effort often goes into the accumulation of such information. There is something troubling in allowing a third party to use the compiled information without the permission of — or at least compensation to — the owner. On the other hand, the current criminal law cannot be easily molded to fit industrial espionage. Although the original holders have been injured, they still retain full possession and use of the information. All that they have lost is the confidentiality.

These difficulties led the Alberta Court of Appeal to reject *Stewart* (C.A.) in *R.* v. *Offley*.[108] *Offley* involved a confidential police computer data base. The defendant in *Offley* operated a business which performed security checks on job applicants for employers. Defendant offered to pay a member of the Edmonton City Police Department two dollars per name for running the name through the police data bank. This offer was reported and, following a sting operation, the defendant was arrested, charged, and convicted of the offence of counselling theft of information contained in the police database.[109]

The Court of Appeal reversed the conviction. Justice Belzil's opinion rejected the view that the defendant had in any way deprived the Edmonton Police of property because they had at all times retained full use of the information.[110] In addition, Belzil rejected *Stewart* (C.A.)'s interpretation of the intent element of the offence of theft.[111] Justice Belzil argued that it made no sense to talk of returning something to the owner in a condition different from that when it was "taken"[112] because there had never been a taking in the first place.[113] Therefore, although Offley had affected the confidentiality of the data base, that did not constitute a deprivation of property.[114]

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[106]*Supra*, note 89 at 492.

[107]*Ibid.*

[108](1986), 70 A.R. 365 [hereinafter *Offley*].

[109]*Ibid.* at 365-66. As in *Stewart* (C.A.), the defendant was indicted under *Criminal Code, 1970*, s. 283(1).

[110]*Offley*, *ibid.* at 368.

[111]See above text accompanying notes 101-102.

[112]*Criminal Code, 1970*, s. 283(1)(d) (now *Criminal Code, 1985*, s. 322(1)(d)).

[113]*Supra*, note 108 at 368.

[114]Justice Belzil's opinion at times fails to distinguish clearly the issues of (a) whether the information in the police data bank was property, (b) whether defendant had "deprived" the police department of that property, and (c) whether the defendant's intent fell into one of the enumerated categories. It appears, however, that he would answer each question in the negative.

The court in *Offley* recognized that its decision was essentially irreconcilable with its sister court's opinion in *Stewart* (C.A.).[115] Both cases involved information that the owner had kept in confidence. In addition, the defendants in both cases bribed someone with access to the information with the hope of obtaining the information for commercial use. Further, each case involved only a limited breach of confidentiality because the information was revealed only to the defendant — not the public at large. Because the two cases involved essentially the same facts, the results reflect a basic difference of opinion as to the applicability of criminal law property offences to industrial espionage.

While *Offley* was pending, the decision of *Stewart* (C.A.) had been appealed to the Supreme Court of Canada. In 1988, the Court reversed the Ontario Court of Appeal.[116]

The decision in *Stewart* (S.C.C.) followed the format of LaCourcière's appellate dissent by distinguishing between the fraud and theft charges. On the theft charge, the Court relied heavily upon the fact that the defendant had merely copied the information, as opposed to taking the physical embodiment of that information.[117] The information itself, the Court reasoned, was not the sort of property right that could be the subject of a prosecution for theft. The Court held that in order to be property for purposes of s. 283, the item in question must be capable of being taken.[118] Since the information itself could not be taken, industrial espionage could not form the basis of a prosecution for theft.

The Court also offered a public policy justification for this conclusion. If information was considered property for purposes of theft, a whole host of unforeseen consequences could arise. For example, the Court hypothesized that people who steal information and who cannot erase it from their memory might be guilty of a separate offence for each day that they retained the information.[119] Because these potential consequences had not been fully explored, the Court indicated that the decision of whether to treat information as full-fledged property under s. 283 should be left to Parliament.[120] This public policy rationale also allowed the Court to sidestep various civil cases which had treated information in a fashion similar to tangible property. Because the policy implications of

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[115]*Offley*, *supra*, note 108 at 367-68.

[116]*Stewart* (S.C.C.), *supra*, note 89.

[117]*Ibid.* at 484.

[118]It is unclear why the Canadian courts continue to cling to this vestige of the common law. As noted by Justice LaCourcière in his decision in *Stewart* (C.A.), *supra*, note 89 at 487, s. 283(1) was amended in 1954 to delete the words "capable of being stolen." The Supreme Court nevertheless indicated that the current language of *Criminal Code, 1970*, s. 283, reaches only property that is capable of being stolen (*ibid.* at 489).

[119]*Ibid.* at 491.

[120]*Ibid.* at 492.

treating something as property in the civil and criminal realms were entirely different, the Court refused to be bound by these civil precedents.[121]

The Court also addressed the alternative argument used by Justice Houlden in *Stewart* (C.A.), namely, that even though the owner retained full use of the information, it had been deprived of the confidentiality of that information.[122] The Court disposed of this argument in short order. Once confidentiality is divorced from the information itself, bare confidentiality cannot be considered a form of property under even the broad ambit of s. 283.[123] Confidentiality is merely a condition which does not itself generate any legal implications.[124]

The portion of the opinion dealing with the fraud charge was much more cursory. In essence, the Court quoted LaCourcière's dissenting opinion with approval. This implies that the Supreme Court, like LaCourcière, would have reached a different result in a case involving a trade secret or other information with commercial value.

In *Stewart* (S.C.C.), the Supreme Court rejected the application of the general property offences of theft and fraud in a case of industrial espionage. The effect of *Stewart* (S.C.C.) on future cases, however, is unclear. In all likelihood, the offence of theft will rarely be available to prosecute industrial spies in Canada. By holding that "pure" information could not be the subject of theft, the Court confined s. 283 to situations in which the defendant took some physical embodiment of the confidential information, such as papers or photographs.

The offence of fraud, however, remains as a potential tool in these cases. The court in *Stewart* (S.C.C.) was careful to distinguish between the type of information at issue in that case and other types of information, such as trade secrets, that could be used commercially. In cases involving the latter, the elements of fraud might be satisfied. Therefore, although the Supreme Court's opinion is silent on the validity of *Kirkwood*, the rationale used by the Court lends support to that decision. Unlike the hotel's list of employees, the video-

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[121]*Ibid.* at 490. The Court also questioned whether the civil cases actually established a general view of confidential information as property, or whether, as discussed above at notes 53-63, they used the property label in order to grant an appropriate remedy given the strictures of legal rules designed for tangible personalty.

[122]It is unclear why the Court discussed this alternate theory. Both the prosecution and defense had agreed that the hotel did not really benefit from maintaining the confidentiality of the list of hotel employees. See *Stewart* (S.C.C.), *supra*, note 89 at 492. Defendant's interference with this confidentiality, therefore, caused no harm to the hotel.

[123]*Ibid.* at 493.

[124]The Court also addressed Justice Cory's alternate contention that Stewart had deprived the hotel of any copyright rights it may have held in the information. See above text accompanying note 99. On this point, the Court found that no deprivation had occurred. Insofar as the hotel still retained the "original" and the right to reproduce that original, its copyright rights remained intact (*ibid.* at 495).

tapes at issue in *Kirkwood* clearly displayed the type of commercial value that could be affected by the industrial spy. Although the fraud statute presents other unique barriers to the prosecutor, the statute has at least some potential for use in the proper case.

A final Canadian case of note is the 1984 decision of the Ontario High Court of Justice in *Re Turner and the Queen*.[125] Unlike the decisions discussed to this point, *Turner* involved the application of the mischief provisions of the *Criminal Code, 1970*.[126] The facts in *Turner* are also somewhat different. The defendants, operating from their office in Toronto, had on several occasions gained telephone access to the computer records of a data storage firm in Milwaukee, Wisconsin. After infiltrating the records, the defendants encoded them so that they could not be retrieved in the future.[127] There was no evidence that the defendants made any copies of the information. Further, defendants did not erase any of the relevant data. The defendants simply made it impossible for the owners of the information to recall it.

Probably because the defendants had not appropriated the information, the prosecutor did not rely on the theft and fraud provisions, but instead opted to use the mischief provisions. Like theft and fraud, mischief requires an act which affects property.[128] However, the mischief provisions place certain restrictions on the term property that do not exist in the theft and fraud provisions. In particular, the mischief provisions define property to include only corporeal property.[129] The defendants relied upon this limitation to argue that because their acts did not change the physical nature of the computer tapes themselves — the

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[125](1984), 13 C.C.C. (3d) 430 (Ont. H.C.) [hereinafter *Turner*].

[126] Ss 385 & 387 (now *Criminal Code, 1985*, ss 428 & 430). The Commonwealth offence of mischief typically bears the label "vandalism" in United States jurisdictions. Although the defendant had also been indicted for fraud, only the mischief charge was before the Ontario Court of High Justice (*Turner, ibid.* at 431).

It is interesting to note that the defendant in *Stewart* had also been charged with mischief under the above provisions. The Ontario Court of Appeal never faced this issue because the prosecution did not appeal the trial court's verdict of acquittal on the mischief charge (*supra*, note 89 at 483).

[127]*Turner, supra*, note 125 at 431.

[128]The *Criminal Code, 1970* reads:

> 387(1) Every one commits mischief who wilfully
> (a) destroys or damages property,
> (b) renders property dangerous, useless, inoperative or ineffective,
> (c) obstructs, interrupts or interferes with the lawful use, enjoyment or operation of property, or
> (d) obstructs, interrupts or interferes with any person in the lawful use, enjoyment or operation of property.

See now *Criminal Code, 1985*, s. 430.

[129]*Criminal Code, 1970*, s. 385 (now *Criminal Code, 1985*, s. 428). The *Turner* opinion discussed two proposed amendments to ss 385 & 387(1) that would have extended the mischief provisions to computer data (*supra*, note 125 at 433).

tapes could still be erased and re-used — the prosecution had failed to satisfy the element of damage to corporeal property.

The *Turner* court rejected the defendant's argument. Justice Gray argued that mischief was not a crime against possession, but rather against enjoyment of property. Because the defendants had physically altered the computer tapes in a manner which reduced the owners' ability to use those tapes, they had significantly impaired the owners' enjoyment of the accumulated information. Under this rationale, the limitation of the definition of property to corporeal items did not present an obstacle, because the tapes themselves were clearly tangible.[130]

The unique facts of *Turner* make the case of little use in resolving whether the crime of mischief can reach other cases of industrial espionage. Part of the difficulty is that the Canadian mischief provisions apply only to corporeal property. That distinction, however, is relatively minor. The more significant facet of *Turner* is that acts of the defendant did, in effect, result in a loss of the information to the owner. Because the victim's use of the tapes was deleteriously affected, the court did not face the issue of how the law would apply if the tapes themselves had not been altered.

The above decisions have evoked a great deal of scholarly interest in Canada, Great Britain, and other Commonwealth countries. Most of the discussion has focused on the decision in *Stewart* (C.A.), and predates the reversal of that decision by the Supreme Court.[131] The weight of academic opinion is decidedly against its interpretation of the theft and fraud provisions.[132] Most commentators argue that the court's interpretation of the *Criminal Code, 1970* went beyond the historical reach of Commonwealth property offences.[133] It remains to be seen whether Commonwealth jurisprudence will follow the lead of the Supreme Court of Canada's holding in *Stewart* (S.C.C.).

The British and Canadian courts are not alone in their efforts to apply property offences to acts of industrial espionage. Courts in the United States have also attempted to fit espionage into existing provisions of the criminal law. The United States cases can be divided into two categories. Unlike the Common-

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[130]*Ibid.* at 434. Even though Justice Gray found the requisite property interest in the computer tapes instead of the intangible information stored thereon, he cited *Stewart* (C.A.) as authority.

[131]In addition, there is some published commentary comparing the decisions of the Ontario Court of Appeal in *Kirkwood* and *Stewart* and the *Turner* decision (see Coleman, *supra*, note 37 at 16-18; "Electronic Crime in the Canadian Courts," *supra*, note 42 at 146-48).

[132]The most in-depth analysis is that contained in the *Trade Secrets Report*, *supra*, note 3 at 84-93, which lists five major objections to the decision. See also F.R. Moskoff, "The Theft of Thoughts: The Realities of 1984" (1984-85) 27 Crim. L.Q. 226 at 229-33, which supports the Ontario Court of Appeal; "Theft of Information," *supra*, note 37 at 259 which intimates that the result might be justified had the information constituted a trade secret.

[133]See, for example, Moskoff, *ibid.* at 232-33.

wealth countries, some state legislatures have enacted specific criminal statutes dealing with industrial espionage. In jurisdictions without these specific statutes, however, prosecutors have been forced to turn to general offences. This article will begin with general offences and move to a discussion of specific offences.[134]

In the state courts, there have been relatively few prosecutions for industrial espionage under the general property offences. This is clearly not due to a lack of relevant statutory authority, for every state has enacted some form of general theft provision. For some reason, state prosecutors have not taken an active role in prosecuting industrial spies.[135] In addition, in the few cases which rely upon the general criminal provisions, prosecutors have had mixed success.[136]

The situation in the United States federal courts is altogether different.[137] Federal prosecutors have been quite active in the area of industrial espionage, and have achieved a considerable rate of success. A large part of the success of the federal prosecutors can be attributed to the expansive view of the scope of the federal property offences adopted by the federal courts.

The most significant federal decision is the recent opinion of the United States Supreme Court in *Carpenter*.[138] The facts of *Carpenter* are conceptually similar to those of several of the Canadian cases discussed above. The defendants in *Carpenter* were a reporter for the Wall Street Journal and a stockbroker. The reporter gathered information from corporate executives for later publication in the paper. Although none of the information was inside or "hold for release" information,[139] a general publication of the information could have had a substantial impact upon stock prices. The Journal's policy was therefore to

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[134]See text accompanying notes 196-212.

[135]*Trade Secrets Report*, *supra*, note 3 at 216. This is true even in states which have enacted statutes dealing specifically with industrial espionage. See Kitch, *supra*, note 72 at 692.

[136]See *People* v. *Home Ins. Co.*, 197 Colo. 260, 591 P.2d 1036 (1979) (non-trade secret information not "property"); *State* v. *McGraw*, 480 N.E.2d 552 (Ind. 1985) (theft conviction overturned based upon finding that trade secrets are not "property"); *Commonwealth* v. *Engleman*, 336 Mass. 66, 142 N.E.2d 406 (1957) (trade secrets are not "property" for purposes of larceny statute); *Hancock* v. *State*, 402 S.W.2d 906 (Tex. Crim. App. 1966) (conviction for theft sustained). See also the discussion in J.R. Vandevoort, "Trade Secrets: Protecting a Very Special 'Property'" (1971) 26 Bus. & Law. 681 at 684.

[137]Unlike Canada, the general criminal law in the United States is usually a matter of state, not federal, concern. Nevertheless, the United States Congress has enacted a number of federal criminal statutes which incorporate in a wholesale fashion certain basic elements of the common law property offences. These criminal statutes are typically enacted in connection with some federal interest, such as the mails (18 U.S.C. §1341) or the transport of property across state lines (18 U.S.C. §2314).

[138]*Supra*, note 33.

[139]*Ibid.* at 319. If the information had fallen into one of these categories, defendants' acts would have generated securities law consequences.

keep this information confidential prior to publication. The defendants entered into a scheme under which the reporter would relay the information to the stockbroker prior to publication in the paper. In return, the stockbroker agreed to share with the reporter any profits that he derived from investments using the information. The scheme was uncovered, and the defendants were indicted and convicted under the federal mail fraud and wire fraud statutes.[140]

On appeal, the defendants attempted to rely upon a prior U.S. Supreme Court decision which had limited the reach of the mail fraud and wire fraud statutes to situations involving a deprivation of "money or property."[141] Defendants argued that the corporate information that the reporter passed on to the stockbroker did not meet this definition of property. *Carpenter* presented the Court with an interesting twist on the property issue. The defendants' acts would not have resulted in their receiving any additional financial benefit from the owner of the information, that is, the Wall Street Journal. The financial reward would instead come from the defendants' dealings on the stock market. Further, the Journal did not itself use the information for the purpose of trading in the stock market, but rather held it for eventual publication in the paper. Therefore, unlike earlier cases applying the mail fraud and wire fraud statutes to the misappropriation of information, the Court was not faced with the relatively straightforward situation in which a defendant's acts deprived the victim of money or some other easily-identifiable property interest.[142] The only conceivable property right was the right to the information itself.

Facing the issue head-on, the Court held that the confidential information did give rise to a property right. The Journal's reasonable efforts to preserve confidentiality gave it the right to make exclusive use of the information prior to publication.[143] This right of exclusive use, the Court felt, was a property right for purposes of the mail and wire fraud provisions. As authority for this conclusion, however, the Court cited its *Ruckelshaus*,[144] *Chicago Board of Trade*,[145] and *INS*[146] decisions — cases decided under the civil, not the criminal law.

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[140]18 U.S.C. §§1341 & 1343, respectively. Defendants were also indicted for conspiracy under 18 U.S.C. §371. See *Carpenter*, *ibid.* at 318.

[141]*McNally* v. *United States*, 483 U.S. 350 (1987), where the Court construed the mail fraud statute as applying only when the defendant had deprived the victim of a "property" right (*supra* at 356). The rights at issue — the "intangible rights to honest and impartial government" — were held not to rise to the level of a property right.

[142]See, for example, *United States* v. *Doherty*, 675 F. Supp. 726 (D. Mass. 1987), rev'd in part 867 F.2d 47 (1st Cir. 1989), cert. denied U.S. , 109 S.Ct. 3243 (1989) [hereinafter *Doherty*], a case in which the defendant copied police department exams. The court found that the police department had been deprived of "property," namely, the additional salary that it would be required to pay to the defendant following his ill-gotten promotion.

[143]*Supra*, note 33 at 320-21.

[144]The *Ruckelshaus* decision is discussed above at text accompanying notes 25-31.

[145]*Supra*, note 96.

[146]*Supra*, note 18.

Once the Court found the requisite property interest in exclusivity, it could easily dispose of the other elements of the offences. The defendants' actions had clearly deprived the Journal of its right to make exclusive use of the information.[147] The Court further held that the prosecution was not required to demonstrate that the loss of confidentiality would result in any monetary loss to the Journal.[148] It was enough to show that the defendants had deprived the Journal of the right to use the information prior to publication, and, if it so chose, to select the time and place for publication.[149] Defendants' activities also satisfied the requirement that the *actus reus* be fraudulent, insofar as both defendants knew that the scheme was in violation of the Wall Street Journal's internal rules.[150] Based upon these findings, the Court upheld the conviction of both defendants.

The U.S. Supreme Court's decision in *Carpenter* was not without some precedent. A pair of influential cases from the circuit courts had applied the mail fraud and wire fraud provisions to industrial espionage a number of years earlier.[151] Nevertheless, the U.S. Supreme Court's express sanction of the use of federal law has given federal prosecutors a powerful new tool against the industrial spy. Since *Carpenter*, a number of decisions have relied upon the mail fraud and wire fraud provisions in industrial espionage cases.[152] In addition, federal courts have used *Carpenter* as precedent even when construing other property-based federal criminal provisions.[153]

One of the recent mail fraud cases is especially interesting when compared to *Oxford*. In *U.S.* v. *Thomas*,[154] defendant was convicted of mail fraud for

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[147]*Supra*, note 33 at 321.

[148]*Ibid.*

[149]This argument borrows freely from Justice Pitney's majority opinion in the *INS* case (*supra*, note 18 at 239-40).

[150]*Supra*, note 33 at 321. Rejecting the defendants' argument, the court held that the acts could be "fraudulent" even though they violated no statute.

[151]*United States* v. *Bottone*, 365 F.2d 389 (2d Cir. 1966), cert. denied 385 U.S. 974 (1966) (defendant photocopied and took notes of information); *Abbott* v. *United States*, 239 F.2d 310 (5th Cir. 1956) [hereinafter *Abbott*] (defendant had a draftsman make an extra copy of original geophysical maps). See also *U.S.* v. *Seidlitz*, 589 F.2d 152 (4th Cir. 1978), cert. denied 441 U.S. 922 (1979) (obtaining computer software by way of a telephone tap).

[152]*Belt* v. *U.S.*, 868 F.2d 1208 (11th Cir. 1989) (employee leaked confidential business information concerning subcontractor bids); *United States* v. *Grossman*, 843 F.2d 78 (2d Cir. 1988), cert. denied U.S. , 109 S.Ct. 864 (associate at a law firm disclosed confidential information concerning the recapitalization of a client); *United States* v. *Elliott*, 711 F. Supp. 425 (N.D. Ill. 1989) (partner in law firm used confidential client information to his benefit by purchasing stock in company; information held to be property of the law firm); see generally Milgrim, *supra*, note 19, c. 1 at 81-90.

[153]*Formax*, *supra*, note 32 (prosecution under Racketeer Influenced and Corrupt Organizations Act, 18 U.S.C. § 1962 *et seq.*).

[154]686 F. Supp. 1078 (M.D. Pa.), aff'd 866 F.2d 1413 (3d Cir. 1988), cert. denied U.S. , 109 S.Ct. 1958 (1989) [hereinafter *Thomas*].

obtaining and distributing copies of the answer key for a police department entrance examination. The court found that the answer key was the property of the police department for the purposes of the mail fraud statute, primarily based upon the fact that the police department had tried to keep it confidential. Accordingly, even though the police department (unlike the Wall Street Journal) could not use the information commercially, it nevertheless could protect its property from acts which could destroy its confidentiality. The *Thomas* decision is clearly at odds with the attempted use of the criminal law of theft against the student in *Oxford*.[155]

The long-term impact of *Carpenter* is at the present time unclear. As in its earlier *Ruckelshaus* opinion,[156] the Court advances a very broad view of the extent to which rules of property can be applied to confidential information. Read literally, the opinion suggests that all confidential information — not merely the subcategory of trade secrets — is eligible for treatment as property. The Court found the requisite property interest in the Journal's right of exclusive prepublication use. Yet, given the facts of the case, it is difficult to see how this right of exclusive prepublication use was of any value to the newspaper. The Journal did not itself use the information to trade in the stock market. The real value of the information to the paper was not the ability to use it prior to publication, but instead the ability to be the first to disseminate the information to the public. In other words, the information had a value to the paper only insofar as it could generate increased newspaper sales. Because the *Carpenter* Court's analysis does not search for any decrease in the value of the information, the Court's interpretation would appear to apply to all types of confidential information, not merely trade secrets.

It should be obvious that the cases discussed above are somewhat at odds. Admittedly, it is always difficult to compare cases which apply different criminal statutes. This difficulty is aggravated when the courts are in different legal systems. Nevertheless, the above cases represent attempts to deal with the same basic problem: how to punish the industrial spy under a statutory scheme which was not drafted to protect information. Regardless of the differences in style, the statutes applied in the above cases are descendants of the same common law

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[155]Further, the court in *Thomas* did not need to look to the information itself for the required property interest. Because a successful copying of the exam questions would have caused the police department to pay more to the test takers, the court could have found a "deprivation" of the police department's money. Compare *Doherty*, *supra*, note 142, a pre-*Carpenter* case.

The court in *Oxford* intimated that it might have allowed prosecution had it been shown that the student actually took the paper upon which the exam questions were printed (*supra*, note 75 at 185, Smith J.). The decision in *Thomas* does not indicate whether the defendants had taken the examination paper. Nevertheless, because the court found the requisite "property" interest in the information itself, such a factual difference — even if it had existed — would not in itself be enough to distinguish the cases.

[156]*Supra*, note 19 at 1001-1003.

ancestors. Accordingly, the differing results in the cases are attributable to a fundamentally different perception of the proper reach of criminal property offences.[157]

In the view of this author, none of the above cases deals adequately with the unique problems that arise in the area of confidential information. This does not necessarily mean that the courts reached an incorrect result in each case. Imagine, for example, a court faced with construing a criminal statute, but the only available precedent is a civil case which finds that confidential information is property for purposes of bankruptcy or tax law. The above discussion demonstrates that this civil precedent should not be particularly relevant in interpreting the criminal statute. Nevertheless, the fact that the civil precedent is not binding does not mean that the same information is not property under the criminal law.

To answer the question of how information should be treated under criminal property offences, one must focus on the nature of confidential information. Although such information does not share many of the characteristics of tangible property, it does resemble tangible property in certain respects. Therefore, the proper analysis should isolate the unique characteristics of confidential information, identify how such characteristics differ from those exhibited by tangible property, and then — and only then — determine which of the criminal law property offences can be applied in cases of industrial espionage.

II. A Value-Based Analysis

One characteristic confidential information shares with other types of property is that it has value to the owner. Indeed, the law governing confidential information is largely an attempt to enable the rightful holder of information to realize the full potential value of this information.[158] However, the values inherent in information are not identical to those inherent in tangible personal property. This suggests that there might be another approach to analyzing the extent to which criminal property offences can be applied to cases of industrial espionage. Although the criminal law of property is intended to protect value, the current offences are crafted so as to reach only certain types of value. The val-

[157]Justice LaCourcière's opinion in *Stewart* (C.A.), *supra*, note 89 at 490, suggests that the federal criminal laws of the United States are intended to protect substantially broader values than the common law "property" rights protected by the *Criminal Code, 1970*. The basis for this conclusion is unclear. Nevertheless, this article will demonstrate that the scope of the criminal law of property is defined not so much by the breadth of the protected values as by the types of values involved in a particular case. See above Parts II and III.

[158]This, in turn, is intended to afford a greater incentive for engaging in creative activity. In addition to the doubts expressed as to the validity of this theory (see *supra*, note 70), some have argued that Anglo-American law devotes too much attention to the creation of information, and not enough to its usage and access. See "Quantum Physics," *supra*, note 37 at 55.

ues protected by existing offences may or may not be the same as the values exhibited by confidential information. A value analysis would attempt to match the values recognized as important under the criminal law with those inherent in information. To the extent that there is significant overlap, it may be possible to apply a given criminal offence.

A. The Values Inherent in Information

Not all information has value. This is true even with respect to confidential information. For example, everyone remembers — sometimes in great detail — certain personal events that have occurred throughout his or her lifetime. This storehouse of knowledge has no real ascertainable commercial value. It is unlikely that the holder of personal confidential information can make any use of such information for commercial gain. Similarly, because no one else will be able to use the information, the holder cannot sell the information for profit.

Certain types of confidential information, however, do have value. The ability of humans to warehouse information — whether in their minds, a file cabinet, or a computer memory bank — can prove to be immensely valuable. To the extent that one stores information, one can save the cost of reproducing that information at a later time. One may also be able to profit from the stored information by selling it to others who likewise want to avoid the cost of reproducing that information. Depending in part upon the costs of recreating a given set of data, information can have substantial value to the holder.

Confidential information may exhibit one or two types of value.[159] The first can be dubbed "use value." A good deal of the information that is collected by commercial entities will have use value. Broadly speaking, information has use value if it can be utilized to lower the marginal costs of producing that firm's output. Information concerning methods of manufacture will clearly exhibit this type of value. Information like the list of hotel employees in *Stewart* (C.A.) will also have use value. Because the hotel could almost certainly have been operated more efficiently with the list of employees than it could have been without that list, the information had use value to the hotel.

Measuring the use value of information is more difficult. The decrease in marginal costs associated with the information is not in and of itself a true indication of use value. One must also consider the costs of obtaining, warehousing, and retrieving the information. To use a simple example, one could conceivably reduce the marginal cost of the business of teaching law if one were to create a filing system for the books and papers scattered about an office. By so doing,

[159]As indicated above, this article does not purport to analyze purely personal confidential information. The privacy interests inherent in personal information may significantly skew the value analysis set forth in this article.

one could reduce somewhat the time that it takes to find a given book. One has no real incentive, however, to create this storehouse of knowledge. First, creating the system would involve some cost. Second, in order for the system to be effective, one would have to spend a great deal of time reducing it to memory. These costs, even when spread out over time, offset many times over the minimal reduction in the costs of locating a given book. Accordingly, the information probably has a negative use value — it may actually increase the cost of operating the business.

Some types of information also exhibit a second type of value, which can be dubbed "monopoly value." Monopoly value is the value attributable to being the only person who has access to the item of information. When knowledge is exclusive, the holders of the information are placed in an enviable position vis-à-vis their competitors. The holders may use the information to reduce their costs of producing the same goods as their competitors, or to produce a good of superior quality. In either case, they will be able to derive profits not available to their competitors.[160] They will continue to enjoy these additional profits until someone else obtains the same information. Alternatively, they can sell or license the information to others and capture the "value" of the information more directly. Regardless of the method used to recapture the value of the information, the fact that the holders alone have access to the information makes the information more valuable. In essence, then, the owners are in a position akin to that of a monopolist.[161]

Monopoly value can only exist when the information also has use value. Unless the information has some utility, the holders will not gain any further advantage from their position of exclusive access. Therefore, monopoly value is a supplemental form of value that may exist when information with use value is not known to others in the field.

In many ways, the distinction drawn above between use value and monopoly value is an alternative way of stating the traditional distinction between a

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[160]In the situation where the secret results in a reduction in marginal cost, the owners can either undercut the price of their competitors and capture a larger share of the market, or match the market price and thereby realize additional profits from the sale of each unit of product. The optimal strategy will depend, *inter alia*, on the price elasticity of demand for the product.

In the alternative situation where the secret allows the owners to produce a good of higher quality, they can, assuming a normal good, command a higher price than their competitors for the product.

[161]Of course, the rights of the owners of the information are not a legal "monopoly" in the technical sense of that word. Unlike the case of a true legal monopoly, such as a patent, any third party can use confidential information obtained in an acceptable manner. Nevertheless, because the second type of value that information can exhibit can be fully realized only while the owners have exclusive knowledge of the information, the term "monopoly" will be used as a matter of convenience.

trade secret and other forms of confidential information.[162] A trade secret is information that has both use value and monopoly value. It is monopoly value that makes a trade secret such a valuable commodity in the modern world of commerce, and that justifies society's efforts to protect the holders of trade secrets from the acts of the industrial spy. Therefore, this article will use the term trade secret as a shorthand for information with both use and monopoly value.

Nevertheless, thinking in terms of the above-described value analysis can prove beneficial.[163] Most modern jurisprudence on confidential information has failed to recognize that the value of a given bit of information may be quite different for different potential users. The holders of information, for example, may derive both use value and monopoly value from the information. A competitor who is allowed access to the information would derive both use value and, to a lesser extent, monopoly value from the same information.[164] A user who was not in competition, however, would derive only use value. An analysis that focuses simply on whether the information is a trade secret overlooks the fact that the answer depends upon the perspective from which the question is asked.

The examination questions appropriated by the student in *Oxford* can be used to illustrate this proposition. Under the traditional analysis, it is unclear whether the examination questions would constitute a trade secret. Viewed from the perspective of the university, the questions had only use value. Even before the breach of confidence took place, the university did not enjoy any appreciable commercial advantage over its competitors.[165] To the student, however, the information had both use value and monopoly value. Had the student's plan suc-

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[162]For example, the Uniform Trade Secrets Act, §1(4) defines a trade secret as "information ... that: (i) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use . ..."

[163]It is interesting to note that one of the early federal criminal decisions made reference to these two distinct components of value inherent in information, but failed to recognize how they affected the applicability of the mail fraud provisions. See *Abbott*, *supra*, note 151 at 314.

[164]Because the original owner will also retain the information, the amount of monopoly value realized by the competitor will be somewhat less than that realized by the owner before secrecy was lost. Of course, if there are only two firms in the industry, a loss of secrecy to the sole competitor will destroy all monopoly value associated with the information. Monopoly value can exist only if there are others in the industry who do not have access to the information.

[165]That other universities might be willing to pay Liverpool for a copy of the questions does not itself necessarily mean that the information had monopoly value. Instead, it could indicate merely that the costs of purchasing the information were less than the expense of independently creating similar questions. This situation could exist regardless of whether the information had monopoly value.

It would be an indication of monopoly value, however, if another university was willing to pay more for an exclusive right to use the information than it would pay for a nonexclusive right.

ceeded, he would have been placed in a beneficial position with respect to his competitors — the other students in the class. This advantage could have resulted either in higher test scores or the possibility of reaping a profit from the sale of the questions.[166] Therefore, the respective values of the information to the university and the student were different in kind. To the university, the test questions were merely confidential information. To the student, they were a form of trade secret.

B. The Values Protected by the Criminal Law of Property

As demonstrated, confidential information may possess two distinct, but related, types of value. One cannot ascertain whether one or both types of value are present without identifying the current holder of that information. As the information changes hands, its value — especially its monopoly value — may change. These features of confidential information make it difficult to apply the criminal law of property to cases of industrial espionage.

Industrial espionage may in theory affect one or both of these components of the total value of information. Normally, however, industrial espionage will affect only monopoly value. In most instances of espionage, the spy does not actually take the information from the original holder, but instead merely copies the information.[167] Copying, of course, leaves the information itself in the hands of the owner. Because the owner still retains possession and use of the information, its use value remains unaffected. The owner will be able to produce the product as cheaply and efficiently as before. Only monopoly value will be affected, and even then only if the information is made available to one or more competitors of the original owner.

Therefore, the world of industrial espionage presents essentially four scenarios. First, one may distinguish situations like *Turner*, in which the owner is deprived of the information, from cases like *Stewart* (C.A.), *Kirkwood*, and *Carpenter*, in which the owner retains the information. Each of those categories can be further subdivided on the basis of whether the information had monopoly value — that is, was a trade secret — or whether it had only use value.[168] These distinctions result in the following scenarios:

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[166]Unlike the hypothetical university in the prior footnote, the other students in the class did not have the alternative of independently creating similar information. Their concern would have been with the exact questions which were to appear on the test, not merely with a set of questions relevant to the subject matter.

[167]The reasons, of course, are not altruistic. If spies simply copy the information, it is much less likely that their efforts will ever be detected by the owners.

[168]Situations in which confidential information has no use value are not considered in this analysis. Indeed, it is unlikely that the owner of commercial information that has no use value will be greatly concerned with the loss of secrecy.

A. A defendant deprives a victim of a trade secret;

B. A defendant deprives a victim of confidential information that is not a trade secret;[169]

C. A defendant copies[170] a trade secret of a victim; and

D. A defendant copies a victim's confidential information that is not a trade secret.

Analyzing the issue in terms of these scenarios enables one to focus on what elements of a property right are covered by each of the general property offences.

1. Theft

Most prosecutions for industrial espionage under the criminal law of property have relied upon some form of the crime of theft. Reduced to its fundamentals, theft is a crime against the right of possession.[171] The defendant must intentionally act in a manner which causes the victim to lose either his present or pending possession of property. Further, the means by which the deprivation is accomplished must somehow be wrongful. Although both the common law and modern statutes draw distinctions based upon whether the deprivation was accomplished by force or by fraud,[172] the common thread — a loss of the right of possession — remains unchanged. Therefore, the discussion of theft in this article will include not only the offences actually bearing the name theft, but also the various fraud and embezzlement provisions scattered among the crim-

[169]More precisely, the above presupposes that the information is not a "trade secret" because of the absence of monopoly value, not because it fails to meet one of the other elements of the definition of a trade secret.

[170]For purposes of this discussion, "copying" is any sort of wrongful duplication.

[171]At common law, the crime of larceny applied only when the victim had either actual possession of property or fell within one of the narrow categories of constructive possession. Therefore, agents who collect accounts for their principals, and immediately convert the accounts to their own use, could not be prosecuted for larceny, because the victims (the principals) had never received actual possession of the funds. See W.R. LaFave & A.W. Scott, Jr., *Criminal Law*, 2d. ed. (St. Paul, Minn.: West Publishing Co., 1986) at 703-704. The agents could, however, be guilty of the related crime of embezzlement (*supra* at 704-706). This article will use the broader term "theft" to avoid the necessity of drawing these technical distinctions, which are of little relevance to the more basic issue at hand.

[172]The common law further distinguished between larceny and larceny by trick, again focusing on the means used to accomplish the deprivation.

inal codes of various jurisdictions.[173] All of the cases discussed above except *Turner* essentially applied some variant of theft. Regardless of the label, the objectionable conduct by the defendant in each case allegedly involved a wrongful intentional deprivation of possession.

The foregoing value analysis is useful when applied to the crime of theft. Theft's focus on the right of possession is essentially a recognition of the importance of use value. There is a direct correlation between possession and use value. If one loses the possession of property, one also naturally has lost the ability to make economic use of that property.[174] Therefore, the offence of theft is intended as a deterrent to those who would wrongfully interfere with a lawful possessor's right to use property to economic advantage.

On the other hand, theft is not very well suited to protect monopoly value. There will be no direct logical connection in many cases between the fact of possession and the existence of monopoly value. First, of course, one can possess confidential information that has no monopoly value. The examination questions in *Oxford* again provide a good example. As discussed above, the exam questions in that case had only use value to the university. The student's copying of that information accordingly could not have resulted in the loss of any monopoly value to the university.

There is a second reason why a direct logical connection between possession and monopoly value can not be drawn. Take for example a situation in which *X* owns a piece of machinery that is used in his business. If *X* is the only person in the industry who owns such a machine, he will realize both use value and monopoly value from his exclusive position. With the obvious exception of land, however, most types of property — tangible as well as intangible — can be duplicated.[175] If someone duplicates *X*'s machine there will be no effect on *X*'s possession of the original machine and the use value that he derives from the fact of possession. Such duplication, however, may have a substantial effect on the monopoly value that *X* derives from continued possession of the

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[173]This comports with the law of the Commonwealth countries and a number of jurisdictions in the United States. The Model Penal Code would define "theft" even more broadly to incorporate the historically distinct crimes of receiving stolen property and extortion (Model Penal Code §223.1(1)).

[174]Of course, the act of realizing the use value of property may involve a loss of possession. For example, instead of using a piece of machinery which incorporates a secret process in a business, one may elect to lease or sell it to a competitor. In so doing, one loses the right to possess the machinery. This situation involves a voluntary transfer of possession in return for consideration, and is therefore instantly distinguishable from the case of larceny, which involves a wrongful taking.

[175]Certain types of chattels may also be sufficiently unique to be incapable of duplication, for example, an original painting by a famous deceased artist. Unlike land and these unique chattels, information is unique in that it can often be duplicated at a relatively low cost once someone obtains access to it.

machine. As copies of the machine are distributed to *X*'s competitors, *X* will lose the edge that he previously enjoyed over those competitors. A business entity can therefore experience a loss in the monopoly value of property even in situations where its possession of that property remains unimpaired.[176]

In order for the offence of theft to apply to industrial espionage, the defendant must affect the use value of the information. Scenarios A and B satisfy this criterion. In both of these scenarios, the defendant has taken the confidential information (and its associated use value) from the victim. The victim has lost all of the benefits which previously flowed from the right to "possess" the information. Because theft is designed to protect those benefits, it should be available in these scenarios.

This conclusion may appear surprising. Using the value analysis, it becomes apparent that the offence of theft may be available even in cases where the information is not a trade secret. The key issue in determining the availability of the offence is whether the owner lost use of the information. All types of confidential information, not merely trade secrets, may exhibit use value. Although this conclusion may appear counterintuitive,[177] it is consistent with the interests protected by the criminal law of theft.

Therefore, information can be property for purposes of the criminal law.[178] The value analysis helps to identify those rights associated with confidential information that constitute property, and the extent to which criminal property offences protect those rights. The offence of theft does not reach all components of a property right; rather, it focuses more narrowly upon the benefits the owner accrues from the right of possession. Only in scenarios A and B does this type of property right exist. In scenarios C and D, on the other hand, theft will not be available. The defendant in those scenarios has not affected the use value of the information because possession has in no way been affected. At most, the defendant has decreased the monopoly value of the information.

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[176]The converse of this proposition, however, is not true. Losing possession of a given item of property will also automatically result in a loss of all monopoly value associated with that property.

[177]See the opinions of Justice LaCourcière in *Stewart* (C.A.), *supra*, note 89 at 492 and of Justice Lamer in *Stewart* (S.C.C.), *supra*, note 89 at 496-97. Both of these opinions suggest that the defendant could have been found guilty under the fraud charge had the list of hotel employees constituted a trade secret.

[178]Indeed, the information need not even be confidential to qualify as "property." Even non-confidential information can exhibit substantial use value. Since the crux of the offence of theft is a loss of use value, a defendant who wrongfully deprives the owner of any useful information can conceivably be charged with theft.

This further assumes, of course, that the goveruing statute does not limit the definition of property to tangible property. Because industrial espionage generally does not physically affect the tangible embodiment of the confidential information, it would fall outside a statute which protects only tangible property.

Although the offence can be used in the proper case, theft as a practical matter will rarely be available against the industrial spy. The vast majority of cases of industrial espionage will fall into scenarios C or D. Indeed, of the cases discussed above, only *Turner* would fall within Scenarios A or B.[179] Most industrial spies do not actually take the confidential information from the original owner; preferring instead to copy the information.[180] The industrial spy who merely copies confidential information has affected neither the owner's possession of that information nor the use value that may be derived from possession. The owner's marginal cost of production has not been increased by the dissemination; rather, the marginal cost of at least one of his competitors has been decreased. Because theft deals with the loss of possession or use of a piece of property, not the loss of all value that may flow from that property, it does not deal adequately with a situation where the owner loses monopoly value, but retains possession.

The same conclusion holds even if one relies upon the "control" argument used in *Carpenter*. The Court in *Carpenter*, recognizing that the newspaper retained full use of the information, argued that it had nevertheless lost the right to control that information. That right of control, the Court reasoned, was property that the defendants had taken from the newspaper. Even assuming that the newspaper had a right of exclusive control,[181] which was misappropriated by the actions of the defendants, the offence of theft would still be inapplicable. In the case of confidential information, exclusive control is not synonymous with possession. Possession, regardless of whether it is exclusive, generates use value. The use value of a given bit of information to a commercial entity will be the same regardless of whether that information is known to that entity or to everyone in the industry. The right of exclusive control, on the other hand, gives rise

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[179]The prosecution in *Turner* could not rely upon the theft provisions of the *Criminal Code, 1970* because of the statutory requirement of an "appropriation." See 283(1), now *Criminal Code, 1985*, s. 322(1). Although Turner had deprived the owner of the information, he had not converted the information to his own possession. This requirement of an appropriation in the law of theft is not unique to the Canadian statute, but appears in many theft statutes in both the United States and Commonwealth countries. Compare with the Model Penal Code §223.2, which speaks in terms of the defendant exercising control over the property.

One commentator has suggested that most of the problems with applying the criminal law could be rectified by abandoning the requirement of a "taking" of property and focusing instead entirely upon the conduct of the defendant ("Statutory Solution," *supra*, note 37 at 384). The approach proffered by this article would not go this far. In the view of the author, any reasoned approach to the criminalization of industrial espionage must consider not only the conduct of the defendant, but also the harm — if any — suffered by the victim.

[180]For more discussion of this feature of industrial espionage, see above text accompanying note 167.

[181]As noted above (see text accompanying notes 146-50), the Court found that the Journal had the right to make exclusive prepublication use of the information. Because the sole value of the information to the Journal was the ability to be the first to publish it, it is difficult to see how a right of prepublication use was of any appreciable value.

to monopoly value. The degree to which the information is available to competitors has a direct effect on the profitability of that information to the original holder. Therefore, the ability to control the dissemination of confidential information is the ability to protect monopoly value, not use value. Because theft extends only to use value, it would not apply to a case like *Carpenter*, where the victim lost only the right to control dissemination of the information.

The conclusion that theft is generally unavailable is particularly appropriate in cases like *Stewart* (C.A.), *Oxford*, and *Offley*. In those cases, the information had no monopoly value whatsoever to the victim. The defendants' acts accordingly did not result in any loss of monopoly value to the holder of the information.[182] Because the victim also retained the use value, it is difficult to see how the acts of the defendants in those cases harmed the victims.

2. Other Property Crimes

Most of the criminal law of property can be subsumed under the broad definition of theft used in this article. There are, however, other criminal offences that protect the rights of people in property. Many of these apply *prima facie* only to tangible property, and are therefore difficult to use in the prosecution of industrial espionage. As the *Turner* decision recognized, however, the property offence of vandalism provides another possible approach.

Unlike theft, vandalism applies in the situation where the defendant damages or destroys the property of the victim, without necessarily taking possession. In theory, vandalism applies to cases in which the acts of the defendant result in a loss of property value to the owner.

Vandalism's emphasis on value makes the offence potentially useful in cases of industrial espionage. The value of confidential commercial information may be comprised of both use value and monopoly value. Most industrial espionage does not affect use value. If the confidential information falls into the hands of a competitor, the espionage may substantially reduce the monopoly value — and the total value — of the information to the original holder. Extending vandalism to all intentional acts which reduce the total value of property would in theory allow it to be applied in many cases of industrial espionage. Therefore, the offence of vandalism could apply in scenarios A, B, and C, scenarios in which the acts of the defendant have reduced the total value of the

[182]That the information could have had monopoly value in the hands of the defendant in all three cases does not alter this conclusion. The offence of theft focuses primarily on loss to the victim, not on any "unjust enrichment" of the perpetrator.

information.[183] A decrease in either use value or monopoly value would be sufficient.

Nevertheless, there are certain difficulties with this view of vandalism. First, it is not clear that vandalism is intended to apply to situations, such as scenario C, where only monopoly value is affected.[184] One can argue that vandalism, like theft, is designed to protect only use value. Vandalism arguably complements theft by covering situations in which the defendant deprives the owner of use of the property, but does not appropriate it.[185]

A number of vandalism statutes support this more limited interpretation.[186] For example, the provisions of the Canadian *Criminal Code, 1985* require, *inter alia*, that the defendant either render the property "useless, inoperative, or ineffective," or interfere with the victim's "lawful use, enjoyment, or operation of property . ..."[187] Read literally, these terms are more closely related to use value than to monopoly value.[188]

However, in a number of jurisdictions, especially in the United States, the statutory language is broad enough to allow vandalism to be applied to cases of pure copying. Many statutes speak generally of "damaging" or "injuring" property.[189] A decrease in monopoly value represents damage to the property from

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[183]In scenario B, the defendant has destroyed the use value of the information. In scenario C, on the other hand, the monopoly value has been affected. In scenario A, both use value and monopoly value have been destroyed.

In scenario D, on the other hand, the acts of the defendant have in no way affected any component of the total value of the information to the owner.

[184]Even outside the realm of information, there are problems in extending the crime of vandalism to all intentional acts which reduce the value of the victim's "property." Take, for example, the case of a janitor who fails to show up to work for several days. The janitor's intentional breach of his contractual obligation will in all likelihood decrease the value of the building which he was supposed to maintain. It is unlikely, however, that any Anglo-American court would convict the janitor of "vandalism," even under the authority of a broadly-worded statute.

[185]This view probably conforms more closely to the historical reasons for the development of the offence of vandalism. At common law, a person could not be found guilty of larceny absent the element of "taking and carrying away" (*Criminal Law, supra*, note 171 at 715).

[186]Some vandalism statutes limit the offence to acts which affect tangible property, thereby clearly excluding the typical case of industrial espionage. See, for example, Utah Code Ann. §76-6-106 (1990); Wash. Rev. Code Ann. §9A.48.060 (1988).

[187]*Criminal Code, 1985*, s. 430(1).

[188]Taken by itself, the term "enjoyment" could conceivably include monopoly value. If the owner of information loses the ability to realize monopoly value, he has in a sense been deprived of the ability to "enjoy" the full fruits of his property. Read in conjunction with the terms "use" and "operation," which flank the term "enjoyment" in s. 430(1), however, the term "enjoyment" should be interpreted more narrowly as applying to the benefits that derive from use of the property.

[189]The provisions of the Indiana statute explicitly cover acts which cause either "damage" or "pecuniary loss" (Ind. Code Ann. §35-43-1-2 (Burns Supp. 1989)). The broad language used in the statutes of a number of states are also potentially subject to this interpretation. See, for example,

the owner's perspective. It is nevertheless unclear whether these statutes can be applied to losses of monopoly value which are not accompanied by a loss of possession. The terms "damage" and "injure" are equally capable of application to use value as monopoly value. In other words, the intent of the respective legislatures in using these broad terms may have been to protect the utility of the particular item of property held by the victim, not the ability of the owner to prevent duplication of that property.

Case law unfortunately leaves it unclear as to whether vandalism extends to cases of pure copying. But the lack of case law is understandable. Virtually all cases in which the government has sought a conviction for vandalism involved some sort of physical damage to tangible property. When physical damage is involved, the property will also suffer a decrease in its use value. Damaged property is clearly less useful than undamaged property. Because the vast majority of prosecutions for vandalism or mischief involve physical damage,[190] the courts have not addressed a situation where the only loss to the owner is monopoly value.

Turner is the only major case to apply a vandalism-based provision to industrial espionage.[191] Unfortunately, the facts in that case were atypical. Because the defendant rendered the computer tapes inaccessible, he deprived the victim of any use value that may have existed in the information stored on those tapes. Accordingly, *Turner* is of little use in determining whether the offence of vandalism applies to common cases of industrial espionage.[192]

In addition to the problems of statutory interpretation and legislative intent, there are policy reasons not to extend the current conception of vandalism this far. Once vandalism is divorced from the concept of use, it becomes a poten-

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Ala. Code §13A-7-21 (1975) ("damages property"); Ky. Rev. Stat. Ann. §512.020 (Michie/Bobbs-Merrill 1985) ("intentionally or wantonly defaces, destroys or damages any property causing pecuniary loss"); N.Y. Penal Law §145.00 (McKinney 1988) ("intentionally damages property of another person"); S.D. Codified Laws Ann. §22-34-1 (1988) ("intentionally injures, damages, or destroys . . . private property in which others have an interest").

[190]The main reason that most vandalism cases are inapplicable to industrial espionage is because they deal with situations where physical damage has occurred, not merely because tangible property is involved. Tangible property may have monopoly value. For example, if *X* is the only firm in the construction industry which owns a bulldozer, that bulldozer (regardless of its secrecy) will have monopoly value. *X* could lose all or part of its monopoly value in one or two ways, namely: (a) if someone damages *X*'s bulldozer, or (b) if one of *X*'s competitors acquires its own bulldozer. Most vandalism cases involve the first situation, for example, where physical damage is involved. A vandalism case involving the latter situation would be a useful precedent in the area of industrial espionage, even though it involved tangible property.

[191]The *Turner* decision is discussed above at text accompanying notes 125-29.

[192]Even an expansive view of vandalism would not permit the offence to extend to acts falling in scenario D. In this scenario, the owner retains the only type of value associated with the information, its use value. Therefore, the defendant's acts have in no way "damaged" the interests of the owner in the property.

tially all-encompassing criminal offence. Unlike theft, vandalism does not have a narrowly defined *scienter* element. Under most statutes, it is sufficient that the prosecution demonstrates that the defendant intended to perform the acts which damaged or destroyed the property.[193] The defendant's intent need not be wrongful or fraudulent, as is the case with theft-based offences. Once interpreted as above, the lack of a *scienter* requirement gives the offence of vandalism a broader scope in cases involving property with monopoly value. Thus construed, vandalism could be used against otherwise socially acceptable activities. For example, when a competitor discovers and implements a trade secret of another through reverse engineering,[194] the monopoly value of that trade secret will usually decrease. In effect, the competitor has intentionally damaged the original owner's property right in the trade secret. But few would argue that the competitor should be subject to criminal sanctions. Nothing has been done which violates a generally-accepted standard of conduct. It is interesting to note that the above-described acts would not subject the competitor to any civil liability to the owner of the information for the loss of secrecy. Reverse engineering is a perfectly acceptable way of uncovering a trade secret, even when undertaken to reap profits from the holder.[195] If the civil law views the actions as acceptable, it would be paradoxical for those same actions to be subjected to criminal penalties.

Because of these obstacles, the offence of vandalism should not be applied in the typical case of industrial espionage. Vandalism, like theft, is designed primarily to protect the benefits that the owner of property derives from use, not the additional benefits attributable to the right of exclusive use. The elements of the offence will only be satisfied in scenarios A and B, where the defendant has affected the use value. Even if a statute could be crafted to cover a deprivation of monopoly value alone, the lack of a *scienter* requirement in most vandalism statutes makes the offence too broad to use in the special case of information.

III. The Future of the Criminal Law and Information

The above discussion demonstrates that although there are surface similarities between the conduct proscribed by the property offences of the criminal law and industrial espionage, certain difficulties prevent the extension of those

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[193]*Criminal Code, 1985*, s. 430(1)(a); statutes cited *supra* at note 189.

[194]Reverse engineering means "[s]tarting with the known product and working backward to divine the process which aided in its development or manufacture" (*Kewanee Vil Co.* v. *Bicron Co.*, 416 U.S. 470 (1974) at 476.

[195]See *Kewanee Oil Co.* v. *Bicron Corp.*, *ibid.* at 475-76; *E.I. Du Pont de Nemours & Co.* v. *Christopher*, 431 F.2d 1012 (5th Cir.) (1970) at 1015-16, reh'g denied, cert. denied 400 U.S. 1024 (1970), reh'g denied 401 U.S. 967 (1970). But see Wiesner & Cava, *supra*, note 37 at 1126-27, which challenges the notion that the "reverse engineering" of another's secret comports with society's notions of commercial morality.

offences to confidential information. The two main categories of offences, theft and vandalism, focus primarily upon use value. The statutes defining these offences speak of the defendant taking away or damaging use value to the detriment of the person legally entitled to realize that value. Although either theft or vandalism could be available in the relatively rare case in which a spy actually does deprive the owner of the information, neither is of much use in the more typical case of industrial espionage, in which the spy merely duplicates the information.

The inadequacy of traditional property offences means that Anglo-American legislatures must create new specific offences if they intend to achieve the goal of effectively criminalizing industrial espionage. As noted,[196] several states in the United States have enacted such specific statutes.[197] Although there have been attempts to enact general criminal sanctions for industrial espionage in the Commonwealth countries, no specific provisions have yet been enacted.[198] However, even in the United States, there have been few criminal prosecutions under these specific offences.

Virtually all of these state laws are limited to trade secrets. Accordingly they do not attempt to cover the entire gamut of industrial espionage, which may include both trade secrets and confidential information generally. The statutes

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[196]See text accompanying notes 71-72.

[197]See, for example, Ark. Stat. Ann. §5-36-107 (1987); Cal. Penal Code §499c (West 1988); Colo. Rev. Stat. §18-4-408 (1989); Conn. Gen. Stat. Ann. §53a-124 (West Supp. 1990); Fla. Stat. Ann. §812.081(2) (West 1990); Ga. Code Ann. §16-8-13 (1988); Ill. Ann. Stat. ch. 38, §§15-1 – 15-2 (Smith-Hurd 1989); Me. Rev. Stat. Ann. tit. 17-A, §352 (1983); Md. Ann. Code art. 27, §340 (Supp. 1989); Mass. Gen. Laws Ann. ch. 266, §§30, 60A (West Supp. 1990); Mich. Comp. Laws §752.771 (1990); Minn. Stat. Ann. §609.52 (West 1990); N.H. Rev. Stat. Ann. §637:2 (1986); N.J. Rev. Stat. §2C:20-1 – 20-3 (1990); N.Y. Penal Law §§155.00, 165.07 (McKinney 1988); N.C. Gen. Stat. §14-75.1 (1986); Ohio Rev. Code Ann. §1333.51 (1990); Okla. Stat. Ann. tit. 21, §1732 (West Supp. 1990); Pa. Stat. Ann. §3930 (Purdon 1983); Tenn. Code Ann. §39-3-1126 (1982); Tex. Penal Code Ann. tit. 7, §31.05 (Vernon 1989); Utah Code Ann. §76-6-401 (1990); Wis. Stat. Ann. §943.205 (West 1989).

The United States federal government has also enacted criminal statutes which could be applied in certain types of industrial espionage cases. Examples are the *Comprehensive Crime Control Act* of 1984, Pub. L. No. 98-473, 98[2] Stat. 1837 (1984), which prohibits the obtaining of confidential financial or credit information from computers without authorization, and the *Small Business Computer Security and Education Act*, Pub. L. No. 98-362, 98[2] Stat. 431 (1984), which contains provisions governing illegal use of private computers.

[198]A summary of these various efforts can be found in *Trade Secrets Report*, *supra*, note 3 at 189-91, and in Coleman, *supra*, note 37 at 15.

During the 1980's, the Canadian Parliament was considering various amendments to the *Criminal Code, 1970* which would have criminalized the taking of confidential information. See "Electronic Crime in the Canadian Courts," *supra*, note 42 at 148. Although these broad provisions were never enacted into law, the Canadian Parliament, like the U.S. Congress, did enact provisions dealing with the more specialized problem of computer espionage (see the *Criminal Law Amendment Act, 1985*, S.C. 1985, c. 19, ss. 46 and 58).

provide legislative recognition that confidential information possesses unique characteristics. Although confidential information can in certain circumstances be treated as property, it does not automatically mean that all property rules can be extended without modification. Fundamental alterations must be made to accommodate the unique characteristics of information.

For purposes of discussion, the statutes adopted by the various states can be divided into two broad categories. The first is comprised of those states that have simply amended the definition of property in their existing theft statutes to include information.[199] The purpose of this amendment, of course, is to allow prosecutors to deal with industrial espionage under the general criminal law. However, this approach to criminalization fails for the reasons already discussed above.[200] In short, the problem with theft is not primarily whether information can bear the label property. The more pressing problem is the requirement of a deprivation. Thus, attempting to mold existing theft provisions to the peculiar rights inherent in confidential information creates more problems than it solves.[201]

The second category includes states that have drafted nonpareil offences in an attempt to cover the unique features of industrial espionage.[202] These states have identified those aspects of industrial espionage that society deems reprobate, thereby allowing them to identify a specific *actus reus* and *mens rea* for the newly-created offence. Although some statutes are limited to trade secrets, others could conceivably extend to other confidential information.[203]

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[199]Although all of the states in this first category share a common approach to the issue, there are significant differences in the coverage provided by the relevant statutes. In many states, for example, only the tangible embodiment of the trade secret is considered to be property (see, for example, Ill. Ann. Stat. ch. 38, §15-I (Smith-Hurd 1989); Md. Ann. Code art. 27, §340(h)(II) (Supp. 1989)). A statute restricted to tangible items would be of little use in cases where the information is transmitted orally or by means of electronic duplication.

[200]See text accompanying notes 171-182.

[201]Webber, *supra*, note 72 at 230-34, discusses some of the ambiguities that can arise from an attempt to apply traditional theft provisions to cases of industrial espionage.

[202]There have been a few successful prosecutions under these statutes. See, for example, *Ward* v. *Superior Court*, 3 Comp. L. Serv. 206 (Super. Ct. 1972).

[203]Statutes limited to trade secrets, as that term is used in this article, include Cal. Penal Code §499c (West 1988); Fla. Stat. Ann. §812.081(2) (West 1990); and Wis. Stat. Ann. §943.205 (West 1989). Several of the other statutes, although using the term "trade secret," define that term in language broad enough to reach confidential information that has no monopoly value. See, for example, Colo. Rev. Stat. §18-4-408 (1989); Ga. Code Ann. §16-8-13 (1988); Mass. Gen. Laws Ann. ch. 266, §§30, 60A (West Supp. 1990); Mich. Comp. Laws §752.771 (1990); Minn. Stat. Ann. §609.52 (West 1990); Ohio Rev. Code Ann. §1333.51 (1990); Okla. Stat. Ann. tit. 21, §1732 (West Supp. 1990); Tenn. Code Ann. §39-3-1126 (1982); Tex. Penal Code Ann. tit. 7, §31.05 (Vernon 1989).

The coverage of the North Carolina and Pennsylvania statutes, on the other hand, does not extend to all trade secrets. Both of these statutes apply only to confidential scientific or technical information. N.C. Gen. Stat. §14-75.1 (1986); Pa. Stat. Ann. §3930 (Purdon 1983).

An excellent and concise analysis of these state laws can be found in the *Trade Secrets Report* of the Alberta Institute.[204] Although the analysis is confined to the perspective of trade secrets, the observations are also relevant to the general issue of confidential information. The Alberta Institute found none of the existing state laws to be an adequate solution to the problem of industrial espionage for two reasons. First, many of the statutes require that the defendant affect a tangible object representing the trade secret.[205] This restriction limits the reach of the criminal law by making the law useless in the situation in which the defendant appropriates the information without taking a physical copy. It is difficult to perceive why the misappropriation of confidential information is less objectionable merely because it does not result in the loss of a physical object.

Second, and perhaps more fundamentally, the various states have had considerable difficulty defining the *actus reus* of the new offence. Some states have borrowed words such as "steal,"[206] "embezzle,"[207] or "convert,"[208] from the existing criminal law. These terms, however, are by themselves independent criminal offences. Thus, as the *Trade Secrets Report* recognized,[209] statutes which utilize these terms combine a traditional property offence with language designed to reflect the characteristics of information. As such, these new crimes could only be applied if the underlying traditional property offence could itself be applied.[210] To the extent that the specific offences incorporate terms that are

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[204]*Supra*, note 3 at 196-216. That report contains an in-depth discussion of the basic conceptual difficulties with the state laws, for which this author is grateful. One *caveat*, however, is in order. The discussion of individual state statutes in the report is of limited use, because many of the statutes have been amended or repealed.

[205]See, for example, Cal. Penal Code §499c (West 1988); Fla. Stat. Ann. §812.081 (West 1990); Mich. Comp. Laws §752.771 (1990); Minn. Stat. Ann. §609.52 (West 1990); N.Y. Penal Law §§155.00, 165.07 (McKinney 1988); Tenn. Code Ann. §39-3-1126 (1982).

[206]Cal. Penal Code §499c (West 1988); Colo. Rev. Stat. §18-4-408 (1989); Fla. Stat. Ann. §812.081 (West 1990); Ga. Code Ann. §16-8-13 (1988); Mass. Gen. Laws Ann. ch. 266, §30 (Supp. 1990); Mich. Comp. Laws §752.772 (1990); Okla. Stat. Ann. tit. 21, §1732 (West Supp. 1990); Tenn. Code Ann. §39-3-1126 (1982); Tex. Penal Code Ann. tit. 7, §31.05 (Vernon 1989).

The exhaustive discussion set forth in M.A. Epstein, "Criminal Liability for the Misappropriation of Trade Secrets" in Milgrim, *supra*, note 19, c. B5 at 1, is unfortunately no longer reliable due to the amendment and repeal of several of the provisions.

See also the discussion of state criminal provisions designed specifically to protect computers in George, *supra*, note 10.

[207]Fla. Stat. Ann. §812.081 (West 1990); Ga. Code Ann. §16-8-13 (1988); Mass. Gen. Laws Ann. ch. 266, §30 (Supp. 1990); Mich. Comp. Laws §752.772 (1990); Okla. Stat. Ann. tit. 21, §1732 (West Supp. 1990); Tenn. Code Ann. §39-3-1126 (1982).

[208]Mass. Gen. Laws Ann. ch. 266, §30(4) (Supp. 1990); Minn. Stat. Ann. §609.52 subd. 2(8) (West 1990); Ohio Rev. Code Ann. §1333.51(B); Pa. Stat. Ann. §3930(b)(2) (Purdon 1983).

[209]*Supra*, note 3 at 206-207.

[210]The Colorado statute, for example makes it an illegal act to "steal" a trade secret with the intent either to (i) deprive or withhold the control of that secret from the owner, or (ii) appropriate the secret to the defendant's own use (Colo. Rev. Stat. §18-4-408(1) (1989)). "Stealing," however, is synonymous with the offence of theft, which has its own *actus reus* and *mens rea* (a deprivation

burdened with meanings from the existing criminal law of property, they may fail to cover a significant percentage of industrial espionage cases.

Several states, recognizing that most industrial espionage involves duplication of information, have drafted their trade secret statutes to cover copying.[211] Because copying by its very nature does not result in the deprivation of possession, these provisions at first glance suggest a workable *actus reus*. Unfortunately, the copying provisions often create new problems which hinder their effectiveness. A statute which simply prohibits copying may be too broad. In the absence of a valid patent or copyright, Anglo-American legal systems generally encourage the copying of creative activity. Copying is objectionable only when the means used are themselves objectionable. Use of the term copy in the criminal statutes without an adequate *scienter* requirement could result in the criminalization of conduct which would not give rise to civil liability.[212]

Legislative attempts of the various states to criminalize industrial espionage provide a first step towards a workable criminal statute. For example, the use of the term "control" in the Colorado statute,[213] although overbroad, focuses upon the injury suffered by the victim of industrial espionage.[214] If the information is a trade secret, the industrial spy does wrest a form of control from the original owner. Once the information is made available to others, the owner is no longer able to reap the full profits. A legislative definition of the term control

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of possession with the intent to deprive). As discussed above, the acts of most industrial spies do not meet this element of the offence of theft. The additional provisions in the Colorado statute do not serve to expand the concept of "stealing"; to the contrary, they narrow the offence even further by placing additional limitations on the defendant's intent. Because most industrial espionage does not involve "stealing," then, this portion of the Colorado statute, even with the additional modifying language, will be inapplicable in most cases of industrial espionage.

[211]A number of the specific state statutes include "copying" within the proscribed conduct. See, for example, Ark. Stat. Ann. §5-36-107 (1987); Cal. Penal Code §499c(b)(4) (West 1988); Colo. Rev. Stat. §18-4-408(1) (1989); Fla. Stat. Ann. §812.081(2) (West 1990); Ga. Code Ann. §16-8-13(b)(2) (1988); Mass. Gen. Laws Ann. ch. 266, §§30(4) (West Supp. 1990); Mich. Comp. Laws §752.772(2) (1990); Minn. Stat. Ann. §609.52 subd. 2(8) (West 1990); N.Y. Penal Law §165.07 (McKinney 1988); Okla. Stat. Ann. tit. 21, §1732(A)(b) (West Supp. 1990); Pa. Stat. Ann. §3930(b)(2) (Purdon 1983); Tenn. Code Ann. §39-3-1126 (1982); Tex. Penal Code Ann. tit. 7, §31.05(b)(2) (Vernon 1989); Wis. Stat. Ann. §943.205(1)(b) (West 1989).

[212]In a few states, it is enough to show that the defendant intentionally copied the secret (see, for example, Minn. Stat. Ann. §609.52 subd. 2(8) (West 1990); Tex. Penal Code Ann. tit. 7, §31.05(b)(2) (Vernon 1989)). Most states, however, have established a higher standard. A common formula is to require a showing that the defendant acted with the intent either to (1) deprive the owner of control of the information, or (2) appropriate the secret to the defendant's own use (Colo. Rev. Stat. §18-4-408(1) (1989); Okla. Stat. Ann. tit. 21, §1732(A)(b) (West Supp. 1990); Tenn. Code Ann. §39-3-1126 (1982); Wis. Stat. Ann. §943.205(1)(b) (1989)). Neither of these formulations capture the essence of what is morally objectionable about industrial espionage. See *Trade Secrets Report*, *supra*, note 3 at 204-209.

[213]Colo. Rev. Stat. §18-4-408 (1989).

[214]For a discussion of why the term "control" is overbroad see text accompanying note 181-82.

that focuses on the monopoly value inherent in the trade secret, could be used to prosecute industrial spies. Similarly, the Ohio statute,[215] although subject to criticism for its possible application in cases of honest reverse engineering, nevertheless focuses upon the perceived wrongs committed by the industrial spy.

Although not yet enacted, the *Trade Secrets Report* of the Alberta Institute has also culminated in a set of proposed criminal law reforms to deal with industrial espionage.[216] Too complex to discuss in this article, the proposals come closer than any existing law to isolating and defining those types of industrial espionage that should be subject to criminal sanctions. The proposal would create two separate offences. The first, which focuses upon the misappropriation of a trade secret, would be analogous to existing theft offences. It would allow prosecution of anyone who "fraudulently and without colour of right acquires, discloses or uses the trade secret of another person" with the intent to deprive that other person of either control of the trade secret, or of an "economic advantage associated with the trade secret."[217] Reverse engineering would be explicitly included as a defense.[218] The second offence would cover a situation where a defendant fraudulently induces an owner to disclose a trade secret. The proposal also includes a lesser offence under each of the above provisions in cases where the defendant did not know, but should have known, that the information was a trade secret.[219]

The proposals are not perfect. For example, by speaking in terms of a deprivation of control, they fall prey to the same problems of interpretation that plague existing American statutes.[220]In addition, they are limited to trade secrets, and are therefore of little use in protecting confidential information that does not have monopoly value. Nevertheless, the proposals represent a willingness to admit that traditional property offences cannot be used effectively against industrial espionage. Instead of speaking in terms of theft and vandalism — crimes that focus on possession — the proposals create parallel offences that protect the major values associated with trade secrets. Once the value to be protected is isolated, the *mens rea* of the offence — the "intent to deprive" — is roughly the same. This would lessen the burden on courts and prosecutors when changing over from the existing criminal law to the new specific offences.

It is the opinion of the author that the Alberta proposals are fundamentally sound, and merely need to be fine-tuned to resolve some of the problems. The proposals could then serve as an impetus for further discussion and refinement

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[215]Ohio Rev. Code Ann. §1333.51.
[216]*Supra*, note 3 at 262-64.
[217]*Ibid.* at 262.
[218]*Ibid.* at 263.
[219]*Ibid.* at 264.
[220]See text accompanying note 189.

of the means to punish industrial spies as criminals in Anglo-American jurisdictions.

Conclusiou

The debate that has ensued as to whether information is property has been reflected in a series of recent decisions. These cases have attempted to apply the criminal law of property to defendants who have wrongfully revealed or discovered confidential information held by another. They demonstrate some of the conceptual difficulties involved in applying laws created to protect tangible personal property to information.

While confidential information is in some respects similar to tangible property, this article has attempted to demonstrate that concluding that information is or is not property is not essential. The term "property" is shorthand for saying that society will in certain contexts protect current owners of information from the claims of others. Therefore, it becomes apparent that most industrial espionage should not be categorized under either of the traditional criminal offences of theft or vandalism, which are designed to protect either the possession or use of property. As seen, the typical case of industrial espionage does not result in the owner losing either possession or use of the information.

It is clear that an owner may be injured by an industrial spy. If the information is a trade secret, the loss of confidentiality may deprive the owner of a large portion of the value of that information, namely, the ability to reap additional profits because of the edge that the information gives the owner over competitors. A new set of statutes is needed that recognize the unique values of confidential information and define *mens rea* and *actus reus* in terms designed to protect these values. Although several states have attempted to draft such statutes, their attempts to date rely too heavily on concepts borrowed from the traditional criminal law of property.

Although the final decision to protect all confidential information under criminal law rests with the legislatures, this article has identified the prevalent conceptual difficulties involved with the task and offered direction with respect to applying criminal law to industrial espionage.